



## 3.4 Making chocolate truly sustainable

MARISA CAMILHER CAMARGO, ISILDA NHANTUMBO and NICHOLAS J. HOGARTH

### Introduction

When we eat a delicious piece of chocolate, do we have any idea of the journey it undertook to get to us, or the potential harm it has caused to people and the planet? This article discusses the potential and actual sustainability of cocoa and chocolate, from farmer to consumer. This round-the-world journey follows cocoa production from the tree all the way to supermarket shelves. This voyage of discovery shows that zero deforestation efforts are an excellent means of addressing the challenges in making cocoa production and trade sustainable.

Many other issues need to be addressed before cocoa — or even better, chocolate — is truly sustainable. Efforts to make supply chains “green” must be embedded in a broader discussion about how to ensure sustainability, from commodity production to end products, from farmer to consumer, and not just at some of the points along the way.



EFFORTS NEED TO FOCUS ON AND BEYOND THE LANDSCAPE LEVEL.

### The context

This article reports on an analysis of climate change, deforestation and sustainability that started in 2011 (Nhantumbo and Camargo 2015) and assessed how the private sector was engaging in reducing emissions from deforestation and forest degradation (REDD+). REDD+ has been widely promoted as a mechanism to address deforestation and climate change, but has yet to yield any significant widespread impacts, and the analysis looked into various aspects of more than one hundred REDD+ demonstration projects being implemented in the global South. The analysis identified four main issues.

1. The majority of initiatives were concentrated in areas where small-scale agriculture and harvesting of fuelwood for household energy production are the main threats to forests; they did not target the main agricultural commodities that are the main drivers of deforestation (Hosonuma et al. 2012).

---

**Marisa Camilher Camargo** is Senior Consultant, Indufor Oy, Helsinki, Finland; **Isilda Nhantumbo** is Senior Researcher and Team Leader, Forest Team, IIED, Edinburgh, UK; and **Nicholas J. Hogarth** is a post-doctoral researcher, VITRI, University of Helsinki, Finland.

2. There was limited involvement with the private sector in REDD+ implementation. The few companies that did invest in projects and/or purchase carbon credits were only loosely engaged in the initiative, and made no implicit or direct connection between the value chains of their core businesses and the REDD+ project. Examples include electric service companies in the USA paying for forest protection in Brazil, and a large USA-based tourism and entertainment business buying credits from a coffee project in Peru to offset the emissions of its cruise ship enterprise.
3. The boundaries of REDD+ projects were too limited, and did not take into consideration the broader landscapes where they were implemented, particularly the many competing uses, users and trade-offs. Furthermore, they did not consider how to ensure a concerted effort to collectively address the many and diverse drivers of deforestation or the essential need to equitably share the benefits. In addition, there was no clear plan to tackle leakage in REDD+ projects.
4. REDD+ initiatives mainly focused on accounting for existing carbon stocks and selling credits, although the global carbon market is undeveloped and has not taken off as it was expected to.

In late 2014, around the same time that these results became clear, global attention shifted to New York, where the Global Climate Summit was being held. Forests and climate change featured prominently, and one of the key results was a series of pledges from corporations and governments to promote zero deforestation in commodity supply chains. Despite the increasing interest to address these commodities as some of the main drivers of deforestation, and to engage the private sector in these efforts, it was not really clear what the New York Declaration on Forests would actually mean on the ground. Further investigation was required to assess what these commitments should include in practice, in order to ensure their effectiveness in addressing deforestation and climate change and contributing to sustainability.



### Cocoa – villain, victim or ally?

Four main commodities — palm oil, beef, soy, and pulp and paper — make a significant contribution to deforestation and climate change. Although cocoa does not contribute to deforestation as much as these commodities, it has been a key driver of forest loss, especially in West Africa. Cocoa is a villain, since it has led to a loss of forest cover. It is a victim, because suitable areas for growing cocoa are likely to shift and be reduced due to climate change. It is an ally; if it is grown under effective agroforestry systems, cocoa can lead the way in landscape restoration, delivering resilient ecosystems and improving sustainable yields over the long term. In addition, given that smallholders produce about 80% of global cocoa, the commodity has significant livelihood and development implications.

The stakeholder interviews focused on Ghana and Brazil, the second and sixth largest producers of cocoa in the world, respectively. The project also studied production in the Netherlands, which imports and processes about 56% of all the cocoa exported from Africa. The next stage of research involved going to the USA (Washington, DC) and the EU (Belgium), which are major consumers of chocolate. At each point along this journey, stakeholders were asked how cocoa and chocolate could be sustainably produced without leading to forest loss. A total of 70 interviews were undertaken, including representatives of consumer and producer country governments, traders, manufacturers, industry associations, technical assistance providers, farmers, NGOs, research organizations, and international institution, such as the World Bank and United Nations. These yielded important and interesting findings that should inform future direction, policies, investments and other decisions to improve the positive impacts of zero deforestation commitments.



## What the stakeholders said

### *Focus on and beyond the landscape level*

The stakeholders interviewed emphasized that deforestation is an important issue, but not the only challenge at the landscape level. Many social and environmental matters also need to be addressed, such as gender equality, food security, poverty and equitable benefit sharing, availability of clean water and sanitation, and improved and diversified sources of income. Stakeholders working on the ground thought there had been too much focus on deforestation, when other more pressing social issues such as these also deserve attention.

In Ghana and Brazil, it became clear that farmers and their cocoa are not alone in the landscape. Many other actors and social, economic and land-use changes also drive deforestation and forest degradation. The multi-stakeholder Ghana Cocoa Platform has identified mining, both legal and illegal, as one of the main threats to cocoa plantations, with a lack of adequate legislation being a further challenge. In Ghana, land is governed by customary rights entrenched in the constitution, with adjudication decided by land-owners and traditional authorities. However, the state holds tenure over trees, which affects the choice of shade trees for cocoa, and is a key determinant as to whether agroforestry can be effectively implemented as a means to rehabilitate cocoa plantations and reduce deforestation. Furthermore, the government grants harvesting concessions to third parties, who can enter cocoa plantations and remove shade trees without being obliged to take any care of damage to surrounding crops that occurs during felling or extraction. To avoid their cocoa plantation being damaged or destroyed, some cocoa farmers said that they chose to remove shade trees themselves, illegally but safely, to ensure that outsiders had no reason to enter their plantations.

Any attempt to address deforestation associated with commodities must take into account the dynamics of deforestation in the broader landscape and its underlying causes, including legislation that contributes to deforestation. Some drivers are within the forest sector, such as unsustainable harvesting and illegal logging; some are outside the sector, including mining and infrastructure development. Other drivers include inconsistent laws

across sectors, poor law enforcement, and sustainability disincentives such as low royalty payments and ill-considered levels of taxation. Defining the physical and conceptual boundaries of suitable interventions is challenging, but addressing deforestation will be more effective if the various actors involved understand the extent of their control over resources and how that affects their behaviour and land-use practices. A better understanding of how land use and land users are interconnected, and what interventions are required for collective action, is needed to address this dynamic reality.

### *Consider people, productivity and the environment together*

Sustainability requires a balance of social, environmental and economic aspects. The stakeholders interviewed confirmed that these three dimensions must be interconnected in order to ensure the long-term supply of cocoa. Interventions must be sensitive to the possible

synergies between the various dimensions of sustainability. A sole focus on deforestation, which is only one of myriad environmental challenges, will not likely be enough to solve the problem in the long term. There are clear cases where farmers compromise ecosystem resilience and the long-term productivity of their farm in order to meet their immediate livelihood needs. In Ghana, farmers discourage their children from continuing to work in cocoa production, which is non-mechanized and labour intensive. Youth are becoming disinterested in cocoa production and moving to cities where they may not necessarily find jobs, which leads to other social problems. In Bahia, Brazil, farmers do not have many livelihood options, and are unaware of the tree species they could plant in and around their cocoa plantations that could yield marketable products. Preoccupied with making a basic living, some farmers choose to illegally fell shade trees to allow cocoa to grow under full sun and produce pods for harvest more quickly. Despite evidence that full sun impoverishes the soil and increases the likelihood of pests, farmers argue that they do not have an option, and technical assistance is not available to provide them with alternatives.

### *Move beyond deforestation*

Zero deforestation commitments should be embedded in broader sustainability discussions that look at the various challenges at the landscape level and also on reducing negative impacts along the entire supply chain, from farmer to consumer. This will require more actors to be involved, including industries in supply chains that produce other ingredients of chocolate (such as sugar and milk powder), as well as transportation, packaging, wholesaling and retailing, since all the stages from cocoa farm to consumer generate externalities, including greenhouse gases. A life-cycle assessment of chocolate



revealed that milk powder contributes most to the carbon footprint, followed by cocoa (Humbert and Peano 2014). Another study showed that the production and use of fertilizers and pesticides were a major cause of negative environmental impacts during cocoa production (Ntiamoah and Afrane 2008).

### *We must work as one*

Stakeholder interviews showed just how many initiatives are being promoted under the banner of sustainable cocoa. Developed countries provide development assistance to improve livelihoods in producer countries such as Ghana. The cocoa industry has sustainability projects that target specific communities. Academics and researchers write articles suggesting how to tackle the problems. NGOs promote marketing campaigns and develop certification systems to try and address the challenges. But despite the fact that they are all trying to advance a similar agendas, there is limited coordination between these different groups. The challenge is huge, and no one actor can solve it all. The private sector, industry associations, producer organizations, civil society organizations, governments and academia must come together to develop and promote joint efforts. These efforts must allow rapid progress in creating the enabling conditions and technical know-how to increase and monitor the sustainability of both the demand and supply sides of commodities and end products.

## Conclusions

This research shows that zero deforestation debates are becoming more focused on addressing the key drivers of deforestation, and that private-sector actors are becoming more engaged in the concept of zero deforestation as they see the clear links with their core business. However, many players along the chocolate value chain still need to join these efforts to make the business of producing chocolate more sustainable, including the industries that produce inputs, and investors. Investors would benefit significantly from becoming more aware of the potential climate risks that might threaten their long-term investments in the chocolate value chain, and the benefits of putting in place mitigation and adaptation measures to address these risks.

Many challenges must still be addressed before chocolate can be considered a truly sustainable product. To achieve sustainability, zero deforestation related to the production of commodities must be promoted at the landscape level, and negative externalities along the entire chocolate supply chain should be addressed through life-cycle assessments, NGO market campaigns, consumer demand (including procurement policies), lender liability clauses, and fiscal incentives for sustainable products.



It is of paramount importance that different stakeholder groups — including governments, CSOs, the private sector, and farmers — coordinate their actions and build a common vision that contributes to a broader agenda for sustainable development. To do this, efforts must be organized at and beyond the landscape scale, looking at direct and indirect drivers of deforestation through the entire supply chain and identify how synergies can be created. Experiences such as those of the Tropical Forest Alliance, which convene a wide range of stakeholders from farmers to consumers, should be expanded and replicated, focusing on promoting the responsible production of commodities and increasing the demand for sustainable products. A lack of markets for deforestation-free commodities will limit progress, so supply-side initiatives should be linked to demand-side measures. The sustainability path is long, and no one actor can do it all.

## Acknowledgements

The authors would like to thank all the stakeholders interviewed for their time and contribution, as well as the *Organização de Conservação da Terra* and the World Cocoa Foundation for being instrumental in facilitating fieldwork in Brazil and Ghana, respectively.

## References

- Hosonuma, N., M. Herold, V. De Sy, R.S. De Fries, M. Brockhaus, L. Verchot, A. Angelsen and E. Romijn. 2012. "An assessment of deforestation and forest degradation drivers in developing countries." *Environmental Research Letters* 7(4): 4009.
- Humbert, S. and L. Peano. 2014. *Developing inventory data for chocolate: Importance to consider impacts of potential deforestation in a consistent way among ingredients (cocoa, sugar and milk)*. Paper presented at the Ninth International Conference on Life Cycle Assessment in the Agri-Food Sector, San Francisco, USA.
- Nhantumbo, I. and M. Camargo. 2015. *REDD+ for profit or for good? Review of private sector and NGO experience in REDD+ projects*. Natural Resource Issues No. 30. London, UK: IIED.
- Ntiamoah, A. and G. Afrane. 2008. "Environmental impacts of cocoa production and processing in Ghana: life cycle assessment approach." *Journal of Cleaner Production* 16 (16): 1,735–1,740.