



### 3.3 The myth of zero deforestation cocoa in Côte d'Ivoire

FRANÇOIS RUF and FREDERIC VARLET

#### Introduction

In the 2000s, people who attended meetings of the World Cocoa Foundation would regularly state the need to protect tropical forests. The foundation's programmes worked to increase yields on established cocoa farms while failing to consider farmers who continued to encroach on neighbouring forests (Ruf et al. 2014). Also, international NGOs involved in group certification of environmentally friendly cocoa did not hesitate to certify cocoa farms inside protected forests (Varlet and Kouamé 2013). This article highlights the failure of certification to reduce deforestation, and looks at ways to reintroduce trees on cleared land.

Governments, NGOs and private companies use slogans such as "zero-deforestation cocoa" and "cocoa, the friend of the forests." In spite of these slogans, the reality in Côte d'Ivoire is that forest clearance continues. Zero deforestation cocoa only exists where all the forest has already disappeared, and with few exceptions, protected areas and classified forests are not actually protected in any way. The removal of trees on small-holder farms was ongoing throughout the 1990s and 2000s, and is slowing down now only because so few trees remain. But there is hope, if there is a greater understanding of the problems, and of how smallholder farmers think and why they do what they do.



TREE TENURE IS THE KEY TO A MORE SUSTAINABLE FUTURE FOR COCOA PRODUCTION IN WEST AFRICA.

#### Causes of deforestation – the case of Nawa region

Figures 1, 2 and 3, which illustrate land use in Nawa over 30 years, speak for themselves. They show the change from a luxuriant and continuous forest belt to a mosaic of fallows and degraded and zero-shade cocoa farms. Before 1986, much of the land around Soubré was already totally deforested, though the forest to the west remained relatively dense. However, this forest has disappeared in 15 years; no dense or degraded forest is left,

---

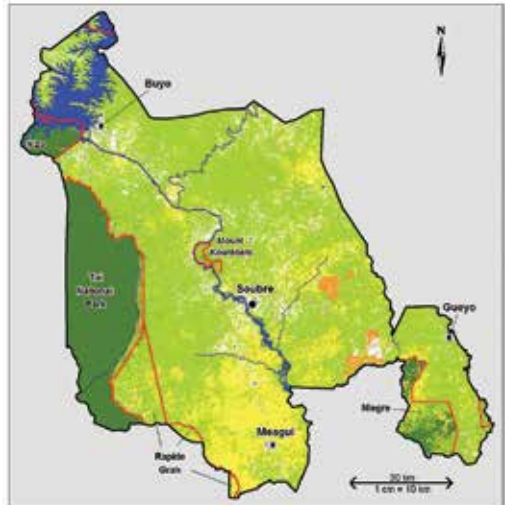
**François Ruf** is an economist with CIRAD and ESA (INP-HB), Yamoussoukro, Côte d'Ivoire; and **Frederic Varlet** is a consultant and agricultural economist, Abidjan, Côte d'Ivoire.

except for some patches of degraded forest inside the small so-called protected area around Obrouyo. By 2015, a few patches of "green," possibly rubber farms, possibly ageing cocoa farms, were re-emerging, but the general trend is toward lower vegetation density.

**Figure 1. Land use in the Nawa, 1986**



**Figure 2. Land use in the Nawa, 2001**



**Figure 3. Land use in the Nawa, 2015**



**Land use**

- Dense forest
- Degraded forest
- Mosaic of fallows (dominant) and crops
- Mosaic of crops (dominant) and fallows
- Low density vegetation (new crops or fallows)
- Bare ground or houses, villages
- Water body
- Rivers and streams
- Industrial plantations (palm trees)

**Chief towns**

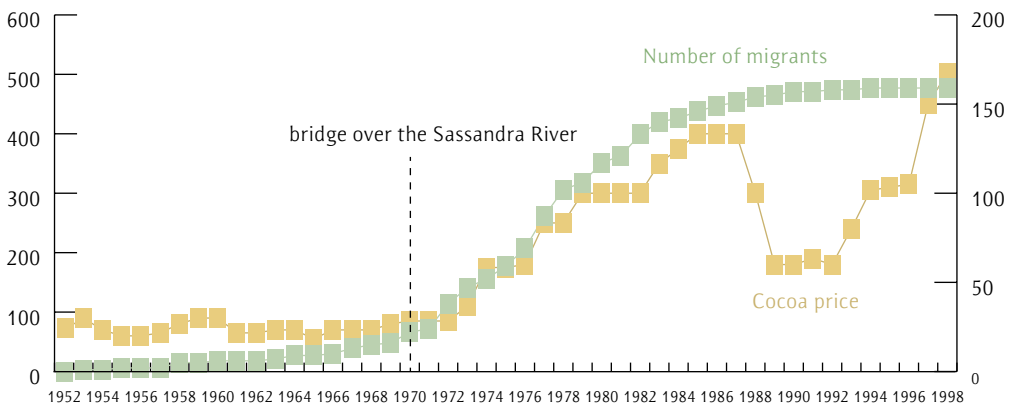
- of région
- of department
- Protected areas or classified forests

Source for Figures 1, 2 and 3: BITOPE, CURAT and GRAIN Côte d'Ivoire, 2016

There are a number of inter-related causes of this massive deforestation. One is in-migration related to the cocoa boom, the first big wave in the 1970s from the central Baoulé region, and the second in the 1980s, mainly from Burkina Faso (Ruf 1988; Varlet and Kouamé 2013). It continues to this day; the rural population in Nawahas jumped from 586,000 in 1998 to 897,640 in 2014, and the population density has increased from 72 to 111 inhabitants per km<sup>2</sup>. The first migrants came as workers, but many of them managed to obtain land from local village chiefs and establish their own cocoa farms. After a few years, they themselves needed labourers and sent for people from their home villages. Migrants were also fleeing the Sahelian droughts, which started in the mid-1970s. The real culprits of deforestation, however, are neither local people nor migrants, but the public policies that sent the wrong signals to smallholders. The message was that the forest is free and open and the land belongs to whoever is willing and able to clear and cultivate it.

The main factors that led to deforestation were the existing infrastructure: asphalt roads and the bridge over the Sassandra River were built by the government and a network of dirt roads was built by logging companies. The new cities of Soubré and San Pedro soon emerged from the jungle. The policy of regularly increasing and maintaining the nominal cocoa price also played a major role, by reducing risk and giving confidence to migrants that their revenues would keep rising. The government could afford this while world cocoa prices kept increasing in the 1970s, but a decade of price declines followed in the 1980s. The rate of migration, at least around Soubré, was slowing six years before the collapse of the cocoa price (Legrand 1999), but only because most land had already been appropriated (Figure 4). New migrant labourers would then move elsewhere, such as the Mont Kourabahi classified forest northwest of Soubré, which was soon cleared.

**Figure 4. Number of migrants in Soubré and cocoa prices (CFA franc per kg), 1952–98**



Sources: Migration rates Legrand 1998; cocoa prices: Caistab and, since 1988, authors' data.

Paradoxically, while economic theory states that land security is essential to investment, it was uncertainty that encouraged deforestation and planting in Nawa region. This is explained by “the tragedy of commons,” where individual users act in their own self-interest in a way that is contrary to the common good of all users (Amanor 2005; Ruf 2011). By clearing the forest, migrants aim to secure land ownership. This, along with the high revenues from cocoa, led to massive deforestation, which was worsened by the removal of all trees, rather than leaving some shade trees (Ruf 2011). Migrants were looking for a quick return on their investment, and shade delays the first yields. Migrants realized that burning was the cheapest and easiest way to clear trees, and burning destroyed all the trees. Farmers rapidly discovered that cocoa trees could resist full sun when rainfall was abundant, making shade unnecessary, and yields were also helped by the introduction of more robust planting material from the upper Amazon. Trees are considered a benchmark of landownership by the people who originally lived in the area, and they began to argue that they were ceding the right to cultivate, but not ceding the land itself, but migrants would simply eliminate all trees and claim the land.



So, despite declarations and zero deforestation slogans, nothing has changed. Encroachment into one forest then another continues unabated, now in the Mont Peko “park” and the Haut-Sassandra “protected forest.” This is understandable. Every migrant who clears forest and plants cocoa increases government revenues and supply to the chocolate industry without one dollar being invested by public or private entities. And once migrants have entered a forest, it becomes socially and politically difficult to expel them.

### Understanding farmers' fears

Trees in natural forest belong to the state, so farmers have no interest in keeping them. Farmers also run the risk that a logger — with or without a permit from the local authorities — will cut down trees on their farm; this causes damage, does not involve any compensation, and has happened even on farms certified by Rainforest Alliance and UTZ. Certification agencies do not always respect their own environmental criteria (Lemeilleur, N'Dao and Ruf 2013). Since the REDD+ programme favours reintroducing trees rather than protecting existing forest, is it possible to at least rebuild some agroforestry systems?

Cocoa-exporting companies and national institutions started to distribute tree seedlings to certified farmers through their cooperatives, with the aim of achieving the minimum of 18 trees per hectare required by certification. However, farmers and cooperatives were not consulted about the species, and they received many seedlings they did not know or want. Many farmers would plant a few seedlings at the border of their farm to make the staff of the cooperative happy, or would just let the seedlings die. Farmers fear that loggers will come back in 15 years to cut them down, so they did not plant them within their cocoa plantations, which might be damaged during felling and extraction.

Although farmers rarely acknowledge that such strategies are deliberate, the example of one farmer in Touih, south of Soubré, is typical. He planted a few trees given to him by his cooperative, but when he learned that the trees (*Gmelina arborea*) could be used for making matches, he immediately cut them down, except two or three at the border of his farm, close to the road. Other farmers refused to plant any of these seedlings. In neighbouring Ghana, many cocoa farmers are willing to plant indigenous timber trees, but prefer to plant them in separate fields, not within their cocoa farms. One of the reasons is a fear of loggers. Although the ownership of planted trees was recognized legally in Ghana long before it was in Côte d'Ivoire, farmers there still fear being unable to prove that they planted the trees. The other option was to associate non-native exotic trees, which by definition cannot be spontaneous (Ruf 2011).

Actually, cocoa smallholders' fear of loggers is so embedded in their collective memory that they do not necessarily make a difference between exotic and indigenous trees. Smallholders are defiant about planting timber trees on their cocoa farms. In addition, specialized institutions, exporters and the cocoa industry are ignorant of farmer preferences and constraints. If farmers did not fear loggers and had clear tree tenure, many more of them would plant many more trees.

### Causes for hope?

In the 2000s, some farmers in Côte d'Ivoire and Ghana started to overcome their fear of loggers and of controls by forestry institutions. They started to think there might be an economic future for trees on their cocoa farms, and they began to manage tree regrowth and sometimes even planted new trees, mostly native iroko (*Milicia excels*), frake (*Terminalia superba*) and exotic teak (*Tectona grandis*). Their main intent was the future use and marketing of sawn timber. Through on-site chainsaw milling, farmers can bypass exploitative traders, sell directly to local markets, compete with logging companies, and avoid formal and informal taxation by forestry institutions. The fact that trees would also provide shade was only a secondary motivation.



In the 1990s, very few farmers acknowledged a relationship between a lack of shade and the increased risks of cocoa mortality and declining yields, and the resulting need to reintroduce trees into cocoa farms. Starting in the 2000s, however, cocoa farmers started to look at the ecological services provided by trees. Today, some 20% of cocoa farmers have taken at least some initiatives that favour tree regrowth, often with a conscious motivation to adapt their farming system to ecological change. And with only a few exceptions, this

positive outcome has occurred without the involvement of mass certification programmes. This is consistent with other failures of certification regarding the protection and reintroduction of timber trees in certified cocoa farms (Sanial 2015). In addition, farmers are also paying increasing attention to trees with medicinal properties, for which there is a promising market (Sanial 2015).

## Conclusions

For many reasons — and despite the talk of certification and of cocoa production being sustainable — deforestation seems likely to continue until the last hectare is consumed. Zero deforestation cocoa does exist, but only when and where all the forest has already disappeared. Then, logging companies will get timber from areas such as smallholder cocoa farms, until few trees remain anywhere (Amanor 2005). The REDD+ programme is an attempt at afforestation through agroforestry; this is relevant, but is not a zero deforestation initiative by itself. It may help to reintroduce trees on cocoa farms, relying on the existing will and innovations of those 20% of farmers who have already started to plant on their own, independent of certification (Sanial 2015). Non-supportive existing legislation remains the main constraint.

To improve further tree planting in the future, institutions and legislation must acknowledge the value of trees and tree tenure to the smallholders who plant them. The 2014 Forestry Code guarantees ownership of planted trees to the planter, but the code is ambiguous and is not well known or widely applied. In addition, farmers lack any rights regarding native timber trees left during clearing. These are probably the main factors behind the absence of timber trees on most cocoa farms in Côte d'Ivoire and Ghana (Amanor 2005; Boni 2005; Ruf 2011). REDD+ programmes show some potential, but they rely on the will of farmers to overcome their fear of loggers and plant or regenerate trees by themselves, without cocoa certification (which has been a massive failure). The best strategy may be to not certify cocoa itself, but to certify timber trees planted on cocoa farms.

As long as cocoa smallholders are not able to sell a timber tree, the term “friend of the forest” will remain only a slogan. The mass certification of cocoa farms launched by the chocolate industry and allied NGOs has not increased cocoa yields or farm revenues or improved the environment in and around cocoa farms. The best strategy will be to certify timber trees planted in cocoa farms, rather than certifying the cocoa itself, and to guarantee tree tenure to smallholders. Only this approach will encourage innovative farmers to plant more trees, which they can then sell. Eventually, their neighbours and many others will catch on, seeing for themselves the value of planting.



## References

- Amanor, K.S. 2005. Equity in forest benefit sharing and poverty alleviation. In: K.S. Nketiah, J.A.S. Ameyaw and B. Owusu Jr. (eds.). *Equity in Forest Benefit Sharing: Stakeholders' Views*. Workshop proceedings, 3: 15–23. Tropenbos International, Wageningen, the Netherlands.
- BIOTOPE, CURAT and GRAIN-Côte d'Ivoire. 2016. *Étude analytique de l'occupation du sol en vue de l'intégration du mécanisme REDD+ dans le Schéma régional d'aménagement et de développement du territoire. Recommandations pour l'intégration du mécanisme REDD+ dans le SRADT du territoire de la Nawa*. Ministry of Environment and Sustainable Development. Abidjan, Côte d'Ivoire, 116 pp.
- Boni, S. 2005. *Clearing the Ghanaian forest: theories and practices of acquisition, transfer and utilisation of farming titles in the Sefwi-Akan area*. Institute of African Studies, University of Ghana, Legon, Ghana.
- Legrand, A. 1999. *La filière cacao en Côte d'Ivoire dans le contexte de la libéralisation: évolution de la concurrence, des prix et de la qualité*. Montpellier, France: CNEARC and CIRAD.
- Lemeilleur, S., Y. N'Dao and F. Ruf. 2015. "The productivist rationality behind a sustainable certification process: evidence from the Rainforest Alliance in the Ivorian cocoa sector." *International Journal of Sustainable Development* 18(4):310–328.
- Ruf, F. 1988. *Stratification sociale en économie de plantation ivoirienne*. Doctoral thesis, University of Paris X, Géographie. Vol 5: *Des fronts pionniers à la saturation foncière. Quelle différenciation sociale?* Montpellier and Nanterre, France: CIRAD.
- Ruf, F. 2011. "The myth of complex cocoa agroforests: the case of Ghana." *Human Ecology* 39: 373–388.
- Ruf, F., M. Bourgeois, J. Kiendré and B. Bebo. 2014. *A "cocoa livelihood project" through a decade of conflicts. Some lessons learnt in Côte d'Ivoire*. Report to the World Cocoa Foundation. Montpellier, France: CIRAD.
- Sanial, E. 2015. *A la recherche de l'ombre: analyse du retour des arbres associés dans les plantations de cacao ivoiriennes*. MSc thesis, Jean Moulin University, Lyon, France.
- Varlet, F. and G. Kouamé. 2013. *Étude de la production de cacao en zone riveraine du parc national de Taï*. Abidjan, Côte d'Ivoire: GIZ.