EBONY PROJECT ANNUAL REPORT 2024

THE EBONY PROJECT
A Program for Restoration, Use, and Community-based Livelihoods

Annual Progress Report

May 2025

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Cover picture: Ebony Project staff inspect an ebony fruit from a tree planted by the project Photo: ????

Congo Basin Institute, Yaoundé, June 2025

Project Partners

The Ebony Project is coordinated by the Congo Basin Institute (CBI) in Yaoundé, Cameroon, and implemented by CBI and its collaborators:

International Institute of Tropical Agriculture
Cameroon

University of California, Los Angeles
United States of America

Institut Supérieur des Sciences Environnementales
Cameroon

Taylor Guitars
United States of America

Madinter
Spain

Crelicam
Cameroon

The Ebony Project collaborates with institutions in Cameroon including:

Université de Yaoundé I, Yaoundé, Prof. B. Sonké

Ministry of Environment, Nature Protection, and Sustainable Development (MINEPDED),

National Forestry School Mbalmayo, N. Kingsly

Min. of Forestry & Wildlife (MINFOF), Cameroon, Conservation Services of the Dja Faunal Res.

The Ebony Project is supported by the following donors:

Bob and Cindy Taylor

The Global Environment Facility

Fondation Franklinia

The Ebony Project is a partnership where business, communities, and researchers work together to protect a valuable timber species, plant trees on degraded land, address local food security issues, and improve rural livelihoods. The goal of the project is to conduct basic ecological research and develop a community-based planting program as a pilot project for larger rainforest restoration efforts.

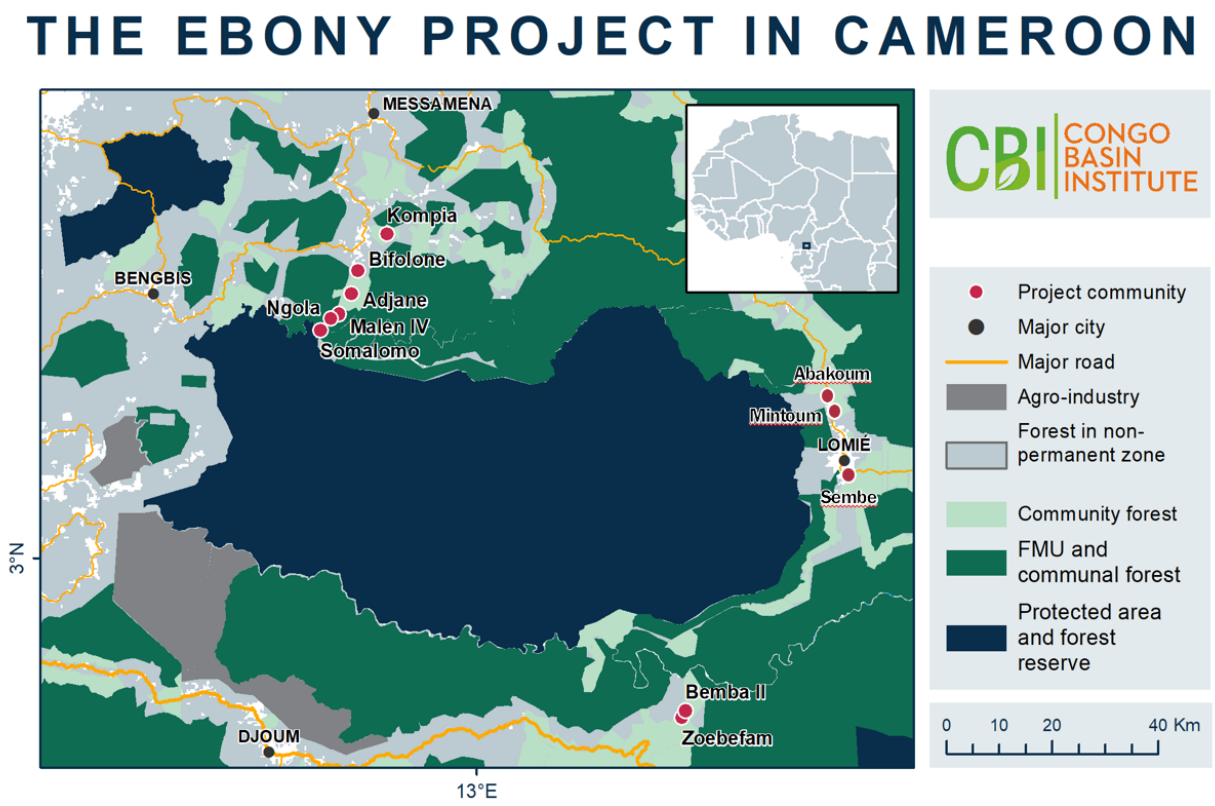


Figure 1: Ebony Project communities as of 2024

The Ebony Project in Context

In 2023, we introduced a new format for the Ebony Project Annual Progress Report, which was released last year alongside an Ebony Project StoryMap Collection, made possible through a partnership with Environmental Systems Research Institute, Inc. (ESRI). The updated format was designed to be concise and more accessible, focusing on significant developments instead of reiterating details already covered in previous reports. We will continue to use this approach this year.

The ESRI StoryMap, all previous Annual Progress Reports, along with relevant scientific papers and essential documents, are available at Crelicam.com/resources.

By the Numbers: Communities and Plantings

Participating communities are the organizational unit the project uses to structure its work. Communities join the project through an onboarding process. (Please see the third chapter of the StoryMap Collection; and/or "Tracking Community Progress within the Project Cycle" from the 2023 Annual Progress Report for more information). Communities graduate from the

project once participants have planted out all of the plots where they want to grow trees. Community selection relies on a mix of strategic growth, whereby the project identifies a community where we have an existing relationship in a strategically placed high conservation value area, and by organic growth whereby neighboring communities seek involvement inspired by witnessing project activities.

13 communities have planted trees with the Ebony Project

4 donors have supported Ebony Project communities

*The Ebony Project would not be possible without the generous support of Bob and Cindy Taylor, Taylor Guitars, Franklinia Foundation, the University of California, and the Global Environmental Facility

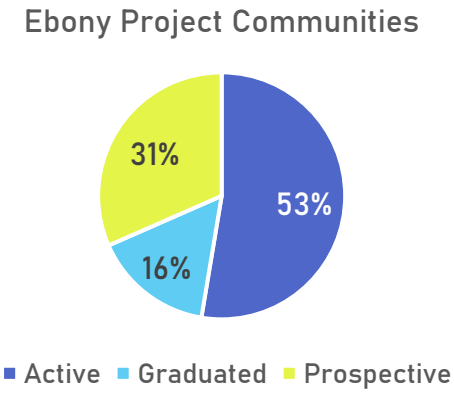
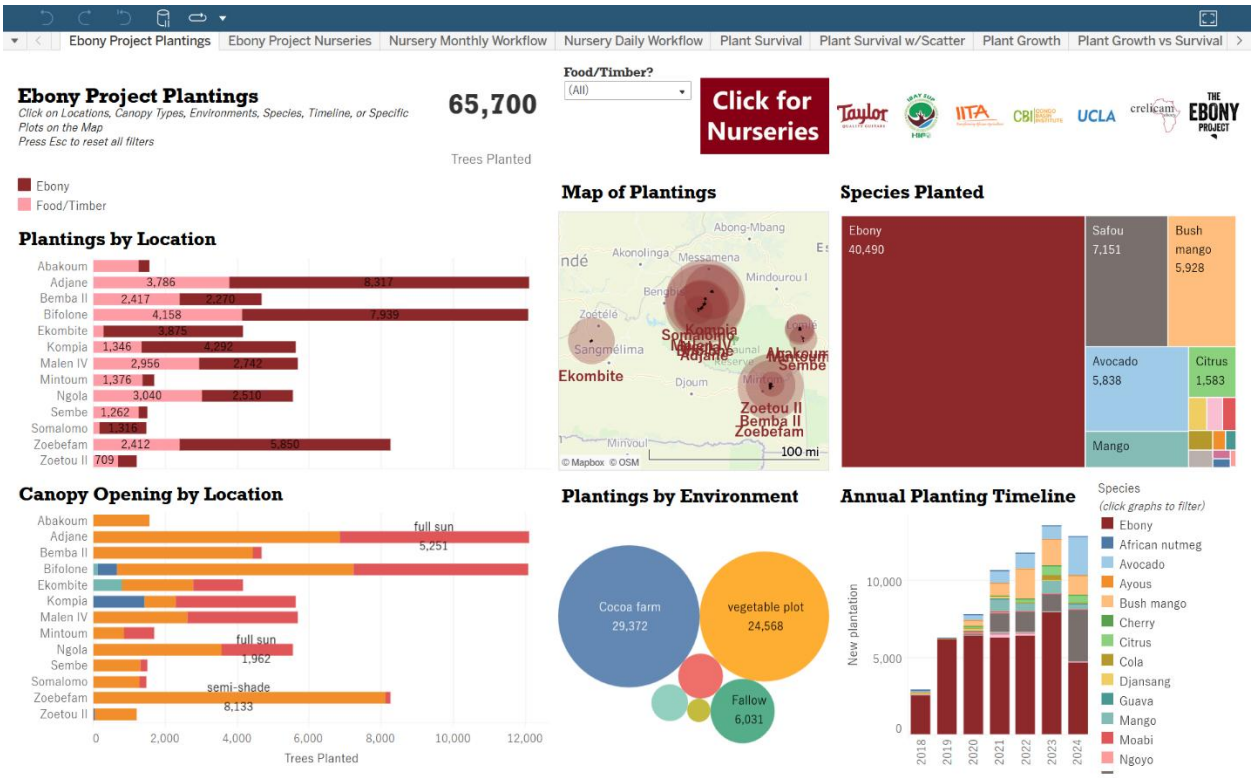


Figure 2: Ebony Project communities by stage

Figure 3: Ebony Project dashboard snapshot as of 2024



In 2024, communities planted 4,700 ebony trees and 8,100 native fruit trees, raising the project's total to 65,700 trees planted.

Producing More (…and more) Fruit Trees

After years of challenges in boosting fruit tree production, we are now seeing the results of our 'fruit action plan'. In 2024 fruit tree plantings surpassed ebony plantings nearly 2 to 1, in large part to catch up to earlier years with low fruit tree production. The introduction of fruit trees was originally envisioned as an "add-on" for program participants to incentivize their tending of co-cropped ebony trees by providing income to farmers after participants graduated from the program and monetary incentives for tending ebony end.

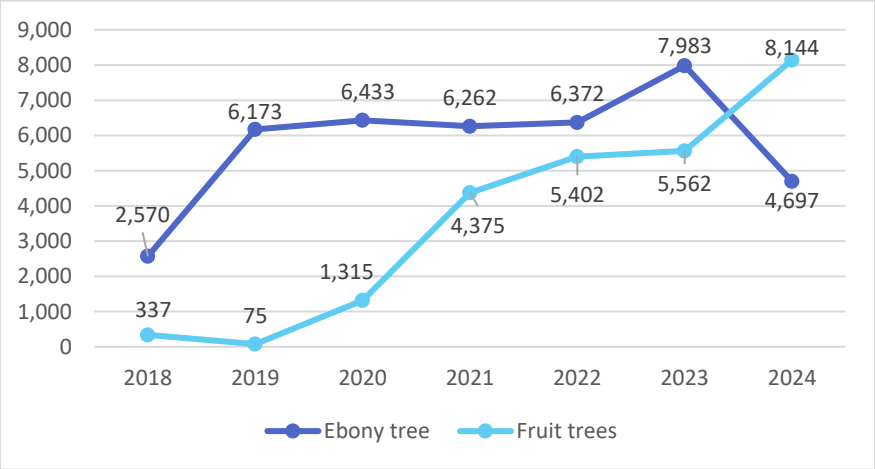


Figure 4: Ebony and fruit tree planting by year

Today, many of the first fruit trees planted—particularly those propagated through grafting and marcotting—are yielding fruit. Projecting forward, we anticipate considerable fruit production. Accordingly, in 2025 we will begin collecting data in order to project potential future harvests. To accomplish this, we plan to engage local communities in the data collection process, leveraging their regular fruit-gathering activities. Historic data on the production timing, volume, and the initiation of Congo Basin native species that produce these non-timber forest products (NTFPs) is minimal.

Beyond local consumption of fruit, increased production opens new possibilities for bartering within a community, between neighboring communities, and conceivably sale to regional towns and urban areas. An assessment funded by Partnerships for Forests (P4F) of value chains indicates significant demand but revealed challenges with market access (see 2021 Annual Report). Local actors are addressing post-harvest processing, market connections, and farmer organizations. The Ebony Project aims to collaborate with these local organizations to improve market access as NTFP production grows.

Gender Participation

While the project has always aimed to increase female participation, our partnership with the Global Environment Facility (GEF) via GEF7 represents an important advancement in promoting gender inclusion within the Ebony Project. GEF mandates that all recipients create a gender plan. With input from our field team and gender experts, the Ebony Project produced its first draft gender plan in 2023.

Figure 5: Women participate in the preparation of bush mango seeds. Photo credit: Zac Emanda

This work is challenging as many partner communities have strong traditional beliefs about gender roles. Our goal is to increase female participation while improving women's access to resources and decision-making, but we have to achieve this without imposing on local culture or compromising the well-being of the women we intend to support. To navigate these two often competing goals, our gender plan focuses on three key action areas:

1) *Address gender issues within the Ebony Project team*: The easiest place to start was with ourselves. While we have a sizable minority of female staff members, on close reflection it was clear that women in the team were more likely to spend time on menial tasks (like cooking food while in the field), even if they had the same technical competence as male staff members. We've started pushing the team to share these tasks more evenly so women can spend equal time on technical work, and modeling that dynamic at the leadership level.

2) *Collect better data*: While you can fix what you don't measure, tracking your progress does make it easier. For the first time, the Ebony Project started disaggregating data by gender so we would assess whether and to what extent women were participating in different project activities. Initial results show female participation increasing over time, with a marked improvement starting in 2023 when we began implementing the gender plan.

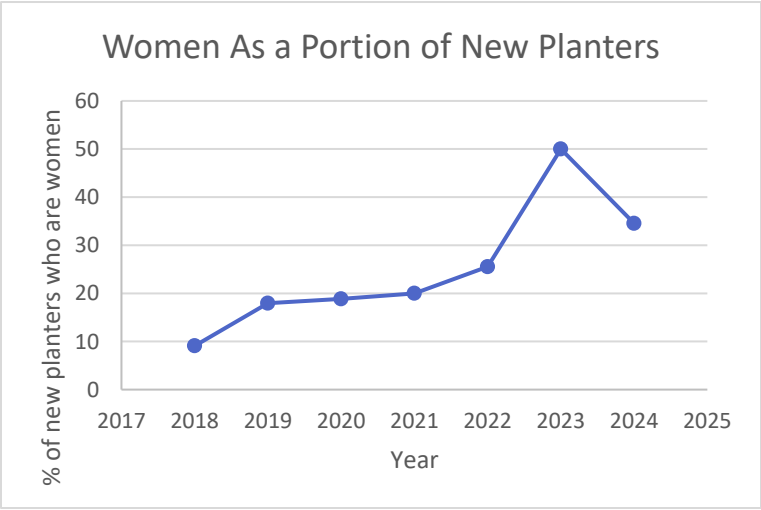


Figure 6: Female participation in the Ebony Project by year

3) *Encourage female participation in project activities*. The project is brainstorming, trying, assessing, and revising ways to increase female participation.

This includes breaking men and women into different groups at meetings and having a female staff member lead the women's groups; pushing for a female nursery manager in new communities, and asking explicit questions about female participation during community visits. Many of these approaches are starting to bear fruit, and we're seeing increased female participation, while also trying to prevent any backlash again female participation when project staff aren't present.

Sylvicultural Booklets and Cameroon's New Forestry Law

Project co-founder Dr. Zac Tchoudjeu has long been a proponent of Sylvicultural Booklets—a document that records each tree planted by a participant, citing the species and location. The Ebony Project has issued booklets to program participants since 2020 as a means to document which trees were planted by whom, which can improve local understanding of land use. Legal tenure—a titled property right from the state—was always a distant prospect given the default for state land ownership in Cameroon.

However, the new Cameroonian forestry law passed in July 2024 opens the possibility that Ebony Project Sylvicultural Booklets could be useful to project participants who seek tenure. Section 40 of the new law created a new land classification: private woodlands. It states in relevant part:

> *"(2) Private woodlands shall be forests, lines of trees and scattered afforestation associated with crops planted by natural or legal persons under private law on land they manage. As such, the persons concerned shall be required to have a silvicultural booklet or document in lieu thereof for control of their activities."*

While the legislation still needs to pass hurdles, and specifics of the approach and procedure aren't detailed, this new category creates a potential pathway to legal tenure for participants of the Ebony Project based on their silvicultural booklets. Over the past few years, members of the Ebony Project have successfully engaged local officials

With the generous financial support from actor and musician Andy Allo, we successfully enhanced water access for two communities involved in the Ebony Project this year. Initial reports indicate a significant decrease in water-borne diseases during the dry season, along with improvements in both the cleanliness and accessibility of water. The original water source for one of the communities is depicted in the top photo. (credit: Elsa Ordway) and the improved water point is below (credit: Virginia Zaunbrecher).

from the Ministry of Forestry to endorse and sign these booklets, thereby enhancing their official legitimacy.

Uncovering The Ebony Project's Impact

The Ebony Project started with the goal to create a planting program focused on a single tree species of particular interest to Taylor Guitars and to conduct basic ecological research on the species. It has evolved into a multispecies agroforestry initiative addressing broader social, economic, and environmental challenges in partnership with forest frontier communities. This evolution can be linked to the early realization that involved communities needed to receive supplemental benefits over time and not just be compensated for the care of a single tree species. This led to the early incorporation of fruit trees and later to the incorporation of other hardwood species. Additionally, several community-controlled wells were established under the project auspices, and the project has also linked with CBI's School for Indigenous and Local Knowledge (SILK) so participants can participate in ecology research on ebony. SILK is a partnership between Baka communities and CBI, under the leadership of Dr. Ruksan Bose, to nurture and transmit traditional ecological knowledge between generations and leverage it to improve the cultural, social, economic, and biological well-being of local communities and forests.

Figure 7: A project participant next to an ebony tree planted in 2017 and next to the same tree in 2023

After nine years, it is clear that the Ebony Project is succeeding beyond expectation—ebony trees the project planted years ago are flowering and even fruiting. However, objectively assessing its long-term impact, either positive or negative, is challenging. Measuring how much the project contributes to complex changes in social cohesion, household income, canopy cover, and biodiversity over time is challenging. Quantifying these changes, let alone attributing them directly to the Ebony Project, requires enormous amounts of data and careful analysis.

Accordingly, the project has begun investing in the development of a more robust monitoring and evaluation (M&E) framework. To lay the groundwork, a Cameroonian Master's student conducted socio-economic surveys within project communities, and next year a team of American and Cameroonian students will spend six months developing an M&E framework. As data analysis from this research continues, future students will contribute to a deeper understanding of the broader impacts and refine the project's strategies. Ongoing collaboration with the Global Environment Facility via GEF7 (2022-2027) and GEF8 (2028-2033) will also greatly enhance project's ability to establish and maintain data pertaining to its wide-ranging impacts.

Figure 8: Cameroonian students survey community members on Ebony Project impacts (photo credit: Zacharie Emanda)

Understanding the Ecosystem: Insights from Ebony Research and the Functioning of Forests

Although much of the research has concentrated on ebony, the scientific framework established by the Ebony Project has started to produce insights about various native species, frequently through partnerships with other researchers. This includes:

- With support from the Franklinia Foundation, our team has begun research on the best practices for production of mukulungu (*Autranella congolensis*) and moabi (*Baillonella toxisperma*) (see Native Tree Species below).
- Assisting a Cameroonian PhD student in his work on *Coula edulis*, elucidating pollination and seed dispersal of the species using methods developed by the Ebony Project, and showing that the species is less impacted by hunting and disturbance (Kamdem *et al.*, 2024, 2025)
- Supporting a Belgian PhD student in her work on Okan (*Cylicodiscus gabunensis*), which showed this species had long pollen dispersal, but had very uneven regeneration, with small numbers of trees producing 90+% of juveniles, an important finding for management (Bhasin *et al.*, 2024)
- Initiating a collaboration with French scientists who are experts in using X-ray fluorescence to assess growth patterns of trees. Ebony wood does not have rings like many

Figure 9: Members of the Ebony Project team and the PhD student working on Coula edulis. Photo credit: V. Deblauwe

species, making it very hard to determine the age of a tree. With this partnership, we hope to learn significantly more about ebony growth patterns.

We are excited about the potential publication of our highly anticipated research in 2025, which explores the symbiotic relationship between ebony trees and African forest elephants—two iconic species. We look forward to sharing more of this compelling work with the public through a peer-reviewed journal.

Incorporating Additional Native Tree Species

As referenced above, as well as in the 2023 Annual Progress Report, mukulungu (*Autranella congolensis*) and moabi (*Baillonella toxisperma*) have been added to the list of native hardwood species grown and planted in communities. Both species are traditionally shy germinators, and initial results show that damaging the hard outer shell of the seed improves the germination rate. The project sowed 490 moabi and 2,120 mukulungu, which will be transplanted in 2025.

Figure 10: Experimental mukulungu seedlings (left) and moabi saplings in a community nursery (right). Photo credit: Virginia Zaunbrecher

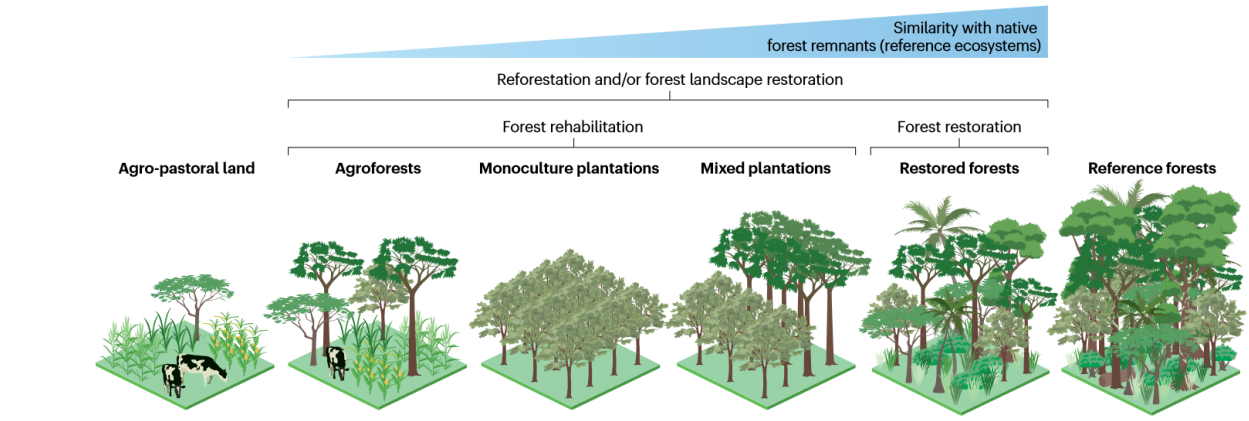
Inclusion of these new species was spurred by our partnership with Franklinia Foundation, which focuses on conserving endangered tree species. The IUCN Red List classifies Mukulungu as "Endangered", while moabi is listed as "Vulnerable".

Communities have little interest in planting native species with no short- or medium-term economic benefits. So native trees like mukulungu that support biodiversity but don't offer economic benefits need to replace some of the ebony trees, rather than be planted in addition to them. This is another example of how the project has grown past its original goals. As part of this growth process, the team will need to determine whether and how these two new species and any future ones will result in short term community compensation like ebony does. It also raises the prospect of a time when the Ebony Project does not primarily plant ebony trees.

Tree Planting vs. Restoration

There is a proliferation of "restoration" projects that range from monocultures of non-native species to efforts to restore mature forest. The Ebony Project exists in the murky middle ground on the continuum between tree planting and forest restoration. We are now planting 16 tree species, 11 of which are native, and the resulting plots are therefore far more diverse than the non-native monocultures that some tree planting projects generate. But preferences, which tend strongly towards non-native food producing species, limit our ability to plant

biodiverse plots that resemble mature forest. This leaves us somewhere in the middle—we promote native food producing plants and compensate in the short term for key native non-food producers, while allowing a limited number of highly valued non-natives. The plurality of Ebony Project plots are mixed plantations with cocoa, as depicted in Figure 11 below, and another large segment are agroforests with annual food crops. We perform moderately well on some kinds of diversity—taxonomic, functional, and phylogenetic diversity—but probably have room for improvement on genetic diversity. Our research on ebony and keystone tree dispersers could be translated into other restoration efforts, if land is available for such work.



	Agro-pastoral land	Agroforests	Monoculture plantations	Mixed plantations	Restored forests	Reference forests
Biodiversity	Low	Low	Low	Moderate	High	High
Water quality	Low	Moderate	Moderate	Moderate	High	High
Carbon	Low	Moderate	High	High	High	High
Timber	Low	Moderate	High	High	Low	Moderate
Food	High	High	Low	Low	Low	Moderate

Figure 11: Continuum of tree planting to forest restoration from Brancalion et al 2025

Understanding and clearly articulating where we fit on this spectrum will be increasingly important—we need accurately depict what the Ebony Project can do without overpromising the restoration of mature forest in plots that humans still rely on for food and livelihoods.

A Different Kind of Private Sector Engagement

CBI's partnership with Taylor Guitars is an atypical public-private partnership. Taylor's investment in the Ebony Project is not linked to sourcing or production (see text box). Taylor's willingness to embrace early-stage risk has been critical to the project's success, as detailed in the 2022 Annual Report. However, this distinctive approach has also made it difficult to expand the project to other private sector partners. Encouraged by GEF, we're actively seeking to engage additional private sector partners, and with Taylor's assistance, we've begun discussions with another musical instrument company. We anticipate that this will be a gradual process, and any contribution is likely to be philanthropic rather than a business investment. Harvesting these products is too complex, and the time horizon for maturation is too long-term, for companies to treat this involvement as a supply chain investment.

Logging companies, which operate forest concessions leased from the government that make up the vast majority of Cameroon's forested areas, could offer another model for private sector partnership. Many companies run their own nurseries as part of replanting efforts required under their management plans.

One of the most common misperceptions about the Ebony Project is that Guitars Taylor plans to harvest the ebony it is helping to plant. In fact, planting and harvesting are completely decoupled. While Crelicam, the Cameroonian ebony mill co-owned by Taylor and Madinter, sources its wood primarily from the east of Cameroon, to date, the Ebony Project works with communities in the central part of Cameroon, and those trees won't mature for nearly a century.

Media Coverage

In 2018-2019, the Ebony Project garnered a lot of media attention, greatly increasing its visibility, which likely helped us form a partnership with the Global Environmental Facility. Since then, however, the project has received less attention, as Taylor Guitars was not as proactive as in previous years due in large part to travel restrictions caused by the Covid 19 pandemic.

As time has gone by, however, the Ebony Project has greatly expanded and experienced a wealth of tangible results, far exceeding what has been covered in the past. Accordingly, the project team has prioritized generating media coverage in 2025.

Towards a Long-Term Funding Strategy

The Ebony Project is at a pivotal moment: we are increasingly seeing achievements well beyond what we originally envisioned. At the same time, while external funding has certainly aided its growth, it's unrealistic to rely on Bob Taylor, co-founder of Taylor Guitars, for financial support forever. He has provided between $250,000 to $350,000 annually since the project's inception. Also, a community project cycle outlasts the typical grant period: we need about a year for setup, followed by 3 to 6 years for implementation, and then around 5 years for community incentive payments. This totals a significant 9 to 14 years, while most grants last at most 5 years.

Thanks to the Global Environmental Facility, and the ongoing support from the Franklinia Foundation, we have provisional funding that will support come participating communities through at least the end of GEF8 in 2033. However, we anticipate that eventually Bob Taylor's contributions will end, possibly necessitating a reduction in scale. To prepare for this, the Ebony Project is proactively

Figure 12: Ebony Project research team in far eastern Cameroon. Photo credit: V. Deblauwe

seeking additional funding to offset Bob Taylor's annual contribution. With additional new financial inflows, the Ebony Project could continue or even significantly expand our efforts throughout Cameroon and potentially into neighboring countries.

References

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