



Barry Callebaut — Regenerating natural ecosystems through innovative drone-seeding and monitoring

Since May 2020, Barry Callebaut has been carrying out a reforestation and restoration project in Agbo 2, a highly degraded forest located in the Moronou region in the Ivory Coast. The project intends to restore areas that were formerly primary forests and were deforested due to anthropological influences, especially food and cash crop production. The project objectives are to:

- Restore deforested and degraded areas by automated aerial planting
- Plant and support survival of 1 million indigenous trees
- Replenish carbon sinks
- Create employment opportunities for local communities

The impetus

The goal of Barry Callebaut's Forever Chocolate plan, is, according to Pablo Perversi, Chief Innovation, Sustainability & Quality Officer, Global Head of Gourmet, to “make sustainable chocolate the norm by 2025”.

The company has been working on achieving this ambition by focusing on four pillars: lifting 500,000 farmers out of poverty, becoming carbon and forest positive, and having 100% sustainable ingredients in all of their products.

Drones not only plant seeds, but also monitor and digitize the forests by capturing high-resolution images and data. Using this data, project implementers can keep track of how many trees have been planted and what carbon stock production capabilities they have. Incorporating technology into projects can create jobs in nearby communities, since operators are needed to manage the technology.

The solution

In line with their target to become carbon and forest positive, Barry Callebaut is pursuing strategies to capture carbon and help balance their footprint. To address cocoa-related deforestation in Agbo 2, Barry Callebaut has used drones to record baseline conditions and monitor annual carbon growth. The company is also piloting aerial planting technology in other parts of the world to diversify tree species and restore the ecosystem at landscape level. Barry Callebaut supports the local economy by employing and training people on practical forest restoration skills, including tree planting, surveying and nursery management. In addition, farmers will receive financial incentives for maintaining agroforestry on their farms. As part of this project, Barry Callebaut is collaborating with the local communities and offering financial incentives to farmers for managing trees in a carbon positive way. Barry Callebaut recognizes that technology is key to enable scaling up of their restoration projects. In this project, the company is using drone technology to scale planting, including in areas where on-the-ground accessibility is challenging.

Three key learnings

- 1. Technology is needed for scale:** Rather than planting and monitoring one tree at a time manually, it is possible to scale planting and monitor forests using satellites and drones. In addition, technology is the most efficient means to track and trace data on planting and tree monitoring.
- 2. Diversity of trees is important:** Vegetation is healthiest with a diversity of native plants and animals, good environmental conditions and rich soils. Trees, mangroves, and other plants capture and store greenhouse gases as they grow - a powerful and essential part of a healthy climate. Protecting and regenerating native ecosystems is necessary to help capture the amount of greenhouse gases necessary to slow climate change.

3. Farmer engagement is essential: Community involvement has been crucial to this project since its inception. Barry Callebaut explored both the scale and types of encroachment activities in the forest, including vegetable, grazing, and subsistence gardening. They created areas in the forest where vegetable growing and gardening land was specifically allocated. This solution was negotiated by engaging with the local community and assuring them that the restoration activities would not take away land that was currently being used. Awareness raising on the benefits of maintaining a biodiverse forest and providing compensation schemes for planting trees are very important.



OP2B Pillar 3:

Eliminating deforestation, enhancing the management, restoration and protection of high value natural ecosystems

This pillar defines specific actions within the value chains of OP2B members that can protect and restore the world's most biodiversity-rich and fragile ecosystems, including grasslands, wetlands and forests. OP2B has gathered learnings from member companies on their experiences implementing ecosystem restoration projects in the field. This case study falls under pillar 3.

What's next?

Restoration projects are on the rise in the cocoa industry because more companies are taking on the role of project implementers. Barry Callebaut aims to use the success of this project to highlight an efficient and impactful approach to ecosystem restoration and inspire other companies to take part. Through piloting activities, they have learned that repeatable models are needed to scale efforts across the globe and that close cooperation with the local communities is key to successful, long-term implementation.

Barry Callebaut is looking for innovative funding to tackle the high initial costs and risks of utilizing new technologies. New government regulations, other big industry players and financial institutions are needed to support this journey.

"As part of Barry Callebaut's Forever Chocolate plan, we aim to make sustainable chocolate the norm by 2025."
Pablo Perversi, Chief Innovation, Sustainability & Quality Officer, Global Head of Gourmet



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