

## Sustainable Indigenous Orchards: An Agroforestry Project in the Colombian Amazon

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### **Abstract**

In 2010, NGOs Green Hope Colombia and Forestever started the development of an agroforestry project in the Colombian Amazon to address both environmental and social challenges facing indigenous lands in this area. The use of unsustainable agricultural practices such as tree cutting, burning and monoculture by Amazonian indigenous communities will, in the long term, cause the destruction of many parts of the Amazon forest. The Sustainable Indigenous Orchards Agroforestry Project was created with three objectives in mind: first, to improve the life and health conditions of Amazonian indigenous communities; second, to limit and fight deforestation in the region by establishing healthy agroforestry practices and introduce concepts of species' diversity, the cycle of organic matter, and environmental conservation; and third, to rescue the value of local species and biodiversity through the creation of orchards of familiar fruit trees. The Project was conceived as a "joint venture" where the communities provide their land and workforce to plant different sorts of trees, and the NGOs Green Hope and Forestever provide them with all the necessary materials, instruction and technical support to perform the work. At the end of the project, the families would receive payment for each planted tree. This project can serve as a case study for research on economic development and sustainability in indigenous lands, educational outreach and relations between state and indigenous governments. It also provides a perspective on the question of how to approach and balance potential differences between ancient indigenous practices and environmental sustainability.

**Keywords:** communities, Colombian Amazon forest, environmental and social sustainability, agroforestry, education, social and economic development.

## 1. Introduction

This Photo Essay aims to present the Sustainable Indigenous Orchards Agroforestry Project developed by the NGOs Green Hope Colombia and Forestever in the southern end of the Colombian Amazon. The essay is integrated with a series of photographs taken by Jorge Shigematsu, the director of Green Hope Colombia, during his participation in the project.

In 2010, the NGOs Green Hope Colombia and Forestever started the development of an agroforestry project in the Colombian Amazon. Jorge Shigematsu, who had been involved in social work with indigenous communities in this region since 2007, witnessed how lands in the area were being subjected to indiscriminate tree cutting and light-burn agriculture resulting in land degradation, loss of biodiversity, food scarcity, and displacement of agricultural activities for illegal hunting and animal trafficking. Eventually, these practices would result in the destruction of parts of the region's Amazon forest. Jorge reasoned that investing in education on sustainability would become essential to protect the forest and to rescue the land and people's cultural values and traditions. In 2010, he met Maikov Dumas, a French agro-development engineer and director of NGOs Forestever and Up2Green. They partnered to execute the Sustainable Indigenous Orchard Reforestation Program, which, by the end of 2012, was responsible for planting 20,000 native species trees

The program emphasized both environmental and economic sustainability. Maikov Dumas had been developing and implementing similar agroforestry models with indigenous communities in Iquitos, Peru. This experience provided him with key knowledge of the local environment and allowed Forestever to create the appropriate methodology to successfully implement the project in association with Green Hope Colombia.

Communities in San Antonio de los Lagos, Valencia, and Mocagua Reserves near Leticia are currently part of the project. Thousands of trees have been planted, and the NGOs are working on reaching out to other surrounding communities to present them with the project and get them involved. They are also building alliances across the border in the Brazilian Amazon to collaborate with communities along the Amazon River basin. For the first time this year, the Colombian government has shown interest in supporting the project, and there are ongoing conversations with public educational institutions to create student volunteer opportunities.

The area is near the southern end of the Colombian Amazon Department, close to its capital, Leticia. Communities in the region include *Boras*, *Yaguas*, *Huitotos*, *Tikunas*, *Mirañas*, and *Cocamas*. Indigenous people here use wood to obtain vegetable-based fuel, build transportation devices such as canoes, and construct and repair their homes and “*malokas*” (ceremonial houses).



Figure 1: Aerial view of the bio-diversity of the Amazon Forest



Figure 2

Figure 3

Figure 4

Figures 2, 3 and 4: Local people use their natural resources to build canoes, houses and vegetable coal. They also prepare cereal from Yucca (Farinha) that they consume and sell in the market. Fishing is another alternative, but during the summer season there are problems of food scarcity.

The communities' means of subsistence is State support, eco-tourism and short-scale fishing and agricultural activities. But these only allow for limited subsistence. Illegal hunting and animal trafficking businesses easily "trap" young people by offering them attractive options for "easy money." Globalization and the arrival of non-traditional lifestyles have also affected the communities' traditions and their capacity to adapt.





Figure 5: Green Hope Colombia's Director (Mr. Shigematsu), traveled inside the Forest close to Tarapacá, Colombia (an indigenous town). He witnessed the reality about the illegal timber market.



Figure 6: Traveling along the Amazon River, many villages in Peru are involved in timber trade.



Figure 7: Visit to a deforested zone at an indigenous community in Valencia, a Reserve located two hours by boat from Leticia. Some farmers still practice burning as a traditional deforestation method to sow Yucca and Plantain.

The idea was for the communities to provide their land and work-force to plant different sorts of trees, while Green Hope and Forestever would provide them with all the necessary materials, instruction, and technical support to perform the work. At the end of the project, the families would receive payment for each planted tree.





Figure 8

Figure 9

Figures 8 and 9: Planting of fruit and timber trees - typically cedar, ceiba and mahogany - in deteriorated areas (before and after) in San Antonio de los Lagos. Local people learned that they can apply agroforestry and longer-lasting agricultural practices that will allow them to use their natural resources sustainably.



Figure 10: Green Hope Colombia's Director together with some of the project's team members, traveling in a *peke peke* ("small boat") along indigenous reserves on the Amazon River. They were on their way to San Antonio de Los Lagos to talk to the communities about the project.

In 2011, after holding several meetings with "*Curacas*" (community leaders), the *Tikunas*, a community that lives in the San Antonio de los Lagos Reserve, signed on to the project. At the beginning of 2012, the *Tikunas* and *Cocamas*, living in the Valencia Reserve, also decided to join the project.



Figure 11: Visiting and socializing with the *Tikuna* community in San Antonio de Los Lagos. This was the first encounter with local people and with the *Curaca* (community leader), who showed interest in the sustainable reforestation project.



Figure 12: Meeting with indigenous families in the Valencia Reserve. After listening to the proposal by the Green Hope and Forestever Directors, they approved and signed an agreement to implement the program.

The objectives were three-fold: first, to improve life and health conditions of Amazonian indigenous communities by securing and diversifying families' food sources and agricultural production; second, to limit and fight deforestation in the region by establishing healthy agroforestry practices and introducing concepts of species' diversity, the cycle of organic matter, and environmental conservation; and third, to rescue the value of local species and biodiversity through the creation of orchards of familiar fruit trees.





Figure 13: The project manager, Mr. Juan Ferreira, explains to Miss. Diane Garcon, a French volunteer, how to make notes about growth rates in the reforestation area in San Antonio de los Lagos. Various French volunteers worked for a year on this project.



Figure 14



Figure 15

Figures 14 and 15: Showing fruits typical from the region in a market in Leticia, including soursop, *pomarosa*, *copoazu*, *araza*, and mango. Sustainable use of traditional orchards and varied fruit crops help to secure and diversify families' food sources and create economic and commercial opportunities.

Involved parties are committed to obtaining set objectives within a deadline, and to exercise the discipline required to attend workshops, understand the technical aspects, and become autonomous in order to administer their parcels without supervision in the long term.





Figure 16. An Indigenous woman in the community of Valencia shows her seed nursery. She also showed Jorge and Maikov where she will plant the native trees, which will be grown in a deforested area.



Figure 17: Mr. Maikov Dumas, Green Hope Colombia's partner, analyzes a young plant after a year in the community of Valencia. It is very important to follow up every month with beneficiaries to identify if something has not been done properly and to take corrective steps based on the reforestation schedule.

Two years after its inception, Green Hope and Forestever organizers visited San Antonio de los Lagos lands to follow up on the development of the project. They found community members engaged and happy that their reforested plants



were growing healthily. They are expecting to begin production of fruit pulp at the end of 2014. In Valencia, *Tikunas* and *Cocamas* have already planted 10,000 trees. During Maikov and Jorge's most recent visit last February, project participants spoke to them about how they expect the reforested plants to provide them with small business and income opportunities to help the community.



Figure 18: Visit to the project after a year of reforestation. The photograph shows pineapple, avocado, cedar, plantain, and native species planted in the community of Valencia.



Figure 19: Ecocert Manager, Ms. Liana Morera, traveled from France to visit, evaluate, and certify the success of the project in San Antonio de los Lagos. Ecocert is an international certification company based in France.



Most recently, the community of Mocagua signed on to the project. Mocagua is located an hour and a half away from Leticia, next to Amacayacu National Park. Launching the project with this community is of special importance as some years ago, a conflict arose between the National Park and community concerning land rights. The Matamata River divides their borders. Reforestation activities have created an opportunity of mutual understanding, particularly because it includes planting of more than 500 trees of Surba, one of the favorite foods of the Churuco Monkey (*Lagothrix*) that is in danger of extinction.



Figure 20: Members of the community of Mocagua, sowing seeds for the 2013 project. We built a nursery and germinator and prepared the soil with organic fertilizer. The young plants had already begun to germinate. The next step will be to put the young plants in bags and plant them in deforested zones next semester.

For the first time this year, the Colombian government has shown interest in supporting Green Hope and Forestever's work in the Amazon region. The NGOs expect to sign an agreement soon. They have also held conversations with the National University of Colombia's Sinchi Institute and the Colombian National Education Service (SENA) to open up the option for students to volunteer with the project.

Additionally, the organizations are looking to build alliances across the border. They visited the National Indian Foundation (FUNAI) in Brazil. This Foundation has shown interest in visiting project areas in Colombia with the idea of implementing a similar project in Brazil. Green Hope Colombia and Forestever would also like to see their project implemented in other communities along the basin of the Amazon River.





Figure 21: Members of a nearby community in Iquitos (Peru), carrying seeds and young plants to deliver them to a neighboring community that wants to get involved in the project. Jorge and Maikov emphasize and promote the importance of using the work in the seed nurseries as a way of creating liaisons with neighboring communities, empowering the reforestation project in the region.