



A TREE BANK FOR HISPANIOLA

The Earth Sangha has launched an agroforestry program on the Caribbean island of Hispaniola, in an impoverished area of the Dominican Republic (DR), near the border with Haiti. (See the maps inside.) Agroforestry is the practice of tree farming. Our program, called the Tree Bank, consists of a tree nursery and a set of modest financial incentives to help farmers plant their land with trees for fruit and timber, as well as for conservation. The objectives are to increase and diversify farm income, improve soils, stabilize streams, and fight deforestation, a major problem in the region. Based in the village of Los Cerezos, the Tree Bank has a 19-square-mile program area and so far, about 20 participating farms. Construction of the Tree Bank nursery is now under way.

Los Cerezos is an “ecologically strategic” place to work because it lies near the island’s deforestation front. Haiti has lost almost all its tree cover and the border region of the DR is now beginning to unravel in some places. The photo above, taken in our program area, shows what this “deforestation lite” looks like. The landscape is still green but very little native forest remains. The deforestation has radically reduced wildlife habitat and is causing pervasive erosion, which makes it harder and harder to farm or to reestablish the native forest. The area is ecologically strategic for another reason as well: it’s close to the national park complex in the center of the DR. These parks are the largest remaining natural areas on Hispaniola.

Los Cerezos is politically strategic too. It lies in the uplands of the Artibonito River watershed, which includes portions of both Haiti and the DR. Eventually, we hope to expand our work to the watershed as a whole.

This is the Sangha’s first foreign program. It’s a partnership, facilitated by the US Peace Corps, between us and a local agroforestry association. We want you as a partner too! (See inside for details.)



At each of the 20 or so farms enrolled in our program thus far, an average of 10 people are at least partially dependent on farm income. A large proportion are children. Above, sisters Beba (left) and Nacha (right) live on the farm adjoining the Tree Bank nursery.



The Earth Sangha was selected as one of Greater Washington’s best small charities by the 2005-06 Catalogue for Philanthropy. www.catalogueforphilanthropy.org/dc

EARTH SANGHA

**BUDDHIST VALUES
IN ACTION**

The Earth Sangha is a 501(c)(3) nonprofit charity dedicated to environmental action as an expression of the Buddhist way of life.

Want to volunteer or meditate?

If you live in the Washington, DC, area, you are welcome to join us at our field sites, Wild Plant Nursery, or meditation sessions. Give us a call, at (703) 764-4830, or send e-mail to info@earthsangha.org.

Want to donate or join the Sangha?

You can support our work by becoming a member. Membership starts at \$35 per year. Your donation is tax-deductible.

Our mailing address is:

Earth Sangha
10123 Commonwealth Blvd.
Fairfax, VA 22032-2707.

Comprehensive program information is available on our web site: earthsangha.org.

Become a Tree Bank Partner!

Contribute at least \$35 to the Tree Bank, and we'll recognize you as a member of the Sangha and list you as a Tree Bank Partner in future reports on the program (unless, of course, you prefer to remain anonymous). **All of your contribution will be spent in the Los Cerezos program area. None of it will be spent here in the United States.** Make your check out to "Earth Sangha," write "Tree Bank Partner" on the memo line, and send it to us at the address above. We'll send you a receipt.

Our 2006 Supporters As of September

Bank of America,
Chesapeake Bay Restoration Fund,
Curtis and Edith Munson Foundation,
Fairfax County, Virginia,
National Arbor Day Foundation,
Shared Earth Foundation,
Spring Creek Foundation,
and our many generous individual donors.
We are very grateful to them all.

The Acorn

The *Acorn*, an occasional publication of the Earth Sangha, is created with "print on demand" technology, which consumes far less energy and materials than does conventional printing. This paper is 100% post-consumer waste recycled, process chlorine-free, and manufactured entirely with wind-generated electricity. Photo credits: Lisa Bright: p. 1 (portrait of girls), and p. 2 (family). Other photos by Chris Bright. © Copyright 2006, Earth Sangha.



Let us know if you could use additional copies of the *Acorn*! We'll send them to you for free. **CFC # 8390**



Above: Well-managed agroforest, like this banana grove under a mango-tree canopy, is a type of cropland. But in addition to fruit, this agroforest provides critical wildlife habitat, builds soil, and helps stabilize streams. (That's Lisa Bright, our Conservation Director, beneath the bananas.) At left: Beans are one of the most important Dominican staple crops. Here, a Los Cerezos family cleans a fresh batch of beans for dinner.

HOW THE TREE BANK WORKS

When fully functional, the Tree Bank nursery will produce over 10,000 tree seedlings a year for planting local farmland with four types of cover:

Orchards. Coffee, cocoa, and fruit trees will be used to renew declining orchards, and to establish new ones. Some of these crops can be grown in complex agroforest systems that confer multiple environmental benefits. See the picture above.

Short-rotation wood lots. Fast-growing Honduran pine seedlings will be used to produce construction-grade timber. These home-grown 2-by-4s fulfill a basic local need, but to avoid soil problems associated with large-scale pine monoculture, we'll keep these Honduran pine plantings small (usually under an acre), or we'll mix them with other types of plantings.

Long-rotation wood lots. A variety of high-value, native Hispaniolan species, such as mahogany and Hispaniolan pine, will be used to create the region's first substantial replantings of native trees. High-value timber takes a long time to grow (generally more than 30 years), but even a few good-sized logs can more than justify the investment. But since most of our farmers are too poor to take even small parcels of land out of production, the Tree Bank will offer a modest subsidy to farmers who agree to install and manage such plantings sustainably.

Conservation reserves. A wide range of native trees—hardwoods, Hispaniolan pine, and palms—will be made available to farmers who agree to reforest marginal farmland. Los Cerezos farmers are interested in this idea, but are generally too poor to act on it independently, so the Tree Bank will offer a small subsidy for this type of planting as well. Conservation reserves will help preserve soils, stabilize streams, and expand wildlife habitat. Planting and maintaining such reserves will create a new source of farm revenue and open up a major social opportunity for the farmers: they can become practitioners of forest restoration.



CONCRETE PROGRESS!
 LOCAL FARMERS AND A YOUNG APPRENTICE MIX CEMENT DURING NURSERY CONSTRUCTION.

Lying just east of Cuba and Jamaica and just west of Puerto Rico, the island of Hispaniola is home to two countries. Haiti occupies the westernmost third of the island; the Dominican Republic occupies the rest. Our program is in a strategic location: we're working on the Dominican side of the border, in the headwaters of the Artibonito River, near the largest complex of national parks on the island. As our work grows, we will be able to help both Dominicans and Haitians, restore parts of an international watershed, and benefit the largest remaining natural areas on the island.

GASPAR TALKS TREES



Gaspar Pérez Aquino is almost certainly the only farmer around Los Cerezos with expertise in nursery management—and that's why we recruited him to be our Program Director. It's his job to supervise the construction of the Tree Bank nursery and organize the propagation procedures that will eventually fill it with little trees. Below, Gaspar explains why he sees the nursery—and the program in general—as a vital community resource.

“The trees that we're going to grow at this nursery will benefit both our lands and our families. Nursery work is something that our children can get involved in. It's educational, and that's very important for the future of this region. This program will help us develop farming techniques that conserve the land, and through the nursery, we'll be able to pass that kind of knowledge on to our children. That will be a big step towards keeping our farms healthy and functioning as family enterprises.

“This program will fulfill some basic economic needs. We need to reforest parts of our farms in order to keep the land healthy. The farmers around here already know that, but reforestation is expensive and most of our people are poor. They can't afford to pay thousands of pesos in order to truck in tree seedlings. This program solves that problem. We'll be able to grow our own trees right here.

“And once we begin to plant those trees out on the farms, we'll be able to improve farm income. This is something we have really got to address. Over the past decade or so, farm revenue in our region has been declining and farm debt has been growing. Today it often costs more to plant staple crops than the harvest is worth. Obviously, this situation cannot go on forever.

“Our farmers need some new approaches, and trees are the key. Just about all of the farmers in our region already have some experience with tree crops or small-scale timber plantings. If we could plant larger areas in trees, we could produce higher value farm products. We could improve our soils, stabilize our streams, and improve the wildlife value of our region as well. The program just makes sense from every perspective.”

—Gaspar Pérez Aquino, President of the Agroforesters Association of Los Cerezos and Director of the Earth Sangha's Tree Bank / Hispaniola Program. Gaspar's comments were translated from Spanish by Tommy Ventre, our Peace Corps liaison. At left, a photo of Gaspar at the nursery.

Hispaniolan Nature Factsoids

Hispaniola has the most diverse flora in the Caribbean. About 5,600 plant species are native to the island and 36% of them occur naturally nowhere else. That's a lot of plants for one island. (In comparison, the whole of North America north of Mexico, an area nearly 127 times as large, contains about 20,000 plant species.)

Probably the most famous of the island's plants is Hispaniolan or Spanish mahogany, which yields one of the world's most valuable furniture woods. This tree was once widespread on Hispaniola, and in some other parts of the Caribbean too, but four centuries of indiscriminate logging almost eliminated it from the island. Because it is so valuable, mahogany is one of the species that we are growing.

Deforestation is a big problem on Hispaniola, especially in Haiti. Less than 2% of Haiti is still forested. By a generous estimate, 28% of the Dominican Republic is forested. The border area, where we are working, is especially vulnerable to deforestation.

Hispaniola is home to 306 species of birds, 31 of which live only on Hispaniola or nearby islets. Many of Hispaniola's birds are migrants: these species overwinter on the island but nest on the North American mainland. Among the US migrants is the Bicknell's thrush, which nests in the spruce-fir forests of New England and adjoining parts of Canada. Deforestation of its Hispaniolan range has made it probably the most vulnerable of all the north-eastern-nesting birds that overwinter in the tropics.

Declines in some Dominican forest bird species appear to be linked to the loss of traditional coffee agroforest. Much of this shade-grown coffee has been replaced by sun-grown coffee, which produces stronger, espresso beans.

Some other notable Hispaniolan critters: a gecko lizard only about 6 tenths of an inch long, making it the world's smallest reptile; the 15-foot American crocodile, the largest reptile in the Americas; a kind of rhinoceros iguana; the coqui frog, whose cry is among the loudest noises made by any amphibian; the Hispaniolan parakeet and the Hispaniolan parrot, both of which are very rare; and a weird, little long-snouted mammal called the solenodon, a highly endangered nocturnal anteater.



PRINCIPLES TO BANK ON

The Tree Bank is designed to create opportunities for local people—in ways that strengthen farm culture and help preserve the landscape. To keep our innovation meaningful and healthy, we rely on four principles. Here they are:

To work for long-term ecological benefit. This is why, for example, we use only native trees for our conservation reserve and long-rotation timber plantings. Whenever possible, we propagate native species from local forest, to help preserve local genetic adaptation and diversity. (The alien species that we use for fruit and short-rotation timber are not invasive in our program area.)

To create new applications for proven skills. The Tree Bank will give farmers a chance to use their knowledge of the land in the service of ecological restoration. Restored forest will become another source of farm revenue.

To be economically realistic. We realize that tree-planting is a long-term investment, and that additional support will be necessary, especially over the short term. To help build economic potential, we are developing a set of carefully targeted planting payments. (See page 2.)

To be open-ended and open-minded. We don't believe in one-shot diagnoses, and we certainly don't believe that we have all the answers. We do believe in collaboration and long-term commitment.

We need your help! If this approach makes sense to you, please become a Tree Bank Partner. (See page 2.)

Top inset photo: One of our die-hard nursery construction crews. (Tommy Ventre, our Peace Corps liaison, is second from left.) Background: A farmhouse in the village of Los Cerezos, our program site. Above: Children help maintain the erosion control berms at the Tree Bank nursery.