



Eco-Libris assessment – Second year of Operations (July 2008 – July 2009)

Sustainable Harvest International (SHI)

Prepared by: Justin Trezza, Field Program Director

1. General Information

- 1.1 Name of organization: Sustainable Harvest International
- 1.2 Name of President: Florence Reed
- 1.3 Year of establishment: 1997
- 1.4 Registered in (country): USA
- 1.5 Countries of operation: Belize, Honduras, Nicaragua and Panama
- 1.6 No. of trees planted in the 12 months ending on July 1st, 2009: During FY09, SHI planted a total of 309,675 trees in four countries – Belize, Honduras, Nicaragua and Panama.
- 1.7 Average survival rate of trees: 96%

2. Eco-Libris tree planting's operations (these questions refer to the trees planted on our behalf): 12,250 trees

2.1 Out of total number of 12,250 trees and as of July 1st 2009, how many trees have been planted? How many are still growing as seedlings in nurseries and how many are at prior stage (seedlings haven't been purchased yet)?

As of July 1, 2009, Sustainable Harvest International's (SHI) Panama program has planted all 12,250 trees and incorporated them into mixed or agroforestry systems. The most recent group to be transplanted from nurseries to soil occurred in September and October of 2009. Typically trees are transplanted 3 to 4 months following germination in nursery; however, this figure can vary depending on species and local climate.

2.2 In what countries/areas the trees were planted? Please fill in the attached excel and be specific as possible.

All trees were planted in Panama, specifically in the areas and communities of El Entradero, Los Alonsos, Bella Florida and La Hamaca, in the province of Coclé.

2.3 Please provide the planting schedule in these areas (when the seedlings are planted in nurseries, what are the months of planting, etc.)

December 08 / January 09 – nurseries established with **4,729 plants**. Species included: *Coffea arabica*, *Citrus sinensis*, *Swietenia macrophylla*, *Tabebuia* spp., and *Inga spectabilis*.

June '09 – 4,729 trees transplanted from nurseries to agroforestry systems of seven local producers / farmers.

June '09 / July '09 – Second group of nurseries established for the purpose of agroforestry, hardwood and silviculture species. Total in nursery **7,521** (nurseries featured additional 4,709 not included in this report). Species included *Swietenia macrophylla*, *Tabebuia rosea*, *Bombacopsis quinata*, *Simarouba amara*, *Pseudosamanea guachapela*, *Dalbergia retusa*, *Inga spectabilis*, *Syzygium malaccense*.

September '09 / October '09 – second batch of trees transplanted into mixed plots.

2.4 What species were planted, what is the genetic source (country of origin) of each species?

All species planted came from local seed stock. Species included were – *Coffea Arabica*, *Citrus sinensis*, *Swietenia macrophylla*, *Tabebuia* spp. (*rosea*, *chrysantha*), *Inga spectabilis*, *Bombacopsis quinata*, *Simarouba amara*, *Pseudosamanea guachapela*, *Dalbergia retusa*, and *Syzygium malaccense*.

2.5 How many hectares were planted as mixed forest? Mixed of how many species?

Approximately 8 hectares were planted as mixed forest / agroforestry (total for 12,250 species). Total species for mixed forests varied from farm to farm as much was dependent on pre-existing species, terrain and land area. On average between four and eight species were incorporated into one's farm or agroforestry system.

2.6 How many hectares were planted as monoculture?

None. All species were intercropped.

2.7 How many hectares were planted for agroforestry uses? How much of it is inter-planted with crops? What crops?

All 8 hectares were planted as mixed or agroforestry systems. Most of the species were incorporated with previously planted coffee.

2.8 What is the involvement of local communities with these planting activities? What are the social benefits of these specific trees that were planted, in present and in the future?

Local communities or SHI participants are required to participate in the establishment of nurseries and the planting of tree species. In accordance with organization's policy, SHI assists the family by providing seed and materials; however, families are required to contribute labor and time and local materials, i.e. thatch of palms for nursery roofing, local wood for support, etc.

All tree species utilized have various uses and benefits. Below are listed each species and pertinent socio-economic, health, and / or environmental benefits.

- *Coffea Arabica*(Coffee) – cash crop that generates income for families while simultaneously providing benefits to the local environment include bird habitat, protection of upper canopies, and erosion prevention (planted along contour lines).
- Citrus spp. – source of income and nutrition for family. Also serves to diversify gardens and agroforestry systems.
- *Swietenia macrophylla* (Atlantic Mahogany) – valued hardwood with potential for income generation in the future. *Swietenia* also serves as shade for coffee and protection of local sources of water.
- *Tabebuia* spp. – (Pink trumpet flower, Cortez), Both varieties planted serve as shade for coffee and other cash-crops and shrubs, and are valued for their fine wood that can be used in furniture making and artisan products.
- *Inga spectabilis* (Ice cream bean tree) – A leguminous or nitrogen fixing tree whose primary function is to replenish nutrients, specifically nitrogen, back into the soil. *Inga* or ice cream bean is commonly used in alley cropping systems and in coffee agroforestry systems. Other uses include – edible fruits high in calcium, support for other crops including vanilla and black pepper, and medicinal uses for treating diarrhea and rheumatism.
- *Bombacopsis quinata* – Also known as pochote or cedro espino, this is a hardwood valued for use in construction, as it has similar strength to mahogany.
- *Simarouba amara* – Known locally as Cedro Amargo, this species is a native hardwood species that is commonly used in furniture. Like all hardwoods noted, the species is habitat to various tropical bird species.
- *Pseudosamanea guachapele* or *Albizia guachapele* (Cenizaro, Chime Tree) – A leguminous tree that is often intercropped with species including coffee and cacao. The species is principally used to improve soil quality through the fixing of nitrogen via nodules in its root system. Species can be found up to elevations of 1200 msl.
- *Dalbergia retusa* – known as Cocobolo or Nicaraguan rosewood, another hardwood species that can be cut for use in cutlery handles, furniture and more. Species is typically found in elevations from 50 to 300 msl and in more open areas with less dense forest.
- *Syzygium malaccense* – Known locally as Marañon Curazao or Manzana de agua, the Malay rose apple produces an edible fruit with a crunchy flesh and mild sweet flavor. Aspects of the tree, including its bark, also serve medicinal purposes.

2.9 Are there any specific environmental benefits for the plantings in these specific areas?
Please see above section. In addition to what has been noted, all species serve as habitat for species and aid in the conservation of degraded and sloped soils.

2.10 What is the management plan for the next five years for the trees that were already planted during the last year? What is the management plan for the next twenty years?
Families and staff will be conducting periodic monitoring of species, particularly in the case of coffee which during its twenty years of existence will require pruning, natural fertilizing, and harvesting of coffee berries (first fruits produced after 2 years). Species like Inga will also require certain amounts pruning and also coppicing which will permit the release of additional nitrogen into the soil. Coppicing will occur in rotations or cycles in order to assure that there is constant shade. Other species, including hardwoods, will be managed on a long term basis but will not require periodic monitoring once they have reached a level of maturity. Once a family does graduate from SHI program, they will be provided a management plan but also receive annual visits from staff.

2.11 Do you plant other species, which are not trees, in the same planting area? (Shrubs, Herbaceous, etc.) If you do, which species? What life form?
Many of the species were planted with coffee and in a few rare cases with plantains and corn.

2.12 Out of the trees that were planted: **900** (number) trees were in "clean/ new" areas, _____ (number) trees were planted as fillings in areas with former plantations, **11,350** (number) trees were planted as fillings in areas with natural vegetation.

2.13 Did you plant non native species? Which species? How many trees?
All species are native to the region with the exception of Malay Rose Apple which was introduced to the Caribbean and Central America from Malaysia. Though not native, the Malay Rose Apple is by no means an invasive species and is adapted to climatic features of the zone.

3. Ensuring the planting quality

With regards to our collaboration in our first year of operation, please choose for each characteristic shown in the table below the most suitable grade between 1-10 (1- cannot guarantee at all 10 – can fully guarantee) and add an X sign in the suitable cell. These grades should indicate your ability to ensure the quality of these characteristics. Please provide further explanations whenever necessary below the table.

	1	2	3	4	5	6	7	8	9	10
Additionality									X	
Planting the trees primarily as a mixed forest and not monoculture species										X
Full collaboration with local communities										X
Usage of native species								X		
Planting within one year from the payment									X	
Ensuring trees planted on behalf of Eco-Libris will not be cut down								X		

Eco-Libris comments:

We thank SHI for their full cooperation in the preparation of the assessment and their willingness to provide all the requested details. Overall we are satisfied with the performance of SHI and believe that their commitment to high sustainable standards is maintained. We look forward to continuing our work together.