Sustainable Harvest International™
Fall 2007

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The Harvest

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Planting Hope

Field Trainer, Daysbeth Lopez, and Señora Edith Ruiz beside newly planted cucumbers.

"It's like a breath of life," SHI's Luis Escalante once told me, talking about the field trainer's visits to the families they serve. The support SHI's families receive from their field trainers and the growth field trainers see in their families have a mutually strengthening effect. One of the places I definitely saw those words fulfilled was with Señora Edith.

As soon as I stepped out of the pickup, she was there with a big hug and a kiss on the cheek for me. I was equally happy to see her after four months away from Panama. Sra. Edith of Los Reyes in the Antón district is one of the ladies assisted by SHI's field trainers, and during the 14 weeks I spent in Panama as an SHI intern, I had a chance to get to know this wonderful woman and share in the work with her family.

Hers is a heartbreaking story to tell. She has several adult children, but three of them have a debilitating illness which means they require constant care. Her circumstances are difficult at best, but with the help of SHI field trainers, her situation has improved. They have helped her grow a small patch of organic vegetables so she doesn't have to buy them. They taught her about natural fencing – planting trees around the perimeter of her land instead of cutting trees down to produce fence posts. They helped her build a wood-conserving Lorena stove, which again, reduces the trees she'll have to cut down. They have also worked with her to maintain a flock of chickens, providing both food and a small financial income.

It is unlikely that SHI's work alone will meet all her desires for her family. But what the field trainers can give her is hope —the knowledge that she's not alone in her struggle to care for her family, the revelation that things can change for the better, and the know-how to see that they do.

Someone once said, "Where there is no vision, the people perish." Wise words indeed, for without dreams we would never make any progress. Perhaps more than anything else, that is what Sustainable Harvest International does —provides a vision of what could be...and the means to make that vision a reality.

-SHI Panama Program Intern, Kristen Gibbs

Field Program Update

Field Program Director, Greg Bowles

Belize

Field results for the past fiscal year have been impressive for the program in Belize. More than 400 acres of land have been converted to sustainable uses, including production of diversified crops. Much of that land was planted with 170,000 trees! These trees not only restore depleated land, but provide families with fruit and income. Program participants saw their lives and the environment improved with 300 gardens, 50 wood-conserving stoves and this country program's first solar eco-sanitation latrine (see page 4). Country Director Nana Mensah commented that all of this activity is aimed at environmental targets, but also includes his personal goal of raising the standard of living for at least 25% of the people living in southern Belize's Toledo district, and over the long-term having the same impact on the rest of the country. In addition, SHI Belize has recently partnered with The Cotton Tree Lodge. The eco-lodge is funding a Belizean field trainer and SHI will be helping them to plant trees and demonstration garden plots while taking their guests on tours of SHI family farms.

Honduras

More than half of the families that have been working with Sustainable Harvest Honduras are about to graduate! These graduates have learned many ways to improve their lives while protecting the environ-

Program Update continued on page 3...

"I have learned to produce without spending money on chemicals"

SHI Participant, Sixta Alonso, is 59 years old and lives with her mother, Maria Anacleta, age 93, in Los Alonso, Panama. Her family joined SHI five years ago and has worked closely with field trainer, Daysbeth Lopez, on a variety of projects that have given her food to eat and sell. In her own words: *Working with SHI I have learned to produce without spending money on chemicals, and without damaging my health. They have taught me that I have the fertilizer at my house, and it's true because I am preparing compost, and I also use chicken manure for my crops and it gives good results.*

Together with my field trainer, I am creating a nursery of coffee plants for another plot, and also mahogany for reforesting. Before, I didn't like to reforest, because I saw the results as being really long term, but now I have understood that in this case the money isn't the important thing because of the huge problem that our neighboring communities are having. They don't have water because of pulling out brush and burning it close to rivers and streams without planting even a single tree. My mom and I are already pretty old, but we have grandchildren, and we don't want them to suffer because of our bad habits when it's time to plant. Last year I reforested with my field trainer around a stream in my community. I also grew vegetables and what we always grew to eat but in places that don't damage our environment, and with organic fertilizer. That means that I am changing my habits so that those who come after me will continue doing it.

Sixta Alonso shows off her coffee seedlings.

For my part, I don't know how to repay all of you who give money for them to teach us new things, to help us continue forward with friends by our sides, and to think that there are people so far away, who don't know us and who want the best for us. Thank you so much.

Special thanks to Susan Posey for her translation.

Breadfruit in Honduras

Sustainable Harvest Honduras has embarked on a collaborative project with the Breadfruit Institute of Hawaii and the University of Guelph in Canada that will provide both more trees and better nutrition for the rural families who work with us. Breadfruit is not a popular dish in the U.S. or Europe, but is well known in other parts of the world. It is high in starch, nutritious minerals and vitamins A, B1 and C (depending upon variety), and when cooked tastes like either potato or fresh-baked bread (thus the name). Many Central Americans eat it as part of vegetable soups. The plants came to the Caribbean region from the South Pacific islands largely through the efforts of a sea captain who came to be known as "Breadfruit Bligh." Captain Bligh is perhaps better remembered these days for the mutiny that took place on one of the ships he commanded, the H.M.S. Bounty.

Sustainable Harvest Honduras has received shipments of thousands of plantlets that are first being nurtured on our demonstration farm and then transferred to family plots in the Santa Barbara region. The Breadfruit Institute grows more than 120 varieties of the tree and SHI is focusing on four varieties to see how well they adapt. Although there have been some setbacks with plant survival, the project has been received enthusiastically by the families involved and will be a critical part of efforts made by Honduras staff to improve rural nutrition in the region.

Many thanks to SHI supporters Bobby and Cy Sweet & Doug Kinney for support of this project, and to Dr. Diane Ragone of the Breadfruit Institute for "planting" the idea. For more information on the institute, please visit their Web site at: http://breadfruit.ntbg.org

-Greg Bowles, Program Director

Field Program Update continued from page 1...

ment. Now they will continue to use what they learned with SHI on their own. Though they will no longer receive regular technical assistance, they will stay connected with our local affiliate as part of a knowledge-sharing and marketing network where they are the inspirational models for new program participants. The SHI Honduras program will be adding at least 250 new families, and is expanding into many new communities. During the past fiscal year, Sustainable Harvest Honduras also provided learning opportunities for 38 Smaller World Participants plus 97 other foreign visitors. The SHI program in Honduras has been run by our affiliate organization, Sustainable Harvest Honduras (SHH) since 2004. Since then they have been working on securing funding independent of SHI and in October got the first installment of a three year grant of $120,000 based on a proposal they submitted to the Inter-American Fund. SHI program participants in Honduras also saw their lives and the environment improved during our past fiscal year with many projects including approximately 400 gardens, 300 composting projects, 40 fish ponds, 60 chicken coops, 60 wood-conserving stoves and 40 irrigation systems. SHH has also facilitated loans through Trickle Up to establish 50 rural businesses and continues to provide guidance to 21 community loan funds that have tripled the seed capital we provided to start them a few years ago.

Young SHI Belize participants in family garden.

Nicaragua

Despite difficult working conditions, SHI's program in Nicaragua helped participants convert almost 200 acres of land to sustainable uses during the past fiscal year, planting traditional and new crops for consumption and sale, plus 30,000 trees to enrich their communities. Sustainable Harvest Nicaragua (SHN) has disbursed loan money it solicited from Trickle Up to more than 200 families for the establishment of small businesses. Most of these smal loans have been used to market the increased and diversified crops being grown by program participants. Over 70% of the loan beneficiaries are women, and almost the same amount are under the age of 30. SHI will also soon begin working in a new region of the Atlantic Coast known as Kukra Hill, an area facing extreme poverty and environmental destruction. Families in Kukra Hill have immigrated to this region from the Pacific Coast where past unsustainable practices have left few ways for people to sustain themselves. We are working with these families to develop land use practicies that will protect the fragil ecosystems around their new home.

Panama

SHI's Panama program recently added a new field trainer and more than 60 new families, while improving the quality of service to the more than 100 other families already working with us. In the last fiscal year, more than 100 acres of land have been converted to sustainable uses through reforestation, sustainable agriculture and agro-forestry practicies. The program reports there are literally hundreds more families that would like to work with SHI, and that the farming techniques we promote fit perfectly with the needs and wants of families to improve yields without reliance on environmentally destructive practices. Field staff have been better able to get program participants the regular technical assistance and occasional materials they need since the program purchased a new (used) truck in January and a new motocycle in July. SHI Staff have also recieved training to better assist families with wood-conserving stoves and eco-sanitation latrine construction, establishment of biodigesters and the use of organic pesticides. Partnerships have been established with various Panamanian environmental groups and an Engineers Without Borders group from the US recently began development of a water system tied to reforestation projects in two participating communities. "We are becoming well-known where we work," reports Luis Escalante, who is managing the SHI Panama program, "and well-known for offering real hands-on alternatives rather than just words. That's why so many communities, schools and families want our help, because we really do something to help them learn how to do these things themselves."

Sustainable Technology: Eco-sanitation

Abraham Noé-Hays

Every day, Central Americans flush millions of pounds of bodily waste down the toilet, consign it to deep privy pits, or simply leave it on the surface of the ground. One way or another, much of this waste ends up contaminating water and causing disease. Yet simple technologies exist to end the profound environmental and health hazards these practices cause, and to instead convert our least-loved waste into agricultural fertility. SHI is working to give farmers the tools to turn this waste into a resource, keeping it out of the water, and using it safely and hygienically to rebuild the soils of their farms.

As farmers and gardeners around the world are aware, manure is a wonderful fertilizer. It feeds the soil, builds organic matter, and releases nutrients to plants, bestowing fertility that can turn barren earth into rich gardens. While livestock manure is of unquestioned value, people often overlook the "human manure" that they, themselves, produce. Most people are amazed to learn that the quantity of nutrients found in a person's manure is equal to the amount needed to grow the food he or she eats, in accordance with the principle, "what goes in must come out."

"Eco-sanitation", or "ecosan", is a progressive approach to sanitation that encourages the beneficial reuse of human manure, in addition to the protection of the user from disease. The ecosan umbrella encompasses a wide range of toilet designs, but they all share three characteristics: they are safe and hygienic to use, they are non-polluting, and they recycle human manure back into ecosystems where it can be reused. In the North, composting toilets are the best-known ecosan systems, but dehydrating toilets are widespread in the South, due to their low cost and simplicity of operation.

In March and April of 2007, SHI built its first ecosan toilets in Honduras and Belize, with the help of Abraham Noé-Hays, an ecosan toilet designer from Vermont. These toilets are all urine-diverting toilets, meaning that the solid and liquid portions of each person's "deposit" are kept separate, by means of a funnel-shaped insert in the toilet stool. The urine is piped to a sealed plastic container and the solids fall into the chamber below. At the end of a visit, the user sprinkles a mix of dried earth and wood ash down the toilet to cover the solids, which prevents odors and flies and begins the drying process.

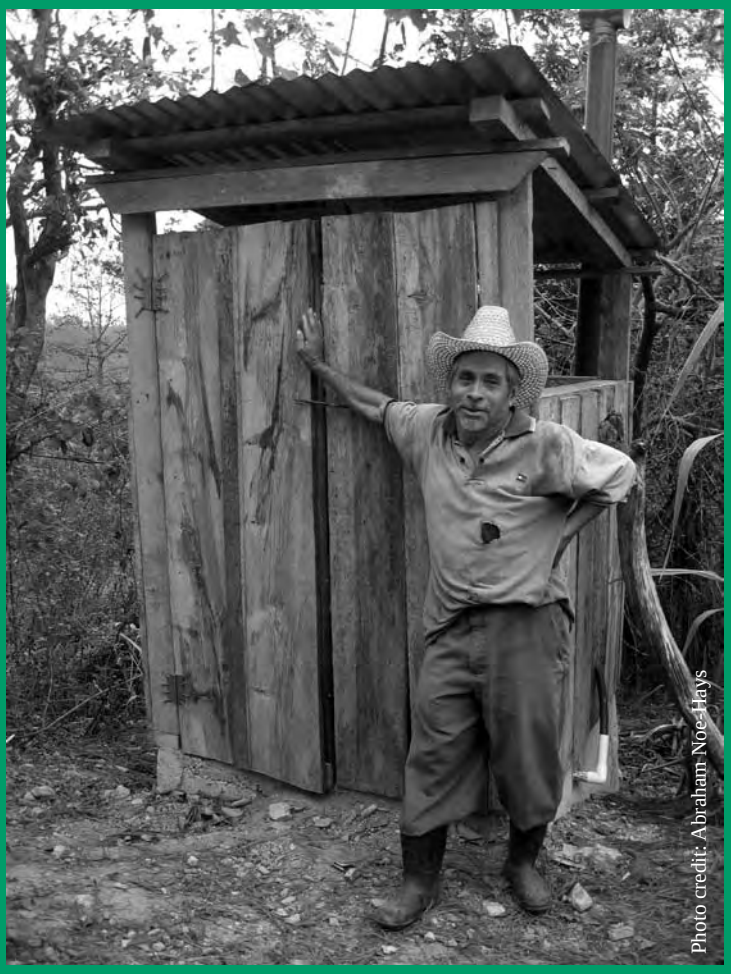


Photo credit: Abraham Noe-Hays

SHI Participant Farmer, Don Modesto, stands proudly next his new ecosan latrine.

These toilets produce two products: solid and liquid. Remarkably, the urine contains over half of the nutrients found in human manure, and over three quarters of the nitrogen. It is also nearly sterile, and the few bacteria that are sometimes present are destroyed after brief storage. Trials around the world show that it is as potent as chemical fertilizer, which is why it must be diluted with water before use, so as not to burn the plants. According to the field staff at the Florence Reed Demonstration Farm, it is also a natural tool for discouraging crop-destroying leaf-cutter ants.

The fecal portion of human manure is more challenging, from a health perspective. It can contain numerous disease organisms, and its inappropriate disposal is the source of many life-threatening illnesses, especially among children. However, it is nutrient-rich and contains considerable organic matter, making it a valuable soil builder if used correctly. Users of the Honduran toilets resolve this issue by using

the dehydrated solids solely for fertilizing trees—they dig a hole beneath a tree, deposit the dried material, and then cover it with a thick layer of soil. The design built by the Belize staff uses a black solar collector to heat the solids, destroying pathogens, which allows for a wider range of uses.

The toilets built this spring are serving the SHI demonstration farm in Honduras and families in Honduras and Belize who previously had inadequate sanitation. So far, field reports are that all toilets are working well and are much appreciated by their owners. In fact, the ecosan toilet has supplanted the flush toilets at the demonstration farm as the facility of choice during Smaller World Service trips.

We hope these are the first SHI ecosan toilets of many. They benefit the household and community by producing free, organic fertilizer, conserving water, preventing pollution, and encouraging good health. Families with ecosan toilets are able to increase their harvest without resorting to chemical fertilizers, and are under less pressure to clear more forest land for cultivation. These toilets are quick to build using local materials, and once the investment is made they can produce their valuable products for decades.

Photo credit: Abraham Noe-Hays

Photo credit: Abraham Noe-Hays

Above: Urine diverter made from a plastic soda bottle fits under the seat of the dehydrating ecosan latrine at Honduras Demo Farm.

Left: SHI Belize staff and participants construct base of a solar ecosan latrine.

For more information on "Eco-sanitation" please visit: www.ecosanres.org

Special thanks to Abraham Noé-Hays for all his work on this project!

What does it cost?

An ecosan latrine like the one Don Modesto is standing next to at his farm in Honduras costs approximately $115 US. Whenever possible, we use local materials for all SHI projects and keep our administrative costs low. In fact, SHI has received Charity Navigator's highest rating as an efficient nonprofit for the second year in a row, spending just 8% of our income on administration!

Curious what some of our other projects cost? $25 plants 100 trees • $30 reforests two acres • $45 plants three family gardens • $50 purchases the materials for a wood-conserving stove • $50 builds a bucket irrigation system • $60 buys a grain silo • $75 provides a woman with a small business loan • $100 establishes a school program • $130 builds a biogas digester • $400 starts a community loan fund • $600 saves 200 acres of tropical forest.

Working to Prevent Hurricane Damage

The National Weather Service predicts a severe hurricane season for 2007 with 23 - 30 tropical storms and hurricanes hitting the Atlantic coast. When Hurricane Dean hit the Yucatan Peninsula in late August, most of us watched from the safety of our own homes, but the families living in Northern Belize experienced the category five tropical storm first-hand. SHI's Country Director in Belize, Nana Mensah, reported major damages, including destroyed homes and $30 million dollars loss of papaya crops, and therefore the loss of hundreds of jobs as well. These recent losses in Belize are not the first reported in areas where SHI works. Three successive tropical storms hit Nicaragua's Atlantic coast in July which caused the Escondito River to surge 6.5 meters above its normal level. 2,800 people were evacuated and many left homeless.

"The best thing I can give my children and grandchildren is a self-sufficient farm with a diversity of crops and trees."
- SHI Participant Farmer, Marcelino Aguilar

The paths of hurricanes cannot be diverted, but relief efforts are not the only way in which the danger and pain associated with hurricanes may be alleviated. For ten years now, SHI's efforts in Central America have worked to **prevent** hurricane damage. While the initial destruction of tropical storms comes in the form of wind and rain, it is the after effects that can be most damaging. Reforestation, along with the use of more sustainable methods, help to prevent some of the most devastating effects of storms, such as mud slides and flash floods, which lead to the loss of homes, crops and lives. SHI's local staff, families and volunteers have planted more than 2 million trees and converted thousands of acres of deforested land into sustainable uses. Families report that these efforts are successful in protecting their land and loved ones. SHI Field Trainer, Juan Carlos Sandres says, "After the experience of devastation in my country from Hurricane Mitch in 1998, Sustainable Harvest Honduras has been dedicated to sharing agroforestry techniques with families that were impacted by the disaster. We have been able to improve many vulnerable areas through soil conservation, reforestation, crop diversification and disaster prevention training. We know that when there are natural disasters, the families we work with are more resilient and their parcels of land are much less susceptible to erosion and crop loss."

For years scientists have argued that global warming leads to more hurricanes that are harsher in severity. For a hurricane to occur, ocean heat is necessary, and global warming is arguably one of the causes of a trend of increasing ocean temperatures around the world. The U.N.'s Intergovernmental Panel on Climate Change reports, "The intensity of tropical cyclones (hurricanes) in the North Atlantic has increased over the past 30 years, which correlates with increases in tropical sea surface temperatures." Additionally, they predict that these storms will become even more intense in the coming years and there will be heavy rains in high latitude areas while subtropical land regions will face droughts. Global warming is a massive, international problem, but SHI is working at the local level to affect global change. SHI founder Florence Reed says, "We are making large strides by implementing techniques that offset climate change while combating poverty."

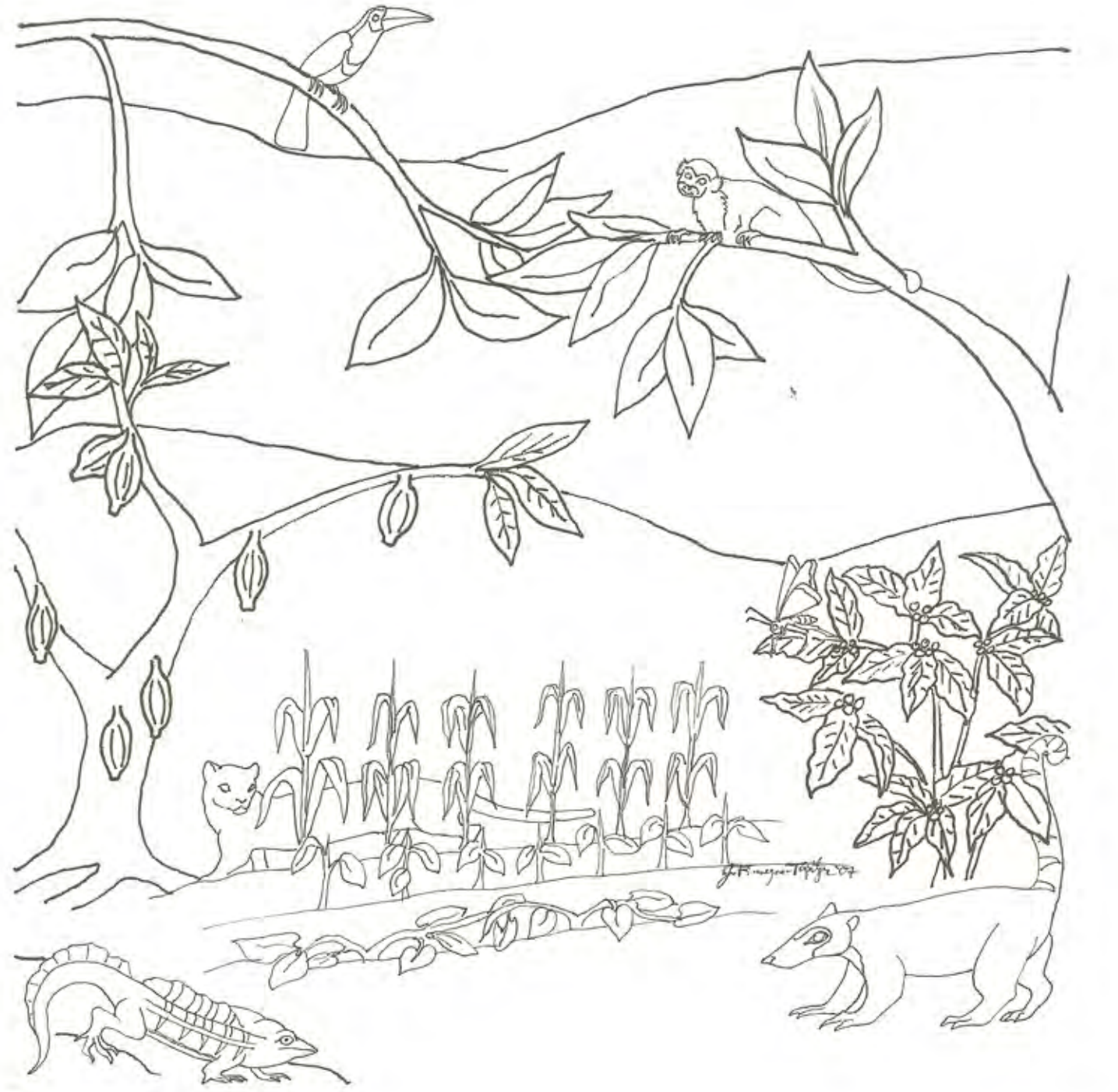
Many of SHI's practices, like wood-conserving stoves, work to reduce carbon emissions. These stoves use a small fraction of the amount of wood as an open fire place and greatly reduce toxic smoke in the home. SHI is also working with families to construct biogas digesters which use manure and other organic material to produce methane gas for cooking. As SHI continuously works to prevent slash-and-burn farming, we simultaneously work to lower carbon emissions. When large amounts of land are burned, the change in land use may cause the carbon sink to be reduced in size, and this in turn increases carbon dioxide in the atmosphere—contributing to global warming. Therefore, SHI's work to stop slash-and-burn farming is also work to stop climate change and prevent severe hurricane damage.

-Smaller World Particiapant, Alexandra Dyke

La Cosecha
Kids Corner

Find the animals in the multi-story forest

Families working with SHI are planting forest gardens! They grow an under story of spices and vegetables, a middle story of small trees and shrubs like coffee and cacao and an upperstory of tall trees that provides shade. All these plants living together not only produce healthy food for the families to harvest, they provide a great habitat for birds and animals. How many animals can you spot and color below?



Special thanks to Johanna Finnegan-Topitzer for her artwork.

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Enjoy it and pass it on!

La Cosecha is a publication of Sustainable Harvest International (SHI), a nonprofit 501(c)(3) organization. Sustainable Harvest International is building a global network of local partners working toward environmental, economic and social sustainability. SHI facilitates long-term collaboration among trained local staff, farmers and communities to implement sustainable land-use practices that alleviate poverty by restoring ecological stability. All donations to SHI are tax-deductible.

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Take a vacation that is more than just a vacation!

Join us on a special New Year's Trip! SHI's field trainers and participant families in southern Belize take great pride in their work to restore the environment while improving their standard of living. *They want to share this pride with you.*

Program cost: $2,500 includes a $200 donation to the local program, all in-country travel expenses, tasty meals, comfortable accommodations, a weekend sight-seeing tour, translation, staff support and materials.

Smaller World™ Tour

Belize December 27, 2007- January 2, 2008

Day 1: Fly into Punta Gorda, welcome dinner and introduction to SHI Belize Team.

Day 2: Organic Farm Tour with SHI Participant, Burton Caliz.

Day 3: Rocket Stove Workshop with local families.

Day 4: Chocolate Tour with SHI Participant, Cyrila Cho.

Day 5: Morning visit with SHI families and community leaders in Red Bank, New Year's Eve Beach Party in Placencia.

Day 6: Excursion to Laughing Bird Caye National Park for reef snorkeling and island picnic.

Day 7: Return home or continue traveling on your own.





Space is limited!
Call 919-975-5254 to reserve your spot today!