



BUILD Program for Sustainable Development
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**Building Understanding through International Learning and Development (BUILD)
2009 Community Development Plan for Santa Anita la Unión, Colomba, Quetzaltenango, Guatemala**

EXPANDED VERSION WITH NOTES, JULY 2010

Santa Anita la Unión, about 4 hours from Guatemala City in the fertile *boca costa* region near the country's second largest city of Quetzaltenango (Xela), is a community of about 160 people, 36 families, who make a living off of the production of organic coffee and bananas. Most of the grown men in the community, and many of the women, are former combatants of the *Organización Revolucionaria del Pueblo en Armas* (ORPA), one of the four major guerrilla groups that fought against the Guatemalan army during the country's 36-year civil war. When all of the guerrilla groups came together with the Guatemalan government in 1996 to sign the Peace Accords, the guerrilla vowed to disarm in exchange for the promise of peace, rights, and land. To fulfill its promises of land, the government established *Fondo de Tierras* (the Land Fund), dedicated to facilitating the access to and purchase of land for resettled refugees, ex-guerrilla fighters, and *campesinos*. In 1998, the 36 families of Santa Anita la Unión negotiated the purchase of their farm through *Fondo de Tierras* and received a more than \$300,000 loan from Banrural, one of the largest banking institutions in Guatemala, for its purchase. According to the rules of the bank and Land Fund, Santa Anita was given a three year grace period on the debt, during which they received heavily subsidized technical training from government-hired agronomists and agricultural engineers. The training was partially funded by the European Union, which also helped the families remove the more than 40-year old dead plants from the farm's long abandoned land. After three years, the trainings ended, and the debt became a practical, ominous reality for the families of Santa Anita, who have now gone six years barely paying off the 12% annual interest, not having repaid one cent of the \$300,000+ debt. Hopes of debt repayment were complicated by Hurricane Stan in 2005, which crippled the cooperative's production and sales, destroying more than 70% of the plants. Three years after the hurricane, production had still not reached pre-Stan levels.

The training given to the men and women of Santa Anita was a gesture mandated by the Peace Accords signed after the war, but unfortunately, the three years of training was once per week at best, conducted by an engineer responsible for several farms in the region; therefore, these sessions did not sufficiently equip the workers of Santa Anita with the skills necessary to run a profitable farm. Unwilling to take on new debts and interest payments, the families of Santa Anita have been facing a bit of a crisis, many men in the community spending half of their weeks in Guatemala City in minimum wage jobs to supply enough food for their families. In a meeting with Congressman Oliverio García, a BUILD scouting team was told that "Guatemala's development future is to help the people do what they know how to do." So what happens when the people have known and experienced little more than violence for 30 years, when they have no trade? At Santa Anita, many of the community members spent twenty or more years in the mountains, armed, fighting against the military. The training programs they received after the war did not enable the people to sustainably transition from the guerrilla lifestyle to the entrepreneurial, agro-business lifestyle. Additional community problems—which mainly stem from lack of economic resources—include:

- access to potable water (currently only 1.5 hrs per day)
- educational opportunities for adults and children
- lack of technology for education, marketing, communication, finances
- lack of business administration knowledge
- lack of adequate legal and financial representation
- lack of internal unity

The proposed plan for the 2008-2009 academic year was ambitious, due to scope and depth of the enumerated problems, but it holds great potential for both Santa Anita and the BUILD Program. The plan for 2008-2009 included a trip to Santa Anita over spring break to further planning efforts and to expose a new BUILD team to our partner community. Additionally, a select BUILD team will travel to the community over the summer to realize certain elements of this Community Development Plan (hereafter referred to as the CDP) in conjunction with the people of Santa Anita and FUNDAP, BUILD's partner NGO for this Plan. For more information on FUNDAP, please see [Appendix I](#).

The CDP focuses on technical training and overall economic development at Santa Anita. Realization of all elements of the CDP requires approximately one year for the first phase, and the majority of work for the proposed projects will be completed over a three to six-week period in the summer of 2009. This Community Development Plan focuses on four areas of need:

- Coffee Production
- Administration
- Technology
- Ecotourism

The proposed projects of the CDP are as follows:

1) Coffee Production

Coffee is the primary source of revenue for members of Santa Anita. Levels of disposable income, the ability to pay for children's schooling, and the ability to provide a proper diet for a family are all dependent on the income from coffee production. For that reason it must be the cornerstone of any comprehensive economic development initiative.

In meetings with community member Rigoberto Ramirez, perhaps the most informed about the technical elements of coffee cultivation, it was calculated that the average family at Santa Anita is producing their land at only 19-22% yield, meaning that they can increase their production five-fold and, thus, increase their income five-fold. The yield was calculated based on current production numbers as compared to ideal production. In these calculations, "ideal production" was defined assuming that bourbon or *caturra* or *catuahi* plants at Santa Anita produce the same yearly poundage as they do currently, however with plants spaced at an appropriate 24-30", far less distance than that at which many families currently plant, given limited numbers of plants and technical inexperience.

In the post-2005 seasons, Santa Anita was producing approximately 20,000lbs. of *oro* coffee per year, but given our calculations, the farm is capable of producing in excess of 100,000lbs. For exact production numbers for each family from 2007-2009, see [Appendix II](#).

Coffee is the primary source income for the families of Santa Anita; therefore it makes the most sense to focus heavily on increasing production, as there is both the capacity and need. Pursuant to this goal, BUILD proposes the following agricultural productivity projects:

- a. The purchase of 20,000 grafted¹ organic-certified bourbon plants (12-18 months old) from a nursery in the Quetzaltenango or Retalhuleu departments
 - i. transport of these plants arranged with the nursery

The purpose of purchasing pre-grown plants is to hit the farm with an initial and immediate boost that will yield beans by the 2011 cultivation cycle. Planting new plants in the fields in that year will provide tangible proof of BUILD's commitment to agricultural productivity increases and will excite the community about the project as a whole. These 20,000 plants divide to 740 plants per

¹The "grafting" process for organic coffee requires splicing the root of the rougher, more durable Robusta plant and tying to it the stem of the higher quality, more delicate Arabica plant. This process is done to assure the highest quality bean and also a strong root system.

exporting family (the community decided to give plants only to exporters), and will prove a significant step in reaching 100% land yield in the next 5-10 years.

The purchase of the plants was facilitated by FUNDAP, who found 20,000 plants in the same nursery about 2 hours from Santa Anita in Retalhuleu.

- b. the purchase of 20,000lbs. of organic, live-worm culture fertilizer (called *lombricompost*) via partner FUNDAP

Catholic Relief Services (CRS) was beginning an agricultural project in Santa Anita in March 2009, and part of their proposal was to create compost/fertilizer production sites near the current processing facility on the farm. As BUILD's 20,000lbs. will not provide the needed 2-3lbs. of fertilizer per plant, we will combine our batch with that created on-site by CRS engineers to provide sufficient fertilization for each of the plants.

Lombricompost is an organic fertilizer which combines fertile topsoil, cow manure, and live worms whose excrement further enriches the soil. The name of the fertilizer comes from the Spanish word for "worm"—lombriz. In addition to purchasing this fertilizer, BUILD spent one week working with CRS and FUNDAP to begin the process of the "homemade fertilizer." To clear space for the seed nursery, the community dug up a large hillside, and we used some of this topsoil to start the compost process. The topsoil was first sifted through large screens, combined with manure, and then CRS released live worms into the bins. The fermentation process took several weeks, and the arrival of our purchased fertilizer was timed with the preparation of the homemade batches.

- c. The purchase of 15,000lbs. of *cal dilomitico* to alkalize the volcanic soil

This idea was added in June 2010 while the agricultural project was already underway. As BUILD worked in multiple plots preparing holes for the new plants, it became clear that the soil was very inconsistent in terms of quality and on certain hillsides the topsoil was incredibly sandy, up to one meter of pure sand before reaching actual fertile soil. FUNDAP and CRS noted the same, attributing the sandiness to the volcanic geography of the area and asking that BUILD consider the purchase of a product—called "cal" for its calcium base—that could be mixed with the fertilizer and added to each new hole before planting the 20,000 seedlings. Cal serves to decrease the acidity of the volcanic soil, restoring the topsoil to a healthy and ideal balance for organic coffee cultivation. FUNDAP was responsible for arranging the purchase, transport, and application of the cal, while BUILD served as the financiers and worked with community members to carry and mix the cal once at Santa Anita.

- d. Construct a seed nursery, known as an *almácigo*, with the capacity to house approximately 30,000 coffee plants from their germination until their 11th or 12th month of growth:
 - i. Work with FUNDAP and the *junta directiva* in the initial planning stages;
 - ii. Secure a location for the seed nursery and coordinate with FUNDAP to develop blueprints, cost estimates, etc. in the spring of 2009;
 - iii. Calculate the final budget for construction and the logistics of materials transport from FUNDAP offices to Santa Anita;
 - iv. Finalize a timeline for construction and training for permanent staff of the structure
 - v. Construct the seed nursery, under FUNDAP and CRS direction, with the help of the members of Santa Anita and BUILD in the summer of 2009
 - vi. Observe and record CRS' grafting training seminar
 - vii. Monitor the plants at 2 months; 8 months.

The almacigo will provide multiple benefits to the people of Santa Anita. Firstly, BUILD has noted that a significant portion of the families keep very young plants in their small back yards until they are one year old and can be transferred to family plots on the farm. The almacigo will provide a central and communal storage facility for young plants, freeing up backyards for milpa (corn and

beans) farming and/or crop diversification. Secondly, the almacigo gives Santa Anita the chance to end their reliance on external plant nurseries. The training in plant grafting will allow families to produce their own bourbon-robusta hybrid seedlings, instead of buying ready-to-plant coffee from local vendors. The only external purchase required will now be seeds, black seedling bags, and biodegradable tape, all of which can be purchased 15-20 minutes from the community. Individual families will be responsible for grafting and bagging their yearly plants in the almacigo while general oversight will remain in the hands of one person. For details on the almacigo, please see *Appendix III*.

- e. Organize and sponsor a year-long training program in coffee cultivation conducted by FUNDAP:
 - i. Meet with FUNDAP to develop a structure and timeline for the full training program;
 - ii. Disseminate information about the proposed training program to each of the 27 exporters
 - iii. Conduct the training/workshops once a week for 40 weeks beginning in late January 2009 using engineers from FUNDAP.

*Increasing the physical number of plants in the community is an incomplete idea, for it will only be effective if the families know proper cultivation tactics to maximize production, minimize infection, and utilize endemic plants which may be useful. Additionally, targeted workshops may motivate families to produce at maximum yield. For details on the specific topics to be addressed in the weekly workshops, please refer to *Appendix IV*. While the families did receive training in the late 1990s, it is impossible to know what that training consisted of. Moreover, the families BUILD spoke to seem to remember very little from the government-sponsored training, many saying that there were periods of months when no engineer showed up. FUNDAP has promised three engineers to this project, each one with a particular expertise which he will share over several weeks in different sessions. The day and times for the workshops will be decided by the community.*

2) Administration

When BUILD first arrived in Santa Anita in the summer of 2008, the reception was very awkward. The community seemed decentralized and disorganized, and our requests to meet with leadership were greeted with understandable submission and less-understandable delays. The meeting with the *junta* came on the second week of our stay, after the majority of observation had been completed. We requested copies of legal and production documents, which they understood and agreed would be beneficial for our analysis and further plans to enact development projects; however, ascertaining these documents was a challenge, as they were not sure of their location. Their search for the documents meant that we left the first community visit with no production documents and only a copy of the legal deed, which later revealed the discrepancies in terms of Santa Anita's loan. That case was successfully referred to the National Congress, with Congressman Aníbal García taking the lead. Overall, the process of dealing with the 2008 *junta* revealed to us that there were some serious organizational and/or administrative problems in Santa Anita. For this reason, in tandem with the agricultural trainings, we sought the advice of FUNDAP in addressing organizational issues. The plan is as follows:

- a. Conduct an administration and community organization training program open to all community members once a week for 20 weeks in the spring and summer of 2009 conducted by FUNDAP

As FUNDAP understands the legal and market needs of a small farm such as Santa Anita, we left the design of this training completely in their hands. The specific topics can be found in Appendix I. In retrospect we have seen that these trainings were heavily geared towards reworking and formalizing the legal documentation of the farm and oversight of organic and fair trade re-certification both for ANACAFE (Guatemalan coffee growers/exporters association), Mayacert (Guatemala's federal organic certification board), and international regulatory groups such as FLO (Fairtrade Labeling Organization). Santa Anita did not apply for FLO-certification in 2009 due to the high fees that take away a significant percentage of their income. Cooperative Coffees—Santa Anita's primary buyer—does not require Santa Anita to be FLO certified.

3) Technology

The initial communication from BUILD to Santa Anita was an email sent in December 2007, asking the feasibility of the community hosting a Tufts research team for 2 weeks in May and June of that summer. Kathryn and Mike felt strongly that the BUILD pilot team should visit Santa Anita, so trip preparations continued under the assumption that BUILD would hear back eventually with a positive response. It was not until a month later that Santa Anita responded, and it was not until the team's arrival in Guatemala that final preparations were made for the group's stay. In this example, it is clear that from the beginning of BUILD's relationship with Santa Anita, rapid and effective communication has been a weakness of thnsde partnership. For this, among other reasons, BUILD decided to pursue some sort of communication and/or technology project. Other reasons should be obvious. First, the blossoming ecotourism program can only be successful if predicated upon good communication with potential and confirmed visitors. Second, those who staff the ecotourism program would greatly benefit from knowledge of basic computer programs. Third, the closest computer access point is 20-30 minutes away and is expensive, as those seeking access must pay for a ride to town and then per half-hour of use. Printing costs are extra. Fourth, BUILD noticed a significant and expected gap between technological literacy of the youth of Santa Anita and the administrators. Community administrators and all local adults could benefit greatly from the internet and other programs, yet they do not travel with their children into town to learn computer skills. For this reason it was obvious that if we wanted to increase general community technological literacy, we had to make an access point in the community itself. In summary, all of these listed reasons and observations led us to the following plan for a technology and communication project:

- a. Construct a Computer Center in the community in a neutral location not owned by an individual family or specific committee
 - i. Secure a site for the Center in March 2009
 - ii. Work with the *junta* and local builders to design the blueprints for the center
 - iii. Establish a budget by March 2009 and secure local laborers
 - iv. Develop working relationships with local building supply vendors

Most buildings in Santa Anita fall under one of the following categories: junta-owned, education committee, or private lot. The Education Committee is run by one person whereas the junta is elected every two years and at least nominally represents the interests of the entire community. For that reason BUILD decided, after persuasion from both the Education Committee and the Junta, that the Computer Center would be constructed on the side of an abandoned building owned by the junta. We wanted it to be as public and communal as possible. Once the location was determined we wanted to make sure that the design and construction remained as internal to Santa Anita as possible. Many of the community members also hold other trade skills, such as carpentry and plumbing, and it seemed wise and mutually beneficial for BUILD to utilize their skills. All projected labor costs were factored into the budget, and compensation under this model was being given almost entirely to members of Santa Anita—thus giving them an extra economic boost for 2009.

As the Center's construction would take several months, and BUILD would only be in the community for five weeks, it was crucial that we find a way to work on credit with local vendors. Santa Anita's Rigoberto Ramirez opened running tabs with several "ferreterias" from whom BUILD got receipts after each visit. We paid all vendors after construction was completed the week of June 7, 2010.

- b. Install internet in the Center
 - i. Evaluate the feasibility and cost of installation with national internet service providers
 - ii. Ship required materials to Santa Anita in May 2009
 - iii. Work with administrators to establish payment schedule
 - iv. Install the selected internet system in the summer of 2009

TIGO, the country's largest cell-phone network, also serves as a wireless internet provider. They have offices in most every large town. Sasha began discussions with them in the fall of 2008 to assess the feasibility of establishing a router and signal extender in Santa Anita. Obviously, given

the community's location, they are off of TIGO's usual grid, and therefore all non-wireless options were out of the question. The plan suggested by TIGO was to ship a router from the TIGO HQ to Coatepeque, where we could pick it up and begin set up on our own. Once the router arrived, we realized that it was a satellite router, and thus works very slowly if there are clouds. Set-up was handled by a combination of BUILDer Jeff Prevost, and a local technician and friend of the community, Estuardo, who purchased additional Ethernet cables and wire splitters that we had not known were necessary.

Also, it is important to understand that this process was delayed because of the lengthy and arduous router registration process. TIGO requires that all owners of wireless routers, and therefore internet hotspots, register at a TIGO headquarters, the nearest to Santa Anita being in Quetzaltenango (Xela), one hour away by car. The legal representative of the household or group that owns the router—in this case Don Tomas, president of the farm—must fill out and sign multiple documents before the router can be sent and/or installed. On the first visit, Don Tomas was missing some specific number or stamp, so we had to wait another week for a second trip to Xela. In all, this registration process took the first 2.5 weeks of the trip.

- c. Secure between 4 and 8 computers for the Cener through Boston-based TecsChange and Yulupa Elementary School in California
 - i. TecsChange will supply refurbished DELL CPUs for the center
 - ii. Yulupa Elementary (the principal is the mother of BUILDer Katy Simon) will donate 6 new HP monitors
 - iii. Ship CPUs and monitors via private shipping company Medrano Express

Most of the work for the computer center was the physical construction and installation of the equipment in Santa Anita. That said, we did not have the money to buy the actual computers and parts in Guatemala, meaning that we would have to find cheap, donated, or refurbished computers in the US and ship them to Santa Anita—a process that would obviously take weeks due to its distance from Guatemala City. Santa Anita community member Willy Barreno—who spends much time in the US due to his post-war asylum status—mentioned casually that he knew of a Boston NGO called TecsChange that refurbishes old computers and donates them to individuals or groups who wish to bring them to developing countries.

We placed BUILDer Jeff Prevost in charge of discussions with TecsChange, who were very receptive to our idea when we first introduced it to them in the spring of 2009. At the time, they offered five refurbished DELL CPUs but were out of refurbished monitors. So, for that we had to turn to another source. Discussions with large computer companies were fruitless and long, and it eventually panned out that the monitors would be purchased new and donated to BUILD by the student council of Yulupa Elementary school—run by BUILDer Katy Simon's mom—outside of San Francisco. They shipped the monitors to Santa Anita directly about three weeks before our departure; thus, they arrived during the first week of our stay.

The CPUs, once obtained from TecsChange, did not get shipped until two weeks before our departure to Santa Anita. We used the company Medrano Express, a somewhat shady yet well-known company that ships door-to-door from the Northeast US to Central America. They promise three-week maximum delivery, yet for whatever reason our CPUs took slightly over one month to arrive. Thankfully, the construction timeline of the computer center was equally delayed.

- d. Design and conduct a training program in computer and internet use for the following groups: the board of Santa Anita, the Ecotourism director, community teachers, and community youth
 - i. BUILD team members will conduct the training three times per week for three weeks over the summer of 2009

The days before the inauguration of the computer center, BUILD went from house to house announcing computer training classes that would be held in the mornings or afternoons of alternating days for the last two weeks of our stay in the community. Additionally we posted

available times on the computer center and at the main office of the junta. In all, we had many more youth than adults sign up for classes, and we should have undertaken a more comprehensive recruiting strategy. As kids ages 13+ go to school in the afternoons, the youth were only able to take morning or late evening classes. Younger children (7-13) came primarily in the afternoons, along with most of the adults who signed up for classes.

The “curriculum” was based off of a Spanish language guide for Microsoft XP. None of the Spanish speakers in BUILD were familiar with computer terminology, so the book proved invaluable. The curriculum was first outlined in English by Jeff Prevost and Rajesh Reddy, who then submitted the curriculum for basic translation to Mike and Sasha. Obviously we did not translate every word, as the “teacher” for each training would go at a pace decided by the abilities of the students. The teachers from BUILD included those with minimal Spanish, as the terminology specific to the sessions was already translated. Most other phrases were quite basic, “click there,” “move the mouse,” “it is important to...” and were not difficult to learn before teaching.

Overall the classes lasted two weeks and attendance was irregular among the adults, and quite consistent among the youth.

- e. Develop a contract/manual to use as a community computer use policy

With a new computer center and internet access, there is an obvious possibility of abuse. Computers at private centers in Colomba and Coatepeque are rebooted by technicians each night, and all downloaded content is erased. The Santa Anita center does not have the same capacity, so it was important that all who use the center respect some basic rules. The “Rules of Computer Center Use” were the product of a conversation between the six appointed youth managers and the BUILD team, and they were written on a large poster which now hangs on the wall. Also, all new users of the center must read these rules and sign a sheet of paper saying that they will revoke their right to entry if found in violation of any of the rules.

- f. Appoint six to eight youth to manage and maintain the computer center on a rotating daily schedule and set a monthly stipend/salary for their work
 - i. These youth will be nominated by the junta
 - ii. BUILD will develop a contract with the junta which will serve as a basic “job description” and rules of employment for these selected youth managers

BUILD was not present for the actual nomination process of the youth, and the selection was more the product of conversations with the junta and community members. Originally, there were seven students selected to receive special, more advanced training in both computer use and management of the business side of the Center. These were: Mauricio Velasquez, Pamela Agustin, Kenia Vicente, Mireya Gomez, Luis “El Japonés” Morales, Maria Ordoñez, and Luiz Ordoñez. In recent months Mireya has stepped down from the position and Mauricio and Maria have taken her hours. These students list every user that comes into the center, take and mark down their payment, and submit all of these materials to the main office at the end of every shift. Each shift usually lasts three hours, and the center is traditionally open from 8-11am and 7-10pm.

The contract that these “encargados” signed was written by BUILD and approved by the junta. It can be found in [Appendix V](#), and is essentially a document which lists their responsibilities as managers and states that the community administrator will be their boss, and she will pay them on a monthly basis pending income of the Center.

- g. Award two scholarships for young members of Santa Anita to attend a 10-week leadership class in Xela over the winter of 2009-10
 - i. Engage these youth with the Center in the coming year

These scholarships were made available by BUILD for two students after FUNDAP informed us of a leadership training course that they thought would be of tremendous benefit for the youth of Santa Anita. The community nominated Alexander "Chico" Ramirez and Luis "El Japones" Morales, and the two just finished the program this spring.

4) Ecotourism

BUILD first discovered Santa Anita via their outdated website in the fall of 2008. The site is www.santaanitafinca.org. Now, none of the phone numbers listed on that site work, and the email is checked very irregularly. During BUILD's first visit to Santa Anita, it was clear that the process of hosting foreign guests was quite institutionalized and formal. There was a clear guest house, a staff who cleaned and cooked, and a bank account specifically for the program. Santa Anita calls their hotel/immersion program "Agro-ecotourism," and that does encapsulate what it is fairly well. BUILD had a specific agenda and a lot to accomplish in the community, so we were quick to program meetings, etc. We sort of used their ecotourism program as a base for lodging and organized BUILD-specific activities during the day, which some days included manual labor with the families.

For those non-NGO types who visit Santa Anita, there is very little formal programming, and beyond the initial 2-hour hike around the farm all exploration is sort of independent. For that reason we wanted to work with this program as well as part of the CDP, as it represents a tremendous source of potential communal revenue. As it works now, all profits from the ecotourism go into a communal fund which it is to be tapped for special projects. In order for the program to attract more visitors, it is crucial to make it more professional and innovative. To that end, we developed the following plan with the current ecotourism staff:

- a. Select two BUILD students to dedicate their time almost exclusively to the ecotourism/ecological aspects of Santa Anita;

Hillevi Jaegerman is a member of the class of 2011 and studies Biology and Environmental Studies. Molly Ferrill is a member of the class of 2010 studying International Relations with a concentration in Global Health and the Environment. These two worked to open all initial contact with the School of Engineering and the Biology Department who have been very helpful over the past year.

- b. Get trained in GPS mapping and create a touristic map of Santa Anita over the spring and summer of 2009

Half a dozen BUILDers attending the first GIS (GPS) training session with Patrick from the UEP department. He gave BUILD access to the Tisch map room and accounts on the university's map-making software. As part of Hillevi and Molly's arrangement, we received free copies of the Arc-GIS mapping software and were given two GPS devices on loan for the spring and summer of 2009.

The mapping process began in March of 2009 and was finished in May. Members of BUILD would walk around Santa Anita with GPS devices, plotting points every few feet; these points would be uploaded to the GIS software back at Tufts. A different number prefix was used for points in each of the following categories: border of the farm, trail, road, house, other. For example, houses were labeled 1-001, 1-002, etc., whereas trails were labeled 2-001, 2-002, etc. This allowed us to know which points represented paths vs. physical structures once the points were uploaded to the computers at Tufts. We are still in the process of converting the "point" map into a colored and labeled map. Eventually we will bring English and Spanish copies of these to Santa Anita for distribution to visitors.

- c. Work with Santa Anita's ecotourism coordinator to formalize the trail system during BUILD's spring break trip to Santa Anita;

In March and May of 2009, Molly, Hillevi, and Zoe Schlag worked with Doña Gloria to briefly examine which trails are appropriate for visitors and which are exclusively used to get to specific family plots.

- d. Catalog all of the flora and fauna of Santa Anita in the spring and summer of 2009 and subsequently compile this information into formal English and Spanish field guides for distribution to visitors;

It would be very difficult to catalog every plant and animal species found at Santa Anita, as there are most likely thousands if you include insects, etc. What BUILD decided to do, instead, was to go on multiple hikes with Doña Gloria to go over the most important, culturally significant, and/or common plants and animals a visitor would be likely to find at Santa Anita. Photos were taken of all highlighted species and the BUILD ecotourism group later typed up scientific information to go along with the cultural and practical information highlighted by the people of the community. Descriptions included the species' scientific name, habitat, status, range, common uses, and interesting anecdotes heard at Santa Anita.

During the cataloging process, many of the species were only identified by the colloquial names common in Guatemala. For that reason, Hillevi and Molly met with biology professor George Ellmore upon return to Tufts to go over the specimen photos and ascertain the scientific information. The final field guide was translated into Spanish in the fall of 2009 and is ready to be submitted for final approval to Santa Anita.

- e. Work with Santa Anita's ecotourism director to develop additional promotional materials for the community ecotourism project:
 - i. New, high quality photos for printing,
 - ii. Email advertisements,
 - iii. Web advertisements,
 - iv. Printed advertisements

This element of the CDP has not been completed due to time constraints

This CDP would utilize the human resources of Tufts, the IGL, Santa Anita, local NGOs, and Guatemalan organizations, and the entirety of the projects would require more than \$25,000 from beyond the university. While FUNDAP is our primary partner NGO in this CDP, we are looking to also collaborate with USAID, Pura Vida Coffee, the National Congress of Guatemala, Café Conciencia, TecChange, and local experts to provide the expertise, time, and funds to realize all of these projects.

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