

Progress Report - Phase III: Certification and Standardization of Stoves
The TPW Energy Collaborative & Zamorano University
Grant identification number (TFR09-02786)

A) Reiteration of goals and objectives and progress toward those goals; response should include both qualitative and quantitative impacts:

1 Project Goals/Objectives

The proposed project targets the generation of information concerning stove performance in the certification center for improved stoves established in Zamorano University, by accomplishing the following objectives:

- Evaluate the effect of fuel wood moisture content on the heating efficiency and pollution production (indoor and outdoor) of three improved stoves using the most common types of fuel in the region.
Progress: Zamorano received permission (a legal requirement) from the Honduran National Forest Service (ICF) to harvest the trees (oak, carbon, pine) and mill boards into the 1”X1”X24” measurements required by the evaluation protocol. We purchased an oven to control moisture content and are now ready to begin laboratory evaluations using the Justa 2X3, Ecofogon and Onil stove models.
- Apply a modified KPT procedure to more accurately measure the actual efficiency and pollution production within seven households at Yeguaré Valley throughout the year.
Progress: The scope of this objective was expanded to 20 stoves. Households were selected in the community of Santa Rosa with the help of the local elementary teacher. Baseline data (KPT) was collected in the kitchens during the use of the traditional stoves for a five day time period. Participants were then invited (we provided transportation) to the Zamorano Stove Certification Center to “test drive” and select the model of their choice. These stoves (7 Justa tradicional, 10 Justa 2X3 and 3 Ecofogon) were then installed in the houses by Zamorano employees and during a training session with Peace Corps volunteers. The evaluation protocol outlines a 3-4 week adaptation time period which is ending in late September - early October. The KPT evaluations will begin once the adaptation period concludes. (*Photo 1*)
- Enhance the certification standard to incorporate stove design specifications, and construction materials.
Progress: From the 20 – 24th of September Zamorano hosted the first annual “Stove Camp” in Español and the first Conference on Exploring Certification Potentials of Improved Efficiency Stoves in Honduras and the Central American Region. Over 30 people participated in these events including representatives from: AHDESA - Honduras, MIRADOR - Honduras, GTZ EnDev – Honduras, ECOLOGIC – Honduras and Guatemala, STOVE TEAM – El Salvador, PROLEÑA – Nicaragua, Falls Brook Centre – Canada /Honduras, Arboles y Agua Para El Pueblo – El Salvador, Brigadas Globales – Honduras, Honduran Armed Forces, Inversiones Falcón – El Salvador, HELPS Internacional – Guatemala, Aprovecho – United States, and COHCIT – Honduras. (*Photo 2, 3, 4*)

The Stove Camp focused primarily on improving stove design to meet specific user needs (both domestic and industrial/commercial). While the Conference specifically on answering the following questions: Why should improved stoves be certified? What are the potential costs/benefits, laws and regulations in the region? What should be certified (efficiency and emissions by model of stove, organization, technician, etc)? How should certification be conducted (parameters, protocols, who should be the certifying organization or institution, etc.)? Who else should be included in the certification development process (National, Regional, and Institutional)? How can we get buy-in from NGO’s, foundations, governmental agencies, etc.? How will the certification be implemented and what are the next steps (organization of the certification, processes, mechanisms and verification, etc.)? Participants were divided into four groups to answer these questions and the results are currently being tabulated.

A follow-up two day meeting is scheduled for the 25th and 26th of November 2010 at Zamorano to discuss and follow up on the certification process and the potential of developing a Regional Alliance of Improved Stove Organizations.

- Develop a protocol for a social compatibility seal based on experiences of three improved stoves utilizing the stoves cooking performance, design, user perceptions and local dietary preferences.
Progress: During both the Stove Camp and the Conference parameters were discussed to identify and recommend models based on the intended use of the stove (domestic vs. Commercial/industrial) food preparation and dietary differences across cultures, family safety

(burn, laceration, tipping hazards), in addition to the traditional emission and efficiency parameters. We fully expect these to be incorporated into the certification protocol.

Although not specified in the original objectives we have also trained members of the Honduras Armed Forces, the US Peace Corps, and Zamorano second year students in stove design and construction. Additionally, we participated in the 2010 Pan-American fair and were interviewed by national TV stations, Radio America and interacted with hundreds of attendees. Similarly, most visits and tours of the Zamorano campus now includes a visit to the stove center, including recently representatives of Fundación Berta Arias de Botero, Fundación Universitaria Católica del Norte, Universidad Católica de Oriente, Corporación Universitaria Lasallista, and PANACA all from Columbia. (Photo 5, 6)

B) Any significant challenges and how your organization dealt with them

During the ETHOS conference in Seattle, Washington (January 28 – 30, 2010) we identified a very strong desire among the stove community for a “stove camp” en Español. Therefore we significantly expanded the original plans of just holding the regional conference to include a four day “stove camp”. Historically, stove camp began in 2000 at Aprovecho Research Center as a weeklong workshop to explore improvements to stove designs and as an opportunity for networking. This year we were honored to have the participation of Dr. Larry Winiarski, inventor of the “rocket” stove design.

C) Major staff and other intitutional programmatic changes

As reported previously, Ing. Lanza left Zamorano for a job at USAID thus all coordination and direction of the project is being done by Ing. Longwell.

D) Any modification of strategies in light of changing issues

With the exception of expanding the number of stoves evaluated in the local communities and including the Stove Camp in addition to the Regional Conference. Additionally, it was clear during the four day stove camp that we lacked sufficient metal working tools to effectively work with medium sized groups. Therefore some existing budget (less than 20% of overall budget) will be allocated to the acquisition of these implements.

E) Description of your evaluation process:

Stoves are evaluated utilizing the internationally recognized Water Boiling Test (WBT), the Controlled Cooking Test (CCT) and the Kitchen Performance Test (KPT).

Additionally, at the conclusion of the “Stove Camp” in Español an evaluation form was provided to participants with 31 evaluation questions (10 questions on content and structure of the course, 13 questions on the instructor’s abilities, and 8 questions on the organization of the event). Overall the event was rated a 3.73 out of a scale of 4 (93.3%), and specifically a 3.75 (94%) on course content and structure, a 3.7 (92%) on instructor abilities and a 3.8 (95%) on organization of the event.

F) What you have learned

Based on the interaction with participants of the stove camp and conference there are highly qualified and dedicated organizations and individuals working in the area of improved stoves in the region. Currently they are working independently and in some ways with a sense of competition. However, it is widely agreed of a need to join efforts to insure quality products and successes from the instillation of the improved stoves in the region.

G) Financial report on how you spent the grant from Tides

As of 06 September 2010

Description	Amount to date	Budgeted	Remaining
Technician (including social benefits)	7,995.49	15,400	7,404.51
Travel costs conferences 2010	2,792.86	4,300	1,507.14
Equipment and inputs	4,227.32	14,400	10,172.68
Other direct costs (Regional Conference)	Pending	6,900	6,900
Total	15,015.67	41,000	25,984.33

ANNEXES



Photo 1. Housewife meeting from Santa Rosa community. They are choosing the stove for their houses.

Photo 2. Participants working in the “Stove-Camp en Español”.



Photo 3. Stove Team during “Stove-Camp en Español”. They are making an industrial stove for the Armed Forces Kitchen.

Photo 4. Some participants from “Stove-Camp en Español” and “Conference”.



Photo 5. Ing. Longwell explains the Stove Certification Center in Zamorano at the Pan- American Fair.

Photo 6. Peace Corps Members during training in building an improved stove. Also they are doing stoves in Santa Rosa community.



Photo 7. Julio Herrera (Equator) Zamorano Student working on his thesis about construction and uses of T-LUD stoves.



Photo 8. Luis Gamarra (Peru) Zamorano Student working on his thesis about construction of briquettes from agricultural wastes to use instead of firewood.