



TREES, WATER & PEOPLE

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Progress Report on World Centric Cookstove Project: 260 Improved Cookstoves in Honduras and El Salvador

Total Donation to TWP: \$13,000

Total Offset Commitment: 1,300 tons CO₂e

Introduction

Trees, Water & People (TWP) has been advancing clean cookstove design and dissemination since 1998, when it pioneered the design of the Justa Stove – a Central America appropriate griddle stove – after Hurricane Mitch devastated Honduras. Since then we have supported the construction of over 70,000 of these stoves in Central America, improving family health, reducing firewood consumption and creating employment across the region. This grant targeted the construction of **100** Justa Cookstoves in El Salvador, and **160** in Honduras, between September 1 2015 and September 1 2016.

World Centric Cookstove Program			
Country	Stoves Funded	Stoves Built	Remaining
Honduras	160	49	111
El Salvador	100	60	40

* 66 Stoves are scheduled to be built in Honduras in May 2016

Honduras

The Honduras Cookstove Project is an intervention study funded by the National Institutes of Health to study the impact of cleaner-burning biomass cookstoves on household air pollution and the health of women living near La Esperanza, Honduras. Colorado State University researchers are working with The Honduran Association for Development (AHDESA - TWP's local counterpart), to build Justa stoves for 231 women in 10 villages to study changes in smoke exposure and associated health impacts.



Community Meeting, La Esperanza, Honduras

The research study in Honduras is taking a community-engaged approach by closely working with local leaders to help guide the project. Monthly meetings are held with the community leaders at a local restaurant to discuss the ongoing progress of the study. The leaders offer their guidance for issues related to retention of participants, overlapping stove projects, incentives, and developing a stove educator program. Their continued support is an essential component to the effectiveness of the stove project.





Hauling Materials, La Esperanza, Honduras

To date, a total of 49 Justa stoves have been constructed, and 66 additional stoves are scheduled for May 2016. The remaining 45 stoves will be built among the general population of Intibucá – the Department in which the study is taking place – during July and August 2016. The cost of the materials were split between The Central American Fund for Energy Access and Poverty Reduction (FOCAEP) and World Centric. AHDESA transported the materials to La Esperanza, then distributed

materials in bulk to a central location in each community. The AHDESA technician and the local research coordinator traveled by motorbike to construct 3-5 stoves per day. Families worked together to help gather some of the necessary materials for stove construction, such as dry ash, clay, and lumber.

This project requires that the woman's traditional stove is destroyed before the new stove is constructed. This is an important step as it ensures that women will not continue to use their traditional stove indoors. The stove construction takes approximately 2 hours, and women receive educational materials and training to ensure correct utilization, and maintenance of the Justa stove.

Following stove construction, women will be revisited multiple times. These post-construction visits will confirm that the stoves are properly working and assess the stoves for problems or repairs. The post-construction visits will also be another chance to review the stove maintenance procedures and ensure that the woman understands each of the steps.



Dismantling Outdated Cookstove

Results from the first phase of the study showed that women with Justa stoves were more likely to have their stove in "good" condition, more likely to speak to improved health and faster cooking, and less likely to express frustrations that it needed ongoing repairs, compared to women with non-Justa improved stoves. Interestingly, Justa users also reported more time and labor to maintain and properly use their stove, which may demonstrate the increased investment to keep the Justa stove working optimally.

The last component to the project is the development of a stove educator program. This program will involve one to two women from each community who will receive targeted training on the Justa stove and act as a key resource if problems or repairs arise with the stoves. Regular visits by these agents and the research team will also continue to monitor household air pollution and women's health to assess changes in exposure and health as women transition from their traditional stove to their Justa stove.



Justa stove in Honduras (left); traditional stove with rounded pot for cooking corn (center); stove stacking inside a kitchen with an improved stove and traditional stove (right).

El Salvador

In El Salvador we encountered challenging circumstances in 2015 that effectively halved our average annual production. Violence and organized crime have caused extreme disruption in the country, causing one our principal implementing partners of many years, the U.S. Peace Corps, to withdraw all volunteers in January 2016. Our partners had seen the writing on the wall long before, and informed us of a drawdown of projections for 2015 / 2016 stove work.

Nonetheless, since the beginning of the grant period we have been able to construct a total of 60 Justa Stoves in El Salvador with donations from World Centric. Our stove promoter, Doña Hilda de García and stove builder Don Jorge García continue offering their years of dedicated experience to the process, and we are grateful for their work in the face of tremendously challenging circumstances. They remain confident that they will be able to complete the 40 remaining stoves prior to the end of the grant period (September 1st) and will keep us apprised of the state of affairs as the project proceeds.

Conclusion

We are extremely grateful to World Centric for supporting such a tangibly impactful project for families dependent on biomass energy in Central America. While these cookstoves will each reduce 1.65 tons CO₂e per year for five years, the benefits experienced by users begin immediately, and have impacts over generations. We look forward to providing you with a report at the end of the grant period to confirm completion of the project.



Completed Justa Stove with team, El Salvador