

Las Mujeres Solares de Totogalpa and Engineers for a Sustainable World Collaboration



Engineers for a Sustainable World

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Introduction

In the world today, around 3 billion people cook and heat their homes using solid fuels in open fires and leaky stoves. The indoor air pollution produced by these cooking methods has severe health impacts resulting in 2 million premature deaths per year. In addition, women and children typically spend a significant amount of time gathering fuels that could be better spent on other productive activities. The non renewable harvesting and burning of biomass contributes to deforestation and climate change*.



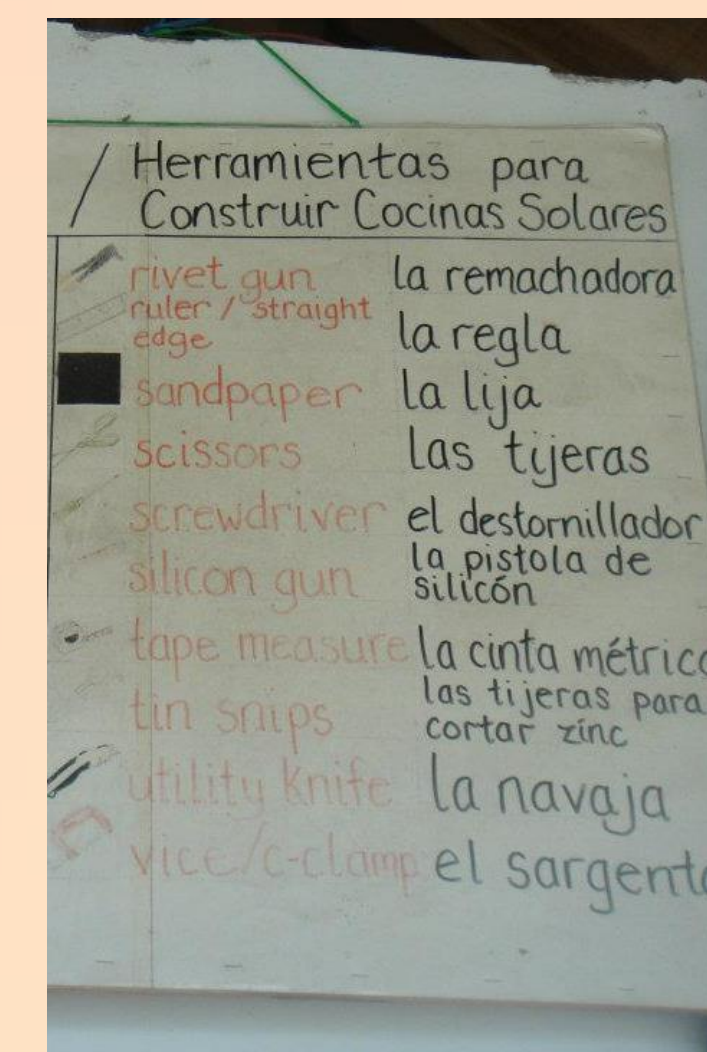
The Cornell team designs, builds, and tests solar cookers, solar dryers and other solar powered systems. Our mission is to improve and optimize designs in order to provide cheap, sustainable, easy alternatives to wood fired cooking. We are partnered with Grupo Fenix, an NGO at the Universidad Nacional de Ingeniería in Managua, Nicaragua, and Las Mujeres Solares de Totogalpa, a women's collective. Las Mujeres Solares' mission is to promote renewable resource technologies and practices in their community in Sabana Grande, Nicaragua.



The Cornell team helps Las Mujeres Solares evolve the designs of the equipment they build within the constraints of available materials in rural Nicaragua and the growth of their construction technology.

Spring Break 2013

A major part of our trip is the homestay. Each of us lives with a different family, where at least one of the women is a part of the collective. We eat meals with our families, hang out with them, and do our best to speak Spanish with them all week long.



The week began with a technical exchange where everyone shared what they had been working on for the past year. Then we discussed what to work on over the course of the week. This year we decided to build three projects: a portable oven design, a solar water distiller and a human powered bicycle generator. Each team was comprised of Cornellians and Mujeres Solares.



Acknowledgements

Thank you to Engaged Learning + Research at Cornell University for making this trip possible.

Broader Impacts



The members of Las Mujeres Solares and their families have a commitment to develop alternative energy technologies for use in their off-grid village and homes in Sabana Grande. They recognize a need to treat this as a long-term process. The community's ability to continually adapt and improve its technology to improve their way of life is salient. Each year that we visit, we are able to witness more projects being carried out and more progress in community development.



We plan to improve on the designs we brought back from our trip to Nicaragua, develop useful improvements and create a construction manual (in Spanish and English) for each project. After seeing how things are done in Nicaragua, all of us have new insight as to how to approach design challenges and what projects could have relevant applications in Sabana Grande.

Further Information

For further information please contact Tim Bond at tkb2@cornell.edu or check out our web page: <https://confluence.cornell.edu/display/SolarCooker/Home+ESW+Solar+Ovens>

* <http://www.who.int/mediacentre/factsheets/fs292/en>