Honduras Micro-Enterprise Stove Project

Reason/motivation for project:

The World Health Organization reports that 1,600,000 women and children around the world die each year from respiratory diseases caused by the toxic smoke produced from biomass burning stoves used for indoor cooking and heating. In Honduras, 90% of rural families and 50% in urban areas still use traditional stoves for cooking all their meals. These stoves waste 90% of the potential wood energy and the burning contributes to global warming.

In rural areas, people spend several hours two to three times a week cutting and hauling firewood. Cutting and overuse of firewood is contributing to rampant and excessive deforestation in Central America. More than 2/3s of the forests have been lost in the last thirty years and the other 1/3 will disappear by 2050 if nothing is done to save the forests.

Improved Stove Technology

Trees, Water, & People (TWP), the Aprovecho Research Center (Aprovecho), and the Honduran Association for Development (AHDESA) have teamed up to introduce improved stove technology to Honduras (and the rest of Central America). After Hurricane Mitch in 1998, Aprovecho stove technicians worked with AHDESA staff and local women to adapt the Rocket stove technology to local cooking needs. The result is a stove with a metal griddle (*plancha*) for cooking tortillas, the basic food staple; an elbow shaped combustion chamber with wood ash (or light-weight pumice) for insulation to increase fuel efficiency; and a metal chimney to remove the toxic smoke from the kitchen. (See diagram of the Justa Stove below).

Now, TWP, AHDESA, and Aprovecho are teaming up to train people to build and sell three stove models in a commercial project, the Honduras Micro-Enterprise Stove Project. We will train four stove producers and 26 vendors of the improved stoves. These will include a ceramic Rocket stove (EcoLenca) with a production cost of $5 (U.S.), the EcoStove with a cost of $65 - $75 and the EcoBarrel with a cost of $80 to produce.

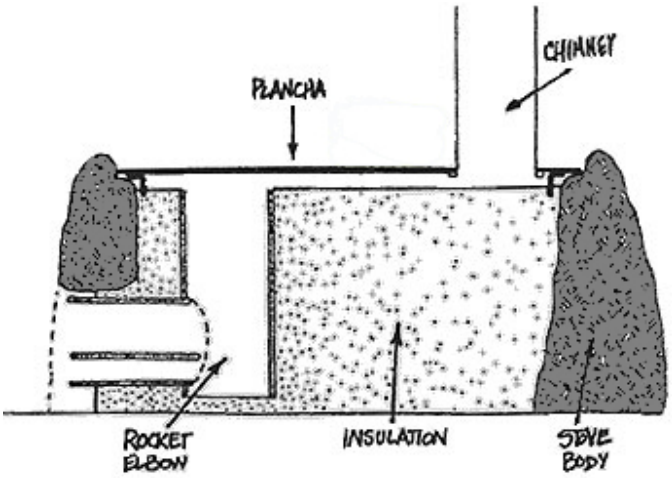

Diagram of the Justa and EcoStoves

Benefits of the Justa and EcoStoves:

- save 70% on fuel wood compared to the traditional stoves
- removes 95% of toxic smoke from the kitchen
- save the health of women and small children who spend the most time in the kitchen
- cleaner kitchens
- saves 70% on cooking time

Management and links to other organizations:
This project is a collaborative effort. TWP's International Director Stuart Conway is in charge of overall management of the project, including securing and managing funding from United States Environmental Protection Agency's (USEPA) Partnership for Clean Indoor Air, private foundations, Rotary Clubs, Rotary International, and TWP donors. AHDESA is implementing the project locally under the able leadership of executive director, Ignacio "Nacho" Osorto. The Aprovecho Research Center provides technical assistance on stove research and design.

Honduran woman with ceramic Rocket stove (*EcoLenca.*)

TWP and AHDESA are training four stove producers to make the first 720 stoves this year and 26 stove vendors to sell the stoves in public markets, bus stations, and shops. AHDESA is doing a promotional campaign, including demonstrations, brochures, radio, and television advertisements to make people aware of the improved stoves.

With assistance from AHDESA, Dr. Tami Bond of the University of Illinois is undertaking a study on emissions of carbon monoxide and particulates from traditional stoves versus our improved stoves. In Honduras, we are working with the government's ministries of Natural Resources and Public Health to spread awareness of our improved stoves and the benefits to the Honduran people.

Future plans:
With the Ashden Award, TWP and AHDESA will establish a micro-credit fund to allow poor people to borrow the money to buy a stove and pay back with comfortable monthly payments. We are starting the micro-enterprise project in Tegucigalpa, the capital of Honduras, but plan to extend the project to the rest of the country in the near future. We also plan to extend the micro-enterprise stove methodology to other countries in the region, including El Salvador, Guatemala, Mexico, and Brazil over the next five years.

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