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A Stove to Solve Darfur's Firewood Crisis

by Michael Helms

The ongoing humanitarian crisis in the Darfur region of Sudan has driven more than 2.5 million people from their homes. Most of these people now live in crowded refugee camps. They typically cook their meals on inefficient three-stone fires and rely on a rapidly dwindling supply of firewood.

The concentration of wood cooking fires in the camps creates environmental and economic problems. All wood near the refugee camps has been consumed, leaving the landscape barren of vegetation. Women must leave the relative safety of the camps and walk several hours in

both directions to find free firewood. Many women have been attacked, robbed, raped, or killed on their firewood foraging trips. The alternative is to buy wood from sellers in the camps at a high price—one day's supply may cost as much as half a day's wages.

The Darfur Stoves Project began when Dr. Ashok Gadgil was asked by the U.S. Agency for International Development to find a solution to the Darfur firewood problem. Dr. Gadgil reviewed existing wood stove designs before choosing a stove from India as inspiration. He and his volunteers evaluated and refined the Berkeley Darfur Stove (BDS) design and then

took stoves to Sudan for field testing. I was invited to travel to Darfur to continue the development of the BDS and set up a small manufacturing facility.

Over 3000 stoves have been manufactured and delivered to families living in the refugee camps. Many more are needed. Every stove makes a big difference, as money that would be spent on firewood is instead used to improve the quality of life for Darfur refugees.

For more information, go to: <http://www.darfurstoves.org>.



Residents learning about the Berkeley Darfur Stove at the first distribution of stoves in their camp. By sunset that day, the Sudanese project liaison received many requests for additional stoves.

This woman is stirring *assida* (a thick porridge made with flour and water) with her *muswat* (a thick wooden cooking stick). Each woman had her own unique cooking system. Some kept their stoves in the same place day after day, while others moved them outside to cook and brought them inside at night.



After testing the stove with women, we added feet for stability and L-shaped steel rods to anchor the stove base to the ground, like tent pegs. A locally made cast-aluminum *tungu-tungu* (cook pot) sits inside of the stove. This stove is placed near a hut doorway for ventilation.



Research continued after the stoves were distributed. We interviewed this woman in her home as she cooked for her large family, a few days after she received her new stove. Field test results prove that the new stove design she received is more fuel efficient than either clay stoves or open fires. She now saves over half of the money that she formerly spent on firewood and uses the savings to buy better food. She hopes to use future savings to buy vegetables, meat, fresh fruit, clothing, and school supplies for her children.