

ACCESS SOLAR

Sunday, October 16, 2011



CookSack shown in the Sierra Nevada, California

2nd Prize @ 2011 Stanford B.A.S.E.S.

Product Showcase <http://bases.stanford.edu/150k/>

Who we are

Access Solar provides a solar cooking solution for sunny fuel-scarce areas to fight extreme poverty, preventable diseases, and environmental degradation.

What we do

Access Solar (1) designs and implements an inexpensive clean solar technology, (2) Consults on creative, portable and effective ways to connect with solar power to provide low cost, low impact energy for cooking and hot water.

What next

Access Solar will continue field-testing it's prototype CookSack2 solar oven in Kenya and Botswana during the fall of 2011. We hope to gain insight into the cooking and fuel needs of village residents. We seek to learn if community members might benefit from a simple and portable device that uses solar energy to cook light foods as well as to heat and pasteurize water.

Impact

CookSack2 and its widespread implementation will reduce firewood usage. Freedom from some of the time-intensive labor of collecting firewood, will provide time for other activities. Less wood burning will, improve air and water quality, forest health locally as well as down wind.



CookSack in Nepal



Traditional fire with dried dung in Nepal



Firewood gatherers in Africa

Lufthansa Magazine

Delicious food prepared without fire with CookSack2

Beans offer a high source of protein, but take a long time to cook and thus require a lot of wood when cooking by fire. Firewood is a precious and scarce resource. This is especially true for the 1.5 billion people in the world who live in populous, arid areas. However, more than just the resources are at risk. The people collecting the firewood also experience a tremendous burden.

Sunshine, in many regions of Africa, is in great abundance and intensity, which makes them a great place for solar energy. The CookSack2 might prove a very low cost way to access it. It is an inflatable solar oven that will provide much needed access to solar power for cooking and purifying water. For example, beans soaked the night before fully cook in the CookSack2 over a time period of two to three mid-day hours, with only occasional tending to track the sun.

Weighing less than an ounce, the CookSack2 is made of flexible, durable polyester film. The base sheet of film is reflective like a mirror and the top sheet is clear. It is welded around its edge and has an open throat. A black pot - with water and other ingredients - is placed into this open throat and onto some type of stand. Even a black painted tin-can will do, and this can be filled with water, to heat as well. The device is inflated with a plate, disk or ball cap, rolled tightly to inflate into a parabolic shape, then clipped with clothespins. The resulting parabolic solar oven is oriented carefully toward the sun. With the black pot attracting and retaining the hot sun's rays, heat contained in the clear-faced oven does the work of cooking without fire. At low or in some cases no cost, the CookSack2 will help people using it gain time to devote to other tasks, such as jobs and education, while also escaping the perils and violence often associated with gathering other fuel sources. Beans and many nutritious foods just got easier to prepare and the outlook just got sunnier.