

# SOLAR COOKER REVIEW

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## **Four years after the Earthquake: The Need for Solar Cookers in Haiti** *\$8 Million USAID LPG/Improved Stove Project Has Little Impact on Charcoal Use*



José Andrés, Celebrity Chef and Culinary Ambassador of the Global Alliance for Clean Cookstoves, teaches Haitians how to use a pressure cooker with a parabolic solar cooker. Photo courtesy of World Central Kitchen, 2013 (See SCI's interview with José Andrés on page two.)

In the weeks following the January 2010 earthquake in Haiti, SCI began raising funds from its supporters and strategizing with members of the Solar Cookers International Network (SCInet) to help people in that devastated, fuel-starved country. [Note: Solar cookers have been used for many years in Haiti on a small scale, funded by individual donations.] In a nation as sunny and as deforested as Haiti, more solar cookers and retained-heat cookers (as part of an integrated cooking system)

were desperately needed.

Soon after the earthquake, Washington, D.C., celebrity chef José Andrés, and SCInet member Manolo Vilches of Alsol Tecnologías Solares in Spain, shipped several parabolic solar cookers to Haiti, and the two men began teaching Haitians how to cook with their most abundant source of energy—the sun.

When actor Sean Penn convinced several Hollywood actors to go to Haiti, one of his volunteers, Maria Bello sought (Continued on page 15)



## **Thanks to our Donors and Funders, SCI is Expanding its Global Influence:** *Convention, UN Conference, International Webinar and Much More*

With the help of SCI donors who participated in Agua Fund, Inc.'s generous matching grant campaign, and with a separate grant from the Global Alliance for Clean Cookstoves, two long-awaited events will take place in Sacramento, California, this summer. From July 17-19, SCI will be hosting and sponsoring both a global event and a regional event.

The first will be the Solar Cookers International Network (SCInet) Solar Cooking Convention, attracting participants from India, Japan, the Philippines, Kenya, Uganda, South Africa, Norway, Germany, Hong Kong, the U.S., Canada and Bolivia. The second event will be the Sacramento Solar Cooking Festival, which will (Continued on page 5)

## An Interview with José Andrés

*A native of Spain, renowned Chef José Andrés not only owns restaurants in Washington, D.C., Beverly Hills, Las Vegas, Florida and Puerto Rico, he has also founded humanitarian food projects in the U.S. and in Haiti. In 2011, Hillary Clinton appointed Andrés as the Culinary Ambassador for the Global Alliance for Clean Cookstoves. This interview with SCI took place in the spring of 2014.*

**Q: There is a terrific video on YouTube showing you solar cooking in the snow at your home in Maryland between the massive blizzards of 2010. What was your reaction the first time you cooked with your solar cooker?** (<http://tinyurl.com/joseandres>)

A: This was not my first time using a solar cooker, but the power outages between the snowstorms made me realize just how powerful this technology could be in places like Haiti. I had already been thinking about going to Haiti before the earthquake happened so I started to research and read a lot about the country.

I learned about the high costs of cooking with inefficient technologies. Here in America, its as easy as turning on the stove and we have fire in an instant, but in Haiti and in many developing countries they use wood, charcoal and dung which is not only causing deforestation, but is causing severe health problems.

The snowstorm hit D.C. very hard and many people were not prepared including myself. We lost power and then our gas was shut off so I wasn't able to use the stove in the kitchen, but what we had was the sun and a solar cooker.) **From that I was able to feed about twenty people on our street and most importantly,** (*Continued in next column*)

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## I was able to feed my family.

**Q: What were you cooking that day and how did it turn out? It looks delicious in the video.**

A: I made a chicken and noodle casserole. It was an amazing moment seeing how I could make this delicious humble meal using the power of the sun. (*Continued on page 4*)

The **Solar Cooker Review (SCR)** is published by Solar Cookers International (SCI) to disseminate information on solar and other clean cooking technologies. It is also available online at: [www.solarcookers.org](http://www.solarcookers.org)

SCI is a 501c(3) non-profit organization working to harness the sun to benefit people and the environment.



SCI welcomes submissions, all of which are subject to editing.

### Send written submissions to:

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### Letter from SCI's Executive Director

“Remember the Law of Unintended Consequences” is a sign hanging in my office, reminding me to anticipate unintended results from well-meant projects. The automobile was once hailed as a solution to the problem of animal waste in the streets. The unintended consequence? We ultimately learned that we had switched one type of pollution (horse manure) for another, much bigger one (carbon emissions).

Improved combustion stoves have been hailed as a replacement for the traditional three-stone open fire, potentially saving 30-50% of household biomass fuel annually per stove. An unanticipated consequence has been the discovery that many people use their improved combustion stove *in addition to* their traditional three-stone fire, resulting in the unintended consequence of an overall increase in energy use.

Each Kenyan woman using a solar cooker every day the sun shines, **saves up to one ton of firewood each year**. When her legumes and grains begin boiling in the solar cooker, she removes the pot and places it in her **retained-heat cooker, where it continues to simmer using no fuel at all**. Her solar cooker is now free to start cooking the next pot of food.

Using an improved combustion stove at night or during rainy or snowy weather reduces biomass, charcoal or LPG use by 25% or more (depending on the quality of the stove.) Removing a boiling pot of food after twenty minutes and letting a retained heat container do the rest of (*Continued in next column*)

When the phone rings from Mauritania, Togo, Bolivia, Kenya, Peru, Micronesia, or anywhere, people ask for technical advice to help begin solar cooking projects.

YOUR gift provides them answers.

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the cooking can save another 30% of the fuel. **The integrated cooking method (ICM) relying on the use of solar cookers on sunny days—along with the use of retained-heat containers for both solar and biomass stoves—appears to offer the most efficient cooking solution with minimal unintended consequences.**

Why? Purchased or gathered biomass fuel is used only when there is no sun. The burden of collecting wood for women and children is reduced. Families save money. Children are less at risk of being burned because they're around open fires less often. Finally, **because sunlight is free fuel**, families can solar cook more nutritious, less expensive foods like dried beans and legumes that normally require long cooking times and consume large amounts of fuel. They can also pasteurize their drinking water using only the sun and use the saved 'fuel money' to buy food.

We anticipate discovering many more additional, positive, unintended consequences from the solar/integrated cooking method.

**Julie Greene, SCI's executive director, welcomes your comments at [julie@solarcookers.org](mailto:julie@solarcookers.org)**

### The Cookit Shines in Chad

by Wietske Jongbloed, Tchad Solaire, Nederlands

The panel cooker, the least expensive and easiest to use of all solar thermal cookers, was designed by Roger Bernard in the early 1990s to demonstrate the power of solar cooking to children. In the mid-1990s, Solar Cookers International, led by Bev Blum, refined the design.

The result was the Cookit, tens of thousands of which are made and used in Africa. One issue with the Cookit, which has been traditionally made with cardboard and aluminium foil has been its durability. In 2008, Darfur refugee women in eastern Chad, who had already made thousands of Cookits for refugee families in three camps under the guidance of Derk Rijks of KoZon, started trying out new methods to extend the life and the efficiency of the Cookit.

(Continued on page 9)



## An Interview with Chef José Andrés

(Continued from page 2)

**Q: The earthquake in Haiti occurred one month before the snowstorms that caused your power outages. When and how did you make the connection between the power of your parabolic solar cooker and the benefits of introducing this technology to the Haitian people?**

A: It was that same day that I decided I would go to Haiti with the solar cooker along with my friend Manolo Vilchez, who is a leading expert on solar cookers. We just went without really knowing what to expect. We brought four solar cookers with us and visited different communities showing people how to use the solar cookers, and we gave them away.

**Q: What was the reaction of the Haitians the first time they saw you solar cooking in their country and what was their favorite solar cooked food?**

A: The solar cooker is very powerful, but it is still a very new idea. People are so accustomed to cooking with fire as humanity has been doing for thousands of years. There are obviously other means of cooking and it's not easy to convince people to change their methods to something they have never seen or heard of. I believe we have to spend more time on education and we should identify the communities that could most benefit from solar cookers. I believe the most important thing is that we show the real value of using solar not only in terms of money by showing that we have the potential to feed many people at no energy cost and with zero emissions, which could help reduce deforestation. We should invest in technologies that make solar quicker, more efficient, and more accessible. I cannot wait to see the day that solar is a primary energy source! Overall people react well to the solar cookers, but again we have a difficult battle in front of us to show people how effective clean energy technologies like solar can be.

As the Ambassador of the Global Alliance for Clean Cookstoves, I support solar but I also support other clean energy technologies. I believe it's really important to have a good variety of possibilities.

(Continued in next column)

**Q: Tell us about the origins of your partnership with SCInet member Manolo Vilchez in Spain to provide more solar cookers to Haiti.**

A: Manolo is a very good friend. We've known each other for years. He and another friend Carlos Fresneda, who is a journalist for the Spanish newspaper *El Mundo*, came to D.C. a few years ago for the Solar Decathlon, which is hosted every other year by the U.S. Department of Energy. While they were here, we tested some solar cookers so when I was going to Haiti I called them to join me. Manolo knows more about solar cookers than anyone I know and he's passionate about what he does. I love seeing his success because really his success benefits so many people around the world.

**Q: Do you have any advice for solar cooker promoters/vendors in other countries?**

A: My advice is to keep an open mind, and listen to 'the cooks' in every country. As a chef, I have often said that we have been left out of important discussions, when really the cooks should be a big part of finding the solution. Most important we need to be pragmatic in how we share our success and failures in solar. I wish I could tell you that in the places I've visited, everyone continues to use solar technology, but I know that doesn't always happen. Sharing our lessons could help us improve education and help us find ways to better implement solar cookers in poor communities. We need to really show people that by saving on charcoal and wood, they can instead use that money on education, medical care, and so many other basic necessities. Pragmatism is the key and we must never stop working towards our goals. PM-Editor

**“Solar has so much potential so we have to keep working hard!” - José Andrés**

A woman leaving the village to find firewood is at risk of attack.

You can give her safety with solar cooking.



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## Thanks to Your Support SCI's Global Reach Has Increased *(Continued from p. 1)*

provide a public outreach forum for local and international solar chefs to showcase solar cooker designs and techniques for the general public. For more information about the SCInet Solar Cooking Convention and Sacramento Solar Cooking Festival, go to <http://www.solarcookers.org>.



### More Kenyans Have Safe Drinking Water

Thanks to SCI donors like you, the Kenyan NGO FOTO (Friends of the Old) will distribute six hundred Safe Water Packages, and SURE (Sustainable Utilization of Renewable Energy) will distribute one hundred eighty Safe Water Packages between January and June 2014 in Lower Nyakach, a region of significant poverty. As a result of using solar cookers to kill pathogens in contaminated drinking water, there have been fewer cases of waterborne disease-related illnesses in this region.

### You helped bring solar cooking to an international cookstove audience.

Solar Household Energy (SHE) and SCI jointly brought Deepak Gadhia (*the 'father' of solar cooking in India*) to a symposium at UC Berkeley to discuss energy innovations for remote areas. **Gadhia presented the sustainable development success of the Muni Seva Ashram, which uses solar** *(Continued in next column)*

**parabolic Scheffler reflectors to heat 31,000 liters of water every day for the ashram's kitchens, guesthouses and hospitals.** The Schefflers also cook meals for two hundred people and provide air conditioning for the two hospitals. This is the first solar air-conditioning system of its kind in India. **This successful, large-scale use of solar reflectors exposed symposium attendees to the proven capabilities of large-scale solar thermal technology.**

### You helped include solar cookers in a global conversation about cookstove standards.

Solar Household Energy (SHE) and Solar Cookers International worked together to send Dr. Paul Funk, former SCI Board member, as the SCInet delegate to the ISO TAG 285 Clean Cookstoves and Clean Cooking Solutions Plenary in Nairobi in February. The purpose of this plenary session was to initiate a three-year process of drafting and approving a standard method for testing cookstoves. Because solar cookers have no emissions, they can be difficult to classify according to current cookstove parameters, and therefore are sometimes excluded from clean cookstove analyses. Most international aid agencies would like to see a standardized rating before they will include cooking technology in large-scale relief projects. Dr. Funk's participation in this process will help to ensure that solar cookers become part of future clean cooking projects. *(Continued on page 6)*



Your Safe Water Package can provide comfort for the elderly.

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## Thanks to Your Support, SCI Has Increased its Global Reach

*(Continued from p. 5)*

**Your support for solar cooking** sent SCI's Executive Director, Julie Greene, and FOTO (Friends of the Old) Director, Dinah Chienjo, to the United Nations New York NGO Commission on the Status of Women Conference 58.



(Photo courtesy Julie Greene, 2014)

These two organizations, working with SCI's team of UN representatives led by Dr. Arline Lederman, collaborated with Soroptimist International and the International Council of Jewish Women to make presentations to nearly one hundred community leaders on how solar cooking eliminates cooking smoke, pasteurizes drinking water, increases women's leadership roles and save trees.

Julie's favorite comment from the solar cooking presentation audience: **"Why doesn't everyone know about this incredible technology?"** An example of connections made at this event: Kayla, a young woman from Papua, New Guinea, will return to her homeland next year to teach secondary school. She grew up gathering wood for her family's cooking fire. She intends to teach her future students to solar cook, and now has a connection to SCI to provide her with the information and support she needs to spread solar cooking in her community.

**Experience and reputation matter.** Patricia McArdle, Editor of the *Solar Cooker Review* and former SCI Board member, was one of *(Continued in next column)*

four solar cooking experts invited to make a webinar presentation for the International Solar Energy Society (ISES): **"Solar Cooking Around the World: Challenges, Solutions and Best Practices"**. Joining McArdle for this presentation were fellow solar cooking luminaries and SCINet members: Dr. Ajay Chandak, Founder of PRINCE India and Member of the ISES Board of Directors, Professor Celestino Ruivo of the University of Algarve in Portugal; and Pedro Serrano, Director of Extreme Unit Architecture, Technical University Federico Santa Maria in Chile.

Watch the webinar at: <http://tinyurl.com/ISEScook>.

**New and improved access to information on the SCINet Wiki.** Thanks to a generous grant from the Agua Fund, Inc., the SCINet website continues to expand and evolve from the original Solar Cooking Archive started by SCI volunteers in the mid-1990s. Recent improvements include the culling of outdated information, new, more functional navigation; last-updated date at the top of each article; and updated pages on the individuals and organizations that make up the SCINet. Try searching for your country and you'll find a wealth of information about local solar cooking activities and leaders. <http://solarcooking.org>

**The knowledge and passion of SCI supporters like you help us to spread solar cooking technology to many countries. We are grateful to you, as a member of this small but important and dedicated group, for helping bring solar cooking to the world.**





## SCInet Solar Cooking Convention 2014

July 17-19, 2014

The SCInet Solar Cooking Convention 2014, sponsored by Solar Cookers International with support from Agua Fund, Inc. the Global Alliance for Clean Cookstoves and SCI's generous donors, encourages global attendance by solar cooking project directors, promoters, designers, researchers, and manufacturers with experience in the transfer of solar cooking technologies.

**Format:** Presentations, panel discussions, working groups and public demonstration of solar cookers

### Conference Themes

- Successful implementation models
  - Market penetration
- Addressing obstacles to adoption
  - Funding (manufacturers)
  - Funding (nonprofits)
- Global solar cooking promotion
  - Solar Cooker Certification
- Solar Cooker Testing Standards
- Collaboration: SCI and SCInet
  - Other (TBD)

**Convention Outcomes:** Information exchange, establishment of global goals for solar cooking, creation of working groups

**See more at: <http://solarcookers.org/events/convention>**

### Schedule:

**Thursday, July 17** 8 am - 6 pm California Automobile Museum, 2200 Front Street, Sacramento, CA

**Friday, July 18** 8 am - 8 pm California Automobile Museum, 2200 Front Street, Sacramento, CA

**Saturday, July 19** 10 am - 3 pm Sacramento Solar Cooking Festival. Open to the public. William Land Park (corner of Sutterville Road and Freeport Blvd.), Sacramento, CA

The Sacramento Solar Cooking Festival will be an opportunity for additional networking and demonstration of solar cooker designs from international as well as local solar chefs. Solar Chef Registration (free) is required for the Saturday Festival.

**See more at: <http://solarcookers.org/events/convention>**

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## NEWS YOU SEND

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Solar Cookers International invites the 500+ registered members of the Solar Cookers International Network (SCI<sup>net</sup>) to send in news and share success stories with our global solar cooker community.

To join the Network at no charge, fill out the online form here: <http://tinyurl.com/joinscinet>

Please note that SCI does not have the resources to research—nor can we be held liable for—the accuracy of these contributions.

### AFGHANISTAN

Under the leadership of Jack Howell, Trust in Education (TIE) initiated its solar oven pilot project in Afghanistan in 2010. TIE began with five solar cookers. On February 8, 2014 over sixty students from



Photo courtesy of Trust in Education 2014

California high schools joined TIE to build more CookKits. They are part of over 100 high schools working to provide more than 5,000 solar CookKits

to refugee families in Afghanistan. Assuming an average of ten members per family that's over 50,000 Afghans who will benefit from solar cooking technology. TIE already has sent 500 CookKits to refugee camps in Afghanistan.

[www.trustineducation.org](http://www.trustineducation.org), [trustineducation@gmail.com](mailto:trustineducation@gmail.com)

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### ETHIOPIA

Renewable Energy Technology is a relatively new concept in Ethiopia. The Horn of Africa Regional Environmental Center/Network (HoAREC), based in Addis Ababa has implemented (with support from the EU Energy Facility) an 'Integrated Approach to Meet Rural Household Energy Needs' in three regions of Ethiopia. The Solar Cooking Foundation of the Netherlands (SCN), which has been involved in the promotion of Integrated Cooking Method (ICM) technologies in Eritria, Uganda and Ethiopia, is one of the implementing organizations. ICM includes the use of a solar cooker, an efficient combustion stove, a heat retention basket and a water pasteurization indicator (WAPI). [www.hoarec.org](http://www.hoarec.org)

### IRAN

On April 30, 2014 Soheil Salimi, founder of Engineers Without Borders - Iran, conducted a solar cooking workshop at Hafez high school for girls.



Photo courtesy of EWB-Iran 2014

In mid-2013, the energy team of Engineers Without Borders in Iran (EWB-Iran) built and tested several solar cooker designs using plans found on SCInet Wiki. The group found that the most efficient design for them was the Suntastic Panel Cooker, which raised the internal temperature of an empty four-liter black pot with a clear glass lid to 150° C (302° F) in about 30 minutes. It also heated three liters of water from 26° C (79°F) to pasteurization point, 70°C (158°F), in fifty minutes. Last December EWB-Iran conducted a seminar for engineering students during "Research Week" at Fasa University to highlight the importance of solar cookers. [soheilsalimi.ewb@gmail.com](mailto:soheilsalimi.ewb@gmail.com) (Continued on page 12)





## The Cookit In Chad

*(Continued from page 3)*

The first improvement was to seal the edges with a protective plastic tape similar to the method currently used in Kenya. **The second was the refugee women's suggestion to add grommets to the front and back of each Cookit to anchor it with strings to rocks and hold it in place against strong gusts of wind.**

The third was coating the exposed cardboard side of



Photo courtesy Wietske Joengblod, 2013

the Cookit with Nikwax, a waterproofing sealant. Tchad Solaire representatives report that the sealant has resulted in some Cookits now lasting for 15-18 months, resulting in an actual replacement cost of less than one dollar per month.

In addition, the women are using the cardboard from discarded and damaged Cookits to insulate their 'guffahs', or retained-heat baskets. The shredded cardboard is stuffed inside a cloth liner in the basket and into a cloth pillow. **The resulting guffah can keep pots of cooked food hot for several hours, allowing women to cook their family's evening meal in the early afternoon sun and keep the food piping-hot for serving in the evening.**

Locally made Cookits in the refugee camps in Eastern Chad are far more durable than they used to be. Even after they are discarded their utility continues since they can be used to stuff the guffahs.

**In six camps 130,000 Sudanese refugees are cooking with these devices and significantly reducing the amount of firewood that must be collected.** -WJ

## Breakthrough at Kenya Conference

Faustine Odaba, founder and CEO of the small NGO Natural Resources and Waste Management Alliance (NAREWAMA), dazzled more than two hundred delegates at the February 2014 East Africa Clean Cookstove Conference by demonstrating solar cooking, solar water pasteurization, and retained heat cooking with an insulated basket. NAREWAMA's display was outside in a sunny area between two tents housing cookstove displays.

When Rael Ruto, wife of Kenya's Deputy President, and conference co-coordinator Radha Muthia, Executive Director of the Global Alliance for Clean Cookstoves, arrived at Faustine's outdoor display she opened the lids of the pots in the Cookits, dramatically releasing steam, to show perfectly cooked ugali, rice, vegetables, sweet potatoes, baked eggs, tea, and pasteurized water. Mrs. Ruto (in the red dress) exclaimed, **"This is what we've been looking for. It will save our forests and our women's time looking for firewood and being confined in the kitchen fireplaces."**



Photo courtesy Faustine Odaba. 2014.

*NAREWAMA is supported by the International Water and Health Alliances, and it regularly uses the Nissan Sentra donated to it by Solar Cookers International in 2012.*

**NAREWAMA's participation in this event was partially funded by SCI's donors, who have also funded several of NAREWAMA's community solar cooking demonstrations in 2012-2013.**

-JG, ED

### SOLAR TECH TALK

Technologies featured in “Tech Talk” celebrate innovations that elevate solar thermal cooking via improved design, materials, creative funding, distribution systems and innovative local production strategies. Inclusion in Tech Talk does not imply that SCI endorses or promotes any of the featured technologies. SCI cannot be held liable for the accuracy of the contributions submitted by designers and inventors.

Global Hardware, Ltd., a Nairobi, Kenya building supply company, has agreed to purchase a large quantity of reflective foam insulation and polycarbonate plastic film for resale at low cost to solar cooking entrepreneurs. This is expected to reduce to about \$12-15 the wholesale cost of materials for the new “open-source” Haines II foam solar cooker. The foam material is made of IXPE (cross-linked polyethylene) foam bonded to reflective polyester film, which has a high melting point, will not oxidize and cannot be scratched off. According to the manufacturer, it is easy to recycle and environmentally safe through the whole production and recycling process. This design uses the Haines polycarbonate cooking sleeve to insulate and elevate the cooking pot, and adds a second layer of insulation—a circular polycarbonate windscreen that stabilizes the cooker in the wind and creates “oven-like” conditions around the cooking pot. The cooker also tilts to maintain high temperatures early and late in the day. The hope is that the availability of these inexpensive materials will promote the creation of new solar cooking entrepreneurs in East Africa. Haines' San Diego Rotary Club will purchase materials for 500 of the new cookers for distribution by the Rotary Club of Gulu, Uganda. [http://solarcooking.wikia.caom/wiki/Haines\\_Foam\\_Insulation\\_Cooker](http://solarcooking.wikia.caom/wiki/Haines_Foam_Insulation_Cooker), [globalhardwarekenya@gmail.com](mailto:globalhardwarekenya@gmail.com)

Dr. Masami Nakagawa, Associate Professor at the Colorado School of Mines, has introduced solar cooking into his curriculum. As part of his “Energy and Society” class, his students work in teams to research then design and build solar cookers. His students have also designed solar water heaters. Important criteria for the solar cooker designs include technical specifications, customer needs, and economic analyses. The Colorado School of Mines has urged Dr. Nakagawa continue to offer this course. [kingoficeland@gmail.com](mailto:kingoficeland@gmail.com)



Your monthly donations give continuity to the spread of solar cooking. All gifts are important.

[solarcookers.org/donate](http://solarcookers.org/donate)

#### What your \$15 gift can buy:

In the USA:  
One lunch at  
a restaurant



In Kenya:  
One CookIt  
to make  
hundreds of  
meals

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The latest issue of PC News online has rated One Earth Design's SolSource parabolic Solar Cooker, as the first among “Ten Energy-Conserving Gadgets to Help You Save Some Green”. This solar cooker has won numerous awards for the quality and durability of its design. PC News notes that the Sol Source can “convert up to 80 percent of solar light that hits the cooker into heat for cooking (compared to solar panels, which typically convert only about 15 percent of light into energy.” [catlin@oneearthdesigns.com](mailto:catlin@oneearthdesigns.com)



## Luminous People

A Guest Editorial by Dar Curtis,  
Recipient of SCI's 2013 Order of Excellence



Photo Courtesy Solar Household Energy 2010

My four children have had a way of getting me into fascinating trouble. For example, encouraging me to advocate a technology the “experts” all said wouldn’t work. Yes, that would be solar cooking. The year was 1989. Altruistic amateurs had already been out in the world trying to convince the needy to solar cook. These promoters learned by making all possible mistakes: choosing cloudy venues or places with abundant traditional fuels or neglecting training.

Based on this bumpy beginning, the distinguished “experts” at UNHCR, USAID, etc. gave solar cooking a unanimous thumbs down. (Few distinguished “experts” ever asked the logical question: How can it be made to work?) With no hope of support from the major sources of funding for development projects, advocates of solar cooking might well have tossed in the towel. They didn’t.

**These advocates, far too many to cite, keep going out of a conviction that the adoption of solar thermal cooking technology was not only possible but inevitable.** They are the inventors like Oehler, Bernard, Seifert and Scheffler; the teachers like Meyer, Whitfield, Ochsner and Gadhia; the organizations like *(Continued in next column)*

PRINCE and BISS; the anonymous Chinese outfits we hope to meet some day; the champions like Sponheim and McArdle; and the leaders of Solar Cookers International, which has herded us cats with such skill and patience.

Bev Blum, co-founder of SCI, organized the First World Conference on Solar Cooking back in 1992. In a paper at that conference, I noted that the barriers we confronted were so formidable they could weaken our determination. I offered some encouraging thoughts about the long gestation periods for many innovations—155 years for the automobile, for example.

I think it’s reasonable to count solar cooker gestation from our era, say from Maria Telkes around the 1950s, rather than from de Saussure in the 18<sup>th</sup> Century or the ancients. That puts us at around sixty years. (However, there should be one exception: Dr. Charles G. Abbott, was Secretary of the Smithsonian Institution in the 1930s when he built a solar cooker on Mount Wilson. Let the image of his homemade solar cooker serve to reassure those who might fret over the slow pace of R&D.)

Having been in on the latest twenty-five years of solar cooking advocacy, I’ve learned a lot about dedication and determination from my far-flung associates. They never needed my encouragement. They are people with the courage of their convictions, luminous people (in more ways than one). Associating with them has enriched my life.

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### Response to Guest Editorial, *Extinguishing the Three Stone Fire* (SCR Jan 2014)

By Bob Metcalf, Former President SCI Board of Directors

I share the frustration Dar Curtis expressed in his January 2014 guest editorial that the Global Alliance for Clean Cookstoves has so far dismissed solar cookers and focused exclusively on fire-based cookstoves (SCR Jan. 2014, p. 9). The exclusive use of combustion stoves is based on the false assumption that biomass is, and will always be, readily available for the hundreds of millions of households that cook over fires in developing countries. It also condemns poor women to forever cook with fire.

Why hasn’t solar thermal cooking technology been supported by the Global Alliance, UN & government agencies, and major NGOs? *(Continued on page 13)*



**News You Send** (Continued from page 8)**PARAGUAY**

Although he was known as a “subversive teacher”, rattling the human rights world in Paraguay’s for the past fifty years, **Dr. Martin Almada recently won the title of the “sweetest teacher in Paraguay”**. After introducing the use of solar ovens in Paraguayan schools to cook manioc for the children, **his Celestina Perez de Almada Foundation has recently gone a step further, by encouraging the use of the solar ovens already in place in the schools to cook... bananas!** “Heated at



Photo courtesy Pablo McGee 2014

very high temperatures in the solar ovens developed by our foundation, the bananas turn into candy that give economically challenged children a nutritious, energy snack at school. **We are really going from poverty to a certain self-sufficiency, all through solar energy: it’s magic!”**

explained Dr. Almada and his wife, Maria Stella Caceres, who is president of the foundation. In February 2013, the Spanish NGO “Manos Unidas” initiated its campaign “No Justice without Equality” and offered its support to the Celestina Perez de Almada foundation for increasing the use of Solar Energy in Paraguay. [pablomagee@gmail.com](mailto:pablomagee@gmail.com)



Do the Math.  
30% of households receiving your Safe Water Packages report saving \$1-3/week in fuel expenses while living on less than \$1/day.

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**PAKISTAN**

Amir Karim, Chairman of the UK charity, Lady Fatemah Trust (LFT), reports that his organization continues to purchase and ship CookKits to needy populations around the world. Recently LFT sent 2,500 solar cookers to Pakistan along with a volunteer trainer from Cyprus. Trainees will work in Pakistani villages where wood and cow dung are typically used for cooking. LFT has also shipped 550 CookKits to Tanzania. In Iraq, where LFT is currently distributing solar lights, they will also be supplying desert villages with solar cookers and training. [KarimAG@euro-comm.co.uk](mailto:KarimAG@euro-comm.co.uk)

**Teaching and Leading with Solar Cooking in Nepal**

Dear Julie,

I am pleased to share the progress under SCI-2 Grant Program for research and training components especially for single women, women leaders, and orphans.

We added single women from a Christian community and burn victims to our training program. We organized an orientation and briefing workshop for single women, female leaders, an orphanage, a school and a burn violence survival center. We also distributed questionnaires to participants for a household survey in February.

From three villages (Dharmasthali, Sunakothe and Machhegaon) and an orphanage in Lalitpur district, we received confirmation of participation in our training program. We also received the choice of cooking devices from the Machhegaon group and from the single women group with the Christian community. I hope we will receive the rest of the forms from other groups by next week so that we will be able to manufacture the preferred (cooking) items before training takes place.

We are planning to organize demonstration programs in the above project areas after completing the household surveys. We will report to you separately regarding the research element of our program.

Warm regards,  
Sanu Kaji  
FoST, Nepal



**CooKit**  
\$29.00

**Copenhagen Solar  
Cooker Light**  
\$33.00



**Hot Pot**  
\$149.95  
*Includes shipping  
to Continental U.S*



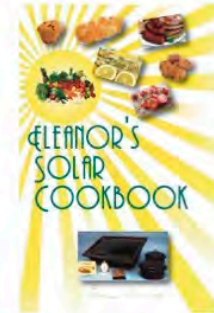
**Aquapak™**  
\$22.00



**WAPI**  
\$7.00



**3-pound Roaster**  
\$13.00



**Eleanor's  
Solar  
Cookbook**  
\$12.00



EVERY PURCHASE SUPPORTS SOLAR COOKING WORLDWIDE

**Response to Guest Editorial, *Extinguishing the Three Stone Fire*, SCR Jan 2014**

*(Continued from page 11)*

My [Bob Metcalf's] view is that a major obstacle to acceptance of solar cooking is that many designs, which NGOs have used successfully in small regional projects, are too complex and expensive for scaling up to millions.

*(Continued in next column)*

1.8 million people die prematurely each year from contaminants in drinking water.



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**SCI Network Wiki**



It's how your  
support shares  
solar cooking  
knowledge.

[solarcookers.org/donate](http://solarcookers.org/donate)

The message that needs to be conveyed is that there are a few very inexpensive and convenient models that can do serious solar cooking/water pasteurization. As Faustine Odaba recently demonstrated to the Executive Director of the Global Alliance at the National Clean Cookstoves and Fuels Conference in Nairobi (see article, p. 9), SCI's CooKit meets these criteria. The practicality of an ultra-simple cooker like the CooKit should convince doubters that with sunshine, there is an alternative to fire.

**TRIBUTE GIFTS\* HAVE BEEN GIVEN TO SOLAR COOKERS INTERNATIONAL BY:**

Noel Rowe	In honor of Abbie Barber
Jerry & Jill Hultin	On behalf of AJ Lederman
Claire Rombalski-Talmadge	In honor of Andrea Armin
Anonymous	In memory of Andrea Zojourner
Mary Birmingham	In honor of Betse Gump
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Cynthia Manning	In honor of Blair L. Manning
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Ted Cosbey & Sally Bowden	In memory of Edward & Elsie Cosbey
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Mark Kowala & Jane Rapinchuck	In memory of Grace Rapinchuk
Thomas Danfield	In honor of Ian Linekin, "Cooker" Extraordinaire
Edward Freidman & Arline J. Lederman	In honor of Janet Bell
Bruce Spring	In honor of Jean Spring
Sean & Caryl Collentine	In honor of John Collentine
Anonymous	In honor of Margaret Wilson
Denise Toomasian	In honor of Mark Wiersma
Mary Blough	In memory of Marvin Blough
Charles Hosking	In memory of Mary Anne Fiske
Edna Grenlie	In memory of Mary Crosslin
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Leianne Jones	In memory of Shirley Jones
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Paula Donahue	In memory of Steven Donahue
Carol Wood	In memory of Thomas Wood
Sharon Cohen	In honor of Tom Sponheim
Richard & Pearl Cohen	In honor of Tom Sponheim & Sharon Cohen
Bill & Lorette Wambach	In memory of Wilfred Pimentel

\*Gifts received by 4/28/2014

\*Consider making a gift to Solar Cookers International in someone else's name as their gift from you. SCI's executive director will send a personal note to notify your favorite person that you've honored him or her in this unique way. Simply include a note in your donation envelope or email us at: [info@solarcookers.org](mailto:info@solarcookers.org).



### Haiti's Need for Solar Cookers

(Continued from page one) information on solar cookers for the camp where she was working. **Bello said she was concerned about the fire hazard posed by charcoal stoves being used near the tents.** She eventually connected with Paul Munson, who had just arrived in Haiti with a shipment of Sun Ovens.

With the generous support of its donors, SCI sent a trainer to Haiti with several hundred CookKits. The German NGO GloboSol sent a volunteer to teach Haitian metal workers how to construct two Scheffler parabolic solar cooking systems (that allow indoor solar cooking) for a school and an orphanage.

In Washington, D.C., Dar Curtis, founder of Solar Household Energy, along with other solar cooking advocates, urged the international aid community including USAID, the Women's Commission on Fuel and Firewood and the U.S. Department of State to introduce solar cookers and retained-heat cookers into Haiti to reduce the need for charcoal. **The solar cooker advocacy team in Washington, D.C. received a single response—and it was negative—from a USAID development expert who said he would not recommend solar thermal cooking technology for Haiti, because: “The limitations [of solar cookers] have precluded wide-scale adoption over many years of design.”**

*Note: A 245-page study on solar cookers in Haiti, conducted by USAID in 1977 recommended the introduction of solar cooking technology in that country. It is available on [SCInet's Haiti page](#).*

In the summer of 2010 the *Christian Science Monitor* published an equally uninformed and unfortunate observation about solar cookers, this time from an American residing in Haiti: “Even though deforestation is a huge problem in Haiti, because the trees have almost all been (Continued in next column)



You give her a choice between solar cooking or wood for a day.

[solarcookers.org/donate](http://solarcookers.org/donate)

cut down to make charcoal, Haitians are not interested in the solar cookers that foreigners have been trying to get them to use as an alternative fuel source. Why? Because food cooked over a solar cooker has no taste.” \*

Although the solar cooking community continued to push for solar cookers and retained heat cookers for Haiti, the U.S. government ultimately funded an \$8 million project to provide Haitians with improved charcoal stoves and liquefied petroleum gas (LPG) stoves. When the project was formally announced, SCI volunteers in the Washington, D.C. area once again contacted senior U.S. government officials to ask them how the people of Haiti would be able to purchase LPG without long-term, market-distorting subsidies. None of the officials could provide a rational explanation for USAID's decision to promote the purchase of LPG in the poorest country in the western hemisphere, **where 80% of the population lives on less than \$2 per day.** Questions about the rationale for promoting improved charcoal stoves in a country, which had already destroyed most of its forests to make charcoal, also went unanswered.

In 2012, the \$8 million USAID contract for this project was awarded to Chemonics. It targeted nearly 10,000 street food vendors in Port-au-Prince and 800 schools and orphanages in and around the capital. **In February 2014, a U.S. government audit of this project concluded that Chemonics had failed to meet most of its objectives to reduce charcoal consumption.** Few Haitians had purchased the improved charcoal stoves, because they cost five times as much as traditional charcoal stoves. Very few LPG stoves, which cost \$100, were sold. Only 337 of the planned 4,550 street food vendors, orphanages, and schools had shifted from charcoal to LPG.

Haiti, which has almost no trees left, needs solar cookers and retained heat cookers to be part of a sustainable cooking solution for that country's fuel shortages and deforestation.

**SCI and the international solar cooking community will continue their efforts to convince the U.S. government and other large donors and aid agencies to support sustainable cooking solutions that include the cleanest, cheapest and most abundant of all fuels—the sun.**

*\*People who traditionally cook over open fires are accustomed to grilled foods having a smoky taste.*

PM-Editor

## Solar Cookers International

*Harnessing the sun to benefit people and the environment*

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### THANK YOU AND PASS IT ON

Give this issue of the Solar Cooker Review to a friend, a colleague or a family member. Leave it at a doctor or dentist's office. Share it with others, so more people can learn about the amazing and important world of solar cooking.



*This Afghan teenager is thrilled about the solar cooker her family has just received from Trust in Education—a U.S. NGO, and member of the Solar Cookers International Network, which has received guidance from Solar Cookers International to further its work in Afghanistan. Photo courtesy of TIE 2013.*