SCI Welcomes Dolores Weis

Solar Cookers International (SCI) is proud to welcome Dolores Weis as its new Executive Director. Dolores has a rare combination of proven leadership skills, strong administrative capabilities, and international experience. She brings 18 years of humanitarian management experience across many countries and cultures, including Africa and Eastern Europe. A large portion of her efforts have focused on health and women, issues closely intertwined with the work of SCI. Dolores has been instrumental in dramatically growing several organizations, including the Navajo Lutheran Mission, Air Serv International, and Women for Women International, and will leverage this experience to capture and shepherd the many opportunities that lay ahead for SCI. Dolores has a bachelor’s degree in communications, a degree in practical nursing, and a master’s degree in public administration.

Dolores assumed the reins on February 1st and hit the ground running. Weeks before coming to Sacramento she was already helping to steer SCI’s projects and future directions, including SCI’s decision to partner with Sun Ovens International and Friends of Haiti Organization to provide solar cookers to families devastated by the January 12th earthquake in Haiti. Thanks to additional donations from SCI’s wonderful supporters, SCI has already contributed 200 solar cooking kits and Water Pasteurization Indicators (WAPIs) to this relief effort.

Special “News You Send” Issue

By Rene Hamlin,
SCI Resource Development Director

This is a special issue of the Solar Cooker Review chock full of “News You Send” submissions. Collecting and sharing information about solar cooker projects from around the world is an important and unique service provided by Solar Cookers International (SCI). We are thrilled every time we hear from someone who took action to promote solar cookers in their own region because of connections made through News You Send.

A Madagascar solar cooker project reported in News You Send is not only providing local employment, but also helping to keep families safer and healthier by reducing their exposure to dangerous, smoky cooking fires (photo: ADES)
Funds for additional shipments are currently being accepted.

Over the years, SCI has explored ways to increase its response capacity in these types of situations. If the climate is appropriate, solar cookers can be life-saving tools in the months following disasters that disrupt supply chains and leave many families without cooking fuel. This is especially true of heavily deforested countries like Haiti. Dolores is already working with SCI staff to develop a scalable solar cooking and water pasteurization response package that can be implemented by SCI or incorporated into other organizations’ relief efforts.

**SCI’s Vital Advocacy Efforts**

Influencing decision makers in governments and at the United Nations can help with these efforts by opening minds to the usefulness of solar cookers not only after catastrophes, but every day for hundreds of millions of people around the world that live in sun-rich, fuel-poor areas. Much appreciation goes out to SCI’s 13 volunteer U.N. representatives who — through SCI’s U.N. accreditation — spend many hours sharing solar cooker successes with international policy makers in Geneva, New York, Vienna, Bangkok, Beirut, Addis Ababa, and Santiago. This opens doors for promoters at regional and country-level offices worldwide. Most of the advocacy so far has been in the areas of sustainable development (U.N. Commission for Sustainable Development), health (World Health Organization), refugees (U.N. High Commissioner for Refugees), climate change (U.N. Framework Convention on Climate Change), and clean air (U.S. Environmental Protection Agency’s Partnership for Clean Indoor Air). SCI offers hearty thanks to these volunteers for their dedicated service.

And special thanks go to you, SCI’s faithful donors, for continuing to provide SCI with the resources and encouragement necessary to accomplish its mission of promoting solar cooking and solar water pasteurization systems to benefit people and environments. SCI estimates that only two percent of the half billion people who need simple solar cookers have access to them. With your help, SCI can continue to shrink the gap. You make all the difference.

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**SCI Founder Anne Funkhouser Passes Away**

One of Solar Cookers International’s founders, Anne Funkhouser, Ph.D., has died. A retired biology professor, Anne was a long-time solar cook and a tireless ambassador for solar cooking. SCI sends heartfelt sympathy to her family.
Solar Cooker Review

Solar Cooker Review is published two or three times per year with the purpose of presenting solar cooking and solar water pasteurization information from around the world. Topics include solar cooker technologies, dissemination strategies, educational materials, and cultural and social adaptations. From time to time we cover related topics such as women’s issues, wood shortages, health, nutrition, air pollution, climate change, and the environment.

The Review is sent to those who contribute money or news about solar cooking projects. Single copies are sent free to select libraries and groups overseas.

We welcome reports and commentary related to solar cooking for possible inclusion. These may be edited for clarity or space. Please cite sources whenever possible. Send to Solar Cookers International (SCI), 1919 21st Street #101, Sacramento, California 95811-6827, USA. You may also submit by fax: +1 (916) 455-4498 or e-mail: kevin@solarcookers.org.

The Review is compiled and edited by Kevin Porter, SCI’s Director of Education Resources, with assistance from other staff. Layout is graciously donated by Impact Publications located in Medford, Oregon, USA.

SCI is a 501(C)(3) nonprofit organization promoting solar cooking and solar water pasteurization systems to benefit people and environments. SCI is a member of InterAction. We do not sell, rent, or trade names of donors. Tax ID # 68-0153141.

The Review is available on-line at solarcooking.wikia.com/wiki/scr.

Calling all U.S. Federal Employees!

Are you a federal employee? Do you know one? Solar Cookers International (SCI) has again qualified as a participating organization in the Combined Federal Campaign (CFC). SCI is a beneficiary of the effort through the Aid for Africa Federation. We are proud to meet the rigorous financial, accountability, and governance standards, and ask for your CFC support.

Federal employees have the option of supporting SCI with either a one-time gift or with recurring payroll deductions. For those interested in joining the effort, our CFC number is 11023. This code directs your donation to SCI’s Africa programs. Information is available on-line at aidforafrica.org/member-charities/solar-cookers-international. Your questions are also welcomed by SCI Resource Development Director Rene Hamlin. You can reach her by telephone: (916) 455-4499 or e-mail: rene@solarcookers.org.

Thanks, federal employees, for your philanthropy and involvement in the effort to spread this sustainable solar solution.

Tributes

Tribute gifts have been given to Solar Cookers International by:

Anonymous in honor of Caitlin Fross
Dr. Barbara Blum in honor of her mother, Bev Blum
Karen Burt-Imira in honor of the Chandler family
Robert Byrens and Jerrod Nickels in memory of their aunt, Harriet Love
Helen and Robert Campbell in honor of their son, Carter Jay Campbell
Ann M. Collentine and Kevin Williams in honor of John Collentine
Phyllis Cribari in memory of Robert Morrow
Michael and Judy Crowell in memory of Robert Newman
Steven and Myra Douglass in honor of Jane Douglass
Phyllis Elliott in memory of Phillip M. Elliott
Karyn Ellis in honor of Carolyn J. Ellis
Carol N. Gerlitz in memory of her husband, Bill Braddock
Rachel and Richard Hansen in honor of John and Isa Cochrane
Annette Howitt in honor of her grandson, Joshua
Joseph Judge in honor of his wife, Patricia Judge
Ann Prego in honor of her daughter, Tamara Gonzalez
Sekip and Vivian Sahin in honor of Dr. Anne Thompson
Robert and Shirley Sharps in honor of Holly Sharps and Lynn Holm
Allien and Billie Whitsett in honor of Joy Whitsett
Nanlouise Wolfe and Stephen Zunes in honor of Wendy Wolfe and family
Since 2001, the Association pour le Développement de l’Energie Solaire (ADES) has been making and selling solar cookers in the southwestern part of Madagascar, providing much-needed cooking alternatives as well as employment for over 30 local carpenters and trainers.

In 2003, ADES built its first permanent solar cooker construction workshop in Tulear. A second construction workshop was established in Ejeda in 2006, followed in 2008 by a workshop in Morondava. Each of these regional centers also has sales and demonstration offices. Future plans include development of a fourth regional center in Anosy or Antandroy, and the creation of two or three local branches within each region to reduce transportation distances and increase outreach capacity.

According to ADES, southwestern Madagascar experiences about 330 sunny days per year and is a nearly ideal region for solar cooking. However, per capita income in Madagascar is only about $400 per year, making it difficult for families to afford solar cookers and spend their meager income on a technology they are not familiar with. Rising firewood and charcoal costs over the past few years are making solar cookers comparatively more affordable, but they remain out of reach for many. Subsidies have mostly come from donors in Switzerland and a handful of awards. The Madagascar government has provided some additional support, partnering with ADES to promote renewable energy in Tulear.

Hand-crafted wooden solar box cookers, produced locally for upwards of $200 each, are sold at a subsidized price of just over $20. These cookers reach temperatures of up to 150°C, and are commonly used to cook rice, various root vegetables, meat, fish, bread, and cakes. Metal parabolic solar cookers are assembled locally for about $160 each, from aluminum and steel parts made by another local organization at an already subsidized price. The parabolic cookers are then sold at a subsidized price of about $50. These cookers reach even higher temperatures, but require stirring of food and more frequent adjustments to track the sun. They are particularly useful for frying, and can work in a complementary fashion with solar box cookers. Both cookers come with 7-year warranties.

By the end of 2009, ADES had sold 4,640 solar cookers. It hopes to ramp up its outreach and sales capacity with funding from carbon credit offsets.

Contact: Regula Ochsner, CEO, ADES, Lanzestr. 18, 8913 Ottenbach, Switzerland. Tel: 0041 44 761 20 61, e-mail: regulaochsner@adesolaire.org, Web: www.adesolaire.org.
**RWANDA / UNITED STATES**

U.S-based True Vineyard Ministries provides sustainable opportunities for widows and children impacted by genocide, subsequent conflicts, and HIV/AIDS in Rwanda. Its “Bake the Cycle” project is helping to break the cycle of poverty by providing solar bakery jobs to 10 widowed women supporting families in Ruhengeri. The bakery provides a variety of breads to local businesses and families. The women use a commercial-sized Villager Sun Oven® that reaches temperatures in excess of 250°C and can bake hundreds of loaves of bread each day. It has a propane backup system for evening use and during inclement weather.

According to True Vineyard Ministries, the project is already having an impact. “For the first time in the widows’ lives, they are able to consistently provide food, clothing, shelter, and education for their families.”

**Contact:** True Vineyard Ministries, 317 West San Antonio Street, San Marcos, Texas 78666, USA. Tel: 512-392-8463, e-mail: diana.wiley@truevineyard.org, Web: truevineyard.org.

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**SUDAN / UNITED STATES**

Stephen Harrigan runs a U.S.-based nonprofit organization called Solar Clutch that designs and produces solar cookers for distribution to impoverished parts of the world. His cookers include a corrugated plastic solar box cooker called the Sun Scoop and a panel-type solar cooker made from woven baskets and modified clay water pots common in Sudan, called the Borma.

Through Solar Clutch, Harrigan also offers consultation and training services to organizations wishing to set up solar cooker programs. In 2006, Harrigan helped the Darfur Peace and Development Organization (DPDO) begin a solar cooker training program for women displaced due to persistent conflict in Darfur. After much research and experimentation, he prepared a solar cooking training model for DPDO. Harrigan selected Solar Cookers International’s cardboard and foil CooKit as the primary solar cooker to be used due to its low cost and simplicity. Though the solar cookers are being made locally in Sudan, DPDO has also imported several hundred more durable corrugated plastic versions made by volunteers in the United States.

From the beginning, Harrigan believed that DPDO’s infrastructure and ongoing work in internally displaced persons (IDP) camps would be useful in promoting solar cooking. Solar cookers make a lot of sense in these camps because traditional cooking fuels, especially firewood, are in short supply, and the women that forage outside the camps for firewood must not only walk ever greater distances to find firewood, but also risk their personal safety.

DPDO reports having trained 321 IDPs to solar cook from 2006 through mid-2009. Workshops have taken place in a number of camps and towns, including: Kalma and Sakali IDP camps in South Darfur, El Fasher town and Kassab IDP camp in North Darfur, and Omdurman and Haj Yousif towns in Khartoum.

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*Volunteers in Fort Wayne, Indiana (USA) are making corrugated plastic solar cookers for displaced families in Darfur, complete with uplifting personal messages written on the backs (photo: Solar Clutch)*
Women spend less time and energy foraging for firewood outside of IDP camps when they use solar CookIts (photo: DPDO)

According to DPDO’s Web site, “workshop participants quickly recognized the time- and money-saving benefits of the cookers, and learned to prepare all of the traditional Sudanese foods. [They] … continue to experiment with recipes, develop cooking-time charts, and conduct training workshops within their communities. DPDO subsidizes training workshops and provides supplies and training expertise, manuals, and follow-up assessment of use.”

Future trainings have been scheduled for DPDO women’s centers in Kassab and Abu-Shouk camps, the latter of which was visited by U.S. Special Envoy to Sudan Scott Gration in September 2009. Many of the women at the center had previously been trained and were solar cooking when Gration visited. DPDO reports that Gration “was impressed with [the women’s] efforts and tasted rice that had been cooked with a solar cooker.”

Contact: Stephen Harrigan, Darfur Solar Cookers Project Coordinator. Tel: +1 (260) 418-6699, e-mail: solarclutch@gmail.com, Web: solarclutch.com and darfurpeace.org.

ASIA AND OCEANIA

CHINA / UNITED STATES

The rural population of the Tibetan Plateau relies heavily on biomass fuels, especially dung and wood, for cooking and heating. These fuels cause indoor air pollution, contribute to climate change, and perpetuate gender inequality because girls spend long hours collecting fuel while boys attend school. One Earth Designs (OED), a U.S.-based nonprofit organization, has developed a novel solar device to reduce reliance on these fuels in this region. The device, called the SolSource 3-in-1, not only enables rural communities to harness the sun’s energy for portable solar cooking, but for space heating and electricity generation as well.

High-temperature parabolic solar cookers are currently available and used in Himalayan communities. However, they are often made out of mirror-lined concrete shells that are heavy and breakable. Many nomadic villagers shared with OED a desire for parabolic solar cookers that are portable enough to be taken into the fields while working or tending flocks, but sturdy enough to withstand the harsh winds of the Tibetan Plateau. OED worked with rural communities in the Himalayan region to design the SolSource 3-in-1 according to these local needs and with local materials when feasible.

The reflective component of the SolSource 3-in-1 is a lightweight, foldable parabolic shell comprised of several triangular yak-wool canvas panels stretched across a curved bamboo frame and lined with aluminized polyester film (Mylar®). This shell sits on detachable legs that can be staked to the ground to prevent the cooker from blowing over. Multiple functions are performed by attaching
one of three interchangeable modules to the center of the shell at the focal area. The first module cooks food and pasteurizes water. Its high focal temperature enables traditional cooking that relies primarily on stir-frying and boiling water for tea and tsampa. A second module collects and stores heat for later use in the home. As journalist Julia Levitt reports on worldchanging.com, the SolSource 3-in-1 “generates enough heat at its focal point to bring a kettle of water to boil in about five to seven minutes. … While it is in use, the device generates heat to warm the home.” A third module generates and stores about 20 watts of thermo-electricity per hour.

The SolSource 3-in-1 has been recognized for its innovative design by the Massachusetts Institute of Technology’s Yunus Innovation Challenge, the Clinton Global Initiative, and the U.S. Environmental Protection Agency. Last year, the project received the prestigious St. Andrews Prize for the Environment. According to Catlin Powers, chief operating officer of OED, the $75,000 St. Andrews prize money “will support the first large-scale field test and production trial, involving 20 Chinese communities.”

Contact: One Earth Designs, P.O. Box 382559, Cambridge, Massachusetts 02238, USA. Tel: +1-617-671-0727, e-mail: info@oneearthdesigns.org, Web: oneearthdesigns.org.

FIJI / KIRIBATI / TUVALU

In 2007, the Pacific Islands Applied Geoscience Commission (SOPAC) began a series of solar cooking demonstrations in Kiribati, Tuvalu, and Fiji. Since 2008, SOPAC has partnered with Japan’s Ferris University to promote the use of solar cookers in Kiribati and Tuvalu. Throughout the summer of 2008, a small pilot project was conducted in Kiribati using a parabolic solar cooker from Japan and hand-made solar box cookers designed by Ferris University. Four women’s groups were given solar cooking training by the Kiribati Ministry of Public Works and Utilities, and the group’s members were then allowed to use the cookers over a period of several weeks to test the cookers’ usefulness for local foods and to record reductions in traditional cooking fuel use, particularly that of kerosene. The women cooked a variety of traditional foods, including rice, fish, octopus, pawpaw, breadfruit, meat soups, and potatoes. They also used the parabolic solar cooker to prepare tea. The kerosene savings realized during the project was approximately one-third liter, or about $0.40 worth, per good solar cooking day. A similar project was conducted in Tuvalu in the fall of 2008.

SOPAC continues to promote solar cooking in Kiribati, Tuvalu, and Fiji. It strives to: increase the use of solar cookers to help meet regional renewable energy targets; promote partnerships between the local community organizations and public sectors; mobilize external financing to develop solar cooking initiatives; and establish micro-credit financing for the purchase of solar cookers.

A number of solar cooker construction and use workshops have taken place during and after the pilot project. A parabolic solar cooker workshop is scheduled for spring 2010 in Fiji.

In conjunction with Ferris University, SOPAC has produced a solar cooker construction manual detailing the materials and steps required to build the solar box cookers used in its projects. The manual is available for download from the SOPAC Web site. Specified materials include plywood, timber, glass, and one of several insulation options.

Contact: Koin Etuati, Project Officer, Energy Section, SOPAC Secretariat, Private Bag, GPO, Suva, Fiji. Tel: (679) 3381377, fax: (679) 3370040, e-mail: koin@sopac.org, Web: www.sopac.org.

INDIA

Professor Ajay Chandak, of Promoters and Researchers in Non-Conventional Energy (PRINCE), reports that his organization ran a “solar canteen” at the March 2009 Energy Day celebration in Dhule, Maharashtra. With help from nearly 100 mechanical engineering students from SSVPS BSD College of Engineering, almost 1,000 solar snacks — such as khichadi, idlis, cakes, and coffee — were served to attendees. A variety of curved concentrator-type solar cookers were used to prepare the snacks, including a number of SK-14 parabolic solar cookers, a large 2.3-meter diameter “community” parabolic solar cooker, and a PRINCE-designed “square”...
concentrator solar cooker. The latter, available in small or large quantities from Aadhunik Global Energy, reflects sunlight onto a cooking pot with a series of anodized aluminum strips attached to curved metal bars within a square outer frame 1.2 meters x 1.2 meters.

“Many students, staff, and visitors showed great interest in the solar cooking demonstrations,” said Chandak. “[A] local manufacturer … reported selling around 10 solar cookers in the next two days, which is a welcome outcome of such event.”

Contact: Professor Ajay Chandak, Promoters and Researchers in Non-Conventional Energy (PRINCE), Suman Foundation, Shangiri, Agra Road, Deopur, Dhule - 424005, India. Tel: +91-2562-271995 (office) or +91-9823033344 (mobile), e-mail: ajay@princeindia.org, Web: princeindia.org; V.K. Desai, Aadhunik Global Energy, c/o TinyTech Plants, Tagore Road, Rajkot - 360002, India. Tel: 91 281 248 0166 (office) or 91 92 27 60 65 70 (mobile), fax: 91 281 246 7552, e-mail: energy@tinytechindia.com, Web: tinytechindia.com.

University students served almost 1,000 solar snacks at the Dhule, Maharashtra Energy Day (photo: Ajay Chandak)

Dozens of reflective dishes on the roof of Shirdi Sai Baba temple generate enough steam to cook tens of thousands of meals daily (photo: CNN)

Gadhia Solar Energy Systems Pvt. Ltd. recently completed installation of an enormous solar steam cooking system, capable of cooking 40,000-50,000 meals per day. It is located at Shirdi Sai Baba temple in Shirdi, Maharashtra, India. With nearly 30,000 visitors each day, the temple’s dining halls are some of the largest in India.

Contact: V.K. Desai, Aadhunik Global Energy, c/o TinyTech Plants, Tagore Road, Rajkot - 360002, India. Tel: 91 281 248 0166 (office) or 91 92 27 60 65 70 (mobile), fax: 91 281 246 7552, e-mail: energy@tinytechindia.com, Web: tinytechindia.com.

Temperatures of nearly 500°C are achieved at the receiver, where water is continuously converted to steam that is piped down to the kitchen (graphic: Kevin Porter)

The solar steam cooking system is comprised of 73 rooftop-mounted reflective dishes of 16 square meters each. The dishes concentrate sunlight on receivers that contain water, generating steam that is piped down to the kitchen for cooking purposes. To maintain constant focus with the sun, the dishes automatically rotate throughout the day after being manually aligned once each morning. The solar steam cooking system is retrofitted to existing liquid petroleum gas-powered steam boilers that are still used in the evening and during prolonged periods of inclement weather.

Though the solar steam cooking system cost nearly $300,000, government subsidies reduced the temple’s portion to about $170,000. Liquid petroleum gas use has been cut by roughly 100,000 kilograms each year, for an annual savings of approximately $45,000. The temple should recoup its investment in three to four years.

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Aadhunik Global Energy sells PRINCE’s “square” concentrator cooker as well as this larger “community” version with reflectors of 2 meters x 1.5 meters (photo: Aadhunik Global Energy)
According to company founder Deepak Gadhia, the solar steam cooking technology was originally developed in Germany. However, the equipment does not contain imported components and is manufactured with local machinery and labor, creating much-needed jobs. Gadhia has adapted the system for use in India, and has installed 50 such systems of varying sizes over the past two decades.

The March edition of CNN’s Eco Solutions program highlights the Shirdi Sai Baba temple solar steam cooking system. The video is available on-line: edition.cnn.com/video/#/video/tech/2010/02/21/kapur.india.green.temp.cnn


LATIN AMERICA AND IBERIA

DOMINICAN REPUBLIC / HAITI

While shuttling between jobs at a number of resorts in the Dominican Republic, entertainer Kevin Adair witnessed the daily struggles many women go through to collect cooking fuel and the health problems incurred by them and their children due to continuously breathing in smoke from cooking fires. Adair also sensed that the resort vacationers he was entertaining were not being offered opportunities to really experience the people, culture, history, and food of the Dominican Republic. Adair began to address these issues in 2005 when he purchased 40 acres of lush land near Higuey, Altagracia, and formed El Fuego del Sol — a “GeoTourism EcoVillage” that offers alternative travel experiences for individuals and groups looking to delve a bit deeper into the geographical character of the area and its people in an ecologically sustainable way.

Partnering with Sun Ovens International, Adair opened Force of the Sun, a Global Sun Oven® manufacturing facility that serves the Dominican Republic and Haiti while providing local jobs that meet fair-trade standards. Visitors to El Fuego del Sol are served traditional meals cooked using a non-traditional fuel source — the sun. They not only taste how wonderful solar-cooked food can be, but also learn about the many health, economic, and environmental benefits of solar cooker use in the region. A requirement of staying at the center is the purchase of a Sun Oven that will be made available to a development organization or a local family in need.

In 2007, to expand the reach of this solar cooker distribution program, Force of the Sun began working with Grupo Jaragua, a Dominican nonprofit organization that operates a number of community centers. They developed and continue to use a solar cooker training and purchasing system that involves subsidies and/or volunteer credits.

Before a family can purchase or earn a solar cooker, they must learn to use it and cook several meals at the community center. According to Adair, potential solar cooker recipient families must “first cook with the Sun Ovens, preparing food for other volunteers, and do additional community service. … This keeps the Sun Oven from being taken for granted, and familiarizes the recipient with solar cooking techniques well in advance of their receiving a Sun Oven.”

Next, a reasonable price is set for the subsidized solar cookers. Families are given the opportunity to lower that initial price by keeping a month-long log of wood and propane cooking fuel purchases. A payment plan is then established, wherein the families receive their solar cookers, and pay a weekly amount that is less than the amount of money saved in cooking fuel costs. If the family continues to log fuel purchases, along with solar cooker use, they can submit the journals for additional credits towards the purchase.
purchase price based on the number of months tracked. The purchase price is further reduced or even waived by volunteering at the community center through activities like reading to children or planting trees. All family members can volunteer, but the men are especially encouraged to participate because they have been shown in this project to be the most hesitant. By requiring that community center meals be cooked with Sun Ovens whenever possible, families that volunteer become accustomed to the food and the solar cooking process. Volunteering to cook at the community center is a great way for families to become familiar with the technology and earn a Sun Oven.

Using this distribution model, Adair hopes to provide an additional 300 Sun Ovens by mid-2010.

Contact: Kevin Adair, Force of the Sun, c/o Adair Performance CxA, Higuey Zona Franca #7, Higuey, Dominican Republic. E-mail: kevadair@aol.com, Web: forceofthesun.com.

**GUYANA**

Solar Cookers International (SCI) board member Patricia McArdle was invited by the U.S. Southern Command (SOUTHCOM) to participate in the 2009 Crisis Management IV experiment in Georgetown, Guyana. This annual series of experiments explores new technologies that are beneficial and easily transferable to partner nations in Latin America. The focus of this year’s experiment was flood management.

Though susceptible to flooding every few years, Guyana has abundant sunshine for solar cooking, even during the rainy season. As part of the SOUTHCOM program, McArdle gave a solar cooking presentation to officials of the Guyana Civil Defense Commission. She left a number of solar cooking kits with the officials for use in future demonstrations.

McArdle also organized and supervised an integrated solar cooking competition between two teams of students from the University of Guyana’s School of Earth and Environmental Sciences. The purpose of the competition was to demonstrate the capability of the solar CooKit — SCI’s simple cardboard solar cooker — to cook traditional local dishes using only sunlight. The students were split into teams, and cooked two versions of “cook-up,” one with black-eyed peas and one with split peas. They were also required to pasteurize drinking water using the CooKits, and confirm pasteurization temperatures using a Water Pasteurization Indicator (WAPI).

The meals were tasted and judged by a number of local officials. The winners received CooKits and pots. The students immediately began planning for future demonstrations, including one at a regional Scout Jamboree.

A front-page article in the *Stabroek News* had this to say about the solar cooking competition: “While some persons were hesitant to sample the two [cook-up] varieties, it was unanimously agreed that the popular dish turned out to be quite tasty.”

McArdle organized a similar program for the 2008 Crisis Management III experiment in Tegucigalpa, Honduras.

Contact Patricia McArdle by e-mail: solarwind1@mac.com.

**MEXICO**

While travelling in Mexico late last year, Tom Carter taught a class on solar cooking and water pasteurization for local nongovernmental organizations (NGOs). The nearly 40 students in attendance learned how to conduct and read simple water tests, and how to make biologically contaminated drinking water safe by heating it in a solar cooker to pasteurization temperatures as indicated by a Water Pasteurization Indicator (WAPI). The class built about 15 simple solar cookers based on Solar Cookers International’s CooKit. Carter modified the design by removing most of the curves and by joining multiple cardboard panels together instead of using one solid piece. The product is somewhat easier to build and reduces the amount of cardboard needed. “This pattern … is easier to make,” says Carter. “It requires three boxes of approximately the same size or perhaps only two if they have nice tops or bottoms.”

The solar cookers and a number of water testing kits and WAPIs were left with the NGO representatives.

Contact Tom Carter by e-mail: cartport@comcast.net.
NICARAGUA

Grupo Fenix was founded in 1995 by a group of engineering students and professor Susan Kinne at the National Engineering University (Universidad Nacional de Ingeniería) in Managua, Nicaragua. The mission of Grupo Fenix is to contribute to the wellbeing of rural communities, creating an awareness of sustainable lifestyles through technical and cultural exchange, promotion, and research in the field of renewable energy.

A 1999 Grupo Fenix project to reintegrate landmine victims into society through renewable energy technology jobs gave birth to the Solar Women of Totogalpa — a group of nearly two dozen women, mostly single mothers with little time or money, that recognized the potential benefits solar cookers and solar food dryers could bring to themselves and their community.

The Solar Women have been learning about and teaching solar cooking and drying for several years. A 2008 survey of 18 Solar Women, predominantly living in Sabana Grande, revealed that they use their solar cookers daily or almost daily, usually in conjunction with a more traditional wood or gas stove. They frequently use solar cookers to roast coffee, as well as to cook meat, rice, eggs, beans, and bananas. Twelve of the surveyed women say they are now able to bake and roast foods that they could not do easily over fire, while 11 of them use the solar cookers to produce items for sale, such as baked goods, candies, and roast coffee.

According to Grupo Fenix volunteer Charlotte Ross, the Solar Women are committed to working together to create job opportunities for themselves and future generations. “Women that have been generally shy and passive for generations are now taking a vested interest in bettering their community and environment, making and voting on decisions about their future, listening to themselves and one another, and feeling proud about what they have to say.”

The Solar Women not only teach others to make solar cookers from simple materials like scrap cardboard and aluminum foil, but also manufacture and sell solar box cookers made from durable materials like metal and wood. These cookers are fairly large, and accommodate multiple cooking pots. Through service-learning partnerships with university groups like Engineers in Technical Humanitarian Opportunities of Service-learning (ETHOS) and Engineers for a Sustainable World, the Solar Women have been able to improve upon their solar cooker designs while giving real-world development experience to students.

Grupo Fenix and the Solar Women hope to create a model sustainable community in Sabana Grande that creates jobs and is replicable. Recently, the Solar Women took a huge step forward by planning and constructing a solar center on three acres of land situated on the main highway to Honduras. They hand made the nearly 6,000 adobe bricks used in the structure, and collectively volunteered over 8,000 hours in one year to build the center. This first building houses a small office, a shop for building solar cookers and photovoltaic panels, and a small warehouse. Grupo Fenix and the Solar Women hope to further develop the land to include a research center, market, and solar restaurant. Recent grants from the U.N. Development Programme (UNDP) and the Humanist Institute for Development Cooperation (HIVOS) will be used to get the solar restaurant up and running.

In late 2007, the Solar Women fulfilled their first significant order for solar box cookers. They won a solar cooker competition hosted by the Mayor of Esteli, which led to funding to build and deliver 22 solar cookers to select families in Esteli. This was followed by workshops on how to use and care for the solar cookers, and tips for assimilating the solar cookers into daily routines.

Grupo Fenix and the Solar Women have received national and international recognition for their dedication to sustainable development and for serving as a model to other communities in Nicaragua and beyond. Most recently, the Solar Women were one of five Supporting Entrepreneurs for Sustainable Development (SEED)
award winners. SEED is a global network founded by the International Union for Conservation of Nature (IUCN), the U.N. Environment Programme (UNEP), and UNDP. SEED awards support local start-up enterprises working in developing countries to improve livelihoods, reduce poverty, and manage natural resources. The specific project submitted by the Solar Women — Lighting up Hope and Communities — includes the production and sale of solar cookers and solar food dryers, solar roasted coffee, solar-baked cookies, and solar-produced jams, jellies, and pickles. “This award recognizes [the Solar Women’s] innovation and entrepreneurship, and their likely contribution to promote economic growth, social development, and environmental management in Nicaragua,” noted SEED Executive Director Helen Marquard.

Contact: Susan Kinne, University Program - Programa Fuentes Alternas de Energía, Universidad Nacional de Ingeniería – UNI, Managua, Nicaragua. Tel/fax: (505) 2278-3133, e-mail: info@grupofenix.org, Web: grupofenix.org; Solar Center, Kilómetro 212, Carretera Ocotal, Totogalpa, Madriz, Nicaragua. Tel: (505) 8333-0197.

NORTH AMERICA AND EUROPE

UNITED STATES

A student-run community service club at Bella Vista High School in Fair Oaks, California, actively promotes renewable energy through presentations, hands-on workshops, and installations. Solar cooking and solar water pasteurization are often highlighted by the students of Club RESC:UE (short for Renewable Energy Sources Club: United Educators).

At the annual “Get WET” Festival in Folsom, California, club members converted a fountain to run off solar energy and presented information about solar water pasteurization using simple solar cookers. Club RESC:UE also co-sponsored the annual “All Things Solar” event in Roseville, California. Club members acted as solar cooking experts, demonstrating nearly two dozen solar cookers and serving solar-cooked food to passersby. In addition, they participated in a solar cooker construction workshop where participants built solar CooKits.

Contact: Jesse DelBono, Club RESC:UE President. E-mail: jessedelbono@comcast.net, Web: clubrescue.org. Anyone who has been to a country that uses plastic pre-paid phone cards knows that the cards are found in abundance and typically discarded after use. Stephen Harrigan of the U.S.-based consultation and training organization Solar Clutch sent us this great tip: use the cards to reinforce weak areas of cardboard solar cookers, particularly flaps and slots on panel-type cookers, the “fingers, pockets, and necks” as Harrigan calls them. Rubber adhesive or contact cement can be used to attach the cards.

Contact: Stephen Harrigan. Tel: +1 (260) 418-6699, e-mail: solarclutch@gmail.com, Web: solarclutch.com.
Catalog of Solar Cooker Products

**SOLAR COOKERS**

**CooKit**: a lightweight, panel-style solar cooker. Convenient for home, camping and emergencies, it folds flat to 13"x13"x2". Made of cardboard and foil. Reaches temperatures in the mid-200ºFs. Comes with two high-temperature cooking bags, required for cooking. Use with a black, lidded pot (not included). **$25**

**HotPot**: a durable, panel-style solar cooker and pot system. Comes with foldable aluminum reflector and custom 5 qt. black pot suspended in a tempered glass bowl. Reaches temperatures in the mid- to upper-200ºFs. **$123**

**SOS Sport**: a compact, durable two-pot solar box cooker made from recycled soda bottles. Reaches temperatures in the mid- to upper-200ºFs. Comes with add-on reflectors, two 3 lb. roasters, WAPI. **$197 shipping included** (continental U.S. only)

**Global Sun Oven**: a high performance solar box cooker made of durable molded plastic for years of use. Reaches temperatures in the mid- to upper-300ºFs. Use with a black, lidded pot (not included). **$280 shipping included** (continental U.S. only)

**Tulsi-Hybrid**: a high performance solar box cooker with unique electrical backup for use with or without sun. In backup mode, a built-in thermostat automatically adjusts the temperature as needed. Comes with four black pots. **$307 shipping included** (continental U.S. only)

**High-temperature Cooking Bags**: extra CooKit bags. 19"x24". U.S. delivery, shipping included: $8.95 for 5 bags, $12 for 10, $15.50 for 15; Int'l delivery, shipping included: $14 for 5, $17.50 for 10, $21 for 15

**POTS** (steel with black porcelain coatings)

**A. 3 Lb. Roaster**: round, lidded. Not compatible w/ Tulsi-Hybrid. 9¾"x5¾". **$14**

**B. 5 Lb. Roaster**: oval, lidded. Not compatible w/ Tulsi-Hybrid. 13"x8"x5". **$14**

**C. Cookie Sheet**: rectangular. Use alone or as a lid for lasagna/bake pan. Not compatible w/ HotPot or Global Sun Oven. 8½"x13½"x¾". **$13**

**D. 5 Qt. Covered Casserole**: round, lidded. Not compatible w/ SOS Sport, Global Sun Oven or Tulsi-Hybrid. 10½"x4½". **$20**

**E. Lasagna/bake Pan**: rectangular. Use alone or with cookie sheet as a lid. Not compatible w/ HotPot or Global Sun Oven or Tulsi-Hybrid. 14"x9"x2". **$14**

**F. 3 Pc. Everything Roaster**: rectangular, lidded. Comes w/ wire rack that can be used underneath to reduce heat loss to cooker. Not compatible w/ HotPot or Tulsi-Hybrid. 13"x9"x4½". **$24**
KITS

A. Teacher’s Kit: not just for teachers, kit includes everything you need to start solar cooking. CooKit, 3 lb. roaster, WAPI, educational posters, *Suncookers* DVD (with digital Plans booklet). $50

B. Preparedness Kit: be prepared for the unexpected with basic solar cooking and solar water pasteurization tools. CooKit, 3 lb. roaster, WAPI. $43

C. Solar Chef’s Kit: perfect for beginners and experts alike, and makes a great gift! CooKit, 3 lb. roaster, *Eleanor’s Solar Cookbook*. $48


E. Camper’s Kit: go solar on your next camping trip! CooKit, 3 lb. roaster, AquaPak, *Solar Cooking for Home & Camp* cookbook. $65

F. Event Kit: everything you need to promote solar cooking at events. *Suncookers* DVD, educational posters, 30 *Solar Cooker Review* back issues. Consider also wearing a SCI t-shirt (not included). $20

COOKBOOKS

A. *Cooking with Sunshine* by Lorraine Anderson and Rick Palkovic. Contains a variety of healthy main dish and accompaniment recipes, as well as desserts. Includes plans for building a box-type and a panel-type solar cooker. 202 pages. $17.95

B. *Eleanor’s Solar Cookbook* by Eleanor Shimeall. Contains numerous recipes grouped by type of food. Includes solar canning information. 97 pages. $12

C. *Solar Cooking: A Primer/Cookbook* by Harriet Kofalk. Contains a diverse collection of vegetarian recipes. Includes information on solar food drying, as well as plans for building a box-type solar cooker. 96 pages. $12

D. *Solar Cooking for Home & Camp* by Linda Frederick Yaffe. Contains an assortment of nutritious recipes. Includes plans for building a box-type and a panel-type solar cooker. 120 pages. $12.95

E. *The Sunny Side of Cooking* by Lisa Rayner. Numerous recipes and tips. Includes sections on selecting a solar cooker, adapting recipes, and using retained-heat devices. 120 pages. $14.95

PUBLICATIONS

Plans — How to Make, Use and Enjoy Solar Cookers, 10th edition: instructions for making solar cookers from cardboard and foil, solar recipes. 52 pages. $7

*Field Guide*: guidelines for planning a solar cooking project. Need for solar cookers, challenge of technology transfer, support services, evaluations. 18 pages. $5

*Trainer’s Manual*: manual for teaching solar cooking. Solar cooking basics, sample workshop outline, follow-up procedures, support services. 32 pages. $10

*International Conference Proceedings*: dozens of papers on topics such as solar cooker technologies, dissemination strategies, promotion efforts.

A. Spain, 2006. CD-ROM. $7

B. Costa Rica, 1994. 357 pages. $15

Water Pasteurization Indicator (WAPI): simple, reusable device that indicates when heated water reaches pasteurization temperature (149°F/65°C). It can be used for pasteurizing over most fuel sources, but works particularly well with solar cookers. Great for camping and emergencies. $6

AquaPak: solar pasteurizes four to five qts. of water at a time, up to 15 qts. per day. Simply fill with water and lay it on a flat surface in the sun. A built-in WAPI indicates when water is pasteurized, in as little as two hours. $22.50

SCI T-shirt: show your support for solar cooking with a 100% sweatshop-free cotton t-shirt. Black, brown, royal, or olive green. Please call for available sizes. $18
# Order Form

**BILL to** ____________________________________

Billing address ____________________________________

City ______________________ State __________

Zip/Post code ______ Country _______________

Telephone _______________________________

E-mail ___________________________________

(Would you like to receive e-mail updates? Y / N )

Payment: □ U.S. check / money order (enclosed)  
□ Int’l postal money order (enclosed)  
□ MasterCard □ Visa □ Discover

Credit card #______________________________

Expires __/__ 3-digit CVV # (back of card) _____

Signature ________________________________

Complete if shipping and billing addresses differ:

**SHIP to** __________________________________

Street address ____________________________________

City ______________________ State __________

Zip/Post code ______ Country _______________

Prices are subject to change.

For current prices, or to place an on-line order, visit the Solar Cookers International Marketplace:  

[www.solarcookers.org/catalog/](http://www.solarcookers.org/catalog/)

To place orders by mail, telephone, fax, or e-mail: 

Solar Cookers International  
1919 21st Street #101  
Sacramento, CA 95811, USA  
Tel: (916) 455-4499  
Fax: (916) 455-4498  
sales@solarcookers.org

Proceeds support the work of Solar Cookers International (SCI), a 501(c)(3) nonprofit organization. Donations to SCI are tax deductible to the extent allowed by law. SCI does not sell, rent, or trade donor information. Tax ID # 68-0153141.

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<td>COOKIT ($25)</td>
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**SUBTOTAL A** ..............................................................................

**SUBTOTAL B** ..............................................................................

**Shipping & handling**

25% of **SUBTOTAL A** (U.S.) ..........

50% of **SUBTOTAL A** (International) ....

**Sales Tax**

Shipments to California locales, add 8.75% ..

**Donation to help spread solar cooking**

Life Steward ($5,000) ...........

Gold Benefactor ($1,000) .......

Silver Benefactor ($500) ........

Associate ($250) .................

Sustainer ($120) .................

Supporter ($50) .................

Other ........................................

**TOTAL** ..................................................................................
If you’ve never solar cooked before, SCI has everything you need to get started. Try the **Solar Chef’s Kit**, complete with *CooKit*, 3 Lb. Roaster and *Eleanor’s Solar Cookbook*.

For existing solar cooks, check out SCI’s new selection of **pots** or stock up on **high-temperature cooking bags**.

Gear up for the solar cooking season now with a special offer: from now until July 31st, buy the **Lasagna/Bake Pan** and the **Cookie Sheet** together for **only $20.00** — a savings of **$7.00**! Combine the two to make a convenient and versatile covered baking dish for use with the **CooKit**, **SOS Sport** and **Tulsi Hybrid**.

*The Cookie Sheet makes a lid!*

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**THIS SUMMER**

**REDUCE your carbon footprint and GO SOLAR!**

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**Solar Chef’s Kit**

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**Lasagna/Bake Pan**

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**Cookie Sheet**

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**CooKit**, **SOS Sport** and **Tulsi Hybrid**