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Solar Cooker Review

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Letter to SCI members and friends

Dear SCI members and friends:

SCI's exceptional Executive Director, Bev Blum, has notified the SCI Board that she will retire from her position at the end of March, 1999, near the time her husband, George retires as a History Professor at the University of the Pacific.

In 1987 Bev and friend Anne Funkhouser conceived the idea of and, with the help of a dozen others, began Solar Cookers International. The first headquarters was part of a room in an office house in Sacramento, the hub of the region in northern California where hundreds of people regularly cooked with cardboard solar box cookers developed by Barbara Kerr and Sherry Cole a decade earlier. By the end of 1987, SCI's first fund-raising letter had brought in \$4,000 and SCI was launched. In 1988 Bev was SCI's first Board President and in 1989 she resigned her E.D. position in Stockton to become a volunteer E.D. for SCI. I was on the search committee for SCI's first permanent E.D. and we chose Bev because her extraordinary talents

were matched by a passion to spread solar cooking knowledge to those who need it the most.

For ten years Bev has worked tirelessly and effectively to move SCI to its unique international role. She established national and international connections and attracted talented professionals to SCI's Board. She produced newsletters, annual reports, teaching guides and brochures. She hired a talented and dedicated staff which has kept pace with the flood of requests for information and help.

Bev and I have been privileged to participate in solar cooking workshops around the world. We've seen how solar cooking and SCI programs can be a transforming experience in the lives of the world's poorest citizens whose only alternative for cooking is scarce fuelwood.

We thank Bev for her vision, energy and extraordinary commitment to SCI and the people it serves. We wish her well and look forward to her continued involvement as an SCI volunteer. During the search for a new E.D. former Board President John Collentine will serve as interim E.D.

Bob Metcalf

SCI Board Member and Co-chair with Elvira Williams of SCI's E.D. Search Committee

Field Projects Updates

Kakuma Refugee Camp, Kenya -- By now about 9000 families have received solar cookers, but after 4 years about 1/3 have worn out and need replacement. This year we will try bringing supplies to the camp so they can be made there. This may lower the price, making it easier for families to buy or earn a replacement cooker. The camp continues to grow, and an estimated 6000 more families have yet to get solar cookers and instruction. With your help, we'll reach all of them. The SCI Trainers from Kakuma Refugee Camp recently wrote to SCI staff, volunteers and supporters: "Wishing you a festive season...from all of us at Kakuma. May God bless you in all that you are planning to do at the course of next year."

Aisha Refugee Camp, Ethiopia -- The latest, but smallest, of SCI's pilot field projects may be the first to finish. All 2000+ refugee families in Aisha Refugee Camp now have solar cookers. We will soon hire an Aisha Coordinator to work with local staff to get locally-made replacement bags available in the local markets, so families can buy or earn them as needed.

The Coordinator will also facilitate efforts to produce affordable solar cookers in Ethiopia.

Dadaab Refugee Camp, Kenya -- Our initial project reached only about 2000 families (about 10% of the camp). Currently, fuelwood is being distributed due to a special funds from the USA government, reducing the hardships there temporarily. We hope to begin planning and raising funds for a major project to return to Dadaab in about one year to reach the estimated 20,000 families there.

Zimbabwe Project: -- This year SCI will hire a full-time facilitator to work with interested Zimbabwe organizations to build the necessary support services needed by local groups wanting to promote solar cooking. The Development Technology Centre at the University of Zimbabwe continues to provide leadership and will work closely with this facilitator. Last August, several Zimbabwe groups drew up guidelines for national support services to include orientation and support for interested promoters, access to cookers supplies at cost and training in exchange for agreements to follow the jointly-developed participative introduction methods.

President's Corner

Dr. Norge Jerome

With the passing of the baton by Executive Director Bev Blum, SCI enters a new era at a time when the opportunities for SCI have never been greater. With SCI's excellent staff, strong and committed Board and 1700 supporting members we are poised to launch a new era and to find new ways to respond to the legion of requests to help spread solar cooking.

Lessons learned from sharing other new technologies indicate it takes time to transfer relevant information and techniques This is as true for solar cooking as it has been for fuel-efficient stoves, hay boxes, even microwaves ovens.

Long-range visionary efforts such as promoting solar cooking to sun-rich environments take patient and steadfast courage, whereas most funding sources need quick results. You and I, as SCI's members, are optimistic; we are also vital to bringing the benefits of solar cooking to millions world-wide. Give yourself a pat on the back. Please also send your 1999 membership gift or pledge today.

Job Announcement: Executive Director

SCI works to reduce widespread suffering resulting from fuelwood scarcity, water-borne diseases, and environmental deterioration, by sharing knowledge about solar cooking with people in sun-rich, fuel-scarce areas. Over 40,000 refugees in Kenya and Ethiopia (and a settled population in Zimbabwe) now benefit from SCI field projects using simple solar cookers.

The E.D. works closely with NGOs, local/overseas staff, UN donor agencies, and a diverse Board. Her/his responsibilities include program and staff management, budgeting, helping to raise funds, and communicating with all constituencies. Projects also include cooker research, newsletter publication, web-site management, organizing international conferences, and responding to worldwide inquiries. The successful candidate will demonstrate field success in international development; sound fiscal management; strong people skills, including written/verbal communication skills; and strong problem-solving skills. Salary DOE. For more information, submit resume and names of 3 references by March 31 to Dr. Bob Metcalf, Board Member, SCI, 1919 21st Street, #101, Sacramento, CA 95814; info@solarcookers.org

Memorial and Living Tributes

Living tributes have been given by:

Miriam Crawford to honor Dr. Barbara Knudson

Wendy Brody to honor Patt Hull

Christine Georgeson to honor Patt & Tupper Hull

Memorials have been received from:

Charlie and Betty Morgan in memory of
Mrs. Tina Frank

Winston Stephens in memory of Dottie Horn

Charlotte B. Walker in memory of Stephen L. Walker

One faithful member and former Volunteer of the Year who wishes to remain anonymous wrote: "Though this money needed to be used for debts, etc., and there is very little left, I believe giving rather than keeping holds the path open for the Universal Gifts. Thanks for...such a great organization."

Editor's Farewell

by Bev Blum

As of March 31, 1999, I will be retiring as editor of this Review and as Executive Director of SCI. Our first office opened ten years ago, and I have enjoyed ten exciting and challenging years, working with hundreds of creative, compassionate people supported by thousands more. (See Job Announcement on previous page.)

Our common vision of spreading solar cooking to benefit people and environments has brought many advances -- better, more affordable solar cookers, better teaching methods, better adaptations to varied climates, foods and needs, quicker exchange of new ideas among 500+ groups worldwide promoting solar cooking, and more support services for such groups.

SCI's primary strategy has been educational -- sharing its unique expertise on solar cooking, solar cooker technology, educational materials and methods, and dissemination strategies -- with local organizations in sunny, fuel-scarce regions.

Originally we thought newsletters, conferences, educational materials and consultation by correspondence would suffice. We found we inspired quite a few small-scale programs, but most had a difficult time for lack of basic support services such as consultation, training and access to locally produced, affordable supplies. We were not serving well, from our USA office, the multitude of grassroots groups that sought our help.

In 1995, to gauge the usefulness and acceptance of solar cookers in other semi-arid regions and to learn first-hand how to organize such support services, SCI started two multi-year field projects in refugee camps in Kenya. We added two more in Zimbabwe and Ethiopia in 1996 and 1997 respectively. We have demonstrated acceptance and usefulness. SCI is now working to demonstrate that these projects are cost effective and can be self sustainable.

My dream is that SCI will, in the next decade, develop these urgently needed support services in three world regions where the most people could benefit the most from solar cooking: Eastern Africa, Southern Africa and Western Asia.

I leave the directorship with abundant gratitude for the privilege of serving SCI. Solar cookers and SCI will remain close to my heart and I will continue

supporting both in other ways. To all my esteemed colleagues, I've enjoyed the shared journey and I hope our paths might cross again.

News You Send

Europe

Belgium Dino Economi of Synergy Environmental Corporation notes that one billion people do not have access to safe drinking water and 80% of all diseases in developing countries are transmitted through water. Synergy produces several flat plate solar pasteurizers. One can pasteurize 200 gallons (757 liters) of water per day for villages, schools, health clinics etc. A smaller, "Family Maji-Safi" pasteurizes 4 gallons in two hours of midday sunlight. A third model is a combination pasteurizer and water heater. To date 150 units are operating in Tanzania, Egypt, Spain, USA, El Salvador, Guatemala, Honduras, Dominican Republic, Haiti, Bangladesh, Japan, Indonesia, Singapore and Australia. For information: SEC European Division - Dept: Maji-Safitm PO Box 39, Brussels, B-1050, Belgium Tel: 323-366.10.41, fax 323-366.08.28, Email: synergy_environ@email.com

Finland

Risto Kekkonen of Technology for Life (TFL) has found a bright aluminum sheet, recycled ANOFOL from Germany, far better than aluminum foil for faster cooking. TFL has also an excellent summary of types of solar cookers in its free. TFL-2 Manual. TFL, Vattuniemenkatu 18 F 115, 00210 Helsinki, Finland.

France

Physicist Roger Bernard points out that heavy iron pots work almost as well as thin metal pots. A heavy pot requires a bit more energy than a thin one, but even if the pot weighs as much as the food, it takes only about 1/10th the amount of energy to heat iron as it does to heat water (and most food is mostly water). Therefore only 1/10th of the captured energy would be taken up by the pot, 90% would go to the food. Bernard is also working on new booklet, La Cuisson Solaire Facile available soon. R. Bernard, ALEDES, Universite de Lyon, 69622 Villeurbanne, France.

Germany

Ingelore Kahrens sends a photo of her box cooker adapted to northern Europe sun angles. I. Kahrens, Flusstr. 9, 90491 Nurnberg, Germany.

Netherlands

Wietske Jongbloed reports that Zedek Corporation, which produced solar cookers for an International Boy Scout Jamboree years ago is producing 500 cookits free for her to use in developing countries.

Spain

Juan Urrutia Y Sanz of Manos Unidos held a short course for school teachers teaching them to build solar cookers from cardboard and tetrabrik. Manos Uidas, Barquillo, 38 3 - 28004 Madrid, Spain, fax 308 42 08.

Manolo Vilchez in Castellon is organizing the 4th Solar Encounter in Benicarlo, Spain in June 1999. He expects about 40 solar cooks to participate. AEG 4 Dolores 7, E-12540 Vila-heal, Castellon, Spain, email: jvilchez@lander.es

Africa

Guinea

Mr. Mohamed Jalloh of Volunteer Guineans for the Environment (VGE) learned about solar cooking from SCI member Dr. Hanna Daoud and requests help to launch a big program to cover the length and breadth of Guinea to reduce deforestation, the burdens of rural women, and diseases from unclean water. He notes women often walk three to four miles to fetch wood to cook daily meals. VGE, PO Box 1861, Conakry, Guinea Republic.

Kenya

The Nairobi East Rotary Solacook Project has done extensive work on possible materials for more durable, affordable cookits, and will soon field test a polyvinyl chloride/ aluminum foil model. The Project is also paying close attention to acceptance factors including adapting time of food preparation, security of unattended cookers, typical foods in each region, and presenting it as a supplement, not a replacement for other cooking methods. Solar cooker specialist, trainer and expert linguist Faustine Odaba has helped groups in West Pokot, Wamba, Loodriak, Matinyani and Makindu. T. Gleeson, POB 40493, Nairobi, Kenya. See also Wamba Project by Alison Curtis in this issue.

Malawi

Hosana Nyirenda works to combat deforestation and soil erosion in Embangweni, Mzimba, and writes that "some kind Christians from the US" introduced the idea of solar cookers. "It is working without a doubt."

Zimbabwe

Teus Benschop, a secondary school teacher, is able to use an ordinary plastic bag in his cookit by putting a heat-resistant orange nylon net around his black pot to keep the bag from touching the hot pot.

The Americas

Cuba

Arnie Coro of Radio Havana, Cuba, has broadcast many programs about solar energy, particularly solar cooking, and gets "dramatic feedback." He doesn't have access to the web but is looking for solar cookers that can be built with locally available materials. acoro@informed.sld.cu

Haiti

Belin Pierre has made a wooden cookit that is very durable for about \$14 US. For inf. or to assist this effort: Rev. Jules Casseus, Agape Cap-Haitian, 7990 15th St.E, Sarasota, FL 342443.

Peru

Chris Keavney comments on a hole-in-the-ground solar cooker, noting that the reflective material is what is expensive and hard to get. He believes box cookers which hold several pots meet most people's needs better than one-pot cookers. C.Keavney, Misioneros de Maryknoll, Casilla 295, Puno, Peru, email ckeavney@mkpuno.inv.pe

USA

Gary Thomas offers a simpler design for the Cookit: a rectangular piece of cardboard creased lengthwise in one-thirds. Cuts are made at the ends of each fold and holes are punched at the end of each 1/3. The flaps are then all folded up and the front and back flaps are tied to the middle flap at adjustable angles, depending on the sun's position. For more information: Gary Thomas, email: nrg61@hotmail.com

Pioneer Tom Burns, founder of Burns Milwaukee, and long-time producer of solar cookers has retired and has sold his business to Sunoven International. SI will continue to produce the one-pot Sunoven, a higher-priced box cooker

with four reflectors, which cooks faster, at higher latitudes and for longer seasons than most other box cookers. SI also produces the Villager giant ovens for institutions and bakeries. They can bake 50 loaves of bread at a time. Paul Munsen, Sun Ovens Int'l, Inc., 39W835 Midan Drive, Elburn, IL 60119 USA, tel 800-408-7919, fax 630-208-7386, email:

sunovens@execpc.com

Frank Michael, an inventor with PLENTY proposes bonding aluminum foil to cloth with beeswax and notes that the wax makes the cloth rot-proof. The foiled cloth can be easily sewn to a frame of any material. He also wonders if cooking could be faster in the open panel cookit if part of the pot surface were covered with insulation material. Michael has also worked on simple tracking devices for concentrator type cookers. F. Michael, fax 931-964-2200, email: mushroom@thefarm.org

Larry Blakely sends a recipe for Sweet and Sour Eggplant: Peel and slice eggplant and cut into small pieces. Add tomato (peeled and cut up), diced sweet pepper, diced mild onion, and your favorite herbs. Stir and sprinkle/drizzle with sugar, olive oil, and vinegar. Solar cook until done.

International Communications Research of Media, PA sampled 1000 voters nationwide. It found strong support for funding energy efficiency and renewable energy and broad opposition to nuclear power and fossil fuel programs. For more information: Sustainable Energy Coalition, 315 Circle Avenue, #2, Takoma Park, MD 20912-4836, fax 301-891-2866.

Member Anthony Barrett of Solar Solutions announces production of an inflatable Solar Rain Solar Still. It is ideal for making potable water from salt water or other unpotable sources in natural disasters, at sea, and other survival situations. For information: Solar Solutions, 7915 Silverton Ave., #307, San Diego, CA 92126, info@solarsolns.com, www.solarsolns.com or tel. 619-587-3670. (See next page for photo.)

Sam Erwin is the founder and inventor of Solar Chef, the oldest manufacturer of solar ovens in the US. The Solar Chef is an enclosed, mirrored dish type oven. Tel. 800-378-4189 or 512-250-5414.

Martin Nix won an ARA Company cafeteria chile cooking contest in Seattle using his innovative solar cooker. Nix has done extensive research on solar cookers and has several patents. PO Box 95173, Seattle, WA 98145, email solarsh@eskimo.com

Joe Radabaugh has updated and reissued his excellent guide to solar cookers, [Heaven's Flame](#). It gives a comprehensive overview of many types

of solar cookers and includes instructions for making Radabaugh's SunStar. \$18 US includes postage. Joe Radabaugh, PO Box 111, Mt. Shasta, CA 96067.

Asia and Pacific

China

Yang Tian-Lin of Gansu Natural Energy Research Institute sends this photo (next column) of a focusing solar cooker with the following performance: power 400w, 60% efficiency, aperture=0.81 sq. meter, temperature on the bottom of the pot, 800 degrees C. GNERI, 77 S. Ding-Xi Rd., Lanhzhou, Gansu Prov., PR China 730000.

India

Dr. Ashok Kundapur published a 37-page "Review of solar cooker designs" in the Tata Energy Research Institute's Information Digest on Energy (TIDE), v.8, #1, March 1998. He has a limited number of copies available. Dr. Ashok Kundapur, Dept. of Zoology, MGM College, Udipi 576 102, India, email: ashok_kundapur@yahoo.com

The Rural Energy Journal, v. 5, 1998, features on its cover Didi Contractor's mud and bamboo solar cooker. Inside are brief summaries of the history of solar cooking in India. It notes that a majority of the half-million solar cookers sold are in cities, almost none in rural areas where women suffer most from indoor air pollution from cooking. They estimate only 10% are being used or are in working order. "Unless the cookers are available in several sizes and price ranges, are lighter and sturdier, they are unlikely to be seen under the sun where they belong." It also noted the importance of user education and involvement of NGOs (non-governmental organizations) "since they are...directly in touch with end- users." Rural Energy Journal, Energy Environment Group, PO Bag 4, Lajpat Nagar, New Delhi - 110 024, fax 6420664, email: eeg@sdalt.ernet.in

Avinashilingam Institute for Home Science and Higher Education for Women - Deemed University recently completed field tests with SCI's cookits in a project sponsored by the Indian Ministry of Non-Conventional Energy Sources. A team under the guidance of Dr. Sathyavathi Muthu provided exhibitions, demonstrations and meetings in several villages. Eighty-two women tried cookits. They liked the simplicity, portability and low cost, but found it is too small for large families and unstable on windy days. Avinashilingam - Deemed University, Coimbatore - 641 043, India Ed. note:

Cookits can be made in any size, and large rocks hold them nicely in windy areas.

Dr. S.K. Philip of the Sardar Patel Renewable Energy Research Institute forwards two reports on recent research for the Gujarat Energy Development Agency. One study compared concentrator cookers from China, Phillipines and Germany and developed an Indian model using a fresnel reflector. Previously most work in India has been with the box cooker, but the concentrator is desirable for cooking flat breads, chapatis and roti.

The second study examined the varied climates of India and explored ways to adapt cooker designs to each for longer solar cooking seasons. It also explored electrical back-up for areas with shorter solar seasons. S.K.Philip, SPRERI, PO Box 2, Vallabh Vidyanagar-388 120, Gujarat, India, Fax 02692-47982.

H.K. Singh of the Solar Foundation and B.P.S. Chauhan of Wipro GE Medical Systems Ltd. with financial support from FRP POINT also have developed an electric-back-up solar cooker, the Electro Solar Cooker "Nutrenguard." It has a thermostat which turns on the electricity when there are long cloudy spells. Dr. H>K>Singh, Solar Foundation, SG-26, Dilkusha Plaza, Husainganj Crossing, Lucknow-226001, India. Fax 0091-522-440299, email: minasingh@yahoo.com

Keshav C. Jaini's interest in solar cooking started in Home Power Magazine, then he built ten cookers and cooked many Indian dishes. He is now teaching others. "We need to form an organisation, train the trainers, arrange funding...(if you) know of anybody active in solar cooking in India please inform me." He hopes to work with organizations who are already doing good work in environment and with women and children in the remote areas. Keshav C. Jaini, A-22 Green Park, New Dellhi - 110 016, India, fax 91 11 6862433, email: kesvin@del2.vsnl.net.in

N.K. Vasudev in Ootacamund, a Rotarian, learned from a Japanese colleague that the 3rd Int'l Conference on Solar Cookers was held not far from his home in southern India. He has used solar energy for drying tea and notes that more people in his region are thinking of putting solar energy to their use. email: amark@md3.vsnl.net.in

Nepal

After buying a parabolic solar cooker, Sanu Kaji Shrestha has designed several useful solar devices including thermal collector boxes and a trekker's solar water heater.

Pakistan

A student from the Department of Brahui, University of Baluchistan, reported that in a project to conserve firewood, women are gradually being allowed to participate. One woman has a solar cooker and her husband allowed a group of women from another village to visit her at home to learn from her how to solar cook. This news came in a Spanish article by way of Tom Sponheim, tomsp@solarcooking.org

Gifts that keep giving

Alternative Gifts International offers gift-giving that remembers the less fortunate. SCI is one of the fortunate beneficiaries of AGI's work. Over the past three years people through AGI have contributed 1886 solar cookers for refugee families in East Arica, almost 15% of the total distributed through SCI. For a free catalog call AGI (in the USA) at 800-842-2243 or write AGI, PO Box 2267, Lucerne Valley, CA 92356-2267. AGI's web page: www.altgifts.org

VCR Anyone?

SCI would gratefully welcome the donation of a VCR to go with its donated TV (thanks to John Collentine) so solar cooking videos can be shown to visitors at the office.

From the Mailbag

Dear Editor: -- Pasteurization depends on how hot and how long water is heated. Higher temperatures will pasteurize water in a shorter time. To give a clear picture...I suggest that SCI publish a graph showing how long and how hot water must be heated for pasteurization.... The concentrating (solar) collector will provide higher temperatures for a shorter time, whereas the (solar) box cooker can conveniently provide lower temperatures for a longer time period. The...time/temperature relationship for pasteurization will help users and designers increase the safety and capacity of their pasteurizers.

Dr. Larry Schlusser, Sun Frost refrigeration, Box 1101, Arcata, CA 95518-1101 USA, fax 707-822-6213

Dr. Bob Metcalf, microbiologist and world expert in solar pasteurization, responds:

For milk pasteurization, there are specific times/temperatures: 71.1° C (161° F) for 15 seconds...or 62.8° C (145° F) for 30 minutes. These kill all water-borne disease microorganisms including the relatively heat-resistant bacterium which causes tuberculosis. There are no comparable time/temperature guidelines for water, but in water even lower temperatures are lethal because there is no buffering protection from milk lipids and proteins.

When heating contaminated water, there is 90% inactivation after one minute at 55° C for protozoan cysts; at 60° C for E. coli, enteric bacteria and rotaviruses, and at 65° C for hepatitis A virus. With the slower heating by most solar devices, most pathogens are inactivated when water reaches 60° C.

I recommend, for a margin of safety, that solar water should be heated to 65° C (Applied and Environmental Microbiology 47:223-228, 1984).

How does one know when that water temperature is reached without constant monitoring of a thermometer? SCI has developed, with the help of Dr. Fred Barrett, Dr. Dale Andreatta, Dr. Ed. Pejack and Roland Saye, two indicators, the WAPI and SAF-WAT. Both have ample safety margins for both slow or rapid heating.

I welcome inquiries and new perspectives.

Bob Metcalf, Ph.D., Prof. of Biological Sciences,
California State U., Sacramento. Contact through SCI or by email:
rmetcalf@csus.edu

Y2K

Orders for solar cookers in the USA are brisk from people preparing for possible power shortages or other disruption of services next year due to computer glitches on January 1, 2000.

Our message to each is: In the USA SCI's open panel cookit will NOT work in January and February outside of the southernmost parts of the USA. Winter days have too few cooking hours because the sun is too low in the sky. When your shadow is longer than you, the sun's power is lessened by coming through more of the earth's atmosphere. Solar cookers ARE handy,

fuel-saving and economical, but in many parts of the USA the solar cooking season is only for a few weeks or months of the summer.

News from the Solar Cooking Archive on the Internet

by Tom Sponheim

<http://solarcooking.org>

Retrieving WWW pages via email

In developing countries, many more people have email access than have access to the World Wide Web. A way has been worked out, however, to allow people who only have an email account to access any document on the WWW. This involves sending a request via email to a "robot" that will access the requested document and then send it back to you in email. Once you have the document, you can read it and then request any pictures it might contain and/or any other documents that it might reference. Here is how you would go about requesting a list of documents from the Solar Cooking Archive:

You would first send an email message to one of these address:

agora@www.eng.dmu.ac.uk or agora@kamakura.mss.co.jp

With this text in the body of the message:

send <http://solarcooking.org/docs.htm>

After a short time you will receive an email back listing the document titles followed by a number, which corresponds to an address at the bottom of the mail:

Solar Cooker Review ù December 1998[1]
Barbara Kerr: A Review of Solar Food Drying[2]
Solar Disinfection Studies (UNESCO)[3]
Mark Aalfs: Principles of Solar Box Cooker Design[4]
etc.

*** References from this document ***

[1] <http://solarcooking.org/scrnew1.htm>

[2] <http://solarcooking.org/dryingreview.htm>

[3] <http://almashriq.hiof.no/lebanon/600/610/614/solar-water/unesco/35-46.html>

[4] <http://solarcooking.org/sbcdes.htm>
etc.

For our example, we will access #4, The Principles of Solar Cooker Design, by Mark Aalfs. To do this we send another email message to the same address, with this in the body:

send <http://solarcooking.org/sbcdes.htm>

After a short time, you will receive the text of the document in email.

If the document contains images, the UK robot will send along another message that lists the locations of the images and tells you how to retrieve them. Copy and paste the body of this message into a new message addressed to the UK robot. You will then shortly receive a series of email messages with an image attached to each.

Note that these robots may limit the number of documents that any one person can request every two weeks. If you receive a warning that you have exceeded your limit, wait until the time period is up and then continue, or have someone else request the documents for you.

Email Discussion Group Archives Now Online

For the last year and a half a group of solar cooking enthusiasts around the world have been sharing problems and ideas using the Solarcooking-L email discussion group (listserv). The group now has 350 members in 28 countries. If you would like to take part, send an email message to majordomo@igc.apc.org with the following text in the body of the message:

SUBSCRIBE SOLARCOOKING-L

You will then receive instructions on how to post messages to the group and how to unsubscribe if you ever want to.

Solar Cooking Archive now available in Spanish, French, German, Portuguese, and Italian

Thanks to a new feature provided by AltaVista, it is now possible to browse any document on the WWW in any of the above languages. To view the Solar Cooking Archive in another language, go to the top page at <http://solarcooking.org> and select a language from the drop-down list at the bottom of the page and then click the "Go" button. You will be taken to a page at AltaVista that lets you select a language. Select English to Spanish, for example, and then click "Translate." AltaVista then translates the page

on-the-fly (using machine translation) and displays it to you exactly as it appears in English, except the text is now been translated into Spanish (in this case). The links work too. If you click on a link, you are returned to the AltaVista page, where you just click "Translate" to see the next page.

1999 Donor Campaign

For 1999 the Board vows to "ASPIRE HIGHER." SCI's capacity is of course related to its resources. We have the expertise and experts eagerly sharing it. With your help we can do more sooner.

Renewing your membership or sending a pledge now will maximize SCI's orderly planning for its next activities.

Samples of where money goes:

\$2800 provides solar cooking supplies and training for 100 refugee families.

\$2000 provides seed money to start local production of locally adapted cookers in a new region.

\$500 provides trainers at one site with additional training and seed money to become successful businesswomen selling solar cookers, accompanied by essential instruction.

\$100 provides initial training and mostly-language-free training materials for trainers, each of whom can teach hundreds of others each year.

\$28 per family provides supplies and also instruction by a trainer who in turn has support services such as supplies, ongoing coaching and periodic training updates.

\$20 provides postage and a basic packet of literature to send to institutions in developing countries who request them.

\$10 provides a cooker and replacement supplies for one year to one refugee family of six people. The second year they will need just \$1 per year.

Members make a difference. You choose your dues. Quarterly payments welcome. THANK YOU.

Over the Top

In 1998 the SCI Board of Directors set out to raise \$220,000 (over 1/2 of our total budget) from members and other individuals. Hard work by the Board and the great generosity of both Board and other donors raised over \$240,000! Hats off to all!