Zimbabwe Solar Decade Project

The United Nations Educational, Scientific and Cultural Organization (UNESCO) is sponsoring a World Solar Summit in September in Harare, Zimbabwe, to launch a World Solar Decade, during which solar technologies will be encouraged and made available to all of humanity.

Early this year UNESCO invited SCI to help initiate a Solar Decade solar cooking project in Zimbabwe. In May SCI met with Zimbabwe community organizations and government representatives to plan the project and select two communities for pilot tests. The Department of Energy assigned staff to assist the project, and the Development Technology Centre at the University of Zimbabwe agreed to coordinate the field work, which began in June. Sites chosen were Epworth, on the edge of the city Harare, and a small rural community, Ntabazinduna, near Bulawayo. In both areas fuel is scarce and expensive.

The first team of SCI International Volunteer Trainers included Faustine Odaba from Kenya, and Patt Hull, Bob Metcalf, Louise Meyers, and John Mitchem, all from the USA. They were joined by two experienced solar cooks from PLAN International-Mutare, Mary Chadambuka and Clarah Mahati. In just three weeks fifty families in each site had purchased solar cookers and attended a training workshop. The teams also oriented the new local

Continued on page 2

Epworth and Ntabazinduna Pioneers

By Patt Hull

It was my privilege to be part of a team of SCI trainers who spent four weeks at two sites in Zimbabwe. We first met with the Epworth

“The sun is free”
Zuva hari tenguwe (Shona)
Ilanga Kalil lambadalo (Ndebele)

Women’s Group in Epworth, a fast-growing low-income area on the edge of Harare. The Women's Group gathers each week, and this day they were busy knitting and crocheting. Many of them earn income from selling beautiful hand-made sweaters, doilies and bedspreads. They agreed to be pioneers in Zimbabwe to decide if the simple CooKit could help alleviate the difficulties caused by cooking fuel shortages. They discussed how they would schedule meetings and select the first 50 women to participate in training sessions.

When the solar cooking demonstrations began everyone was interested. Passers-by on the market place road stopped to listen. Even the big clouds that

Continued on page 5
President’s Corner

John Collentine, President

Greetings. As you read in other parts of this Solar Cooker Review exciting things are happening, and a new project in Zimbabwe is off to a great start. We continue receiving requests to bring solar cooking to people and environments in other areas of the world. When I think of SCI and all of you individual supporters who are making this happen, the word “synergy” comes to mind: individuals working together to accomplish much more than they could alone. SCI is synergistic. By your membership and support you are helping bring sustainable energy to people of the world, including thousands of refugees.

We are a small organization compared to many in the international “sustainable energy” league, but our solar cooking education and training expertise are well recognized, and many are coming to us for collaboration and consultation.

To fill these requests we must expand our sights. You members have responded splendidly to our requests for additional support, and I have no doubt this will continue. In addition we need your help to increase the number of new SCI members by at least one to help SCI meet the challenge of our mission, “To promote solar cooking to benefit people and environments worldwide.”

In the Spring issue I suggested that we all tell others about the opportunity to participate in this tangible way to benefit both today’s needy people and also all future generations—“every member get a member.” Again I encourage you: please tell your friends, relatives and neighbors about solar cooking and SCI’s successful efforts to spread its benefits. Tell them how the new, simple panel solar cooker is making life healthier for thousands and could for millions more. Tell them how dedicated volunteers used their vacations from work to provide training in two refugee camps and started a multiplying process that now continues to spread by refugees themselves. Give others a chance to get involved in this wonderful grassroots effort.

If I sound over-enthused, it is because I get to hear news first hand during the time I spend in the office each week— news from dedicated people from all corners of the world. My enthusiasm for solar cooking increases regularly as they report to us its benefits in their lives and what they are doing to help many more. All of you—our members, our active volunteers, and the dedicated staff—increase and amaze the many who hear me tell SCI’s story.

Let’s double our ranks. Each one find one new supporter. You can make it possible. Let’s give it a try.

Zimbabwe Project

project coordinators hired by the Development Training Centre: Rejoice Matema, Murielle Toriro and Sithenjiswe Masese were new to solar cooking, but their organizing skills were quickly put to work on the project.

As we go to press, new solar cooks now have two months’ solar cooking experience, and a second team will soon begin training about 15 selected leaders to lead workshops and to set up small businesses selling solar cookers. The team will also work with local staff to address likely challenges: Some families will find it hard to come up with even the $3-5 US needed for a cooker and special plastic bags. Once they have a cooker it still takes courage to risk scarce food in a strange new cooking method. Building the cookers for durability is also a challenge—goats, rats and termites all like to chew on wood or paper products. The second SCI team includes International Training Volunteers Don Coan, Dr. Ed Pejjack, Barby Pulliam and Dr. Mahnaz Saremi, all from the USA.

In September the World Solar Summit will include an exhibit and demonstrations of solar cooking by women from the pilot communities. A Zimbabwe National Working Group of a dozen government and non-government representatives are already exploring ways to set up systems to distribute supplies, train large numbers of trainers, and provide essential instruction workshops and ongoing dialog/feedback for a nationwide promotion of solar cooking. (See also “Epworth and Ntabazinduna Solar Pioneers” by Patt Hull and Tom Sondheim’s interview of Bob Metcalf.)

Members make a difference
Renew today - you choose your dues
Quarterly payments welcome
Refugee Projects Update

THE CHALLENGE

When SCI began in 1987 many experts in international development work said they would welcome a simple technology like solar cooking BUT no one cooker yet combined convenience, low-cost and durability, and even if one did it would probably not be accepted by people as a regular cooking method. "Be sure to let us know when you have proof that large groups of people are actually solar cooking regularly," was an oft-heard closing remark.

Leaders in development work know that “appropriate, sustainable technologies” often fail to be useful and accepted due to lack of appropriate adaptations and inadequate introductory instructions. There is also often a blind disregard of economic realities, and many programs have foundered on unrealistically expensive devices that none but the richest people will ever afford.

SCI was organized less than ten years ago. Very few people in the world have solar cooked as long as 20 years. To reach SCI’s goal that 24 million would adopt solar cooking by the year 2000, we knew programs could only become self-sustaining and self-spreadning to much larger numbers if 1) there were a convenient, affordable and durable cookers readily available along with 2) successful introductory instruction in places with 3) sunny climates, 4) severe fuel shortages and 5) capable, interested local partner organizations. We went to work, drawing heavily on information-sharing and cooperative efforts with and among hundreds of independent solar cooking pioneers.

IN 1995

By late 1994 SCI felt all the ingredients were ready for a successful field test:

- a new cooker that combines elegant simplicity, convenience, easy replication, fair durability and very low cost.
- a site—Kakuma Refugee Camp which has an ideal climate and urgent fuel shortages
- a partner organization—the Lutheran World Federation, which manages the camp
- an effective introduction process developed through data SCI gathered on hundreds of independent solar cooking programs
- seed money from generous donations and an anonymous foundation grant
- two dedicated volunteers who volunteered to spend two months in the camp to provide essential initial education and adaptation, working closely with a core group of refugee women.

Within months 16 of the first enthusiastic solar cooks received extra training to lead workshops for their neighbors. They took charge of the program and have been conducting weekly workshops ever since.

In September 1995 we began in another Kenyan refugee camp, Dadaab, with GTZ-RESCUE, a German development agency, as a partner organization. GTZ arranged for SCI to train refugee women already on their tree-planting program staff, and they are now teaching solar cooking to other refugee women. Each family must first “earn” a solar cooker: they either plant 25 trees and nurture them for 3 months or contribute 5 days’ work in GTZ tree nurseries.

A YEAR AND A HALF LATER—PROOF YET?

Three thousand refugee families have now begun solar cooking in Kakuma. An independent evaluation of the Kakuma project indicated that after one year 70% of families were using their new solar cookers at least once a week, a remarkably rapid uptake of a new technology. A survey by GTZ staff Continued on page 4
FROM THE MAIL BAG:
SALTY STORY WITH HARROWING, HAPPY ENDING

"Thanks for your acknowledgment of our donation. I must tell you how it came about: Our family has lived aboard a cruising yacht for 7 years, sailing along the African and South American coasts. Last January near the Falklands/Malvinas we were capsized by a huge wave... an hour later a second wave also turned the boat upside down, .... we were likely to sink if another wave struck us. ... There is this tendency when one is at one's wits end, to go down on your knees and holler to God...and to make wild promises. Well, we pledged 1,000 pounds sterling to "an environmental organization" if we survived. We were rescued by chopper......we chose SCI. Another happy footnote: "by a miracle the boat was discovered two days later...so we're now trying to fix her up."

The Schinas family, Chichester, Sussex, England

DAY CAMP WINNER

"You sent me some helpful ideas for a presentation I was giving at a summer day camp. I want to thank you very much for the ideas and to let you know that the program went off better than I could ever have expected. Forty kids cut up boxes for the Quickie CooKits and made pans out of small pie tins painted black on the outside...then heated their beans and franks."

David Voights, USA

Refugee Project continued from page 3

found after 6 months (after an average of 3 months' use) about 50% of new solar cooks were using their solar cooker one or more times per week, a very encouraging level of use so early.

We are cautiously optimistic that we are on the right track but it is still early and we still have much to learn. We're encouraged by the enthusiastic gratitude found in all these communities where thousands are now solar cooking. People note the fuel savings, the good food flavor, the cooker's safety around small children, the lack of smoke and soot (where soap is often hard to get), and the convenience of solar cooking.

We have proven acceptance by substantive numbers in these pilot projects, but we are still working on the larger question of self-sustaining spread. Our goal is to find out the total cost in each of these settings for these projects to become nearly or totally self-sustaining. Then we will have a model plan for others to replicate. We estimate that worldwide there are now about 1.5 million solar cookers in use. There only need to be two cookers each year where there was only one the previous year to reach SCI's goal of 24 million families by the year 2000. Stay tuned!

MORE DETAILS—KAKUMA

The project in Kakuma in northwest Kenya continues to be run almost entirely by refugees themselves under the capable direction of Gladys Ngaruwe. Unrest in the camp has interrupted the schedule of workshops twice this year, but Coordinator Ngaruwe reports the project continues well. In 1995 we reached about 2000 families of the estimated 6000 families (30,000 people) in the camp, and our original goal for 1996 was that the rest of Kakuma families would be reached. The camp population however has grown another 20,000 in the last months. We now must find ways to empower them as well with solar cooking skills.

An external, independent evaluation conducted earlier this year confirms the quite rapid adoption of this strange new way to cook. After an average of 6 months about 70% use their solar cooker one or more times per week. Generally, frequency of use among new solar cooks tends to increase slowly over the first two years. As for durability, it appears that in Kakuma the simple cardboard CooKits last 1 to 1½ years.

MORE DETAILS—DADAAB

Many more people reportedly are eager to get cookers but are still waiting for a chance to earn one by getting trees to plant and nurture (not enough available and not enough space to plant them) or by working for five days at GTZ's forest program (not enough volunteer jobs).

Here the CooKits are proving less durable; in this slightly wetter climate they may last less than a year. Research carried out in the camp by a volunteer found the Cookit more effective than another cone-shaped solar cooker model. Efforts to increase durability of the CooKit are underway.

Special Gifts Received

Amy Williamson sent a gift in honor of her father, Gordon Williamson of Riverwoods, IL, for Father's Day. Amy says, "SCI is one of his favorite charitable organizations!"

We are proud to announce a grant of $5000 from the Atkinson Foundation to support our Africa projects.

A donation was received to honor the memory of Elaine Imus, who passed away on May 23, just shortly after her essay appeared in the last issue of Solar Cooker Review. Our loving thoughts are with her husband, John Holt, and family.

Gifts were also received to honor the memories of:
- Imogene Hyde Alexieff by her daughter Carol Hilton
- Howard Dresbach by Evelyn B. Brabson
- Dr. Richard Shoupe by Evelyn B. Brabson
- Alice Nevis by Richard & Rosalie Wright, and The George and Gertrude Prosser Fund by Gwynne Smith.

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Solar Cookers International
Epworth and Ntabazinduna Pioneers  cont. from page 1

appeared that day didn’t dampen the enthusiasm. When the food was cooked and passed around for sampling, applause and song broke out.

Faustine, John, and Louise stayed in Epworth to conduct workshops and were joined by Clarah, an experienced solar cook from Mutare. Bob and I travelled to Ntabazinduna, a rural community of 3,000 families just north of Bulawayo, Zimbabwe’s second largest city. We were joined by Mary, another wonderful experienced solar cook from Mutare and began working with the local project coordinator, Sithengiswe.

In Ntabazinduna we first met with the local Chief, Kayisa Ndiweni, who gave his endorsement of the project. Next a meeting was called at the local school house. Women gathered early at the schoolhouse, dressed in colorful skirts and warm jackets (this being winter on the edge of the tropics) with their heads covered by knit caps or colorful scarves tied in interesting designs. As soon as the door was unlocked the sturdy hand-made benches filled with women anxious to learn about a new way to cook. They were used to spending up to a third of their families’ meager income for fuel wood. They knew the penalty for “fetching wood” on private land as expensive as a “scotch cart” of wood. As the room filled the sounds of their laughter and conversation were overshadowed by the constant coughing of many of the women.

Once the workshops started the group exploded with interest and enthusiasm. The food preparation was careful—almost ceremonial—done in small groups with simple tools, very basic workspace, and attention to washing the food that was most impressive. Nothing was wasted or taken for granted.

Hundreds of smiling school kids often gathered whenever the food was being prepared or sampled from the solar cookers. The students maintained a lovely garden as part of their agriculture classes. The rows of greens and tomatoes were patiently manicured and tended with much care. We sometimes bought their tomatoes for our workshops.

Each day of the workshops women filled the classroom by 10:30 a.m., having first tended to home chores and then walked up to 10 km. Even “cloudy day” workshops were attended by 40 or more women, each hoping to be among the 10 who would be able to buy solar cookers, special cooking bags, and recognition in the simple ceremony that followed the intense but fun workshops. In these early winter months there were only about six hours of solar cooking weather, but longer hours were just weeks away.

Mrs. Mlelo, was very proud to be our No. 1 Cook (she received the first CooKit). She reported back the next day a list of the foods she had cooked and her husband’s remark that it was a “miracle” the food was cooked. Being an older woman in the community she is highly respected and the women listened intently as she told of her early experiments cooking sadza.

Sadza, a maize product, is the staple food for most of Zimbabwe. It has a bright white color, with a thick texture and very bland taste. The flavor is often enhanced with “sauces” made of various vegetables and “greens.” Cooked the traditional way, sadza requires a lot of stirring and uses a lot of fuel. At first, many were reluctant to try solar cooking sadza. It is simply too important a food to experiment with, and getting the texture just right is important. Mrs. Mlelo, No. 1, however said it could be done. Others would soon follow her example.

Each of the 50 pioneer families in the project was able to buy a cooker at a reduced price in exchange for giving feedback and helping adapt solar cooking to local foods and cooking habits through group meetings and home visits.

Many women in desperate need of this simple solar cooker could not attend these first workshops. On a walk one day we encountered an elderly woman. She was off the road almost hidden in some low bushes. She was bent over holding a small ax. It was hard to imagine what she could possibly find in that area to cut down, that could be the least bit useful as firewood. About an hour later we saw her walking towards us on the road. She had only her ax in her hand and a shabby empty canvas-type bag on her shoulder. “I could not find any wood today, I will not be able to cook my food tonight,” she said. Recognizing us as being the solar cooker people, she wanted us to know that people like her were also interested in the cookers but were not able to come to the workshops. Her plight was not uncommon.

Another woman, with legs and ankles grossly swollen, did manage to get to the workshop in the back of a donkey cart. She could not stand up at the workshop. She didn’t complain, she was grateful to have made it to the class. She asked that we not forget the women when we returned to the United States.

When the workshops came to a close each day, the women gathered in song and dance, to celebrate the simple new tool. Solar cooking was getting its “day in the sun” in Ntabazinduna. Each woman who got a cooker realized that many of their neighbors would also want a solar cooker in the months ahead. They wanted assurances that more cookers would become available for all the women of the community. We’ll work hard with them to make that possible.
Dr. Bob Metcaif, Sithenjiswe Masuku, Patt Hall, and Mary Chadambuka with solar cooking necessities: sunshine, cooker (folded), plastic bag and black, covered pot.

Cookit and a pile of wood it saves every two days.

Solar cookers in Cuba - Burns Milwaukee Sunstove and a parabolic cooker at a school.
Cubasolar Pushing for Energy Self-sufficiency

Volunteer trainer Don Coan spoke on solar cooking at a conference in Cuba in June sponsored by Cubasolar, a non-governmental organization developing sustainable energy sources for Cuba. Don shared some of his observations:

"Loss of petroleum imports has reduced Cuba's oil supply to about 25% of what it was in 1990. Cuba's engineers, physicists, and technicians are coming up with creative solutions to numerous energy problems (in fact the US embargo provides a field day for environmentalists to promote sustainable energy). But, also the country is unable to import materials for innovative solutions.

Solar cooking has been tried. A Burns-Milwaukee Sunoven box cooker made of fiberglass and Mylar is in daily use at the Eco-restaurant of the National Botanical Garden near Havana, a gift of an earlier visitor. The restaurant manager wished he had more of them, but the high-tech materials can't be reproduced in Cuba. A secondary school had a large parabolic solar reflector aimed at a small window in the wall of the building to cook large pots of food for students. However it is not in regular use. The reason given was the need for constant reorientation to the sun, and I noticed scorch marks on the side of the building around the window.

Cuba appears to be an ideal place for the new, compact, easy-to-replicate CooKit. The head chef at the Eco-restaurant helped solar bake a cake in a CooKit in about 2-1/2 hours. the restaurant manager vowed to make her own with local materials.

Other energy efficient efforts in Cuba include photovoltaic panels for homes far from electric power grids, generating hydroelectric power from even small streams for small mountain communities, large numbers of bicycles that have replaced automobiles in the streets of Havana and also in the countryside, and use of sugar cane waste for fuel. Already most of Cuba's 156 sugar mills burn the sugar cane waste as their main power source; they also gather the leaves and stubble from the fields for fuel rather than polluting the air with open burning in the fields. Attendees at the conference included Cubans, representatives from several European countries and a Global Exchange group from North America.

Alternative Gifts Benefit S.C.I.

Alternative Gifts International raised $17,365 for SCI this past year through its Alternative Gifts Market Catalog. This wonderful grant has allowed us to reach 395 more families in refugee camps with solar cookers. This represents gift-giving at its finest. A million thanks to AGI. To get an AGI catalog send the form below.

CONTRIBUTORS TO THIS REVIEW

Many thanks for: Dave Ruppe (Impact Publications, Medford, OR, USA) for typesetting layout, Tom Sponheim's interview with Bob Metcalf, John Collentine's President's Corner, Patt Hull's article on Zimbabwe pioneers, Kevin Coyle's invaluable editing assistance.
**E-mail Discussion Group** Organized by Tom Sponheim and Edie Farwell

The solar cooking email discussion group (called Solarcooking-L) is going strong. It now has 125 members in seventeen countries: Australia, Brazil, Canada, Costa Rica, Denmark, Egypt, Finland, Germany, Iceland, India, Mexico, Netherlands, Pakistan, Spain, UK, USA, and Venezuela.

This discussion group allows participants to carry on group conversations over time and space. Some members actively contribute to the discussion and others, sometimes called "lurkers," follow along by reading the messages that appear in their email in-box. This works through the use of an automated program, called a "listserv," that acts as a list-keeper and mailman for the group. In its capacity as a list-keeper, it fields requests by new members to be added to the membership list and also allows members to remove themselves if they wish.

To become a member (also known as a "subscriber"), you simply send an email message to the listserv program informing it that you would like to be added to the list. Then if you would like to communicate with the other list members, you send another message to the listserv at a slightly different email address. The listserv will take any message sent to this address and repeat it out to all the members on the list. Any replies are also passed to all members. The genius of all this is that it allows you to participate in a large interactive group with just an email account. You don't need access to the World Wide Web. Email accounts are increasingly common around the world.

We invite you to join us! To become a participant, send an email message to majordomo@igc.apc.org with the following in the BODY of the message: 

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SUBSCRIBE SOLARCOOKING-L
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You don't need to put anything in the subject line. In a short time, you will receive a letter back from the listserv informing you how to take yourself off the list at any time in the future and how to address a letter to the entire group.

Many of the participants have sent letters giving biographical information about themselves. As the group moderator, I have compiled these into a single document. If you would like to receive a copy of this document via email, write a message to sbcn@accessone.com with "get bio" in the subject line or in the body of the message. See you on-line!  **Tom Sponheim**

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**New Video**

"Letters from Kenya" is a 5-minute video that tells the story of SCI's project in refugee camps. It includes photos donated by trainers Barbara Knudson and Jay Campbell from Kakuma Refugee Camp, and video footage donated by trainer Bob Metcalf from Dadaab Refugee Camp. Producers Jim Arwood and Josh Daniel and narrator Wendy vanden Heuval donated their services, Gail and Lew Steiger donated studio time at Steiger Brothers, and Beat Stew donated sound to make this possible. Copies are $10 or for loan at $5 - contact SCI.

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**Pioneer solar cooker researcher**  
**Dr. Maria Telkes** has died at the age of 95 following 3 years’ illness. Born in Hungary, she worked many years at New York University in the USA, starting in the 1950's, making important contributions to early oven-type cookers and publishing widely. She was the first to use glauber salts, which absorb and retain heat for cooking after sundown.

Telkes' co-worker of many years, Stella Andrassy, wrote a small book which includes anecdotes about Telkes' work and practical hints for making and using solar cookers. To receive a copy send $5 to SCI and specify "Andrassy book."

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**HURRAH FOR VOLUNTEERS**

The work of SCI's 4 paid workers is multiplied many times by volunteers who * share their solar cooking expertise around the world by doing longer-term training; * fold, pack and ship cookers; * help respond to mail; * help write, typeset and prepare bulk mailings such as this newsletter; * test new cooker ideas and develop related ideas; * fill requests for speaking engagements, exhibits and demonstrations * recruit new members to support SCI's programs. Sacramento area volunteers hold a work day the last Saturday of each month at our office. Their biggest event each year is the 20-day California State Fair each August. Thanks a million!

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**How to Measure a Solar Cooker?**

SCI's Research Committee continues to solicit suggestions for guidelines to measure and compare solar cookers. It will present a draft in the next newsletter for discussion at the 3rd International Conference next year in Coimbatore, India. Volunteer Research Coordinator Dr. Mahnaz Saremi invites your ideas.

We hope these discussions will lead to minimum guidelines for evaluating the wide variety of household solar cooker devices and provide simple means for comparing specific features, going beyond technical performance to include other important criteria such as safety, convenience, durability, etc. Since most solar cooking devices are simple perhaps standardized criteria can be too.
The 3rd International Conference on Solar Cookers Use and Technology

Avinashilingam Institute for Home Science (Deemed University)
Coimbatore 641 043, Tamil Nadu, India
January 6-10, 1997

Co-sponsored by Solar Cookers International, Ministry of Non-Conventional Energy Sources-New Delhi, Tamil Nadu Energy Development Agency-Madras, and Indian Institute of Technology - New Delhi

Nearly one-third of humanity sometimes lacks fuel for cooking, with serious nutritional and health consequences. According to U.N. Food and Agricultural Organization some 2,400 million people are expected to face acute fuelwood shortages by the end of the century. The projected energy scenario of deepening fuel crises will be equally serious for both the developed and developing nations. This necessitates the search for efficient and appropriate technologies utilizing renewable sources of energy. The efforts in this direction would not only reduce the demand on the fast depleting fossil fuels but would also restore the ecological balance. Solar energy promises to be the fuel of tomorrow because of its multifaceted advantages. Many women toil for hours to collect fuel and cook food with unsafe devices in a smoky atmosphere. Solar cooking is a sustainable technology with potential to alleviate these hardships; it also easily pasteurizes water, reduces air pollution, is safe around children, and is convenient. Solar cookers are labor-saving, health-saving and sometimes life-saving.

Realizing the urgent need to tap solar energy for household cooking purposes, varied models of solar cooking devices have been developed and tested. A number of solar cooking devices have proved to be effective, convenient and inexpensive -- a practical solution for today's household energy problem. To spread access to solar cookers it is essential for all organizations working with solar cookers at both national and international levels to assemble in one forum and discuss how to widen access; iron out constraints in design, use and popularisation; and define relevant areas for further research.

OBJECTIVES

- bring together experts in solar cooking technology
- explore collaboration with other organizations to adopt solar cooking
- share educational materials and training programmes
- exchange views and experiences and develop strategies for promoting solar cooking at the household level, nationally and regionally

CONFERENCE FORMAT

Paper presentations, discussions, workshops, poster sessions and displays on all aspects of solar cookers. Session titles will include:

- solar cookers design and performance,
- solar cookers use and acceptance factors - cultural, nutritional and economical aspects
TENTATIVE PROGRAM AND PRESENTERS

Monday, Jan. 6  Inaugural Session,
   Solar Cooker Designs - papers, posters, exhibits, discussion
   Cultural Programme, Reception

Tuesday, Jan. 7  Solar Cookers Performance - papers, posters, exhibits, discussion
   Concurrent workshops
   Visit to Perur Temple to see architecture
   Reception hosted by Solar Cookers International

Wednesday, Jan. 8  Technical Aspects of Solar Cookers - papers, posters, exhibits, discussion
   Cultural Programme, Reception

Thursday, Jan. 9  Field visits

Friday, Jan. 10  User Acceptance of Solar Cooking and Dissemination Strategies
   - papers, posters, exhibits, discussion
   Discussion on Networks

PARTIAL LIST OF PRESENTERS

Abdellatif, Mr., MOROCCO
Anderson, Jack, CANADA
Ardal, Signe Marie, NORWAY
Bastans, Tency, INDIA
Bartec, Doetresj, GERMANY
Blum, Beverly, USA
Campbell, Jay, USA
Carpio, Rodrigo C., ECUADOR
Chandrasekhar, U.&M.S.Kousalva, INDIA
Chedley, O.S., BARBADOS
Cuvi, Faviola, ECUADOR
Deng, Xing, CHINA
Devadas, Rajammal P.& Manoharan
   INDIA
Domach, Rudolf, GERMANY
Essaran, Parvathi & N. Kalpana, INDIA
Funk, Paul, USA
Gandhi & Suresh et al., INDIA
Goetz, Schneebeil, SWITZERLAND
Haraksingh, Indira, TRINIDAD
Hunt, Cynthia and T.Dorjje, INDIA
Jagadeesan, Ghanamal, INDIA
Jarra, Saikoyam, GAMBIA
Jayaraman, S. & V.Ponnusamy, INDIA
Jayaraman, S. & R.Oommen, INDIA
Jian, Zhang, CHINA
John, S. et al, INDIA
Kakade, U.S., INDIA
Kamalanathan, G., INDIA
Kariuki, Peter, KENYA
Kausik, S. & Y.Verma, INDIA
Knudsen, Barbara, USA
Kulkarni, S. & J.P.Joshi, INDIA
Kunwar, Neelama & S.M.Dinger, INDIA
Lai, Yadav & R.K.Sharma, INDIA
Lankford, William F., USA
Mageney, Gordon, PAKISTAN
Mepah, Jacob Kow, GHANA
Metcalf, Robert, USA
Mi, Yingye, CHINA
Mohanty, Trupti, INDIA
Mullick, S.C., INDIA
Mathu, Sathyavathi, INDIA
Nabar, N.M., INDIA
Nakajo, Waichi, JAPAN
Nandwani, Shyam, COSTA RICA
Ndayishimiye, Jean Pierre, BURUNDI
Okie, Masato, JAPAN
Oza, D.H., INDIA
Patel, Shirin, H., INDIA
Perumal, K. et al, INDIA
Pimental, Wilfred, USA
Radhakrishnan, Ragmanis & R.Pichai.
   INDIA
Rajagopal, Lakshmi, et al, INDIA
Ramachandra, P., INDIA
Ramanathan, et al, INDIA
Randhwa, Ajit & M. Arceera, INDIA
Read Hunter, Patricia, USA
Sadhana, Ku & L. Gupte, INDIA
Salmony, K.C., INDIA
Sampson, Ravindrani, INDIA
Sandhya & S. Singal, INDIA
Schwarzer, K., GERMANY
Serrano, Pedro R., CHILE
Sharma, Girja, INDIA
Sharma, S., INDIA
Shristha, Ganesh Ram, NEPAL
Singal, O.P., INDIA
Singh, et al, INDIA
Singh, P. & K.D.Mannan, INDIA
Singha, Indasena Jaya, SRI LANKA
Sooriamooththi, C.E. et al, INDIA
Spicer, Jane, ITALY
Subramaniam, K. & P.S.Krishnakumar,
   INDIA
Swaminathan, B., INDIA
Vijayaraghavan, et al, INDIA
Virji, M.L.P., INDIA
Wafukho, Clive, KENYA
Wahlistrom, Riiito, FINLAND
Yang, Hongwci, CHINA
Yegammini, C. & M.L. Virjini, P., INDIA
Zode, Sha Yongling, Liu, CHINA
3rd International Conference

PROCEEDINGS
The official language of the conference will be English. Oral and poster presentations will be published in the proceedings. Only articles accepted and presented by at least one of the authors and submitted in the designed format will be published in the proceedings.

This conference will benefit researchers, environmentalists, nutritionists, engineers, educators, health professionals, appropriate technologists, entrepreneurs, home economists. The 3rd International Conference, building on the first two, will continue the exchange of new discoveries and developments in both technology and dissemination.

REGISTRATION - covers admission to the conference and welcoming reception
From India: Rs.400 by 31 October 1996, Rs.500 after 31 October 1996

ACCOMMODATIONS
- 3* Hotels in Coimbatore $50/night
- Other hotels $30/night
- University guest houses $20/night
- Other campus housing $10/night

CONFERENCE VENUE
Avinashilingam Institute for Home Science and Higher Education for Women (Deemed University) was founded on the Holy Vijaya Dasami day - the day of success - in 1952. The first educational institution started under the Trust was the Avinashilingam Girls High School in 1955. Sri Avinashilingam Home Science College for Women was inaugurated in 1957, then Nursery, Primary and Higher Secondary Schools and the College of Education followed in the succeeding years.

Dr. T.S.Avinashilingam, the Founder President of the Trust, was one of the foremost Freedom Fighters from Tamil Nadu under the leadership of Mahatma Gandhi, the father of the Nation. He was also the First Minister of Education of erstwhile composite Madras Presidency (now Tamil Nadu) after Independence.

Under the dynamic leadership of Dr. Rajamal P. Devadas, MA.,MS.,PhD.,D.Sc., Hon DHL., the college developed rapidly as the largest in the country for Home Science Education with undergraduate, post graduate, M.Phil and Ph.D. programmes. It is the only institution in India which imparts higher education in seven specialised fields of Home Science. Its unique feature is integration with the community and industry through its several outreach programmes.

This institute has been conducting research with solar cookers since 1967. Presentations made by Dr. Devadas in the first and second world conferences carried some of these research findings.

For more information: 3rd Int'l Conference on Solar Cookers Use and Technology
c/o Chancellor Dr. Rajamalal Devadas
or Dr. Sathyavathi Muthu, Head of Dept. of Family Resource Mgmt.
Avinashilingam Institute for Home Science and Higher Education for Women (Deemed University), Coimbatore - 641 043, Tamil Nadu, INDIA
Fax +91-422-438 786, Tel. +91-422-440 140
3rd International Conference
REGISTRATION

Name: ____________________________________________

Title: ____________________________________________

Organization: ______________________________________

Address: _________________________________________

City: _____________________________________________ Zip code: __________________

Country: __________________________________________

Telephone: _________________________________________

Fax: ______________________________________________

Application for exhibit space (must register for conference):

Topic: ____________________________________________

Housing accommodations: indicate preference and dates. Send 50% advance payment for your entire length of stay by 31 October 1996:

☐ 3★ Hotels in Coimbatore $50/night, nominal extra for shared rooms
☐ Other hotels $30/night " " " " "
☐ University guest houses $20/night " " " " "
☐ Other campus housing $10/night " " " " "

Date of arrival ____________________________ Date of departure ____________________________

Conference registration fees:

From India: ☐Rs.400 paid by 31 October 1996, ☐Rs.500 after 31 October 1996

Method of Payment:

By personal check on a US bank or credit card (VISA or Mastercard only):

Send to:
SCI, 1919 21st St.,#101, Sacramento, CA 95814 USA
Fax no. 916-455-4498 telephone no. 916-455-4499

Check ______ VISA ______ Mastercard ______

Card number _______________________________________

Signature ________________________ Exp. date ____________

Print name as it appears on card: ________________________________________________

By cash: Payment can be made in cash on arrival at the Conference.
**SEGUNDA SOLICITUD DE ABSTRACTOS:**  SECOND CALL FOR PAPERS:

**Segunda Conferencia Latinoamericana/Caribe sobre**
**Uso y Tecnología de Estufas Solares**

Second Latin American/ Caribbean Conference on Solar Cookers Use and Technology

Cuenca, Ecuador

April 22-27, 1997       22-27 de abril 1997

* NOTE: CHANGE OF DATE  NOTA: CAMBIO DE FECHA *

La Universidad de Cuenca y Colegio Benigno Malo ofrecen la Conferencia Regional Latinoamericana/ Caribe. Profesor Rodrigo Carpio, Director Fundador de Inti Uma hará arreglos para alojamiento, comunicación y eventos relacionados a turismo. La conferencia será en español e inglés.

The University of Cuenca and Colegio Benigno Malo will host this conference for the Latin America/ Caribbean Region Network (RECOSEL). Professor Rodrigo Carpio, Director of Fundacion Inti Uma and solar cooker researcher, will coordinate local arrangements for housing, communications and related events such as tours. Languages of the conference will be Spanish and English.

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AFRICA AND EUROPE

BURKINA FASO
Helen Miles, Training Director for the Peace Corps, has demonstrated solar cooking for several years.

KENYA
A Pastors Wives Conference was introduced to solar cooking and the new CoolKit by the International Christian Ministries and the Rotary Club of Nairobi. They plan to share in seminars they conduct in various churches in Kenya.

Nelson Wuru Mutahi, graduate of Moi University and solar cookers promoter since 1991 writes, "Many of us in Africa are blinded by the sophistication of modern technology in underrating the effectiveness of solar cookers....Such an attitude shows misconception of the meaning of development...solar cooking is the surest means to sustained existence in the face of global warming, desertification, ozone layer break-down, abject poverty and emergencies..."

NAMIBIA
Technology for Life, an NGO from Finland has helped two NGO's including a youth enterprise in Windhoek to manufacture and sell solar box cookers. They report that quality control and expense of cookers have been problems, but interest is very high.

A recent TV program on Namibia showed wildlife photographers Des and Jen Bartlett putting food into their solar cooker and later taking out a delicious-looking, well cooked chicken.

NIGER
Rachel Jameton, Peace Corps Volunteer writes, "I wrote you hoping to find some experiments to teach my students. Much to the credit of 1) your writers, 2) the rising price of gas (doubled in the last month) and 3) the start of the hot season, it eventually dawned on me that I could really do this (use a solar cooker)...From my shady spot I’m watching the back of it right now cooking fish stew. I made bread yesterday, I’d have to say that this ranks up there in the list of 'really cool' things. Way, way up there....The Leaders' Guide is fantastic—it addresses issues often forgotten...without being tiresomely politically correct or judgmental...you convinced me to use a new technology and it works!" The next team of PCV’s in Niger will be trained in Solar Cooking before Rachel returns to Graduate School in the fall of 1996.

NIGERIA
O.I. Fayiga, a mechanical engineer at the Centre for Applied Religion and Education of the Christians for a Free Society (CARE/CAFS) reports he has tested, built and used solar cookers and "over 399 people have benefited."

THE AMERICAS

CANADA
Patricia Kembor of Ontario writes, "We received our solar cooker and information in early March. The outside temperature was 3 degrees below zero (Celsius), but the sun was clear so we gave the box a try. At 11:15 I put out some chicken. Then my husband and I with children’s help boiled off our maple syrup. By 6:00 we were hungry and cold. I took the old black iron pot from the solar cooker inside to finish cooking on the wood stove. We were amazed!! No need for finishing—it was wonderful, the first of many meals since. Thank you!"

CHILE
Pedro Serrano R, Coordinator of the Latin American/Caribbean Regional Network for Solar Cookers (RECOOSOL) was selected by ASHOKA to be an Ashoka Fellow for three years, supporting his work to save firewood and promote solar cookers. Congratulations, Pedro!

HONDURAS
Cathleen Martinez trained Peace Corps Volunteers to construct and use solar cookers. She reports, "They immediately saw the benefits of this appropriate technology and found the cookers easy to build." In Southern Honduras, deforestation is a big problem and the cost of firewood is going up all the time...an investment in solar cookers would pay itself off in 2 months...Other benefits which excited the women were cooler kitchens with less smoke.

USA
A survey commissioned by the Sustainable Energy Budget Coalition found that American voters strongly favor federal research and development for renewable energy and energy efficiency. Seventy percent are concerned about global warming and three quarters want to do something about US dependency on foreign oil. (See diagram on following page.)

Arizona The first Ph.D. in solar cooking was conferred upon Paul Funk at the U. of Arizona in May 1996. Paul first became interested in solar cooking while visiting Tanzania, East Africa in 1990. His dissertation, Parametric Model of a Solar Cooker for International Development, presents a simple equation for finding the cooking power of a solar oven even before it is built. Cooking power is a measure of the energy that actually gets to the food inside the pots and it can be used to calculate cooking time if the amount and type of food is known. For more information contact: Paul Funk, 3401 N. Columbus Blvd. 14-M, Tucson AZ 85712-5442 paulfunk@ccit.arizona.edu
Arizona  Jim Arwood, SCI Board Member and an energy education specialist with the Dept. of Commerce reports that educational information packets and teaching materials on solar cooking have been introduced into 75% of Arizona's schools. Workshops have been conducted for hundreds of teachers throughout the state. The solar cooker popularity has spilled over to the general public resulting in two workshops for adults taught by previous workshop graduates...the "each one teach one" principle.

California  Mario Zelaya has hosted over 10 workshops this year on solar cooking. In May he held one at the Lawrence Hall of Science in Berkeley. Teachers are often times his students.

New Mexico  Aquatic Research Biologist Robert Dudley, remembering how dangerous it can be to leave animals and children inside a car in hot climates, placed his CooKit in the passenger's seat next to him inside his car and cooked spaghetti sauce in about 3 hours while he was driving. He notes cooking can take place while you are traveling or if the car is parked in a sunny spot.

New York  SYNERGY produces publications for researchers in renewable energies. A Directory of Renewable Energy is published every 6 months for $50 per year. Also available is an up-to-date list of manufacturers and distributors of solar products ($15). SYNERGY, PO Box 1854, Cathedral Station, New York, NY 10025.

Oregon

Four-year-old Sam Brogan solar cooked a potato in 10°C (minus 12°C Celsius) weather.

ASIA AND PACIFIC

CHINA

Lui Hongpeng writes, "I received several letters and FAXes following mention of us in your Spring issue. Here is more information: Several companies and institutes in Beijing mass produce solar cookers. Two produce concentrating type cookers which are portable, reliable, easy to operate, and suitable for family, camping, field work, and also restaurants: Niglian Company, attn. Mr. Ren Hongshen or Miss Yu Bo, No. 101 School, Haidian District, Beijing, fax/tel +86-10-6264 9980. Beijing Energy Conservation Technical Service Centre, attn. Ms Mi Yingye, No. 2, Andingmenwai Xiaoguangdongjie, Beijing 10009, tel +86-10-6491 7314, fax +86-10-6491 7366

INDIA

The Ministry of Non Conventional Energy reports there are 450,000 solar box cookers in use and 50,000 new ones sold per year, produced by 20 private manufacturers in India. The government provides some subsidy and retail store space and the retail cost per box is $35 to $38 US. Mansi Enterprises, a major seller of solar cookers in Maharashtra, notes they have 320 sunny days per year and supplies of cooking gas and coal are erratic, so solar cooking is a good alternative.

PHILIPPINES

Father Pierre Samson working with the tribal groups in the Province of Davao del Sur made a solar cooker after reading the Solar Cooker Review. The area still has an abundance of coconut trees for fuel, but many people are interested in a
more sustainable resource such as the sun for cooking and also for drying foods in the harvest season.

**SAMOA**

Peace Corpsman Robert Hansman writes, “Seeing a solar box cooker turn out two cups of cooked rice without any fire really starts people talking...We are collecting materials now and have lots of plans to blanket this place in box cookers.” Ed. note: the new CooKits are even easier to make.

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**MONEY MATTERS**

by Kevin Coyle, Resources Development Coordinator

SCI’s successes have always been grounded in four essential factors: 1) the overwhelming practicality of low-tech, low-cost solar cookers in many fuel-short situations worldwide; 2) the talent and dedication of a remarkable volunteer Board of Directors and other SCI volunteers; 3) a small staff, which, inspired by the dedicated volunteers, often goes far beyond the call of duty.

These three factors would be of little use without the fourth: an extremely generous core of 1600 donors.

For 1996, SCI’s Board set fundraising goals of $116,300 for general operations and $36,000 for the Africa Fund to assist SCI’s pilot projects in East Africa. As of June 30—midyear we are right on target — we have reached the halfway point for both funds. Many people struggling with cooking-fuel shortages await our help. For their sake, let’s raise the other half and more!

You can also help by bringing SCI new donors. Ask friends who share your interest in a sustainable energy future to join SCI. Or, send us names and addresses of potentially interested people and we’ll ask them to join. (Please print—and indicate whether we should use your name in our correspondence to them.)

One SCI donor recently wrote in to say: “It is with joy and hope for the future that I send you this check...I too am on a very low income; but being able to share what I have with others gives great happiness. Thank you for all your good work with solar cookers.” I add my thanks to her and all of you who are helping many people in many places to cook their meals with the free, clean fuel from the sun.

There are many ways to help your favorite charities besides giving cash out of pocket. The following are just a few:

- **Fund-raise**—encourage those who share your concerns to become members. Name your favorite charities as beneficiaries on a life insurance policy, in your will and in living trusts.
- **Organize** solar cooking demonstrations for public events, youth groups, or friends in your home.
- **Give** solar cookers, solar cookbooks, 1 year of SCI’s newsletter, gift memberships in SCI as great gifts.
- **Fun(d)-raise** - Your group or community can raise money for SCI, be listed in our newsletter AND have fun, too.
- **Give** what you won’t miss, such as tax refunds. Gifts of appreciated property; stocks and real estate often provide tax benefits.

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**New Organizational Members of S.C.I.**

**SINCE APRIL 1996**

Categories for group memberships from the USA and Canada are $40, $100, $500, $1000, and $5000. Memberships from outside U.S. and Canada begin at $120 and/or in-kind exchange of reports and information specifically related to solar cooking and other household uses of solar energy - together with a request for membership. Cash gifts from outside the U.S. can be by Mastercard, VISA Card or a check through a U.S. bank. THANKS FOR YOUR SUPPORT!!

Alpine Bakery Yukon CANADA
Alton Collins Retreat Eagle Creek OR USA
Atlanta Area Returned PCVs, Inc. Decatur GA USA
C.E.E.A.R. San Cristobal-Las Casas MEXICO
California Cedar Products Co. Stockton CA USA
Christian Women’s Fellowship of Chan Chelan WA USA
Christian Women’s Fellowship of First Christian Vancouver WA USA Community Foundation—UJF San Diego CA USA
Condor Club—Mesa Verde H.S. Carmichael CA USA
Cottonwood Foundation White Bear Lake MN USA
Dhaka Ahsania Mission Dhaka BANGLADESH
Ecole Francaise Docteur Guillet Thies SENEGAL
FCS Library Washington DC USA
Genesis Foundation Overport SOUTHERLY AFRICA
Gib Richards Productions Albuquerque NM USA
Junior Troop 504 Santa Rosa CA USA
Laboratoire D’Energie Solaire Lausanne SWITZERLAND
Lutheran Women of Faith Pleasant Hills CA USA
Madagascar-California Alliance San Francisco CA USA
Marchant Learning Center Atascadero CA USA
New Covenant Fellowship Athens OH USA
Plum Ridge Farm Teulon CANADA
Rotary District: 5390 Polson MT USA
Sacramento Valley RPCV Sacramento CA USA
SCI PRO SERV Maywood NJ USA
Solidarity House Sacramento CA USA
Stauffer Bury Inc Washington DC USA
Sun-Tec Lagos NIGERIA
Sunbeam Solutions Tucson AZ USA
Wiscasset Primary School Wiscasset ME USA

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**ELAINE IMUS**

SCI extends its heartfelt condolences to the family of Elaine Imus, long-time solar cook and SCI member who, in just the last issue of SCR, wrote a poetic essay linking solar cooking to many women’s issues. We mourn her untimely passing.
An interview with Dr. Bob Metcalf of Solar Cookers International, who first went to Zimbabwe in 1989 to launch a solar cooking project with PLAN International in Mutare. He returned in 1996 as part of a team to initiate the groundwork for a nation-wide project. The team included two experienced cooks from Mutare who learned their skills through PLAN.

**TS:** Tell us about your most recent trip to Africa.

**BM:** I started by visiting the Dadaab Refugee Camp in Kenya for three days, and then I went down to Zimbabwe for a whole month.

**TS:** Is this a new project in Zimbabwe?

**BM:** Yes, this is the project that UNESCO is sponsoring. They helped initiate the project in cooperation with the Department of Energy in Zimbabwe and the Development Technology Center at the University of Zimbabwe.

**TS:** How did this project come about?

**BM:** UNESCO is having a World Conference on Solar Energy in Zimbabwe in September. When they looked at the program, they had a lot of high-tech things, but they didn’t have very many low-tech applications of solar technology for individual households. This was a significant omission since in developing countries, most of the energy is used for cooking. They contacted SCI, and Barbara Knudson met with them to discuss a pilot project for Zimbabwe. We sent Bev Blum, Linda Helm Krapf, and Ginny Mitchem to Zimbabwe in late April to meet with the government and local groups in order to develop a plan for how the project would proceed.

The first phase of the project then was to bring 100 solar panel cookers from the US to introduce and test in two sites—one in Epworth near Harare, the capital, and the other in the southern part of the country near a town called Bulawayo, which is about an hour bus ride outside of town of Niabazinduna. Chief Kayisa Ndweni was approached about the solar cooker project and he thought it would be a good idea. This area is on the communal lands. There are two types of land in the country, the commercial areas, which are large farms mostly owned by white former Rhodesians, and the less productive lands, which are known as communal lands. The latter is where most of the people in Zimbabwe live.

We began working in an area of about 20 square miles with the approximately 300 families. We eventually selected fifty people (49 women and one man!) to be the first solar cookers for that area. We began with a general demonstration for some of the community leaders including the Chief. We set up the cookers and put food in them, and about 2 1/2 hours later the food is cooked. It’s (always) kind of an amazing demonstration.

In this area, there is hardly any wood to collect. The vegetation is mainly thorn bushes. So most of the people buy their wood, which is hauled in from the commercial farms. Typically it cost about $5.50 US for a cart load of wood. This lasts a family about two weeks. This works out to be about one quarter of a family’s income spent on this wood. So they have to do without some of life’s necessities.

**TS:** What was the Chief’s reaction when he saw the solar-cooked food?

**BM:** He was quite impressed. But he was particularly moved at our closing session about three weeks later when about 15 of the women who had been cooking with the solar cookers got up and talked about things that they had cooked and the importance of the solar cookers. He got even more enthusiastic after this.

**TS:** Did any of the women report any problems?

**BM:** A few reported that they had had trouble cooking because they didn’t have appropriate pots for solar cooking. The good thing about pots in Zimbabwe is that they are already black including the lids. These are perfect for solar cooking and they’re made right in Zimbabwe. About 10% of the families though did have shiny pots, and they were the only ones who had any problem cooking.

**TS:** What kind of support did you provide for the novice solar cooks while you were there?  

*Continued on next page*
BM: After a full-day training, we gave each of the participants a week or more to try some serious cooking. Then we went around and visited all 50 families, walking up to six miles to get to the farthest ones. That was really exciting to get to visit the people in their homes and see what their lives were like.

TS: How did this differ from the project in the urban area?
BM: In the cities, many people cook with kerosine, which is also expensive. When you cook with kerosine, your food tastes like kerosine too. They also remarked that the solar cooker was much easier to use, since they didn't have to tend the fire.

TS: Did you get any media coverage?
BM: The Epworth group had a big demonstration. Forty or fifty solar cooks came and set up their cookers in one place and the TV station of Zimbabwe came out and did a three minute spot on solar cookers. We even saw the broadcast while we were there! There’s just a lot of interest in the solar panel cookers.

TS: How will the project proceed now that you are back in the US?
BM: The local coordinators are now arranging to get the next set of cookers made here in Zimbabwe. So they’re talking to cardboard manufacturers and companies that can laminate foil onto it and exploring other options. It seems that they have the basics there.

TS: How about plastic bags?
BM: I’m pretty sure they will find them in-country. If not, they can always be imported from South Africa or Kenya, where they cost less than $0.10 US each. Each bag lasts conservatively for about 20 cooking sessions.

TS: You also paid another visit to the refugee camps at Dadaab, Kenya to check up on the project you started late last year. What did you find there?

BM: Yes, I was there in early June for three days on my way to Zimbabwe. By that time, in each of the three camps, there were over 200 families cooking with solar cookers. Solar cookers are used as an incentive for tree planting. To qualify for receiving a solar cooker, a pot, and training, a family has to plant 25 trees and keep them alive for three months. So the interest in solar cookers has caused thousands of trees to be planted there.

TS: Were there any special problems at these camps?
BM: The food distribution has been reduced so much that there is only enough food to eat for about 10 days of each two-week period. When there is nothing to cook the cookers aren’t used. When there is food available they are used quite a lot.

TS: Did you visit the Kakuma Refugee Camp where there are thousands of families now cooking with solar panel cookers?
BM: No. Recently there had been unrest there and they closed down the camp to visitors. Letters from our lead trainer in Kakuma report that as far as solar cooking goes, things are continuing okay. Our next visit there will be in September.

TS: What were some of the poignant moments from your trip.

BM: There were a couple that really struck home. One was an elderly woman (see Patt Hull’s article, p.1) who couldn’t find fuel so wasn’t able to cook that night. Another thing that struck me was when we asked the women how they were going to spend the money they saved by using the solar cooker. Their answers were basic things: “I’ll get some clothes for my kids,” or “I’ll get some bread and butter for my children to eat.” One woman said that she would pay for sending her kids to school. So the kind of things they were doing without were basics: food, clothing, and education.

And, of course, it is always exciting to walk around unannounced and see a bunch of solar cookers busy cooking away in front of many of the houses.
Catalog of SCI Materials

Purchases support solar cooking education worldwide.

PLUS  ***  SPECIAL SUMMER SALE  ***

SAVINGS UP TO 60% WHEN YOU BUY SEVERAL  LIMITED TIME ONLY - THROUGH OCTOBER 1996

◊ COOKIT  1-pot panel cooker, convenient for yard camping. Life-saving for emergencies. 1 pound, folds flat to 13"x13"x2". Use with black, covered pan (not included).
Regularly $15  SALE - NOW $14. 3 OR MORE $12 EACH, 10 OR MORE $10 EACH

◊ FOLDABLE SOLAR BOX 3-pot cooker. Pre-foiled cardboard with polyester window and handy carry case. Assemblies in minutes. 4 kilos/9 lb., 57x67x22 cm/ 23x27x9" assembled. $58

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◊ WATER PASTEURIZATION INDICATORS Reusable, durable for camping and emergencies.
WAPI Special soy wax in polycarbonate tube. 35¢-
SAF-WAT Bimetal disk 1" diam. $5

◊ TEACHER'S KIT Includes COOKIT booklet, solar cooker, thermometer, instructions to build solar cookers and suggested solar energy activities for students of all ages. Regularly $35, SALE - NOW $30.

◊ CONFERENCE PLANS How to make, use and understand solar cookers, 8th ed. English, French, Spanish. 40-page booklet with many illustrations. Instructions to build two types of working solar cookers from cardboard and suggested alternate materials. Recipes and new section for teachers. Regularly $5. SALE - NOW:
Special $2.50, 3 = $2 EACH, 10+  $1.50 ea.

◊ LEADERS GUIDE Spreading Solar Cooking.
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◊ COOKBOOKS:
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B. Eleanor's Solar Cookbook, E. Shimeall $10
C. Solar Cooking Primer, H. Kofalk $12
D. Solar Box Cooking, Sac'to Municipal Util. Dist $5
E. Solar Cooking Naturally, V.H. Gurley $12

◊ This NEWSLETTER 3X/year. $10
◊ SCI MEMBERSHIP ☐ $38, ☐ $100, ☐

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Quantity Item  total

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FOLDABLE BOX COOKER  Outside USA: postage = $8 surface, $25 air ea.  
BLACK POT w. lid  
TEACHER'S KIT  
WAPI  
SAF-WAT  
PLANS  ☐ Eng.  ☐ Span.  ☐ Fr.  
LEAD. GUIDE.  ☐ Eng.  ☐ Span.  
COOKBOOKS:  ☐ A, ☐ B, ☐ C, ☐ D, ☐ E  
CONF. PROC.  ☐ 1st '92, ☐ 2nd '94  
NEWSLETTER  
SCI MEMBERSHIP  

SUBTOTAL

Shipping, handling add 20% of subtotal  
Postage for cookers outside USA)  
In California add sales tax 8% of subtotal

TOTAL

Send to: SCI, 1919 21st St., #101, Sacramento, CA 95814
USA, FAX 916-455-4498, Tel. 916-455-4499
Can ultraviolet rays get into solar-cooked food and possibly cause cancer?
A: Ultraviolet (UV) rays cannot pass through glass or metal. Even if they did, UV rays are only harmful to living cells themselves, and there is no affect on food that gets cooked.

I’ve heard that long cooking destroys vitamins. What about solar cooking?
A: The harm to vitamins is from long cooking AT HIGH TEMPERATURES. Two independent studies (by Dr. R. Devadas et al in India and G. Hammons et al in USA and Zambia) verify that vitamins are preserved equally or better at the gentle temperatures of the most widely used box and panel-type solar cookers. The fire temperatures of traditional cook stoves and most parabolic cookers are more likely to destroy vitamins.

Are plastic bags safe when heated?
A: Various polypropylene and high density polyethylene plastics are stable at solar cooking temperatures. Most ordinary plastics (polyethylene and polyvinyls) start to melt and to give off fumes at temperatures below 180°F (82°C), the temperature at which foods cook.

In a box-type solar cooker we suggest not using ordinary plastic in the inner box or as insulation. A large quantity of ordinary plastic trapped in an enclosed space near the food might give off enough fumes so some might reach the food inside the covered pot.

With a panel-type CooKit we recommend using high-temperature plastic bags (available as “oven roasting bags” or as plastic bags for medical autoclaving) with a panel cooker. However, any risk of plastic bags—even those that may melt when touching the pot—we consider to be negligible. Here’s why: when surrounding the pot most of the bag has ordinary air temperatures on one side of its thin walls so it doesn’t get hot enough to melt or off-gas. Even if it does touch the pot and melt any fumes from that tiny bit of plastic are released into the open air.

Is it true that water has to boil for 8 minutes to kill eggs of the amoebas which cause amoebic dysentery?
A: Water is Pasteurized if it is heated to only 65° Celsius (150° Fahrenheit). This temperature kills all water-borne diseases including amoebas, eggs of amoebas, all other parasites such as giardia and trichinosis, and all germs that cause illness if eaten—such as cryptosporidium, E. coli, shigella, salmonella, cholera, tuberculosis bacteria, rotaviruses and hepatitis A to name a few. Note this temperature is below boiling temperatures (100°C, 212° Fahrenheit). We are often told to boil water for several minutes because without a thermometer one has no way of telling when water is safely pasteurized except to directly observe the boiling.

Two pasteurization indicators (WAPI and SAF-WAT) are available through SCI. They tell you when the water has heated to pasteurizing temperatures, to kill all water-borne disease-causing organisms, without having to bring water to a boil for direct observation.

**CALENDAR**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Sept. 6-12</td>
<td>Assoc. for Women in Dev. Conf., DC, USA</td>
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<tr>
<td>Sept. 14-17</td>
<td>World Solar Summit, Harare, Zimbabwe</td>
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<tr>
<td>Oct. 11-13</td>
<td>SCI Board meeting</td>
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<td>Oct. 13</td>
<td>Open House, new SCI office, CA, USA</td>
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<tr>
<td>Jan. 6-9, 1997</td>
<td>3rd Intl' Conference on Solar Cookers Use and Technology, Coimbatore, India</td>
</tr>
<tr>
<td>April 22-29</td>
<td>2nd Latin-American/Caribbean Conference on Solar Cookers Use and Technology, Cuenca, Ecuador</td>
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**SOLAR COOKERS INTERNATIONAL**

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ADDRESS CORRECTION REQUESTED