SOLAR FLAIR

The sun also cooks

Allart Ligtenberg understands hardship. He was born in Indonesia, then a Dutch colony, in 1941; six months later, the Japanese invaded. Separated from his father, Ligtenberg and his mother spent the next three and a half years in a concentration camp. Food was scarce. They slept on thin bamboo mats and shared latrines with other prisoners. By the end of the war, Ligtenberg was so weak from disease and the lack of food and water that he was hospitalized for a month. He even had to relearn how to walk.

He and his mother made their way to Singapore, where a friend told them that Ligtenberg's father, who had been interned in another camp, was in a hospital, traumatized after witnessing so many atrocities. In time, he recovered, and the family, penniless, moved to the Netherlands. Ligtenberg worked his way through school, around the world, and up the corporate ladder, eventually becoming an engineering manager for Hewlett-Packard in California, USA.

In 1979, the company sent him to India. An avid hiker, Ligtenberg decided to spend some time trekking through the mountains of Nepal. He was spellbound by the country's beauty but troubled by a less romantic side: widespread poverty. Today, 55 percent of Nepal's population lives below the international poverty line, according to UNICEF.

Back home, Ligtenberg saw a newspaper ad for solar cooker blueprints; solar cookers use reflective materials such as glass, mirrors, or aluminum foil to concentrate sunlight and convert it into heat for cooking. He sent the company a $10 check and built the cooker, which he still uses in the yard of his California home. ("You've never tasted chicken so good," he says.) Ligtenberg realized that if the people of Nepal could harness the sun's power for cooking and water purification, they might be able to alleviate some of their health, environmental, and energy problems. Women wouldn't have to walk far from home, spending valuable time and risking attack, to find wood for fuel. Deforestation would decrease. Vegetables and fruits could be dried, reducing spoilage. Water could be pasteurized, killing bacteria.

So, after retiring in 1992, Ligtenberg devoted himself to the cause. Now a member of the Rotary Club of Los Altos and chair of the District 5170 Water, Health, Hunger, and Solar Resource Group, he

spends three months abroad every year, telling anyone who will listen about solar cooking. He has met with dozens of service groups, media outlets, universities, and tourism industry representatives. "You have to find local champions for your cause," he says. "I can't be there all year. I'm like a farmer. I plant seeds and hope they blossom into something big."

Ligtenberg doesn't show up to the meetings empty handed: He always carries along a solar cooker of his own design so he can demonstrate how one works. "In 20 minutes, I can make soup," he says.

He then shows pictures of larger cookers and tells people how they can get help with assembly and maintenance after he leaves. He works with select local nongovernmental organizations.

"Some NGOs have timelines or don't want to try something new," says Ligtenberg, reflecting on the challenges he's faced. "Some of them want money under the table. And it's hard to get governments officially involved."

During the nine months he spends back home, Ligtenberg works to secure funding for projects, including Rotary Foundation Matching Grants, and to develop other efforts, such as starting carpentry and metalworking classes in Nepal, distributing devices that can purify water without boiling, and getting solar cookers into developing nations like Afghanistan, Mongolia, Indonesia, Mexico, and Haiti. "This simple technology solves problems," he says, "one village at a time." – PATTY LAMBERTI

Above: In the Himalayan village of Muktinath, Nepalese women now use parabolic solar cookers. Below: Following up on a grant project, Ligtenberg meets with women in the Kathmandu Valley village of Balambu. Opposite: At Everest North Base Camp, Ligtenberg shows how to prepare lunch in a backpack solar cooker of his own invention.