

BARACK OBAMA raises \$453,000 at event
in Portola Valley home. Page 7

The Almanac

THE HOMETOWN NEWSPAPER FOR MENLO PARK, AHERTON, PORTOLA VALLEY AND WOODSIDE

FEBRUARY 28, 2007

www.AlmanacNews.com | VOL. 42 NO. 26

Post news and views on

**Town
Square**

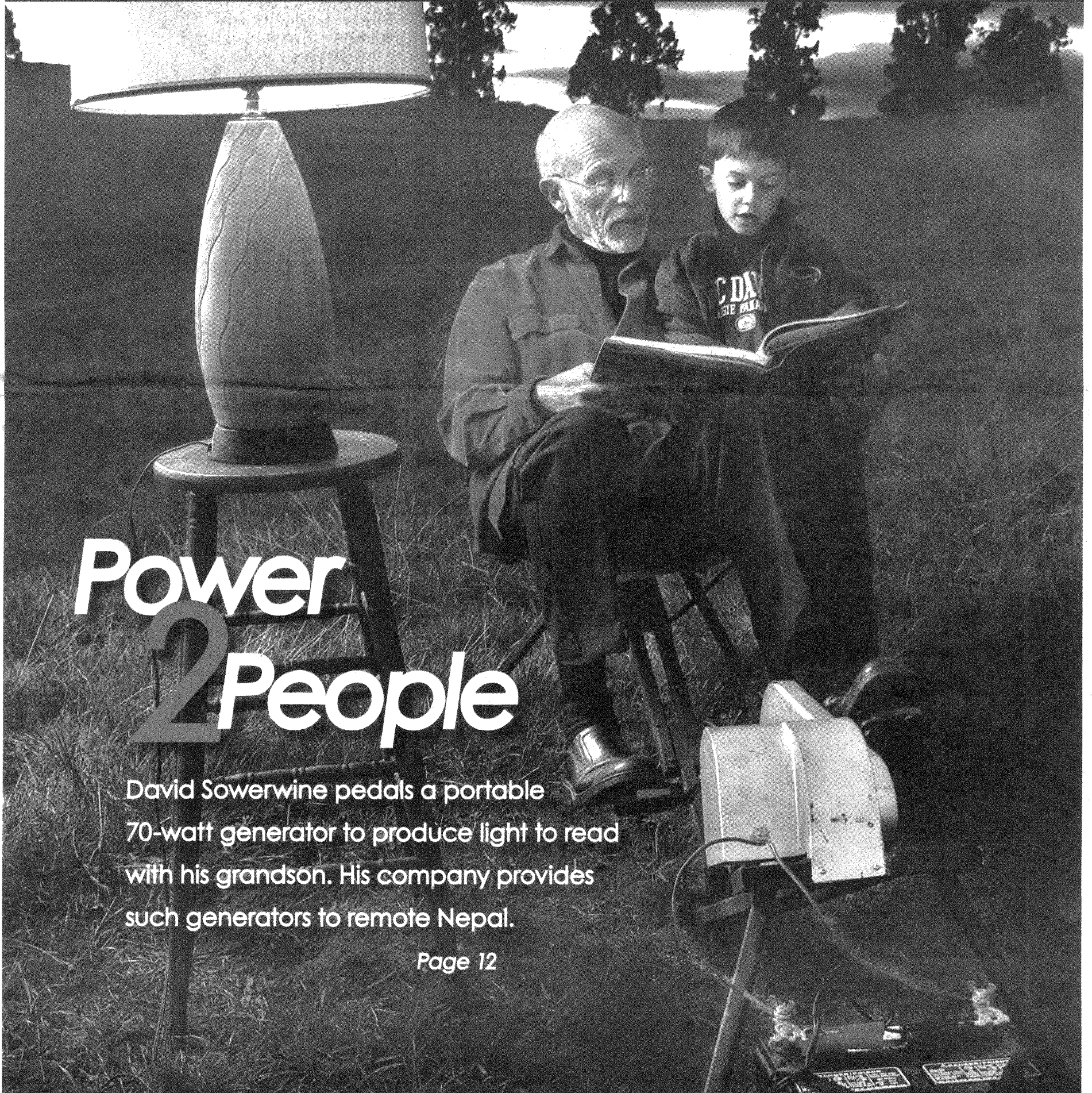


www.AlmanacNews.com

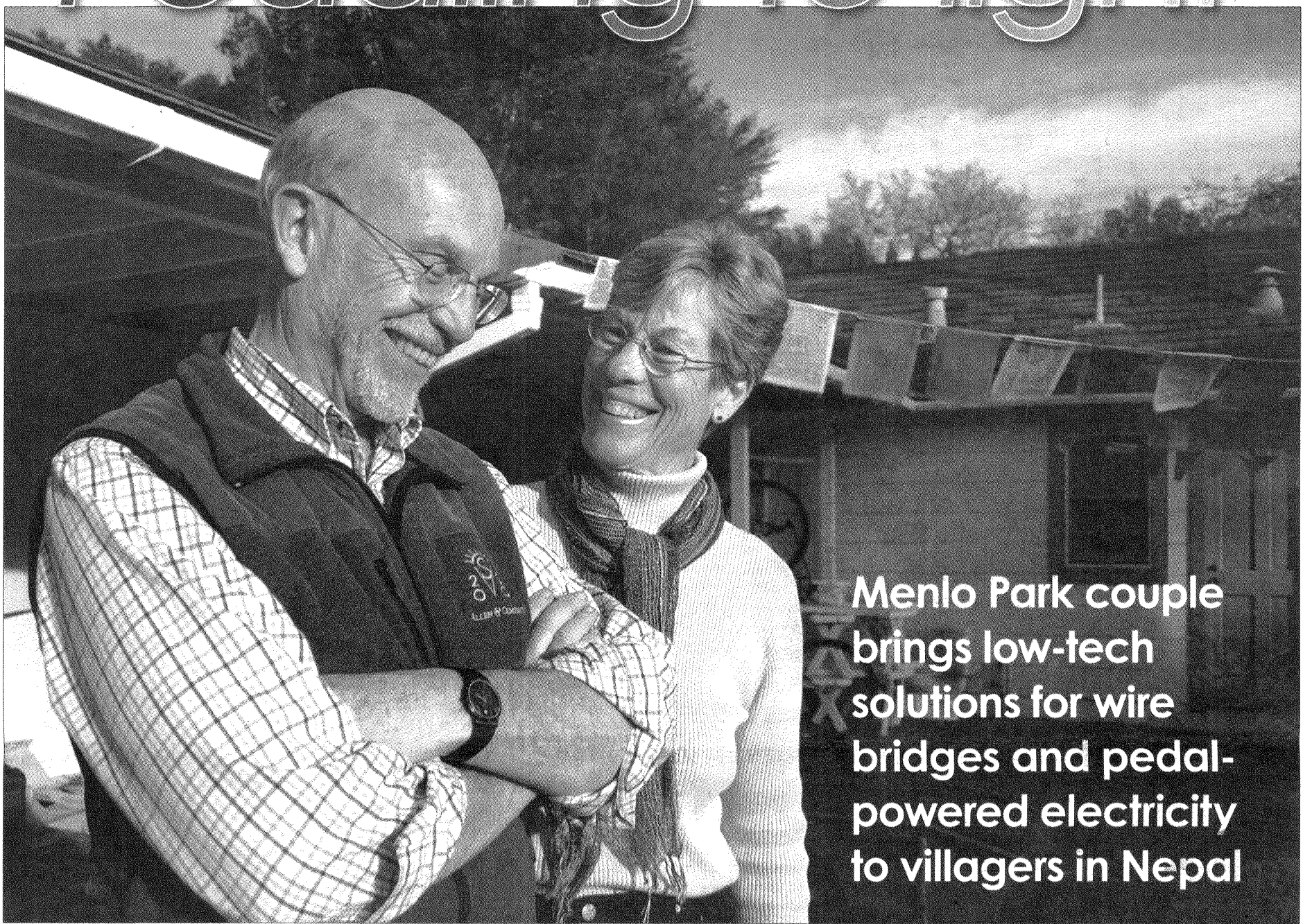
Power 2 People

David Sowerwine pedals a portable
70-watt generator to produce light to read
with his grandson. His company provides
such generators to remote Nepal.

Page 12



Pedaling to light



Menlo Park couple brings low-tech solutions for wire bridges and pedal-powered electricity to villagers in Nepal

The Almanac/Veronica Weber

David and Haydi Sowerwine have returned from Nepal to their Menlo Park home, adorned by prayer flags. They still run EcoSystems in Nepal, which builds cable bridges and pedal-powered generators to improve the lives of village people. David is managing director; Haydi is assistant director.

Just think. The 100-watt electric light you casually flick on a dozen times a day uses enough electricity to provide reading light for 2,000 houses in Nepal.

David and Haydi Sowerwine of Menlo Park are trying to remedy that situation, big time. With the aid of a grant from the World Bank, they are launching a program to bring clean electric light to thousands of dark smoky dwellings in the rugged boondocks of Nepal — and also in Myanmar, formerly Burma, where 98 percent of people have no power. And potentially the technology could help the powerless around the world.

“Hundreds of thousands of children in Nepal can’t study in the evening because they have no light,” says Mr. Sowerwine, standing beside a pedal-powered generator in his Menlo Park garage. “With one tenth of a watt of light, kids can study in the evening.”

Mr. Sowerwine holds up a tiny LED (light-emitting diode) attached to a battery pack. This 1/40th watt light bulb is bright enough to light a home, dimly, or allow a child to study. “One little motorcycle battery is enough to take care of basic light for two to three weeks — both general light and task light,” he says.

The Sowerwines are testing their PedalPower70 generator system in Nepal through a company, EcoSystems Pvt. Ltd., that they founded during a 14-year stay in the mountain country from 1991 to 2005.

The system involves a compact, pedal-powered generator. A vigorous pedaler can pump 70 watts into a 12-volt battery. This can then charge portable six-volt motorcycle batteries, which are placed in circuit boxes that make sure the battery isn’t overcharged or damaged.

Villagers can then carry a pair of battery boxes home and use them for weeks, until they need to be recharged. The batteries can support dozens of lamps for shorter periods of time, according to company literature. Or they can support other low-wattage applications, such as recharging smaller batteries or sterilizing water.

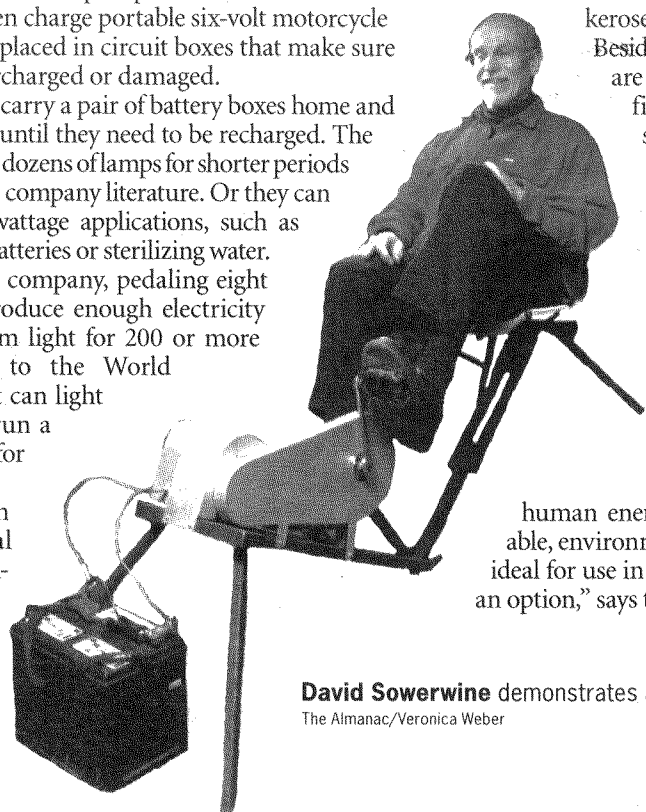
The village power company, pedaling eight hours a day, can produce enough electricity to provide minimum light for 200 or more homes, according to the World Bank web site. Or it can light a schoolroom and run a television and DVD for students.

With more than half of all Nepal households lacking electricity, Mr. Sowerwine also sees tremendous environmental advantages to his village power sys-

tems. They provide clean power, in contrast to alternative methods, such as burning kerosene or cow dung, or lighting open fires. Besides, Mr. Sowerwine says: “Open fires are inefficient. Now they can use a closed firebox to cook with. That’s a very good solution.”

The World Bank sees worldwide promise in the system. In May 2006, PedalPower70 won an energy award from the international bank. It was one of 30 awards given from 2,600 entries, Mr. Sowerwine notes. The award carries a grant of \$160,000 over two years, which is underwriting tests in 15 villages in Nepal — and in Myanmar.

“PedalPower70 is an innovative pedal generator that harnesses human energy to produce an extremely affordable, environmentally sound source of power that is ideal for use in remote areas where grid access is not an option,” says the World Bank citation. “The system

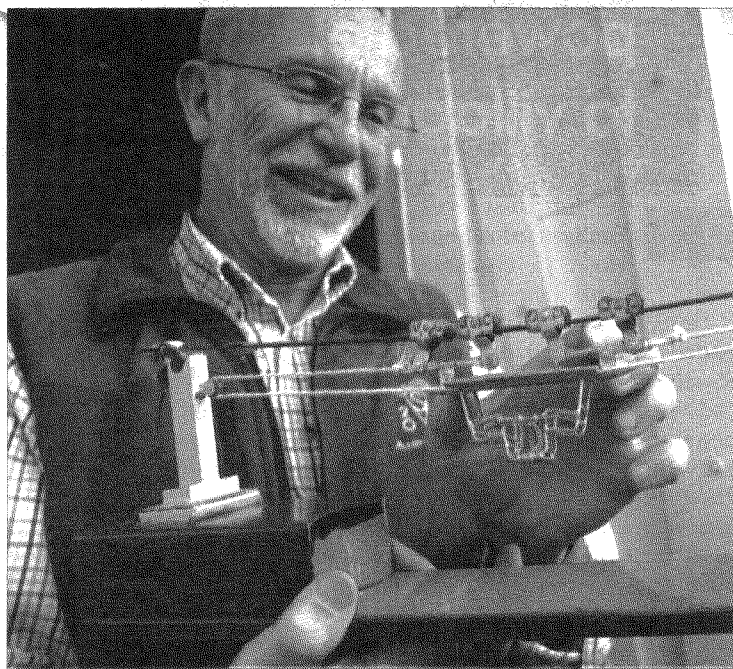


David Sowerwine demonstrates a pedal-power generator.
The Almanac/Veronica Weber



Photo courtesy of David Sowerwine

Village kids spill out of the steel basket as they cross a river in Nepal on one of the 31 wire bridges built by David and Haydi Sowerwine and the EcoSystems team.



The Almanac/Veronica Weber

David Sowerwine shows a model of one of 31 wire bridges constructed in Nepal to carry people and cargo across deep valleys. The baskets ride on a cable and are propelled by riders with a loop, like a tenement clothesline, attached to pulleys on either bank.

is also affordable; the up-front investment is only US \$10. The program will establish local production, distribution, and maintenance, and license its technology to entrepreneurs globally."

Bridges to hope

The Sowerwines' 14 years in Nepal also produced another award-winning way to improve

the lives of some of the world's poorest people: wire bridges.

Using technology developed to haul bananas from plantation to packing plant, the Sowerwines and their company have built 31 cable bridges across chasms in Nepal.

So far there have been more than 1.6 million safe trips as isolated villagers go to school, or the clinic, or the market, even during

the monsoons that swell mountain streams into raging torrents. "I'm quite confident in the safety of these bridges," Mr. Sowerwine says proudly.

In 2003, the Sowerwines won a \$50,000 award from the Tech Museum of Innovation for their WireBridge project. They were among 25 winners in five categories chosen from more than 500 nominations from 70 countries.

Small carriage seats, which can carry people or goods, dangle from cables strung across a valley that can be up to 570 feet across — "the length of two football fields; you can barely see the other side," says Mr. Sowerwine.

Passengers propel themselves with a tenement-style clothesline that loops across the valley between pulleys at each end.

"The first time people ride it, they are white-knuckled," says Mr. Sowerwine. He describes the ride: you sit inside the chair so you can't fall out and shove off. The first half of the ride is downhill and fast, with the wind in your hair. The center is quiet and beautiful. It's fairly easy to pull yourself up with the rope. If villagers on the far side are feeling helpful, or in a hurry, they help pull from the bank.

The wire bridges cost about \$15,000 each — not much for this country, but far more than Nep-

alese villagers can pay. And the government doesn't contribute. So the Sowerwines have been raising money overseas to fund the bridges.

Among the local groups that have contributed to a bridge in Nepal are Holy Trinity Church and the Flora Family Foundation in Menlo Park. "It is an elegant solution to a development challenge," said Steve Toben of Portola Valley, president of the Flora Family Foundation. "It's great work."

Power couple

These contributions to the well-being of far-away villagers did not happen by accident. David Sowerwine brought technical background and extensive experience in business around the world to Nepal. And he and Haydi stayed in Nepal long enough to learn its lessons — some of them hard — and to know the people, and how to get things done.

David, a Montana kid studying chemical engineering at Stanford, found his calling in 1958 when he took a term in Germany. He got into East Germany and was even in Moscow when Nixon and Khrushchev engaged in their famous "kitchen debate."

"It was a fabulous window on the world," Mr. Sowerwine recalls. "I decided I wanted to be involved in developing countries."

His early career took him around Asia for eight years doing planning for Esso (now Exxon). He earned an MBA at Stanford, and then learned agriculture around Latin America with Dole/Castle and Cooke. Later he lifted the technology used to move bananas in Honduras and used it in designing the wire bridges in Nepal.

Mr. Sowerwine became prominent in Menlo Park in the 1970s when he joined the movement to "Save the Hill," the then-bare slope that rises at the end of Valparaiso Avenue toward Sharon Heights. Now the face of the Hill is Sharon Hills Park; there are homes at the top.

Mr. Sowerwine's career has been anything but static, as he changed jobs and started a couple of small ventures. He bought his house on Olive Street in 1972, and has lived there off and on ever since. "I have moved into that house four times," he says.

In 1979, Mr. Sowerwine met and married Haydi, who worked with the Palo Alto design firm, IDEO. It was a second marriage for both. They moved into the Olive Street house with their five children between 10 and 16. "It was a zoo," chuckles Mr. Sowerwine.

Ms. Sowerwine has local roots. Her father was Emott Caldwell, who bought the grocery store in Woodside from the Neuman family in 1950, operated Caldwell's General Store for 10 years, and

sold it the Roberts about 1960. Woodside artist and architect Jim Caldwell is her brother.

In 1991, the kids were grown, and the Sowerwines rented out the house again. They moved to Katmandu, where Mr. Sowerwine took a job with the U.S. government to help "kick start" agribusiness in Nepal. "We introduced protea flowers and blackberries and raspberries to bring new value to the economy," he says.

14 years in Nepal

In Nepal, the Sowerwines navigated — and learned from — three projects that fizzled, before they evolved the programs that are helping ordinary people around the country.

Within a year and a half, agribusiness had not taken off. But Nepalese friends encouraged the Sowerwines to stay, and arranged to extend their visas as they looked for something worthwhile to do.

Two more projects foundered on government demands and conditions. Mr. Sowerwine thought of an innovative way to clear the garbage that clogs Katmandu Valley by hoisting it to a landfill in another valley, while quarrying limestone from that valley for building in and around Katmandu.

Too good to be true? Yes. The government wanted them to hire relatives of government officials and continue employing all 800 garbage employees. "We were very naïve," says Mr. Sowerwine. "It was a corruption issue."

A second project, to build a network of video learning centers in rural schools, also stalled because of demands for payoffs. "Strike two," Mr. Sowerwine says. "We couldn't get permission to set up a superior education system without paying big bribes."

"These were a remarkably good way to educate people," he recalls wistfully. "You don't have to wait until they're literate."

Strike three never happened. "We needed something outside of the ministries," Ms. Sowerwine says. "So we thought, Back to Central America! Back to bananas!"

Their first effort was to develop "wire roads" — a cable system that would carry people and goods suspended from cables across long distances — using a technology developed to transport bananas from the plantation to the packing plant.

But their engineering work drew audiences. "These were villagers who thought we were working on bridges," Mr. Sowerwine says. "They wanted bridges. So we backtracked."

The first wire bridge opened Christmas of 1998. Thirty-one have been built so far, and there is a waiting list. "We have a lot of cli-

See **PEDAL**, page 14

TRADITIONAL SHOP

FINAL REDUCTIONS

Save Up to 80%

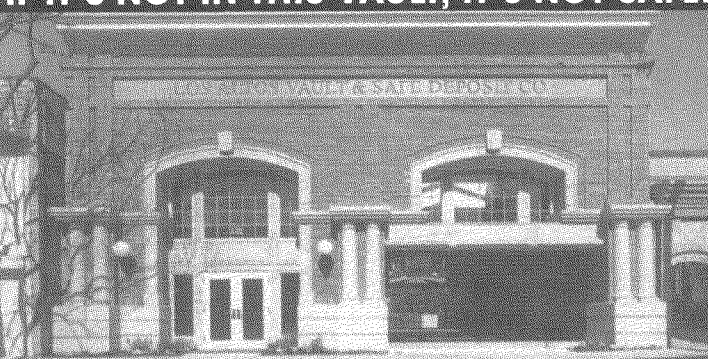
Shop Closing March 10th.

75 Arbor Rd at Cambridge, Menlo Park

Allied Arts Guild

650-325-3259

IF IT'S NOT IN THIS VAULT, IT'S NOT SAFE.



LOS ALTOS VAULT & SAFE DEPOSIT CO.

A private depository
Safe deposit boxes of all sizes
Strict and total confidentiality
Secured and ample parking
For your own sake we should have your business.
Visit our facilities and judge for yourself.
Data bank for important and confidential records.

**WE ARE #1!
There Is No #2
BELIEVE IT!**

121 First Street, Los Altos, CA 94022
Tel: 650-949-5891 www.losaltosvault.com

 **STANFORD**
SCHOOL OF MEDICINE
Stanford University Medical Center

Are you interested in alternative medicine?

PARTICIPANTS WANTED

for Stanford Research Study of a Natural Supplement That May Improve Blood Pressure!!!

You may qualify if you:

- Are between the ages of 35 and 70
- Might have systolic blood pressure of 123 or higher
- Do not take blood pressure or diabetes medications

Receive Free Health Screening for Diabetes and Cardiovascular Disease!

No Monetary Compensation

...For more information or to sign up, go to the **UPBEAT Study** website:
<http://ppop.stanford.edu>
or call: (650)724-9293

'It's like a personal Peace Corps'

PEDAL

continued from page 13

ents, but nobody has any money," Mr. Sowerwine says.

Meanwhile, EcoSystems and its team of engineers and local craftsmen launched the Village Power program and began testing it in villages.

To help train local craftsmen in western technology, EcoSystems supports young engineers who volunteer their time in designing and advancing its projects. Mark Younger of Menlo Park, a graduate of Menlo-Atherton High School, is one; his wife, Ashley, who plans to take nurse's training, volunteers at a leprosy clinic in Nepal. "It's like a personal Peace Corps," says Mr. Sowerwine.

Somehow, the Sowerwines have been moving their projects and knowhow forward in a desperately poor country, with a feudal government, amid a popular uprising.

Dealing with the government remains frustrating, Mr. Sowerwine admits, but mostly, "They're staying out of our way."

The "Maoist" rebellion has been uncomfortable, but there have been no direct threats, Mr. Sowerwine says. Rebels have not interfered with the bridges. He is hopeful that the rebellion is transforming into a true reformist movement.

"The last few years were difficult, with people killing each other," Ms. Sowerwine adds. "It is depressing to see such a wonderful place malfunction."

The huge problem facing Nepal is population growth, Mr. Sowerwine says. Since the 1950s, the population has quintupled. And just since they came in 1991, the population has grown from 18 million to 27 million now.

"It's a terrible issue," says Mr. Sowerwine. "It's difficult for people here to imagine the level of poverty and despair. It's getting worse because of population growth."

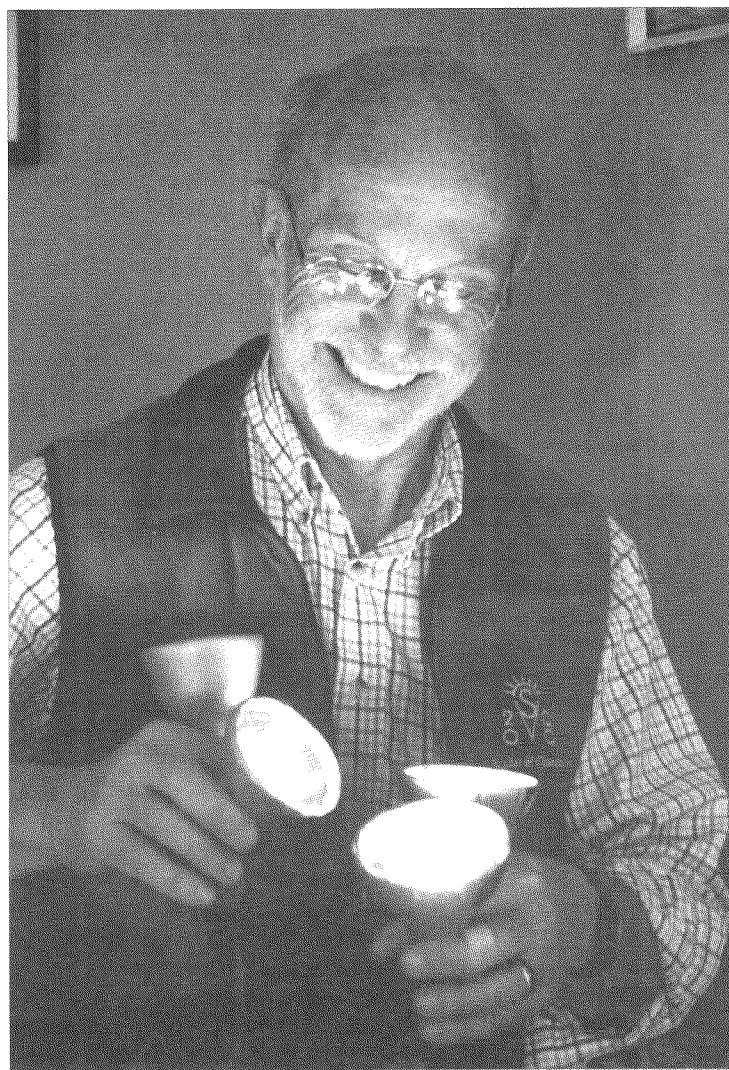
The Sowerwines returned to Menlo Park in 2005. They are managing the business in Nepal from their home on Olive Street, and Mr. Sowerwine returns there several times a year. They also concentrate on obtaining financing for their projects in this country.

"We have a good team in Nepal," Mr. Sowerwine says. "We came back for clean air and 11 grandchildren."

What next?

In an interview, Mr. Sowerwine sparks ideas like his generator sparks volts. "David sees solutions to problems every day," says Ms. Sowerwine.

His current agenda focuses on at least three areas: raising money to support EcoSystems projects; starting similar projects in other countries; and developing new



The Almanac/Veronica Weber

At home in Menlo Park, David Sowerwine demonstrates how tiny LED lamps, embedded in plastic coke bottles that have been cut in half, can produce enough light to cook or study by.

ways to bring transportation and power to poor communities in Nepal, and around the world.

While the Sowerwines already work with a number of international nonprofits, some neighbors are forming a new nonprofit to support their work.

COVER STORY

"VillageTech Solutions is currently recruiting board members," he says. "It requires special people."

Under the World Bank grant, EcoSystems has to start a program outside of Nepal. So the Sowerwines are working with International Development Enterprises (IDE) of Colorado, an organization that helps poor farmers around the world. IDE is introducing their EcoPower pedal generator and battery system to Myanmar, where practically no villages have electricity.

To start a project like EcoPower in a new country, "you need a partner," Mr. Sowerwine says. "IDE is perfect. They've been there a long time; they know how to get things done; they know what the pitfalls are."

Mr. Sowerwine eagerly describes some of the new projects EcoSys-

tems is working on:

■ **WireRoad:** In addition to bridges, EcoSystems is still developing a WireRoad, a kind of inexpensive rural monorail based on banana cableway technology, to carry people and cargo in more level areas, where roads are rough and unreliable.

■ **Gravity generators:** EcoSystems is designing small generators run by weights — kind of like a cuckoo clock, Mr. Sowerwine says. "People can have their own little in-house generator."

And Mr. Sowerwine will soon be going back to Nepal to work with a Dartmouth engineer to explore ways of storing electricity generated from Nepal's many small hydropower generators that take energy from its rivers. "Batteries are far too expensive; how else can we store it?" he says. "That's where magic comes in. That's what we're exploring."

Mr. Sowerwine remains upbeat. "We want to continue into the future," he says enthusiastically. "We want to keep the engine of innovation going. We think that has great promise for the future." ■

INFORMATION

David Sowerwine can be contacted at 380-5008 or by e-mail at dhsowerwine@earthlink.net. For more information, check these Web sites:
■ www.ecosystemsnepal.com ■ www.bridgestoprosperty.org
■ www.ide-international.org