

Perspectives on Promoting Appropriate Technology

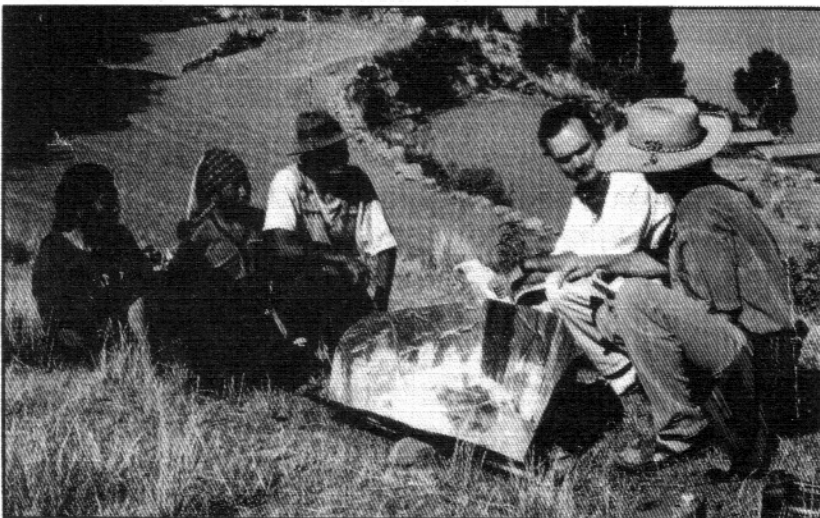
You return from a very poor country (at least I do) and have dreams about the experience for months afterwards. It may be that in entering new worlds, you discover new ones inside yourself. And so it has been since 1994. It was then that Appalachia-Science in the Public Interest, funded in part by the Kentucky Jesuit Mission, began promoting solar cookers. Andy McDonald and I were sent to Arequipa, Peru to work with a group of Medical Mission Sisters. Of course, on that first trip we hadn't (and couldn't have) developed a whole perspective and philosophy of doing this kind of work. It wasn't until five years later- after going to Honduras (1995 and 1996), returning to Peru (1997), and traveling to Malawi, Africa (1998 and hopefully in 2000)—that we have a better sense of what we are doing.

Appropriate technology, which is becoming more and more clear to us, is not a static thing, but rather a relationship with a number of factors that include the place and people's needs. In disseminating appropriate technology in another country, you are, in effect, entering a relationship. The actual technology of cooking with sunlight is only part of the work, the other part being the way this technology is presented.

It's important not to go into another country (or into any relationship) knowing everything. One of our philosophies in doing this kind of work is to be prepared to accept ideas as well as present them.

PERU

On that first trip to Peru, Andy and I certainly didn't have the problem of knowing everything. In fact, neither of us (although we were enthused about cooking with the sun) had much experience actually making solar cookers. We had built only one together before the trip. It was made out of adobe since we had heard a lot of structures were built from adobe in South America. We left before testing it. The first one we built in Peru was



Mark Schimmoeller and Andy McDonald teach solar cooking techniques to Taquile Islanders, Peru. 1997

similar to our US adobe one, since that is what we knew. It turned out to be unwieldy and ineffective so we started over. After reading books and asking advice, we ended up using empty boxes that food donations had arrived in and making a slanted-top cooker that would catch the strong morning sun. This one worked well, so well that we began making lots of them which helped the Medical Mission Sisters of Arequipa establish a small business. Returning in 1997 (this time with Joshua Bills as well as Andy McDonald) we found Sister Patricia Gootee in a regular pattern of cooking lunch, the main meal in Peru, with her solar cooker. The Sisters' business of selling cookers was

still functioning; they had sold over a hundred since we'd been there last.

All of this is to suggest that technical expertise perhaps isn't as crucial in appropriate technology development work as the simple willingness to learn and adapt to a new place. After our first failed oven, of course, we had a hard time seeing our situation with this perspective. We were in fact so disappointed we almost took the plunge into making compost toilets.

HONDURAS



My experience in Honduras can also suggest the importance of reciprocity; allowing the place to affect technology. Too often these days, the opposite happens; aid is sent before entering a place. I went to Honduras in 1995 and then returning the following year with my sister, Trina. Because of the large number of rainy days in Honduras, I made wood-burning stoves as well as solar cookers. I now have the perspective that one stove I made that failed was probably the best thing that happened to the Honduran project. It came about in 1996 when people wanted me to put a chimney on the kind of wood stove I had been building. I knew that a chimney on this particular design would draw a lot of heat away from the cooking area. I resisted at first, then later gave in to demands. What I had feared happened; sparks were coming out of the chimney and the hot plate stayed cool. I'd never had such a showy failure. As a result (and this is the good news), I came up with a stove design with a hot plate, chimney, and a baffled interior made out of tejas (clay-baked roofing tiles) that worked so well that I've made several here in Kentucky.

Another of our philosophies in doing this kind of work is to always use local materials. This perhaps goes along with our attempt to be receptive to new places and ideas. When entering a sooty Latin American kitchen, instead of reacting to the place as if it were dirty, try asking for some soot. A black paint, needed for painting the tray of a solar cooker, can be made from a mixture of soot, glue, and water. It helps to be positive, to let people know that you see value in what is available. One woman, pleased after seeing the commercial-looking paint I'd made with her soot, speculated how lucky she would be if soot came in other colors.

MALAWI

Recently I had a dream. I was trying to climb a ladder to get to a forest, but the rungs were wobbly, and I was afraid. Then many Malawian kids formed a human ladder for me. I climbed up and entered the forest. Most of Malawi, actually is completely deforested- so the dream seemed hopeful. The intent of my five-week stay there (on invitations from the Ministry of National Parks) was certainly based on the hope that if I trained park rangers in how to build solar cookers, they would be able to offer an alternative to people desperately in need of cooking fuel, who often have no recourse but to take trees illegally from protected land.

Reacting to the good bit of shock I felt by being in a place exotically different from what I was accustomed to, either in the U.S. or in Latin America, I did nothing for two weeks other than observe. Risking disapproval from men, who don't mingle with women in their palace of work, I sat with women around cooking fires, asking questions. Their input helped me decide to focus on two kinds of cookers- a box cooker similar to the Peruvian style, and a parabolic cooker, which could cook the staple dish of the country, "nsima". I was able to insulate the

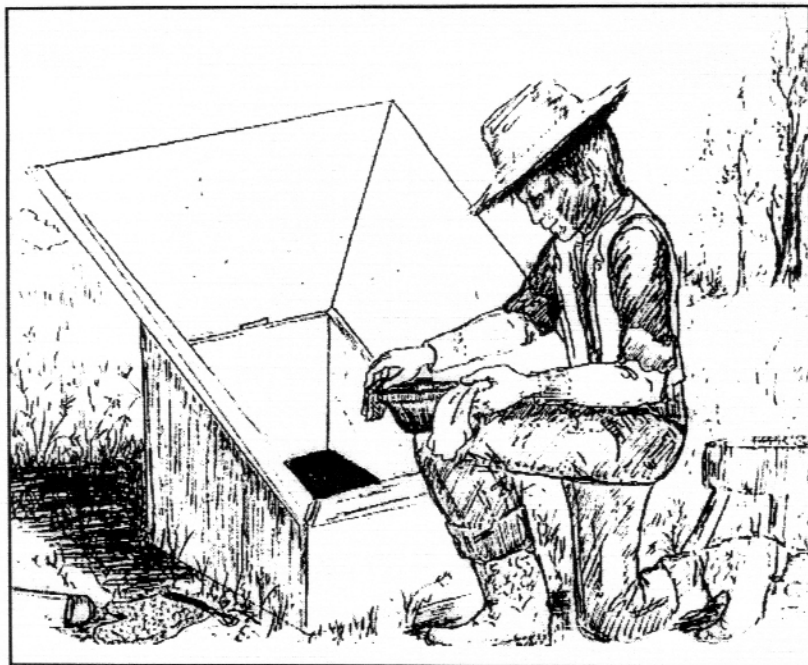
box cookers with dried bamboo leaves, plentiful in Malawi.

The workshops I gave in 1998 caught the attention of The Ministry of Education, which would like similar workshops given to train school teachers. A trip is being planned for the summer of 2000. So our story in Malawi (as well as in Peru and Honduras, I suppose) continues to unfold.

SUMMARY

In recounting my experiences, an image from a workshop I conducted keeps returning to me. It is of a prison in Peru. I was inside a dimly lit hall, working with group of inmates. Because I was not allowed to bring in tools, a

young man was cutting out the inner box with a broken hacksaw blade, doing the most meticulous work you can imagine. His attention to detail, I suppose, had something to do with associating solar cookers with being outside, free, wanting to get it right this time. This can be true for all of us, I think. After these five trips, I have come to believe that getting it right means leaving some of what you are sure about. If that is possible, it may then be possible to find yourself inside (instead of outside) a relationship. That could be a whole different world altogether.



OUTREACH WORK

I've learned that in doing any kind of outreach work, whether in this county or abroad, it is most important to keep going inside the place where you find yourself, always toward a greater understanding of people and ways of doing and living. It might be helpful for anyone attempting this process to consider five guidelines: 1) have an invitation; 2) have some knowledge of the language and people; 3) use local expertise, materials, technologies; 4) be willing to learn, accept, and follow through with advice; and 5) practice what you are teaching.

1. INVITATION

The success with which appropriate technology is disseminated depends on the way it is presented as much as on the technology itself. One way to get off to a good start is to have an invitation before traveling or indications that the knowledge you have to impart can help with the needs of the area, can be implemented easily and cheaply with the resources of the area, and is wanted. If you go without these indications, you run the risk of being an unwelcome outsider. Beginning the process of promoting an appropriate technology, such as solar cooking, from an outsider's position would taint your efforts. You could be perceived as arrogant, unthoughtful, or proselytizing. To some extent, when traveling into a new area, you will always be an outsider; however, there are a few doorways that can bring you closer to a community. The etiquette you would follow in going to someone's house is the same one that should be used in going to another country.

2. KNOWLEDGE OF LANGUAGE AND CULTURE

In doing outreach work, it is important to realize that the goal is not to change the culture of the people you are

with but to understand it and to work inside it. For example, it was important when working in Arequipa, Peru, for Andy and me to learn that the main meal happened at midday. This knowledge helped determine the design of the solar cookers we built (ones with slanted tops to catch the strong morning sun). One of the goals, ultimately, is to demonstrate that what you are offering can fit comfortably into the daily lives of the people. If we had built flat-topped cookers in Arequipa and encouraged people to eat their main meal later on, the project most likely would not have enjoyed much success.

Although knowledge of the area is important, it is also important not to know too much and to go into a new area willing to learn. In the same way that good, appropriate technology is part of a process involving place, people, and resources, anyone disseminating this kind of technology (or any kind of knowledge) becomes part of this same process. If you have a lot of pre-conceived notions on how to do things, then it is harder to enter the relationships of a given community and its ways of living and doing. Even though it can be the most difficult part of this work, you should be willing to set yourself up to be revised.

3. LOCAL EXPERTISE, MATERIALS, AND TECHNOLOGIES

Part of the learning process upon arriving in a new area is to balance what your project needs with what the area has to offer. If this evaluation is made, it is quite possible that you will have to alter your project in some way. This is good, for it means you are adapting to the place. Looking for local solutions accomplishes a couple important goals. It strengthens the long term potential of the project, and it secures a measure of respect for the project. Using the example cited earlier of the soot in Honduras: Being able to use the soot in Maria de la Luz' kitchen for making black paint meant that 1) Maria de la Luz witnessed that I saw some value in her soot and I had not assumed that her kitchen was filthy and 2) that she could repeat the process herself in the future, something she couldn't have done if I had brought a flat, black latex from the United States.

When people see what you have to offer can be home-grown, they are more likely to accept it, carry on with it, and be proud of it.

4. WILLINGNESS TO LEARN

A simple openness to advice is probably the single most important thing you could do to attract interest in your project; yet is also one of the hardest tasks. When someone suggested that I put a chimney on a stove in Honduras, I resisted for a long time. By giving in (a process that led to a failed stove, more revisions, then finally to a model that both functioned well and saved wood), I was then able to point to a stove that could truly be considered a Honduran stove, home-grown. What this work is about, really, is planting a seed, relinquishing your control over that seed, and then letting it grow on its own.

5. PRACTICE WHAT YOU TEACH

When teaching in Latin America and Africa, it has helped me to tell people that solar cooking is an integral part of my lifestyle in the United States. To not practice what you teach is essentially placing yourself on a different level than the people you are teaching (it is good enough for them but not for you). Avoid creating such divisions.