ment on 12 May Conlan said that the course contains "shocking and objectionable sex and behavior modification content that invades the personal privacy and sensitivities of young students."

ISIS, which is still under development at Florida State University, is intended to eliminate "unnatural barriers" between scientific disciplines. It is composed of some 80 "minicourses" in which specific topics are dealt with in an interdisciplinary manner, using concepts from physics, chemistry, and biology. Conlan's objections are apparently directed to two of the mini-courses, those on "human reproduction" and "birth and growth."

For Conlan, the pursuit of the ISIS peer review materials is a continuation of a campaign to forge closer congressional control of NSF's course and curriculum improvement program. Conlan's attack on

VITA: Appropriate Technology for the Third World

Bangladeshis cannot afford to buy imported soap and David J. Hopkins, a development worker in Dacca, wants to make a substitute out of locally available materials. A Methodist missionary in Bolivia, Robert L. Caulfield, needs to know how ammonium phosphate fertilizer can be used to fireproof thatched roofing. J. S. Joshi, the fisheries officer in Jamnagar, India, would like to find a commercial use for the copious supplies of seaweed that grow along his coast. Peace Corps volunteer Bruce Cohen runs a radio station on the Pacific island of Tonga and needs training materials for his staff.

The common feature of these various needs for help is that all were made known earlier this year to an unusual but little known organization called VITA, or Volunteers in Technical Assistance. With headquarters in a former convent in the suburbs of Washington, D.C., VITA is a nationwide network of some 6000 scientists and engineers who give free advice to people with technical problems.

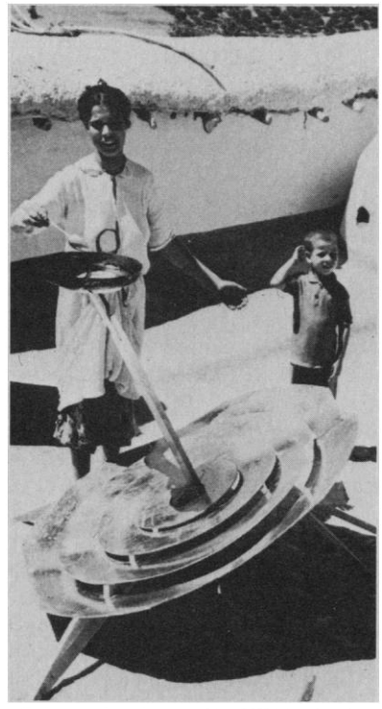
Most of the 1500 requests VITA receives each year come from the developing countries, with about a third each from Africa, South America, and Asia. Many can be answered by provision of material from VITA's library. Problems needing individual attention are forwarded on to one or more volunteers with relevant expertise. They will suggest a technical solution, and provide continuing advice to the requester until his problem is solved.

In the course of rendering advice VITA scientists and engineers have designed such implements as windmills, Savonius rotors, methane gas generators, Archimedes' screws, low-cost tractors, bicycle powered pumps, solar cookers (see figure), and spinning wheels. (The latter was not a case of reinventing the wheel; American colonial spinning wheels were found to be too sophisticated for many purposes, requiring a master craftsman to build them and considerable skill to operate.)

The emphasis in VITA's advice to Third World countries is on "appropriate technology," the use of skills and materials that are locally available, or, if equipment has to be imported, on designs that can be repaired by the village craftsman. Much of the volunteer advisers' experience has been incorporated into *Village Technology Handbook**, a manual which tells you nine-tenths of what you need to know about basic life-support systems, from the digging of wells to the salting of fish and the cutting of bamboo pens. The handbook was compiled by Daniel Johnson, an engineer with General Electric at Schenectady and one of the original founders of VITA in 1959.

VITA grew out of a local group, the Mohawk Valley Association of Scientists and Engineers, which included several GE scientists as well as Johnson and another VITA founder, Robert M. Walker, now at the Washington University, St. Louis. The purpose was to create a means for the scientific and technical community to give personal help with the problems confronting developing nations. At first members met in each other's houses. Later it was necessary to hire full-time staff, and then to move from Schenectady to Washington. During the "Great Society" years, at the government's request, VITA set up a domestic operation with branches in several cities, but government funds dried up in 1973 and the emphasis reverted to the original purpose of work overseas.

VITA's director is Tom Fox, an ex-Peace Corps administrator with experience in Upper Volta. Michael P. Greene, formerly a solid state physicist at the University of Maryland, has recently joined as the organization's technical director. VITA now has a headquarters staff of 20 and an annual budget of about $500,000 (down from $1 million at the time of its domestic involvement), to which the Agency for International Development is the largest single contributor. Local VITA's have been established in Nigeria, Brazil, the Philippines, and Central America. The organization reckons to have answered more than 25,000 requests from 100 countries.



Solar cooker designed by VITA scientists.

"Appropriate technology is an issue which lies at the center of development strategy but which at present is being left largely to organizations like VITA," says Charles Weiss, science and technology adviser at the World Bank and a member of VITA's corporate board. "VITA is pointing to a vast but unfilled need—it's a shame there is not a bigger effort in this field," he says. One limit on VITA's growth is that its services have not been widely publicized. Many of those requesting help are Peace Corps volunteers or Americans working aboard who have heard of VITA by word of mouth. Its smallness, however, may be linked to its success. Compared with the many costly aid projects that are of little or negative value to the people they are supposed to help, VITA is an efficient, if small-scale, vehicle for putting technical skills to the service of Third World countries.—N.W.

*Obtainable from VITA, 3706 Rhode Island Avenue, Mount Rainier, Maryland 20822. Price: $9 if you live in the United States and can afford it, free if you don't and can't.