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VOLUNTEERS IN TECHNICAL ASSISTANCE
RENEWABLE ENERGY PROGRAM

FOURTH QUARTER REPORT
JULY - SEPTEMBER 1980

AND

ANNUAL REPORT
1979/1980

Submitted to:

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OCTOBER, 1980



VOLUNTEERS IN TECHNICAL ASSISTANCE

October 23, 1980

Mr. Alan Jacobs
Director, Office of Energy
Bureau for Development Support
Agency for International Development
c/o Department of State
Washington, DC 20523

Dear Mr. Jacobs:

Enclosed are twenty copies of the fourth quarter report of the VITA Renewable Energy Program. We would be happy to review any aspect of the program or this report at your convenience.

Sincerely yours,

William A. Gross
Deputy Executive Director

Enclosures

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I. The Quarter and Year in Review

This report marks the end of the first year of the DS/EY Cooperative Agreement with VITA to develop a Renewable Energy Program (REP). The VITA program is designed to contribute to the overall goal of developing a capacity to utilize renewable energy sources in developing countries as alternatives to imported fuels, with a particular focus on low income groups. This goal is being carried out through a three-pronged effort to (1) strengthen traditional VITA technical assistance mechanisms; (2) support informal and formal information and other resource sharing systems; and (3) establish a small grants project implementation fund.

Considerable effort in the first year has been devoted to staff and program development: recruiting staff, setting up management and collaborative systems, and identifying and laying the groundwork for program activities. A number of significant efforts have been launched. Table 1 is a summary quantitative statement of achievements in major outputs.

The VITA Renewable Energy Program can be divided into three broad efforts related to the goals and purposes described above: (1) technology transfer services; (2) networking; and (3) program implementation. In reality, however, these three areas are highly inter-related and interactive, and are expected to become more so during the course of the Program.

Technology Transfer Services

Technology transfer services, an already operational and long-standing core activity of VITA at the initiation of the REP, evolved at a fast pace in the renewable energy area this year. Volunteer resources, the inquiry service, the documentation center, and publications fulfilled or exceeded projected benchmarks. In all these areas, renewable energy capabilities and/or outputs have been considerably increased over the last year. At the same time both the quality and the efficiency of delivery of these services have been improved. Notably, VITA volunteers are being used increasingly, for on-site consultations, technical panels, and review of technical documents and REP proposals. All of these delivery services will continue to be upgraded over the next quarter and year.

Education and reassessment of how best to deliver VITA's information and other resources is on-going. Expanded initiatives have been launched in a developing training program in information resources transfer and limited computerization of energy data. In addition, a key part of the REP is a "package" assistance mechanisms together with newly available expert staff and small grants. Integrating this package delivery of resources needed for project development and implementation is a major focus of the next quarter and year.

TABLE 1

VITA/REP

Program Activities and Proposed
 Benchmarks, 1979-1981, Actual and Projected
 (Energy-Related Activities Only)

Benchmarks	<u>4th Quarter 1979-1980</u>	<u>Total Year 1979-1980</u>	<u>1st Quarter 1980-1981</u>	<u>Total Year 1980-1981</u>
<u>Information Resources</u>				
1. Volunteers recruited	132	237	25	100
2. Requests for information answered (of which, energy- related)	500 (134)	2,500 (761)	750 (250)	3,000 (1,000)
3. Documents acquired	300	1,200	500	2,000
<u>Publications</u>				
4: Total no. of energy- related publications (each in English, French and Spanish)	5	13	7	29
<u>Small Grants Fund</u>				
Status of proposals:				
5: Approved (#)	4	11	12	50
(#)				
(\$)	\$24,300	\$93,579	\$80,000	\$350,000
6. Disbursed (#)	4	7	10	40
(#)				
(\$)	\$30,150	\$45,109	\$60,000	\$350,000
7. Speed of final response	3 weeks	3 weeks	3 weeks	2 weeks
<u>Leveraging (other donors for subgrants)</u>				
8. Total Leveraged for other VITA programs (\$)	\$215,500	\$240,500	--	--

Networking

"Networking" has been a continuing activity at VITA since its inception, twenty-one years ago. All of VITA's activities contribute to "networking"--linking people and institutions together in the solution of common problems, acting as an information broker, and helping to locate and funnel needed information, personnel, and financial resources for project development and implementation. Recently, a more focused approach has been experimented with at VITA, resulting in some new and innovative initiatives.

The development of VITA program activities in a specific region or technical area has often led naturally into an informal "network" of common interests. An example is the Mexico wind energy program and resulting linkages (see below). Such informal networking is likely to develop in a number of areas through the REP, as projects related to program areas are linked through VITA with other similar groups.

In addition to this informal approach to networking, VITA plans to help support local network development based on shared geographical or technical interests, of institutions impacting directly or indirectly on low income groups. A significant effort has been made in stimulating a nascent network, the Caribbean Appropriate Technology Center (CATC), through a meeting in Barbados in September. The Program plans to support the CATC through identifying renewable energy practitioners in the Caribbean, sending requested information on renewable energy technologies, and supporting, through a small grant if requested, development of the CATC by Christian Action for Development in the Caribbean (CADEC) and CATC.

Beyond supporting this Caribbean network, VITA intends to pursue network development in the next quarter and year in a low key and supportive manner, through support of existing networks and moving beyond information coordination to resource sharing. Other network support possibilities exist in the South Pacific, with COCOP in Latin America, and through the CILSS Coordinator in West Africa.

Program Development and the Small Grants Project Implementation Fund

The Renewable Energy Program Cooperative Agreement is permitting the creation of important new enabling components in VITA's technical assistance delivery services. The hiring of expert staff and establishing of a small grants project implementation fund is allowing the coordination and completion of key elements in a coherent package of assistance to small renewable energy projects. With the arrival of the REP Director and

additional professional and support staff in the fourth quarter, initial programmatic and procedural directions for the REP are being established.

Within the broad objective of assisting the urban and rural poor by supporting the development, transfer, and dissemination of renewable energy technologies, program areas are being identified and developed. These include networking support, South Pacific programs and communications systems, biogas in Latin America and solar and wind power. Other program areas planned for development in the next quarter or year include energy applications to small-scale industries, projects involving women in the dissemination of energy technologies implementing evaluation procedures designed to contribute to a model of technology transfer in the renewable energy area, and the East Africa region in general.

Under the small grants program, \$93,579 has been approved and \$45,109 disbursed in the first year. With implementation of a rapid proposal handling process and the addition of senior staff (an average of 5 planned for the next year), this pace is expected to speed up. Development of institutional relationships and coordination with other assistance groups and VITA technology transfer services is also contributing to the more effective delivery of needed project resources.

The development of a growing field presence is also beginning to generate good project proposals and contacts. Two VITA staff are now in the field, the REP Asia Field Representative in Bangkok and the CILSS Woodstoves Coordinator in Ouagadougou, Upper Volta. A third, the Latin America representative, is based in Mount Rainier with frequent field trips. Field representatives are also being considered for the Middle East and East Africa. Recent staff trips to Latin America, the Caribbean, and the South Pacific, together with planned trips to East Africa and Asia, are expected to result in additional small grants and other collaboration.

The REP has also been successful in referring several proposals received to more appropriate funders and has discussed cooperative funding or referral with a number of other assistance agencies, including ATI, PACT, the Caribbean Development Bank, and UNDP.

"Leveraging" other VITA Projects and Funds

Already in the fourth quarter of the REP, important steps have been taken towards helping to establish VITA's future self-sufficiency by diversifying and leveraging other projects and funding, partly through REP resources. A total of \$240,500 was leveraged in the first year, including projects requested by the AID Office of the Sahel, the National Academy of Sciences, and the United Nations Interim Fund for Science and Technology for Development (IFSTD). Another project has been requested by the government of Guinea but as yet is not funded.

II. Technology Transfer Services

Traditionally, VITA has performed a relatively "passive" role in technology transfer--providing technical information, publications, and occasionally on-site consultations upon specific, usually by-mail, request. Partly as a result of Renewable Energy Program support, the role of these core technical assistance mechanisms is undergoing major change in several respects.

First, the capabilities of these technology transfer services to perform their traditional response tasks are being upgraded, particularly in the field of renewable energy, through the addition of more staff, expanded documentation, development of a more formal training program, improved efficiency and speed of response to requests, a larger and more targeted publications program, and more effective use of VITA volunteers.

Moreover, the effectiveness of these traditional technology transfer mechanisms is being reassessed by VITA staff, through (a) evaluation of the use of inquiry services, volunteers and publications; and (b) increased technical review by VITA volunteers and staff of documentation and publications. New and innovative ways of delivering VITA's resources of information and expertise, such as pictorial or audio-visual displays and hands-on workshops, are being investigated.

Finally, with the availability of new financial and staff resources for project implementation and a more aggressive outreach effort through the Renewable Energy Program, VITA's core technical assistance mechanisms are becoming integrated into a VITA "package" approach to technical assistance, drawing on traditional services, networking, and the project implementation fund as needed. This subject will be dealt with in more detail below.

Following is a brief review of technology transfer services activities over the past quarter and year in (1) recruiting and utilizing energy-related VITA volunteers; (2) acquiring, cataloging and evaluating energy documents; (3) reducing the time while improving the quality and efficiency of response; (4) limited computerization of renewable energy data; (5) developing a more formal training program in these information resource areas; and (6) expanding and evaluating energy-related outreach publications.

More detailed quantitative information on achievements, staff changes and projections is available in appendix tables A-1 and A-2.

(1) Volunteer Resources

Volunteer recruitment. During the past year, 237 volunteers with energy-related skills have been added to VITA's roster, for

a total of over 600 energy volunteers. These new volunteers are notable for their high level of expertise as well as their wide geographical spread in more than 20 countries, 15 of them in the developing world. Many work full time in the energy field, ranging from consultants to presidents of their own firms to advisers to governments, and have both academic and practical experience.

Swahili-speaking Wayne Nishek, for example, has been working in Arusha, Tanzania for seven years, and is technical head of the Arusha Appropriate Technology Project, responsible for the development, testing, and adaptation of a wide variety of renewable energy devices including methane generators, solar water pumps and windmills. In Madras, volunteer Howard Geller is a visiting Fulbright research scholar working on rural cookstove design and performance and solar water heaters. In the Philippines, volunteer Sta Ana is the Senior Project Engineer for the Center of Nonconventional Energy Development. His areas of expertise range from solar energy to all varieties of pumps and windpower.

The accuracy and accessibility of volunteer information has been improved through transferring the computer system to another company and by updating volunteer information. One hundred and nine of this year's "new" energy-related volunteers were actually existing volunteers who had acquired energy skills, identified in the recent updating exercise.

The Volunteer Resources Manager represented VITA at the Technology for the People exposition in Geneva, September 16-21, 1980. A display of VITA's activities emphasized renewable energy technologies and included a continuous slide show and display of VITA publications and brochures. Volunteer recruitment was a notable benefit. A total of 16 individuals in the development field completed volunteer resume forms on the spot while many others took them to complete at a later time. Leading solar experts from India and Nepal and the program heads of German, Swiss and Thai AT organizations were among the new additions to the volunteer roster with backgrounds in renewable energy.

Projected activities for the fourth quarter include continued updating of volunteer files; expanding and refining the skills list used to categorize volunteers to include more renewable energy terms; and developing a targeted strategy, in coordination with senior advisers and technical inquiry coordinators, for recruiting volunteers with especially needed energy skills.

Consultancies and Technical Panels. Energy-related consultant name referral requests rose each quarter, with 14 of the year's total of 28 in the last quarter. For example, the wind energy project being carried out in collaboration with the Instituto de Investigaciones Electricas (IIE) in Cuernavaca, Mexico with General Electric funding has used VITA volunteer

consultants extensively in the past quarter, with all services being offered by volunteers without fee. In mid-July, VITA's Latin America Representative and VITA volunteer Dan Johnson went to Cuernavaca to review progress on the design of a sail wing wind pump being carried out in collaboration with the IIE. Shortly after that consultation, the Mexican project director came to VITA to interview a number of VITA volunteers who might be available for subsequent consultations, and four were identified. In September, VITA volunteer Johnson continued his work started in Mexico by convening a volunteer panel meeting of five other VITA volunteers in New Holland, Pennsylvania. At the meeting, attended by VITA staff, the volunteers agreed to design a variable stroke mechanism. The concept--developed by Johnson--will enable a wind pump to pump water under varying wind speeds. William Hughes, another VITA volunteer (who earlier carried out a wind feasibility study in Mauritania), visited the IIE in late September to present his designs of induction motors and pumps. These designs will serve as one possible solution to the selection of the electric-drive wind pump component of the project.

Other consultancies by VITA volunteers, carried out during the past quarter--many without fee--include:

- * William Smith to India to design a prototype windmill to pump water for irrigation.

- * Amy Titus to Peru to evaluate in depth an Arusha windmill built from a VITA publication by a Technical School. She identified technical needs of the requestor and VITA staff is now supplying volunteer input to design a water pump to complement with the windmill.

- * A microhydro specialist referred to the government of Panama through the National Rural Electric Cooperative Association.

- * Gautam Dutt to Upper Volta to establish testing criteria for the various models of woodstoves now under experimentation, funded by the IBM grant to VITA for promotion of woodstoves in Upper Volta.

- * Len Doaks, while in Tanzania on vacation, to follow up the use of VITA materials by three requesters.

Projected consultancies include:

- * Possibly a methane uses expert to Guatemala to support CEMAT's (Centro Mesoamericano de Estudios Sobre Tecnologia Apropiada) program in bio-gas utilization.

- * Another volunteer with experience in the fabrication of sail-wing components to the Mexico wind energy project.

- * Exploration of various possibilities including the General Electric-sponsored Mexico wind project and Program projects for using a VITA volunteer couple with energy-related skills who have offered a month or more of their time in a development project.

- * Two consultancies in Jamaica on wind power for small enterprise and on solar air conditioning for the Scientific Research Council.

- * The use of volunteers in a wind seminar in the Dominican Republic and two hands-on seminars in Barbados and Jamaica.

* A hydropower consultant to the Catholic University, Dominican Republic, for development of small hydroelectric system capability.

* See following section on "projects leveraged" for use of consultants as part of larger projects.

(2) Documentation Center

Energy Document Collection. Over the past year, VITA's program to expand and upgrade its energy-related document collection has resulted in the acquisition of 1200 new documents. These documents, along with those previously in the collection, have been reviewed by 40 volunteer technical experts for accuracy and quality. In the course of the review, the 5000 documents in VITA's original collection (the baseline figure) has been reduced to 2500 through discarding duplicates (approximately 2000) and documents that the reviewers judged inaccurate, dated or of questionable quality (approximately 500). The current collection consists of 3700 documents of good quality.

All energy documents have been classified and catalogued. This information, along with an abstract of each document, can be readily found in the newly established cross referenced card catalog which forms the basis of an efficient manual retrieval of the documents. Further, policies and procedures are now established to provide for an ongoing technical review of documents as they are acquired, and for classifying, cataloging and abstracting the documents judged suitable for the collection.

Bibliographies. Bibliographies on 14 categories of solar energy technologies are ready for publication, and nine bibliographies on wind energy technologies have been completed and are currently under review by volunteers. In addition, 800 institutions around the world involved in renewable energy technologies have received questionnaires on their activities and resources which will provide the information needed to publish a new edition of the Renewable Energy Resource Directory.

Exchanges. To support other documentation centers and to assist VITA's acquisition program in the coming years, 42 "document exchange" relationships were established with institutions in developing countries.

Projections. Projections for the next quarter include continuing the acquisition, review, classification, and cataloging of documents, as well as the establishment of "document exchange" relationships with more developing country institutions; completing the review and preparation for publication of the drafted wind energy bibliographies; and initiating the compilation of data for the Renewable Energy Resource Directory.

(3) Inquiry Service

The VITA Inquiry Service answered nearly 2500 requests for technical assistance in this grant year, of which 800 were in renewable energy, and expects to answer about 3000 next year, of which 1,000 will be energy-related. Through this contact with individuals and groups in the field seeking assistance, the Inquiry Service identifies needed documentation and volunteer expertise and works with the rest of Information Resources to obtain those resources. In addition, the Inquiry Service staff has striven to improve the quality while at the same time reducing the time required to respond to a request for assistance.

Requests for technical assistance emerge from VITA's long-standing institutional relationships and often develop into broader projects. For example, a recent visit by Farzam Arbab of FUNDAEC, in Columbia, generated numerous energy inquiries and possible areas of collaboration. In another case, Erik Barney of the Ministerio de Obras y Servicios Publicos, Argentina, constructed a Banki turbine from a VITA publication, then designed an electronic governor for the turbine and sent the plans to VITA for evaluation by volunteers and possible dissemination through a VITA publication. The Inquiry Service is expected to be a source of many future REP projects.

Reducing Response Time. The average time required for a substantive response to a request has been reduced to 2.5 weeks, from 9 weeks a year ago. Organizational changes which have made this reduction possible include specialization of the Technical Inquiry Coordinators in responding to requests in only a few technical areas, and reorganization of support staff functions to provide coordinators with consistent assistance with clerical tasks. Preparing pre-packaged responses to common requests will also eventually permit considerable time-saving. Information packets have already been prepared for windpower for electricity generation, methane, low-cost building materials, CINVA ram block making, fish preservation, and small industry development in East Africa. These are currently under technical review by volunteers.

Improving Quality. Improving the quality of VITA's response to requests for technical assistance is another major focus of the Inquiry Service. Needed documentation in the French language, small-scale alcohol stills, water pumping windmills, producer gas, and low cost roofing have been identified and acquired. Stuart Wilson of Oxford University and ITDG, who recently visited VITA, helped add significantly to holdings on pedal power. Student design projects with the Illinois Institute of Technology and other schools are being developed to help find solutions to specific problems, such as a design for a solar convection dryer.

Finally, an effort has been launched to gain a more precise understanding of the impact of VITA's by-mail technology transfer services, as well as a "profile" of who is an "effective" requester. New evaluation instruments have been developed and are currently under review by volunteer experts.

Projections. In addition to responding to an estimated 250 requests for technical assistance in the next quarter, the Inquiry Service plans to complete review of already prepared pre-packaged responses and to prepare additional packets (on small-scale alcohol stills, general windpower, windpower for water pumping, oil seed presses, and water supply), as well as to market packets on windpower, the CINVA Ram, and methane on a limited basis for sale in the U.S. Other student design projects will also be developed on topics such as wind electricity generation and refrigeration, briquetting agricultural wastes, and hand water pumps, with possible participation with the University of Maryland and Dartmouth. The new evaluation instruments will also be implemented in the next quarter.

(4) Computerization

Certain energy data bases are being accessed under the VITA/REP to provide requesters and staff with up-to-date information on renewable energy technologies. In the last quarter VITA entered into an agreement with six data bases: Asian Institute of Technology/renewable energy and ferrocement; Contemporary America/Solar America; Control Data Corporation/Solar Energy Data Base; International Development Research Center, Canada; and National Solar Heating and Cooling Information Center. On-line access to six more energy data bases is planned by the end of the second quarter, in March 1981.

(5) Training Program

In order to strengthen local institutional capabilities to provide information services on a local level, the VITA information resources division conducts an individually tailored training program in the establishment, organization, and operation of information resource centers, including documentation and inquiry services. Over the last year, information specialists from the Caribbean Development Center in Barbados, FUNDAEC in Colombia, and The Instituto Nacional de Energia (INE) in Ecuador were trained. They returned to their countries with major document collections selected from VITA's collection, including materials on solar, wind, water, biogas and biomass technologies.

In the next quarter plans include the utilization of a newly developed training manual/curriculum for the training program. The manual has been completed and translated into French in preparation for a three week training program scheduled for the Director of the Center of National Productivity (CCNA) of the

Ministry of Information, Guinea. This manual will be translated into Spanish and become a standard training tool as well as serving as later reference material for those who receive training.

In addition, VITA staff will visit FUNDAEC, Colombia in the coming quarter to follow up the initial training program in Mount Rainier and provide other technical assistance. Finally, possibilities for another training program are being discussed with institutions in Honduras and Guatemala.

(6) Publications

Publications are a major form of dissemination and transfer of technical information acquired by VITA. As part of the Renewable Energy Program, VITA's existing publications are being strengthened, REP and other energy activities are being publicized, and new publications are being developed.

Program Support. Over fifty volunteers have been involved in a systematic review of VITA publications for technical accuracy and readability, described in Table 2. Word processing equipment acquired with program funds has been an invaluable aid in the revision process. In one case an engineer reviewed a Technical Bulletin on a simple handpump and decided the design was not feasible. Upon trying to build the pump himself, however, he discovered it was quite workable; a sophisticated engineer, he is now more careful to take a closer look at "appropriate technologies".

Publicizing the Renewable Energy Program. An entirely new periodical publication was launched in the first year to publicize REP activities and to focus on energy-related development activities in general. Response to this publication, the Energy Bulletin, has been good. The mailing list has doubled, and paid subscriptions are coming in at the rate of two or three per week. In addition, a special, highly acclaimed issue of VITA News featured a thoughtful look at Third World energy needs by a number of people prominent in the development community.

New Publications. The Renewable Energy Program supports a variety of new publications for disseminating information about renewable energy technologies and for publicizing REP and other energy activities. Those published this year and projected for the next quarter are listed in Table 2.

A new activity (though an old ambition) is the systematic translation of VITA publications. The fourth quarter saw the translation into French of seven energy-related Technical Bulletins, three of which have been published. Three Technical Bulletins were also published in Spanish. As Table 2 shows, Wood Conserving Cookstoves will ultimately be available in four languages, and the Illustrated Encyclopedia of Appropriate Technology

Energy Terms will include three languages in one volume. Other publications will be translated into French and Spanish as they are developed.

Audio-Visual Tools. A number of contacts have been made this year in the area of audio-visual communications tools. Posters, film strips, comic books, et cetera, appear to be extremely valuable for reaching the illiterate end user directly. The future role of audio-visual tools in the Program, given their importance but the limited resources available for their development, will be a key question in the next year.

TABLE 2

VITA/REP

Publications Program
 4th Qtr. 1979/80 and Projected Program 1st Qtr., 1980/81

<u>Type of Publication</u>	<u>Title</u>	<u>Publication Schedule</u>
REP newsletter	Energy Bulletin	Published 4 times annually in English, French, and Spanish; considering merger with <u>VITA News</u>
VITA newsletter	Special Energy Issue of <u>VITA News</u>	One of four issues published annually in English, French, and Spanish; featured a thoughtful look at Third World energy needs by people prominent in the development community, and received excellent reviews
specific technology overview and reference	<u>Energy Fact Sheets:</u> <u>Conservation Project</u> <u>Wood Conserving Stoves</u> <u>Microhydro Projects</u> <u>Solar Cookers</u> <u>Sail Wing Windmills</u> <u>Methane Digester</u> <u>Gasoline to Alcohol</u> <u>Engine Conversion</u> <u>Ethanol Production (projected)</u> <u>Waterwheel Designs (projected)</u> <u>Pedal-Powered Machines (projected)</u>	Published monthly in 3 languages
manual	<u>Wood-Conserving Cookstoves:</u> <u>A Design Guide</u>	Published in 4th Qtr. in English and Arabic; projected publication in French and Spanish 1st Qtr. 80
	<u>Helical Sail Windmill,</u> <u>Overshot Water-Wheel:</u> <u>Design and Construction</u> <u>Manual</u> <u>Wood Conserving Stove:</u> <u>Two Stove Designs and</u> <u>Construction Techniques</u>	Reviewed by volunteers, revised, and reprinted
	<u>Three Cubic-Meter Biogas Plant:</u> <u>A Construction Manual,</u> <u>Hydraulic Ram Pump for</u> <u>Tropical Climates,</u> <u>Solar Water Heater,</u> <u>Solar Still</u>	Reviewed by volunteers, revised, projected to be reprinted 1st Qtr. 80/81

Dynapod: A Pedal Power Unit
Small Michell (Banki) Turbine
Making Charcoal: The Retort
Method
Solar Grain Dryer
Animal Driven Chain Pump

book

Renewable Energy Resource
Directory

Projected publication in English
 2nd Qtr. 1980/81

Illustrated Encyclopedia of
AT Energy Terms

to be published in English,
 French, and Spanish in one
 volume, 2nd Qtr. 80/81

Construction Handbook for
Low Energy Agricultural
Implements

Projected publication in English
 1st Qtr. 80/81

technical bulletin

Hand-Powered Cement Mixer
Rice Thresher
How to Make a Chain Link Fence
Corn Sheller

Translated into French and
 published

1 KW River Generator
Home Flour Mill
Stocking Spare Parts for a
Small Repair Shop

Translated into French; to be
 published in 1st Qtr. 80/81

Centrifugal Honey Extractor
Beekeeping Guide
Composting Privy

Translated and published in
 Spanish

audio-visual
 communications
 tools (posters, film
 strips, comic books,
 etc.)

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Contacts made, but so far no
 funds/staff available for
 development

III. Networking

All of VITA's activities contribute to "networking"--linking people and institutions together in the solution of common problems, acting as an information broker, and helping to locate and funnel needed information, personnel, and financial resources for project development and implementation. Recently, a more focused approach has been experimented with at VITA, resulting in some new and innovative initiatives.

Informal Networking

VITA's traditional technology transfer services perform an important informal networking role. Training programs in use of information resources--already discussed in the previous section--exchange personnel between VITA and local institutions at different points in training. In keeping with VITA's self-help philosophy, skills and information resources are provided to allow institutions to meet their own technical needs, with VITA as a back-up resource. The Inquiry Service routinely links requesters with other individuals and organizations, with similar technical interests, often located in the same region or country. Document exchange agreements, on-site consultancies by volunteers, and staff trips further solidify longstanding relationships with developing country institutions. The development of VITA program activities in a specific region or technical area thus has often led naturally into an informal "network" of common interests.

Mexico wind energy program. The Mexico wind energy program, funded by General Electric, is a good example of such networking. Several volunteers have visited the site to assist in design and construction of a sail wing wind pump, and a volunteer panel meeting resulted. The Mexican director of the cooperating institution visited VITA and the U.S. and was also able to visit the New Alchemy Institute to study their work in wind energy and to acquire, with VITA's assistance, tower designs from the Brace Institute.

Such informal networking is likely to develop in a number of areas through the REP. The Mexico wind project is likely eventually to be linked with Program projects recently funded in the Caribbean and perhaps later in the South Pacific generally. Program biogas projects in Latin America will later be able to share results due to VITA's informal connection as well.

Conferences. Conferences, meetings, and presentations are another way of developing institutional and individual contacts and linking other efforts with VITA. VITA staff attended several conferences during the fourth quarter with diverse program development objectives, including the First Appropriate Technology Conference in Manila, a biomass symposium in Costa Rica, a micro-hydro conference in Ecuador, and a meeting on resource

sharing needs in the Caribbean, held in Barbados. These conferences, meetings, and trips and many of the contacts made through them are listed in appendix Table A-4.

Supporting Local Networks

More recently, the concept of a "global" alternative energy network has been actively discussed at VITA and elsewhere. Although this concept may have some conceptual validity, VITA's resources and experience--including a survey of appropriate technology organizations last year--indicate the need for network development from the ground level up. Like roads and airline flights, informational and other resource links are often easier between the periphery and the industrial countries than among or even within the developing countries themselves. Yet much of the information necessary for project development is that of local project experience rather than standardized technical designs or information.

Thus VITA's "networking" is focusing on support of existing or incipient networks based on shared geographical or technical interests, and on institutions which focus directly or indirectly on low income groups in their respective countries. The emphasis is on action-oriented networks that support project implementation through sharing information, expertise, and funding, rather than on purely research-oriented information networking.

VITA's experience is perhaps uniquely suited to supporting local resource sharing through programs such as developing directories of similar organizations; helping to establish information centers and skills banks; simplifying documents; field staff training; mini-grants; and conferences.

Caribbean Network Support. Based on this experience and available resources, VITA began exploration of the need for a resource-sharing network in a single region, the Caribbean. In early September, representatives of action-oriented "do-er" organizations in the Caribbean met with VITA staff to discuss their resource needs for project implementation and possible VITA assistance in meeting these needs. A number of specific programmatic activities grew out of this meeting and are on-going, including the identification of consultants for a windpower seminar in the Dominican Republic and a solar refrigeration expert for the Jamaican government; the development of a hands-on training seminar with the College of Arts, Sciences, and Technology, Jamaica; and assistance to the Caribbean Development Bank in developing a Caribbean renewable energy/AT directory and skills-bank.

Most significantly, VITA will support the nascent Caribbean Appropriate Technology Center (CATC), based in Barbados, through identifying renewable energy practitioners in the Caribbean,

sending requested information on renewable energy technologies, and supporting, through a small grant if requested, coordination work between Christian Action for Development in the Caribbean (CADEC) and CATC.

Another conclusion of the Barbados meeting deserves particular comment. The need for resources far beyond "information" -- especially through the printed word -- was clear. Funding and on-site assistance are also necessary. Particularly in an "oral society" such as the Caribbean and most other developing countries, verbal transmission of information through for example hands-on training seminars is likely to be more effective than the printed word.

Beyond supporting this Caribbean network, VITA intends to pursue network development in a low key and supportive manner through support of existing networks and moving beyond information coordination to resource sharing. A "newsletter network" is relatively easy to establish, but in the long run it is of limited effectiveness in dissemination of technologies. A supportive approach is not only more politically palatable to most developing countries, but allows the development of networks naturally based on common geographical and technological interests, through existing VITA program activities,

Several areas appear promising for network development. Through a recent trip, VITA staff established interest throughout the South Pacific islands in using the noncommercial communications satellite PEACFSAT and the USAID-funded University of the South Pacific Regional Satellite Network for the exchange of energy project experience and technical information. On a global scale, interest has also been expressed in the possibility of using ham radio as a direct communications link both among VITA volunteers and among VITA funded project managers with access to amateur radio operators. VITA volunteer Cop MacDonald, writer of the Mother Earth News radio column, has proposed such a network, and the more than 60 volunteers who are ham radio operators have been informed. A VITA ham station is being set up with donated equipment and is scheduled for operation later this fall.

Other networking possibilities exist in Latin America, where VITA staff has held discussions with representatives of Comité de Coordinación y Promoción (COCOP), an existing information and resource sharing network. VITA may provide support for further exchanges among members of COCOP. Also, as a result of VITA's woodstoves research and dissemination activities and field presence in the Sahelian countries (see below for details), some future network support and development can be envisioned in that area.

IV. Program Development and the Small Grants Project Implementation Fund

The Renewable Energy Program Cooperative Agreement is permitting the creation of important new enabling components in VITA's technical assistance delivery services. The expansion of expert staff and establishment of a small grants project implementation fund will allow the coordination and completion of key elements in a coherent package of assistance to small renewable energy projects.

With the arrival of the Program Director and additional professional and support staff in the fourth quarter, initial programmatic and procedural directions for the Renewable Energy Program are becoming more defined. Efforts launched in this quarter and projected for the next quarter are described below.

Program Planning and Development

Program planning and development is being clarified through growing experience. A five year program implementation plan and logical framework are being laid out, and key program areas are identified.

Networking. The need for improved informal and formal networking is clear. An interesting phenomenon encountered everywhere on VITA trips and through the Inquiry Service is that many organizations in the same region or country--even in island nations!--do not know what others are doing. Often there are political or functional reasons for this situation, but there is no doubt of the need for increased coordination of efforts in order to avoid duplication. As regards formal networks, a supportive role for VITA is envisioned in promoting the development of local national, regional, and international networks based on common technical and/or geographical interest (see previous section for details).

South Pacific programs and communications network system. A South Pacific regional focus is planned, in an area where AID is placing increased emphasis on renewable energy programs, with a priority on demonstration and training projects in renewable energy technologies including wind for electricity and refrigeration, solar drying, and producer gas. The region's current development efforts are heavily private voluntary organization-intensive, ideal for VITA interaction; even government units are small and accessible. Finally, the per capita need for renewable energy sources is as great as in any other area in the world, given expanding populations with almost total dependence on imported fuels. Local economies are quickly becoming unable to cope with the high cost of imported goods at the same time that basic services must be expanded. Related to this focus is potential development of a satellite/radio communications network in the area.

Biogas in Latin America. Biogas in South and Central Latin America/Caribbean has a strong and growing interest, perhaps in a position similar to that of woodstoves a few years ago. Local materials and skills are adequate for development. One well known local organization, CEMAT in Guatemala, has been particularly active in promoting the concept through workshops and conferences especially among non-governmental organizations. OLADE, the Latin American energy organization, has focused on biogas development by governments and the larger scale entrepreneurial sector.

Solar and wind on islands. Solar and particularly wind energy is likely to be a major focus of project development in the islands of both the Caribbean and the South Pacific.

Other program areas. Other program areas targeted for development in the next or later quarters include energy applications to small-scale industries (brick factories, kilns); projects involving women in dissemination of energy technologies, particularly in East Africa; and implementing evaluation procedures designed to contribute to a model of technology transfer in the renewable energy area.

Institutional/Administrative Coordination

Implementation of a rapid proposal handling process is expediting action on small grants funded. A copy of that procedure, as established and monitored by the Field Support Officer is attached as Appendix A-5. Functional and geographical assignments of proposals in accordance with staff expertise and interests have also been made possible through the addition of senior and associate energy advisers. Specific staff members will now have responsibility for solar technologies, biomass, biogas, fuel alcohols, wind, Latin America, South Pacific, Middle East and Africa.

Development of better coordination among VITA departments, as a result of increased staffing, is a key element in the capacity to deliver a coherent package of technical assistance. This includes documentation, volunteer expertise, on-site consultations and training, as well as staff assistance in proposal development, implementation, and financing. Specific senior staff will now have responsibility for liaison with the inquiry service and publications.

Development of institutional relationships with local, national, and international assistance organizations outside VITA is an important ongoing activity. Literally hundreds of relevant contacts have been made in this quarter through visits, phone calls, conferences, meetings and trips.

Field Presence

A field presence for the Program is developing through the activities of field representative Marcus Sherman in Bangkok and with the projected arrival of Tim Wood, coordinator for AT and woodstoves activities for CILSS (Comite Inter-Etat pour la Lutte contre la Secheresse au Sahel) in Ougadougou, Upper Volta. Field representatives are also being considered for the Middle East, as a consultancy with a VITA volunteer and East Africa, with an individual already located in Nairobi. Staff trips in the South Pacific, Latin America, the Caribbean and India have also contributed to this presence. Projected trips aim at developing further activities in East, South and West Africa, in the Middle East and in Asia. (See appendix A-4 for details on staff travel.)

These recent trips and other contacts with potential grantees have highlighted the necessity of a frequent on-site presence for effective evaluation of proposals and assistance in project implementation, particularly in regions where the level of institutional development is low. The nearby presence of a field representative, VITA volunteer, and/or other VITA contact, as well as staff travel, can alleviate this problem.

Prospective proposals being developed through these trips concern:

--charcoal production at the village/entrepreneurial level, the Technological Institute of Costa Rica.

--bio-gas, the National Energy Institute of Ecuador.

--urban community solar heated showers, Multiple Services on Appropriate Technology (SMTA), a Bolivian non-governmental organization.

--A current VITA grantee, PRIDE, Inc., which has expanded its work in wind energy by joining forces with an organization on the island of Antigua to set up a training institute in wind and solar energy.

--demonstration of solar water heaters with a view toward encouraging local industries to manufacture low-cost heaters for low income groups, Behavioral Sciences Foundation, St. Kitts, West Indies.

--improving oven efficiency in the production of panela (brown sugar), a common rural economic activity in Panama, the Grupo de Tecnologia de Panama.

--producer gas as a power source for a technical vocational workshop, the Centro Evangelico de Educacion Rural (CEVER), Honduras.

--an Asian Energy Skills Directory, the East-West Center, Hawaii.

--alcohol from cassava, the Business Opportunity Management and Advisory Service, Fiji.

--student housing using various renewable energy technologies, South Pacific Commission Educational Training Center, Fiji.

--village level solar drying, Center for Appropriate Technology and Development, University of the South Pacific, Fiji.

--women in development and energy, World YWCA, Fiji.

--interactive exchange of energy/project information, PEACESAT satellite communication system Fiji.

--skills training for itinerant teenagers, Foundation for the Peoples of the South Pacific, Solomon Islands.

--improvement of copra production through time and motion studies of human labor combined with solar technology, Small Business Development Service, Ministry of Labor and Industry, Solomon Islands.

--eco-farming, Philippine Center for Appropriate Training and technology, Philippines.

--training, Peace Corps, Philippines.

--producer gas, the Kristian Institute of Technology of Weasisi, Vanuatu.

--wind electric, Atoll Plantation, Ltd., Christmas Island, Kiribati.

--direct-driven wind refrigeration, Pacific Equatorial Research Laboratory, Fanning Island, Kiribati.

--a Caribbean AT Center, Christian Action for Development in the Caribbean, Barbados.

--hands-on training seminars for village leaders, College of Arts, Sciences, and Technology, Jamaica.

CILSS Coordinator for Appropriate Technology, With a Special Emphasis on Woodstoves. On July 18, 1980, VITA signed an agreement with CILSS (the Interstate Coordinating Committee for Drought-Related Assistance in the Sahel) to furnish a French-speaking technician to coordinate appropriate technology activities in that area, with a special emphasis on woodstoves. The AID office of the Sahel (AFR/SFWA) is funding the two-year position as an amendment to the DS/EY Cooperative Agreement. Timothy Wood, the appropriate technology practitioner with environmental and biological training who will fill the position, has completed his orientation at VITA, as well as training in woodstoves construction at VITA and at the Farallones Institute in California. He will arrive in Ouagadougou, Upper Volta to join CILSS on October 22.

The CILSS Coordinator's role in the woodstoves area is to facilitate the process of development and dissemination by assisting in the identification of acceptable technologies, maintaining a flow of information and ideas among people and organizations involved with woodstoves development in the Sahel, and working--primarily with nationals--to develop strong programs of technology dissemination. In renewable energy more generally, the CILSS Coordinator will work with VITA/REP to identify and fund projects under the small grants fund, refer inquiries, facilitate information flows and recruit volunteers.

Asia Field Representative. The Asia Field Representative arrived in Bangkok in July and has spent the past several months

establishing working relationships with relevant AID, national and international agencies and in setting up a home, office, and small reference center. To assist these efforts, the Field Support Officer in Mount Rainier has maintained communication links, forwarded lists of VITA inquiries and volunteers in Asia and assembled information on projects and other literature. In order to obtain a long term visa an application as a foreign "researcher" must be approved by the National Research Council. Approval is expected soon, with sponsorship by the National Energy Administration, but until that time official activities of the Asia field representative are necessarily restricted.

Nonetheless, a number of outreach and cooperative activities have been initiated or planned. Discussions with the AID mission Office of Science and Technology have brought out many possibilities for VITA interaction after the \$8 million Thai government/USAID renewable energy program gets underway in October of this year. Similiar complementary opportunities exist with the renewable energy program of the East-West Center Resource Systems Institute. In both of these programs, VITA's emphasis on dissemination should augment these organizations' research and demonstration orientation.

Other accomplished or planned program activities of the Asia field representative include:

- * A presentation on "Stimulation of Local Involvement in the Design of AT" to family planning workers from several Asian countries being trained at the Population and Community Development Association.

- * As a result, an invitation to speak in December to AT training seminars planned by the related Community-Based AT and Development Services, involved in biogas dissemination.

- * Supervising two masters projects which, in cooperation with RERIC (Renewable Energy Resources Information Center), Bangkok, and other institutions, will demonstrate upcountry the use of traditional Thai salt water pumping windmills for low and medium lift crop irrigation, projected to start in the second quarter. Prior to that time, the Asia field representative will visit a project assisted by VITA in Andhra Pradesh to help with the fabrication, erection and testing of an adaptation of the traditional Thai windmill, which should contribute greatly to the proposed Thai dissemination as well.

- * A planned presentation on VITA publications to the Chiang Mai Appropriate Technology Association, oriented toward grass roots work in the poorer sections of Thailand.

Among project possibilities being investigated by Sherman is the preparation and publication by RERIC of a biogas plant

trouble-shooting handbook.

Small Grants Fund Status

The small grants fund is intended to complete the package of technical assistance offered by VITA. The funding is designed to assist the rural and urban poor by supporting the development, transfer and diffusion of small-scale renewable energy technologies in the Third World.

Approval and disbursements of small grants is expected to accelerate considerably since the addition of key staff and the setting up of an improved proposal handling process. A total of \$93,579 in small grants funds was approved and \$45,109 actually disbursed in the first year of the program, and approval and disbursement of \$350,000 is targeted for the second year.

The status and geographical distribution of small grants and totals for the quarter and year are given in Table 3, as of September 30, 1980. Funding activities have been concentrated in Latin America, particularly Central America, reflecting the large number of proposals received from that area. Program efforts are planned during the next quarter to increase activities in other geographical areas, especially in Africa.

Four projects were approved in the fourth quarter; their descriptions are attached in appendix A-7. More detailed information on the status of all 76 proposals received through 4th quarter is available in appendix A-6.

A copy of the current proposal handling process "Areas of Assistance", and "Project Selection Criteria" are included in appendix A-5.

Several proposals or projects have been successfully referred to other funding sources. During a staff trip in the South Pacific, arrangements were made with ATI to fund the Philippine Center for Appropriate Training and Technology, (PCATT), Manila for the purchase of \$2000 in VITA publications. Two windpower projects in India, due to difficulty in obtaining Government of India approval for external funding, have been funded by OXFAM and an Indian organization respectively. Possibilities for other referred or cooperative funding have been discussed with ATI, PACT, AID, Resources for the Future, the Caribbean Development Bank and other donor organizations.

TABLE 3

VITA/REP

Status of Proposals To Small Grants Fund
by Geographical Area, September 30, 1980

<u>Region</u>	<u>Received</u>	<u>Rejected</u>	<u>Pending</u>	<u>Referred</u>	<u>Approved by VITA</u>	<u>Disbursed to Date</u>	<u>Completed</u>
<u>Latin America</u>							
Number	34	15	8	2	9	(6)	(2)
Amount					81,579	(40,109)	
of which:							
<u>Caribbean</u>							
Number	7	3	2	0	2	(1)	0
Amount					21,094	(5,000)	
<u>Central America</u>							
Number	25	11	5	2	7	(5)	(2)
Amount					60,485	(35,109)	
<u>South America</u>							
Number	2	1	1	0	0	0	0
Amount					0	0	
<u>Africa</u>							
Number	8	5	2	0	1	1	0
Amount					7,000	5,000	
of which:							
<u>West Africa</u>							
Number	7	4	2	0	1	(1)	0
Amount					7,000	5,000	
<u>Other Africa</u>							
Number	1	1	0	0	0	0	0
Amount					0		
<u>Asia/Pacific</u>							
Number	21	10	7	3	1	0	0
Amount					5,000	0	
of which:							
<u>India</u>							
Number	7	2	3	2	0	0	0
Amount							
<u>Pacific</u>							
Number	3	1	2	0	0	0	0
Amount							
<u>Other Asia/Pacific</u>							
Number	11	7	2	1	1	0	0
Amount					5,000	0	
<u>Industrial Countries</u>							
Number	13	3	10	0	0	0	0
Amount							

V. "Leveraging" Other Vita Projects and Funds

In addition to carrying out a Renewable Energy Program, a goal of the USAID funding is to help establish VITA's future self-sufficiency by diversifying and leveraging other projects and funding, partly through Program activities. Already in the fourth quarter of the Program a number of such projects have been leveraged or agreements initiated, while work has proceeded on projects leveraged in past quarters. A total of \$240,500 in projects was leveraged through the VITA/Renewable Energy Program in 1979/80.

As part of an IBM grant to develop and disseminate improved wood-burning stoves in the Sahel--previously leveraged through the VITA/REP--Gautam Dutt was sent to Upper Volta in the fourth quarter to establish testing criteria for woodstoves.

The General Electric-funded wind energy project, in collaboration with the Instituto de Investigaciones Electricas in Cuernavaca, Mexico, has completed its first phase and determined that wind driven pumps and generators are feasible alternatives for irrigation in remote areas of Mexico. A VITA volunteer has recently visited the Instituto to consult on matching a wind machine, generator, and electric drive pump producible locally, and another volunteer will visit the site in the next quarter to assist in sail-wing fabrication.

Based on VITA's wood stove activities funded under the Program the AID office of the Sahel has decided to amend the Cooperative Agreement to include support money for an appropriate technology/woodstove coordinator to be based in Ouagadougou, Upper Volta. The Coordinator will be working under the CILSS umbrella and will form a two member team with Mme. Jacqueline Kizerbo, who will be supported by the United Nations Interim Fund for Science and Technology for Development (see above for more details). The National Academy of Science has also requested that the CILSS Coordinator and VITA assist its Rockefeller Foundation-funded project to assess dissemination potential for biomass-related technologies.

The Guinean government has requested that VITA provide an appropriate technology survey team of four people in renewable energy, water resources, food processing and nutrition, and agriculture, to begin in November. Results will be used to design a UNFAO-sponsored national program in which VITA has already been requested to play a major role. The AID mission believes that the survey will have a major impact on its agricultural program in Guinea and REDSO has offered its energy person, Clarence Kooi, as the renewable energy member of the survey team.

Due to VITA contacts with the United Nations Interim Fund for Science and Technology for Development (IFSTD) in connection with the Program, VITA has been asked to send a consultant to

Mali, Guinea and Upper Volta to help the IFSTD define projects in these three countries for United Nations funding. The VITA Director of Operations and Training will spend approximately six weeks in West Africa beginning in mid-October to accomplish this task. As a follow-up to this consultancy it is likely that VITA will be asked to participate in the implementation of the projects identified. Appointments have already been made with the AID Africa Bureau to discuss how the Interim Fund can complement AID efforts in West Africa.

APPENDICES
A-1 through A-8

APPENDIX A-1

VITA/REP
Program Activities
1979-1981, Actual and Projected
(Energy-Related Activities Only)

Benchmarks	<u>Actual</u>		<u>Projected</u>	
	<u>4th Quarter</u> <u>1979-1980</u>	<u>Total Year</u> <u>1979-1980</u>	<u>1st Quarter</u> <u>1980-1981</u>	<u>Total Year</u> <u>1980-1981</u>
Program Activities				
I. <u>Information Resources</u>				
A. <u>Volunteer Resources</u>				
1. Volunteers recruited	132	237	25	100
2. Consultant name referrals	14	28	12	50
B. <u>Inquiry Service</u>				
1. Requests for information answered	134	767	250	1,000
2. Of which, answered by VVs	21	134	36	180
3. Of which, requested to submit grant proposals	31	35	11	45
4. Average speed of response to requests	2.5 wks.	2.5 wks.	2.5 wks.	2 wks.
5. Pre-packaged answers developed	2	2	2	8
C. <u>Documentation Center</u>				
1. Documents acquired	300	1,200	500	2,000
2. Documents catalogued	1,000	3,700	500	2,000
3. Exchange relationships established	10	42	10	40
4. Bibliographies & resource listings published	9	23	4	15
5. Documentation Center training programs (of which, with REP funds)	0	3 (2)	2 (2)	4 (3)
6. Document collections sent to LDC institutions (of which, with REP funds)	0	3 (2)	2 (2)	4 (3)
II. <u>Publications</u>				
A. <u>Special Energy Issue of VITA News</u>	1	1	0	1
B. <u>Energy Bulletin</u>	0	3	1	6
C. <u>Energy Fact Sheets</u>	3	7	3	12
D. <u>Manuals</u>	1	1	1	4
E. <u>Technical Bulletins</u>	0	1	2	6
F. <u>Total No. of Energy-Related Publications</u>	5	13	7	29

III. Research & Program Development

A. Core Activities

1. Volunteer involvement in program,	13	40	35	165
of which: Proposal review	10	27	-	-
Technical panels	1	16	-	-
On-site consultations	2	7	-	-
2. Senior advisor involvement in publications,	13	20	20	80
of which: Comment/edit	12	-	-	-
Contribute to Publications	1	-	-	-
3. Inquiry service interaction,	19	30	60	270
of which: Proposal review	3	-	-	-
Referrals by senior advisors	13	-	-	-
Senior advisor assistance to inquiry service	3	-	-	-

B. Networking

1. Contacts of relevance to future programming	163	200	120	480
2. Conferences, workshops, meetings	8	12	12	48
3. Network activities (skillsbanks, information centers, mini-grant programs, etc.)	1	1	2	6

C. Small Grants Program

1. Status of proposals			-	-
a. Received	26	-76	-	-
* b. Projects approved (#)	4	11	10	50
(\$)	\$ 24,300	\$ 93,579	\$ 80,000	\$350,000
* c. Disbursed (#)	4	7	8	40
(\$)	\$ 30,150	\$ 45,109	\$ 60,000	\$350,000
* d. Rejected (#)	7	37	-	-
e. Completed (#)	1	2	2	-
2. Speed of response (from receipt of final proposal to VITA approval)	3 weeks	3 weeks	3 weeks	2 weeks

IV. "Leveraging" Other VITA Projects and Funds

A. Executive Department

1. Number of projects	0	2	-	1
2. Amount	0	\$ 25,000	-	\$ 30,000

B. Training and Operations Department

1. Number of projects	4	4	-	-
2. Amount	\$215,500	\$215,500	-	-

C. Total Leveraged Funds

1. Number of projects	4	6	-	-
2. Amount	\$215,500	\$240,500	-	-

a) Year 1979-1980 totals are estimated for R/PD.

*Indicates proposed management objective benchmark.

VITA

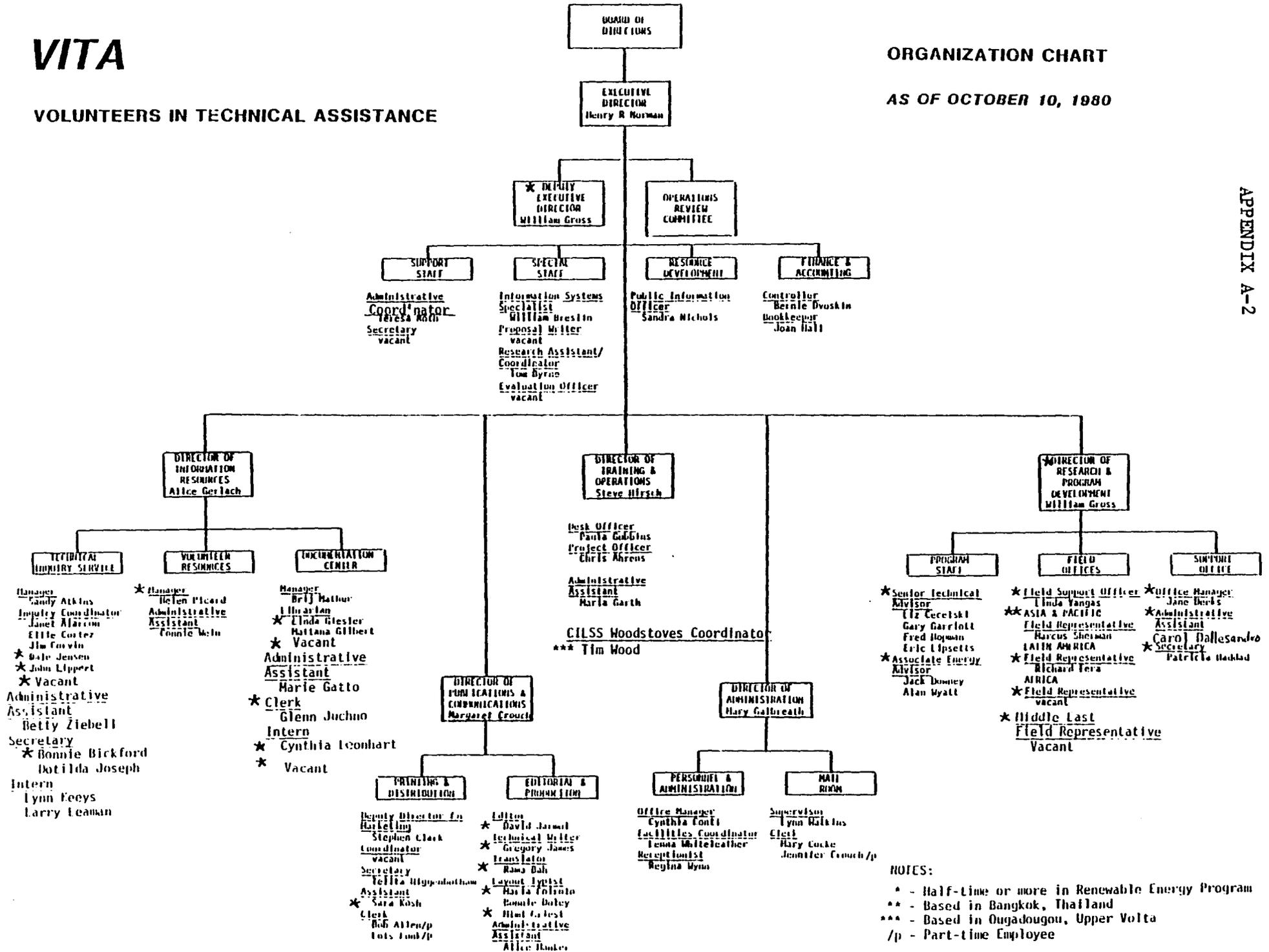
VOLUNTEERS IN TECHNICAL ASSISTANCE

ORGANIZATION CHART

AS OF OCTOBER 10, 1980

APPENDIX A-2

30-



NOTES:

- * - Half-Line or more in Renewable Energy Program
- ** - Based in Bangkok, Thailand
- *** - Based in Ougadougou, Upper Volta
- /p - Part-time Employee

APPENDIX A-2

VITA/REP

Staff Resource Development

	<u>4th Quarter 1979-1980</u>	<u>Total Year 1979-1980</u>	<u>1st Quarter 1980-1981</u>	<u>Total Year 1980-1981</u>
<u>Resource & Program Development</u>				
Director	1	1/4	1	1
Senior Advisors	3	1 1/2	4	5
Associate Advisors	0	0	2	2
Field Representatives	2	1	3a)	4b)
Field Support Officer	1/3	1/12	1	1
Office Manager	1	1/6	1	1
Admin. Ass't.	0	0	1	1
Secretary	1	1/4	1	1
Intern	0	0	0	1
<u>Operations</u>				
Director	1/10	2/3	1/10	1/10
<u>Executive</u>				
Director	1/10	1/10	1/10	1/10
Program Analyst	1/3	1/3	1/3	1/3
Information Systems Specialist	0	0	1/3	1/3
<u>Information Resources</u>				
<u>Inquiry Service</u>				
Information Resource Director	1/10	1/20	1/10	1/10
Inquiry Service Manager	1/5	1/5	1/5	1/5
Technical Inquiry Coordinators	2	2	2 2/3	2 9/10
Secretary	1	1	1 1/2	1 1/2
<u>Documentation Center</u>				
Documentation Center Manager	1/3	1/3	1/3	1/3
Librarians	1	1	2	2
Clerks	1	1	1 1/2	1 1/2
<u>Volunteer Resources</u>				
Volunteer Resources Manager	1/2	1/2	1/2	1/2
Volunteer Resources Manager Ass't.	1/3	1/3	1/3	1/3
<u>Publications</u>				
Director	1/10	1/10	1/10	1/10
Editor	1	1	1	1
Translator	1	1	1	1
Writer	1	1	1	1 3/4
Layout Typists (Bilingual)	2	1	2	2
Distribution Ass't.	1/2	1/2	1/2	1/2

- a) Includes Tim Wood, CILSS Coordinator for Woodstoves, funded by an amendment to the JS/EY Cooperative Agreement.
- b) Field representatives for East Africa and the Middle East may be added, making a total of one additional person year.

APPENDIX A-3

VITA/REP

New Staff and Resumes

4th Qtr. 79/80 and Projected, 1st Qtr. 80/81

<u>NAME</u>	<u>TITLE</u>	<u>DEPARTMENT</u>	<u>DATE OF EMPLOYMENT</u>
*Jane Deeks	REP Office Manager	R/PD	8/18/80
*John Lippert	Technical Inquiry Coordinator (renewable energy)	Inquiry Service	9/16/80
*Fred Hopman	Senior Energy Advisor (solar energy technologies)	R/PD	11/30/80
Tim Wood	CILSS Woodstoves & AT Coordinator Ouagadougou, Upper Volta	Operations	7/5/80
*Alan Wyatt	Associate Energy Advisor (wind, solar, Africa)	R/PD (replaces training officer position in Operations)	11/3/80
*Jack Downey	Associate Energy Advisor (biogas; training; inquiry service liaison; Africa)	Transfer from Inquiry Service to R/PD	10/20/80
Marcus Sherman	Asia Field Representative	Transfer from Operations to R/PD 9/1/80	3/3/80
Richard Fera	Latin America Field Representative	"	3/10/80
Linda Yangas	Field Support Officer	"	9/10/79

*Resume Attached

Jane DEEKS
2887 S. Abingdon Street
Arlington, Va. 22206

Tel: 703/671.3092

RESUME

Position Applied for : OFFICE MANAGER
Date of Birth : August 8, 1948
Place : London, England
Nationality : British
Domicile : Permanent Resident, U.S.A.
S/S No. 451-43-9043
Languages : French (fluent written and spoken), Spanish (fair)
Employment History :

July '73 - June '80 : The Clem Corporation

Clem provides technical assistance to oil-producing nations in Africa and the Middle East.

1973 - Feb. '78 : Administrative Assistant, Brussels Office:

Recruitment, employee administration, business development, client billings and inter-company correspondence.

Duties involved all aspects of the company's operations, and in particular the following :

- discussion of contract conditions with new employees and preparation of employee contracts;
- correspondence with employees assigned overseas (in French and English) re administrative matters;
- correspondence with company clients concerning candidates and employees;
- preparation and submission of candidates' resumes, and follow-up;
- translation of contract proposals;
- hiring and supervision of secretarial and accounting staff;

During this period I also assisted in setting up efficient administrative procedures in the company's Houston and Palma de Mallorca offices. Following a six week assignment in the Houston head office, I was offered a permanent transfer to the U.S.A.

.../...

Feb. '78 - June '79 : Manager, Houston Office

Responsibilities : Liaison with the company's area offices in Brussels and Palma; office budget control and authorization of payments; supervision of office staff; back-up for President.

The company was taken over in March 1979 and this office closed. I was offered a transfer to Dallas or London and accepted the latter.

June '79 - June '80 : Office Manager, London

Set up and organized London office; acted as interpreter and intermediary during closure of Brussels office; hired and trained new secretarial staff; maintained employee correspondence; monitored monthly budget requirements.

Salary on leaving : \$21,000 p.a.

Resigned in order to re-locate to Washington, D.C.

June '72 - June '73 : United Nations Volunteers Programme, Geneva, Switzerland

Secretary to the Special Assignments Officer : provided bi-lingual secretarial assistance; became familiar with all aspects of the Programme's activities.

August '70 - August '71 : CAFRAD (African Training and Research Center in Administration for Development), Tangier, Morocco

Secretary to Director-General of this UNDP-funded center carrying out research and training activities in public administration for the development of African nations. Duties involved interpretation at meetings with francophone ambassadors and other high-level officials, extensive correspondence of a confidential nature, minute-taking and re-organizational tasks.

Education : Grammar School in England. Eight GCSEs including two 'A' levels (French and English literature).

City of Westminster College, London. Bi-lingual intensive secretarial course leading to college diploma.

Personal : Married, no dependents.

References : Available from all employers. Details on request.

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APPROX, JOHN R., rural development, approp. tech. & renewable energy spec.; B.A., 1974, U. Pgh.; M.P.I.A., 1979, GSrin (U. Pgh.); Consultant to Government of Mali, 1979; City of Pgh. Intern, 1973; Fease Corps volunteer, 1972-1976, Togo, West Africa; member of JID; Participant in Current Issues Seminar on African Dev. vol. at U. Pgh.; American Legion Award; Co-author: chapter "Optimal Choices in Disease Control" to be found in future book Manual of Health Planning Methods prep. under AID-U. Pgh. contract #931-1103; b. March 23, 1952 in Pgh., PA; m. Agnes Abba Obedegbehou (b. May 7, 1953 in Kouve, Togo) on June 22, 1977. Home: 301 Stratford Avenue, Apartment #3, Pittsburgh, PA 15232, USA; (412) 665-8905

EDUCATION
Master of Public and International Affairs
Graduate School of Public and International Affairs
University of Pittsburgh
Pittsburgh, PA 15260
Major: Economic and Social Development
Emphasis: Rural and Community Development
Appropriate Technology
Renewable Energy Applications for African Villages
Courses included: Integrated Rural Development; Economics of Development; Societal Development; International Administration; Trends in Community Development; and Managing Projects in Developing Regions.

Thesis: Approaches to Village Improvement: A Case Study For Kouve, Togo, a West African Village.

My thesis consisted of the planning and implementation of the following projects: home gardens; modern poultry production; photovoltaic (solar) cells to power small tools and equipment; solar water heater-solar cooker; improved kitchen mud stove; kiln for pottery making; improved cisterns and residential housing construction; ferro-cement water jars; hand-operated oil presses; grain silos; mud solar dryers; and wagons.

Bachelor of Arts Major: French
University of Miami, Coral Gables, Florida
University of Pittsburgh, Pittsburgh, Pennsylvania
Spent Junior Year Abroad at the Universite de Rouen, France, in University of Pittsburgh's Rouen Program.

Studied for 4 weeks in France (at Paris, Caen, and St. Malo) and 1 week in England (near London) with Foreign Study League.

Correspondence course in General Agriculture and Livestock Production from INADES, located in Dapengo, Togo.

PROFESSIONAL EXPERIENCE
1979-
1979
Development Consultant
Government of Mali
Consultant to the Government of Mali on short-term Small Ruminant Development Project, part of the broader AID-funded Mali II Livestock Project. Gathered data and worked on a census and survey of the small ruminants in Mali.

04/1979-
10/1979
City of Pittsburgh Intern
City of Pittsburgh, City County Building, Pgh., PA 15219
Worked on an evaluation of the federally-funded CETA (manpower training) programs that are administered by the City of Pittsburgh. This work consisted essentially of data collection, the running of this data through various programs on the computer, such as Regression, Crosstabs, Frequencies, and Factor Analysis, and performing a detailed statistical analysis of the data.

04/1979-
06/1979
Computer Consultant
University of Pittsburgh, Pittsburgh, PA 15260
Taught two computer programs to Pitt faculty, staff and students.

06/1974-
10/1976
Fease Corps volunteer
Fease Corps, B.P. 3194, Lome, Togo, West Africa
Duties included: Teaching TEFL (Teaching English as a Foreign Language), as well as teaching in French the subjects of World Geography, African Civilizations, and Arts & Crafts in a missionary secondary school in the village of Kouve, Togo. Taught summer school for one summer, the subjects being Math, French Grammar and English. My school year consisted of teaching 6 classes, with 60-90 students in a class. I supervised a home room of 28 students. Supervised 100-200 students during manual work in after-class hours. My Arts & Crafts course included lessons on mosaics made with home-made glue; painting with home-made paint and paint brushes (using sheep hair, sticks, and thread); sweet potato or taro "rubber" stamps; stencils; and drawing. Began construction of primary school latrines in Kouve, Togo. Supervised 5 villagers for one month on project funded by American Embassy.

06/1975-
07/1975
Teacher Assistant (Volunteer work)
College d'Enseignement Secondaire Jean de la Varenne, Mont-Saint-Aignan, France
Assisted in teaching English classes at the above C.E.S. during the Winter Trimester 1972-1973.

01/1973-
04/1973

04/1971-
05/1971
Volunteer
North Miami Middle School, Miami, Florida
Supervised a social group (about 6 children) of newly-arrived Haitian students in a Miami middle school. Helped them become acculturated into American life.

OTHER WORK EXPERIENCE
To support my wife and myself while attending graduate school full time I held the following non-professional part-time positions: Maintenance man and kitchen helper, McDonald's Restaurant, Pgh., PA

To pay my way through undergraduate school I held the following positions:
Laborer, U.S. Steel Corp., Carey Furnace, Homestead, PA
Cashier & Stockboy, Kroger Supermarket, Banksville Plaza, Pgh., PA
Student Library Assistant, University of Miami, Coral Gables, Fla.

BIOGRAPHY Co-author of one chapter of future book prepared under AID-University of Pittsburgh contract #931-1103, to be entitled Manual of Health Planning Methods. Researched material on the two widespread diseases Ascariasis and Schistosomiasis and co-authored chapter "Optimal Choice in Disease Control" with Pitt professor Hector Correa.

CURRICULUM VITAE

Fred Hopman
Box 171
Arroyo Seco, CA 91751

MEMBERSHIPS *Society for International Development
*Participant in Pitt's Current Issues Seminar on African Development policy

AWARDS
9/77-12/78 Pre-doctoral Fellowship
4/74 B.A. Magna Cum Laude
6/70 High School Academic Curriculum diploma: high honor
6/67; 6/68 Medal: Honor Student
6/67 Medal: Algebra
6/67 Medal: Science
10/66 5th prize in Allegheny County algebra contest (27th place out of 500 participants)
6/66 American Legion Award and medal

RESEARCH Year-and-a-half-long study of residential rural construction techniques in tropical countries, with emphasis on Africa. Stresses self-help, low-cost adobe and pressed soil-cement brick and block construction. Also consists of study of increasing water supply, with emphasis on improved methods of cistern construction and water jar manufacture, as well as sanitary waste disposal. This study includes a scale model of a low-cost home for the village of Kouve, Togo.

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More than two year on-going research of solar energy applications for African villages. Concentrates on utilization of photovoltaic cells for lighting and small-scale industry applications where electricity is unavailable. I designed a residential lighting system using a 12 vdc storage battery, 6-watt fluorescent lanterns, and a battery-charging solar panel. I have also studied the use of solar panels with inverters to power small tools, food processing equipment, etc. to increase the productivity of the small industries of the villagers. Research also includes the use of solar energy for cooking, water heating, provision of fresh water by solar stills, refrigeration by means of solar-powered absorption refrigerators, and especially residential home cooling by passive means. Studied bio-digesters for biogasification.

PERSONAL DATA
Date of Birth 3/26/52 in Pittsburgh, PA
5'10"
150 lbs.
American citizen

Marital status: Married with no children
Dependent: Agnes Abla Mancussi Gbedegbebon Lippert (wife)
born 5/7/55 in Kouve, Togo. Togolese citizen
with permanent U.S. immigration visa status.
Language Competence: Fluent in English, French; some comprehension in German and Ewe (West African). My French-speaking ability was rated by Peace Corps as PSI 4.5.

*Willing to travel
*Willing to relocate
*Willing to accept long-term assignment

Full references and credentials available upon request

Father: Dutch, Architect
Mother: English, Sculptor
Family Language: Dutch and English

Birth: 1940, Sirinagor, Kashmir India

Background

1940 - 1946 Sirinagar, Kashmir, exposure to Hindi, Islam. Pakistan crises and partition. Family displaced.

1947 Father establishes a self-sufficient community in Himalayas, based on oriental teachings. Schooling in the Hindi language.

Mother commissioned to sculpt Mahatma Gandhi, Pandit Nehru, Lord and Lady Mountbatten, Maria Montessori, Maharaja Patiala, Ashraf (sister to the Shah of Iran), and others. Family travels.

1948 Move to Teheran, Iran, for one year. Mother sculpts an equestrian statue of the Shah. Attended an American school.

1949 Move to Florence, Italy for one year. Mother casts Shah statue in bronze 3m. high. Learn conversational Italian.

Spend four months in the Netherlands (conversational Dutch, also learned from parents).

1950 - 1957 Entered the progressive, co-educational international school "Ecole d'Humanite" in Switzerland. Students are involved in the school's decision making process in weekly, all-school meetings. Student-faculty cooperation emphasized rather than faculty domination. Three hours of academics and four hours of practical classes, music and sports daily. Students choose their class schedules every six weeks. Studies taught in German, include woodwork, construction, mechanics, gardening and agriculture. French (3 years), Latin (3 years), chemistry, physics, etc. Summer vacations in France and Italy. Learn fluent German.

1957 - 1958 Swiss Gymnasium

1958 - 1959 Full scholarship to Colorado Rocky Mountain School, senior year of high school. The school emphasizes outdoor activities, rural technology.

- 1959 - 1964 Full tuition scholarship subject to grade average, Beloit College, Wisconsin. Studies emphasize science, art. Phi Eta Sigma, Bachelor of Science Cum Laude in geology.
- Summers: house construction in Colorado - three houses including an experimental adobe dome, 30 feet diameter.
- 1964 - 1965 Geology field work in Colorado and New Mexico.
- 1965 - 1967 Travelled around world for 1 3/4 years, through Europe, Middle East, India (6 months), Thailand, Laos and Japan (6 months).
- 1967 - 1972 Self-employed as cabinet maker, welder, mason and carpenter.
- 1970 - 1972 Construction of own house. First passively heated house in Taos County, one of first in New Mexico. Training in Aikido, martial art.
- 1971 Grant awarded by Pelican Enterprises for the construction of two experimental, passive, convertive-loop solar collectors and one low-cost (aluminum foil, curved masonite) parabolic trough mirror (8 ft. x 20 ft.), for the generation of steam. The experiments led to the development of a parabolic solar cooker and direct gain solar heating work.
- 1973 Joined the Sun Mountain Design architectural team, Santa Fe, New Mexico, to work on the solar research program. Members included David Wright, Travice Price, Keith Haggard and William Lumpkins, all well known in the solar field.
- 1974 Co-founded the Taos Solar Energy Association. Started own solar consulting business, "Sun Dept.". Paper presented at the Ghost Ranch solar conference.
- 1975 - 1976 Employed by the New Mexico Solar Energy Association. Developed a solar food dryer and launched the state-wide solar workshop program in conjunction with Bill Yanda's greenhouse workshops. The solar food dryer was reproduced on the local level many dozenfold. Initiated fund-raising program in Taos County to buy vegetable seeds for the Huchol Indians of Central Mexico. Two month trek with companion and pack donkeys into Huchol Land. Huchols undernourished because wild game population decimated by poachers and firearms. \$300.00 of vegetable seeds distributed in five villages.
- 1975 - 1977 Board of Directors, New Mexico Solar Energy Association. Editor and chairman of the "Solar Short Course," the first day of the National Solar Consumer Conference, Albuquerque, New Mexico.

Further development of solar cooker using discarded fluorescent tubes, as double glazing around the focus.

Improvement and simplification of solar food dryer design.

1977 Research and detailed testing of invention of the "Self-insulating water wall" with strip chart recorder and thermocouple read out. These passive solar architectural modules replace the south wall of a house, perform as heaters or coolers, and are 150% more efficient overall than water walls.

First test of low-income backhoe adobe construction technique. Patent applied for on the Self-insulating water wall.

Winter: Mexico, conversational Spanish.

1977 - 1978 Radio show in Switzerland (in German) arouses interest on a federal level in passive solar heating. Passive solar heating introduced as a concept into Swiss legislation, feasibility studies initiated.

1978 Presentation of a paper at the International Solar Energy Society's Annual Conference in New Delhi, India, on the Self-insulating water wall concept.

Presentation of lecture and slide show at the Tribhuvan University, Kathmandu, Nepal, which aroused interest in a low-income solar demonstration house. Publication in Nepal of a pamphlet on "Basic Principles of Passive Solar Design." Article in Nepali newspaper "Rising Sun."

Tests conducted on the "water Y", a device for condensing moisture from air and soil for reforestation, using night sky radiation losses.

Presentation of a paper at the International Solar Energy Society American Section Conference in Denver on "Innovative controls using Natural Energies."

1500 sq. ft. test house using the backhoe adobe construction technique. It proves to be ca. one third less expensive and ca. ten times faster than conventional adobe construction methods.

Tests on passive cooling system, using night sky radiation losses.

Foundation poured for second test house using backhoe adobe method. Self-insulating water wall to be incorporated. Estimated cost of complete house: \$18/sq. ft.

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1972 - 1980 Promotion of solar energy through ca. 30 newspaper articles, 15 radio talk shows, 10 demonstration workshops, monthly meetings and solar house tours. Volunteer time invested in the Taos Solar Energy Association: ca. 2 labor years.

1967 - 1978 Experimental vegetable, flower and fruit garden. Experiments in: dry farming, self-sufficient plants (annual and perennial), pre-heating soil in spring for fast germination in cold climates (solar and fire), mulch and composting techniques.

1979 Re-elected president, Taos Solar Energy Association.

Presented, published, papers on "The Self-Insulating Water Wall - A Passive Solar Module for Heating and Cooling," and "Night Sky Cooling, Two Passive Strategies," Proceedings of the 3rd National ISES Passive Solar Conference, 1979.

Development of an innovative "inverted" solar water heater that requires virtually no maintenance and is low cost.

TSEA received ARCA research grant to develop "water Y" for re-forestation.

Hired by Save the Children Federation for two month appropriate technology consultancy to Tunisia. Emphasis on passive solar retrofits and solar construction without insulation. Installed inverted solar water heater.

TSEA received research grant to test self-insulating water wall concept.

Ongoing presidency of TSEA solar information and outreach office.

PROFESSIONAL EMPLOYMENT Appropriate technologist; travelling consultant for developing countries for Save the Children Federation; inventor; president, Taos Solar Energy Assn.

WORK EXPERIENCE Appropriate Technologist, New Mexico Solar Energy Assn., Santa Fe, New Mexico, 1975-76 (Board of Directors, 1975077)

Solar Researcher, Sun Mountain Designs, Santa Fe, New Mexico, 1973

House Designer, builder, custom furniture maker, 1968-73

Passive Solar Inventions. Invented, developed, and tested the "Self-Insulating Water Wall"--an architectural module. With no moving parts the device can collect and store solar heat, insulate at night and radiate to the interior; the process is reversible in the summer (device patented, 1978). Invented, and tested the "Water Y"--a device which condenses water vapor underground by means of "night sky cooling." Research grant received, 1979. The "Water Y" assists reforestation in arid climates. Researched, and tested "mass-poured Adobe" construction--a low cost building technique which uses a backhoe to mix the adobe and pour it into prestretched welded wire mesh forms. Developed solar food drier; duplicated several hundred fold state-wide. Developed solar parabolic cooker using discarded fluorescent tubes as double glazing around focus.

International Appropriate Technology. Wrote proposal for low-income passive solar dwellings for Nepal. Designed and constructed passive solar retrofits for heating and cooling in Tunisian school buildings. Developed and applied dry farming techniques. Lecture tours: Nepal, India, Columbia, Switzerland.

Passive Solar Principles. Researched and wrote a field manual, "Basic Principles of Passive Solar Design," a booklet developed for owner-builders in Third World countries. Work published in Nepal, 1978.

Lecture/Slide Shows, Publications. Presented paper (published) at the International Solar Energy Societies (ISES) Annual Conference in New Delhi, Jan. '78, on the "Self-Insulating Water Wall." Presented lecture and slide show at Tribhuvan University, Kathmandu, Nepal, which aroused interest in a low-income solar demonstration house. Presented paper (published) at the ISES Conference in Denver, Aug. '78, on "Innovative Controls Using Natural Energies." Presented papers at the ISES Conference, San Jose, Ca., Jan. '79, on "Night Sky Cooling, Two Passive Strategies" (published), "Self-insulating Water Wall" (published), and "Backhoe Adobe Construction."

Media. Presented passive solar heating principles (in German) on Swiss radio. Presentation resulted in Swiss government feasibility study of passive solar heating. Developed radio and T.V. presentations to arouse interest in and teach principles of passive solar energy in Taos, Santa Fe.

Solar Energy Assn. Management. Co-founded the Taos Solar Energy Assn, 1973, a non-profit organization which disseminates energy information; sponsors solar tours, workshops, conferences, fairs; and provides solar design consulting services to the Taos community and developing countries.

EDUCATION BS. Geology, cum Laude, Phi Eta Sigma, Beloit College, Wisconsin, 1964

RESUME

July 1980

Alan Wyatt
20 Renwick Heights Road
Ithaca, New York 14850
U.S.A.
(607) 273-5676

WORK EXPERIENCE

November 1978-May 1980

Engineer
Thaba Tseka Integrated Rural
Development Programme
P.O. Box 1027
Maseru, Lesotho
Southern Africa

Phase 1

Consulting work on the feasibility of using wind electric generators in the mountains of Lesotho. Work involved a survey of wind data in the country, anemometer installations and data tabulations at new mountain sites, erection of a pilot wind plant and evaluation of wind power potential for small remote users.

Phase 2

Research, development and marketing of simple solar technologies for the people of the mountains of Lesotho. Work included basic research, prototype development, testing, production planning and management, extension, and training of local staff. Prototypes included solar water heaters, solar cookers, solar food dryers, solar still, solar greenhouse, passive solar rcndavaal.

December 1977-November 1978

Treasurer
Community Self-Reliance Center
140 West State Street
Ithaca, New York 14850 U.S.A.
(607) 272-3040

Educational and administrative work in a community center promoting greater local self-reliance for Tompkins County, New York. As a founding member I have worked on initial planning and fund raising, renovation, staffing, installation of a solar water heater and wood stove and acted as treasurer.

September 1976-November 1978

Coordinator
Community Energy Network
122 Anabel Taylor Hall
Cornell University
Ithaca, New York 14853 U.S.A.
(607) 256-5187

Consulting, design work, system installation, as well as research and community work on renewable energy systems and energy conservation:

Private Consulting:

- Design and installation of a solar/wood water heating system and waste heat recovery system
- Design and installation plans of a solar/wood heated private residence (it was constructed during summer, 1978).
- Design of an apartment house solar water heating system.
- Design of a wind electric water heating system.

Research:

- Contract for the National Center for Appropriate Technology on the feasibility of small scale cellulose insulation manufacturing. Research included: comparative evaluation of all types of home insulation in terms of cost, R-value, toxicity, flammability, installation, energy intensiveness and potential moisture problems; and the economic and engineering feasibility of small scale cellulose insulation production.

Educational and Community Work:

- Coordination of local Sun Day events for May 3, 1978.
- Networking with local residents involved and interested in renewable energy devices.
- Exhibits on renewable energy principles and hardware at public fairs, conferences, and special school programs.
- Newspaper article on solar water heating in Ithaca.
- Expert testimony on potential energy savings from increased insulation standards, wood space and water heating, and solar water heating, on behalf of Ecology Action of Tompkins County, New York, before the New York State Public Service Commission respecting proposed participation of New York State Electric and Gas Company in the proposed Jamesport Nuclear Electric Generating Facility (June 1977).

June 1976-August 1976

Project Director
Design and Environmental Analysis
Cornell University
Ithaca, New York 14853 U.S.A.

Student project director in a National Science Foundation sponsored project entitled A Model for Domestic Energy Self Sufficiency in a Rural Setting. Research included: measurements of solar radiation, solar collector performance, comparative evaluation of anemometers, testing of small wind machines, design of domestic solar and wind energy systems. Responsibilities included: proposal writing, coordinating efforts of fourteen people, editing report sections and verbal presentation of results to NSF, in Washington, D.C., in December 1976.

June 1974-August 1974

Summer Student Employee
Technical Department
Du Pont de Nemours (Luxembourg) S.A.
P.O. Box 1703
Luxembourg, Gr Duchy of Luxembourg

Summer student employee designing and carrying out an experimental research program on friction coefficients of Mylar, in an effort to eliminate Mylar finding problems. Most of the work was carried out in French.

EDUCATIONAL BACKGROUND

September 1972-January 1977

College of Engineering
Cornell University
Ithaca, New York 14853 U.S.A.

Bachelor of Science Mechanical Engineering
Cornell University, Ithaca, New York 14853

Courses:

Major Studies: Mathematics, Physics, Chemistry, Mechanics of Solids, Computer Science, Electrical Systems, Mechanical Properties of Materials and Production Processes, Dynamics, Fluid Mechanics, Heat Transfer, Aerodynamics, Environmental Control, Workshop on Environmental Design.

Minor Studies: Theory of Architecture, Architecture and the Environment, American Urban History, Economics.

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Special Projects: Cornell Alternative Energy Group, Member

Workshop on Environmental Design:

Extensive research on wind behavior, wind measurement, wind electric system design, and available wind energy equipment for a local parent-run school interested in installing a wind electric system. (Blueberry Hill School)

PREVIOUS FUNDING

<u>Source</u>	<u>Project</u>
Agency for Educational Innovation Cornell University September 1975	Design of Blueberry Hill, the Energy Self-Sufficient School
National Science Foundation S.O.S. Program Washington, D.C. May 1976	A Model for Domestic Energy Self Sufficiency in a Rural Setting
College of Engineering Cornell University October 1976	Cornell Alternative Energy Group
Environmental Studies Program Agricultural Engineering Cornell University October 1976	Community Energy Network
Student Finance Commission Cornell University November 1976	Cornell Alternative Energy Group
National Center for Appropriate Technology Butte, Montana June 1977	A Feasibility Study on the Development of a Small Scale Cellulose Insulation Industry in Tompkins County, New York.
Student Finance Commission Cornell University December 1977	Community Self-Reliance Center
A.T. International Washington, D.C. September 1979	Solar Energy Experimentation and Training in Mountains of Lesotho

John M. Downey
1320 Rittenhouse Street, N.W.
Washington, D.C. 20011

Home (202) 722-0917
Office (301) 277-7000

OBJECTIVE: Project planning, implementation, analysis, and research.
Areas of special interest include: renewable energy sources,
appropriate technology, international development.

EXPERIENCE:

3/80 to present **TECHNICAL INQUIRY COORDINATOR, VITA INC. (VOLUNTEERS IN TECHNICAL ASSISTANCE).** Responsible for the analysis of technical energy inquiries from overseas, identification and solicitation of information, using in-house and outside resources, and the evaluation and compilation of relevant materials for the requestor. Prepared information packets detailing current, available low-cost technologies in small-scale alcohol production, sugar processing, methane digestors, and windpower for water pumping.

4/80 to present **TREASURER, D.C. HOTLINE.** Responsible for setting up accounting system, budgeting and disbursement of funds, preparation of quarterly and annual reports, assisting in fund raising and long range planning.

12/79 to 3/80 **STAFF ASSISTANT TO ASSISTANT DIRECTOR, OFFICE OF VOLUNTARY CITIZEN PARTICIPATION, ACTION.** Responsible for researching, developing, and preparing project proposals, special reports, speeches, and audio-visual presentations. Helped design and assist in the training of state volunteer directors. Provided technical assistance to private voluntary sector.

8/79 to 12/79 **TECHNICAL INQUIRY COORDINATOR, VITA INC.** As above; established and strengthened working relationships with overseas institutions, enhancing their ability to satisfy the technical needs of their own country.

7/79 to 9/79 **COMPUTER OPERATOR, RECRUITMENT OFFICE, ACTION.** Was responsible for the nightly operation of the Sycor computer system and the production of statistical data. Assisted in the compilation and analysis of information received from area offices for inclusion in quarterly and annual reports.

11/75 to 2/79 **HEADMASTER, RURAL SECONDARY TECHNICAL SCHOOL, PEACE CORPS, KENYA.** Coordinated communities' efforts to initiate school and water project by serving as de facto head of steering committee. Organized fundraising meetings; solicited monetary support from local sources; obtained international aid. Formulated five-year school development plan in conjunction with community; designed, supervised and built thirteen classrooms, workshops, and houses. Arranged local training programs for community craftsmen in the construction of appropriate technologies (ferrocement water jars, evaporative coolers, solar grain dryers, methane digestors).

9/74 to 8/75 **WARD CLERK, V.A. HOSPITAL, ANN ARBOR, MICHIGAN.** Intensive care unit, clerical work, worked with psychiatric patients.

5/74 to 9/74 **HOUSE PAINTER, ANN ARBOR, MICHIGAN.** Self-employed.

9/72 to 5/74 **RESIDENT ADVISOR, UNIVERSITY OF MICHIGAN DORMITORY, ANN ARBOR.** Responsible for administration of house of 120 students, counseling of multi-ethnic, foreign and American students.

5/72 to 9/72 **LANDSCAPING BUSINESS, CLEVELAND, OHIO.** Free lance; supervised four employees.

EDUCATION/TRAINING:

1/75 to 9/75 University of Michigan, Graduate School of Biology, Masters Degree 25X completed.

9/70 to 5/74 University of Michigan, B.S. in Zoology with honors, Chemistry minor, G.P.A. 3.45/4.00.

11/75 to 1/76 Technical Consultants International; Peace Corps; Nairobi, Kenya.
9/1/77 to 9/15/77 Studied Kiswahili, Kikuyu, Cross-cultural studies.
4/9/78 to 4/26/78

4/77 to 5/77 School Accounting and Management; Kenyan Ministry of Education; Nairobi, Kenya. Studied Basic School Accounts (up to trial balance); school record/filing systems; inventory management and ordering.

8/14/73 to 9/5/73 Resident Advisor Training, University of Michigan, College of Social Work; studied crisis counselling, small group dynamics.

LANGUAGE/TRAVEL: Working knowledge of Kiswahili and French.
Extensive travel in East Africa, South and South-east Asia, Far-East, and the United States.

fluent reading
writing

reading

(S.M. NIV of Nairobi)

ok

APPENDIX A-4

VITA/REP

ENERGY-RELATED VITA STAFF TRAVEL

4th Qtr, 79/80 AND PROJECTED, 1st Qtr, 80/81

<u>Dates</u>	<u>Destinations</u>	<u>Institutions/Individuals Visited</u>	<u>VITA Staff</u>	<u>Purpose of Trip</u>
July 1 - 3	Honolulu, Hawaii	East-West Center, RSI, and representatives from Sri Lanka, Indonesia, Thailand, Philippines, Bangladesh and India	Lipsetts	Energy for Rural Development (ERD) project steering committee meeting
June 30 - August 1 1/1	Paris, France	Club du Sahel, Minister of Water and Forests, Senegal; Jim Kelley, AID	Norman	Program Development
	Dakar, Senegal	Peace Corps, AID, ENDA		"
	Conakry, Guinea	American Ambassador, Minister of Information, AID Office		"
	Bamako, Mali	AID, Peace Corps Director, World Bank representatives, Government ministers, Institut du Sahel personnel, RESADOC, ICRISAT		"
	Ouagadougou, Upper Volta	Peace Corps, AID, CILSS		"
	Niamey, Niger	Peace Corps, AID, UNDP, ONERSOL, U.S. Ambassador, Mr. Royer (Church World Service)		"
	Abidjan, Ivory Coast	Peace Corps, REDSO, INADES, African Development Bank, etc.		"
July 9 - 20	Tibaitata, Colombia	Instituto Colombiano Agropecuario	Ahrens	First Appropriate Technology Conference
	Bogota, Colombia	Fundacion Mariano Espina Perez (Dr. Felipe Londone)		Program Contacts

<u>Dates</u>	<u>Destinations</u>	<u>Institutions/Individuals Visited</u>	<u>VITA Staff</u>	<u>Purpose of Trip</u>
July 9 - 20	Bogota, Colombia	Jorge Zapp, Technical Director, Gaviotas Program; UNICEF (Sra. Teresa Alvarez, Lola Rocha S.); Federacion de Cafateros (Carmenza Garcia); Peace Corps, CARE Colombia (Neil Huff); Metalibec (Enrique Danies); World Bank (Alfredo Gutierrez)	Ahrens	Program Contacts
July 22 - August 23	Honolulu, Maui, Hilo, Hawaii	Resource Systems Institute, East-West Center (Dick Morse, Mick Santerre, Kirk Smith)	Garriott	Re project proposal pending submission
	Kauiul, Hawaii	Maui Community College (Dick Mayer)		Re possible Energy AT Center
	Suva, Fiji	Center for Appropriate Technology & Development, Centre for Applied Studies and Development (University of the South Pacific)(Akim Swamy, Tom Scott)		Re possible interaction with USP Peacesat Network
		Agency for International Development (Robert Graig, Mary Aloyse Doyle, Robert Kahn)		
		Business Opportunity and Management Advisory Service (John Baumann, Ratu Epeli Kanaimawi - Perm. Sec'y, W. Cruickshank)		Re proposal submission
	Nadi, Fiji	World YWCA (Ruth Lechte, S. Pacific Area Secretary)		Possible submissions
	Vanuatu	Kristian Institute Technology of Weasisi (KITOW) (Ken Calvert, Admin. Sec'y)		Re VITA proposal
	Suva, Fiji	South Pacific Bureau of Economic Cooperation (SPEC) (Peter Thompson)		Re possible VITA contribution/ contract arrangement under new EED-funded energy program
		South Pacific Commission Community Educational Training Center (Nee Kwain Sue)		Discussion of plans and programs

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<u>Dates</u>	<u>Destinations</u>	<u>Institutions/Individuals Visited</u>	<u>VITA Staff</u>	<u>Purpose of Trip</u>
July 22 - August 23	Honiara, Solomon Islands	Foundation for the Peoples of the South Pacific (Baden Prince)	Garriott	Discussion of various proposals
		University of the South Pacific Center (Tony Austin)		Re possible future collaboration
		Women's Training Center (University of South Pacific Center) (Piti Malke)		
	Bangkok, Thailand	VITA Field Rep. Marcus Sherman	Garriott	
	Manila, Philippines	Philippine Center for Appropriate Training and Technology	Garriott	First Appropriate Technology Conference. Presented paper on "Appropriate Technology and the International Scene"
	Makati and Manila, Philippines	USAID (Carol Harlow); USAID (Bill Carter and others)		Discussions and review of current projects and future needs in field of RET
	Manila, Philippines	Earthman Society (Mario "Mao" Chanco and others)		Discussion of their projects
		Peace Corps (Morris Baker, Don Richardson and other PCVs)		RE VITA future collaboration
	Quezon City, Philippines	Agency for Community Educational Services (Dan Thomas)		Re AT Survey and publications
	Silang, Philippines	International Institute of Rural Recon- struction (Thomas Olson, John Batten)		Discussion of their activities and hydraulic ram design
	Republic of Kiribati (Christmas Island)	Atoll Plantations Ltd. (Perry Langston)		Re Fox Manufacturing Wind- plant
	Jawa Barat, Indonesia	Center for Environmental Studies (PUSAL STUDI LINK UNGAD) (Jim Tarrant)		
	Fanning Island	Pacific Equatorial Research Lab. (Martin Vitousek)		Wind refrigeration proposal to be submitted

PROJECTED TRAVEL BY VITA STAFF - 1st Qtr 80/81

<u>Dates</u>	<u>Destinations</u>	<u>Institutions/Individuals to be Visited</u>	<u>VITA Staff</u>	<u>Purpose of Trip</u>
September 29 -	Call, Colombia	FUNDAEC	Geisler	Information resources training program follow-up and technical assistance
October 12	Denver, Colorado	International Appropriate Technology for Development Conference	Gross	Paper presented on VITA/REP
October 15 - 17	Butte, Montana	National Center for Appropriate Technology	Gross	Board meeting (paid by NCAT)
October 15 - 18	Chiang Mai, Thailand	Chiang Mai AT Association	Sherman	Give presentation and display VITA publications
October 20 - 23	Colombo, Sri Lanka	Lanka Jatika Sarvodaya Shramadana Sangamaya (LJSSS). Ariyaratne de Wilde, Stewart	Sherman	Visit VITA SG funded project on woodstove construction and dissemination
October 24	Louisville, Ky	United Nations Association University Meeting	Gross	Workshop on renewable energy and public radio interview (paid by International Center)
October 26	Nice, France	Louis Saint-Jean	Gross	To interview possible Middle East Field Rep.
October 27 - November 2	Nairobi, Kenya	AID representatives. Other Kenyans active in AT. Possible VITA E. Africa Field Reps.	Gross	To meet with local officials, explore needs, explain VITA services. Interview
October 28 - 31	Bangalore, India	Natl. Aeronautical Laboratory, S.K. Tewari; St. John's Leprosy Project; C.V.S. Ratnam; ESCAP/RCTT (Regional Commission for Technology Transfer), Documentation Directory	Sherman	Project identification
November 1 - 13	Andra Pradesh, India	Bhagavatula Charitable Trust	Sherman	Construct and test wind-pumps

PROJECTED TRAVEL (continued)

<u>Dates</u>	<u>Destinations</u>	<u>Institutions/Individuals to be Visited</u>	<u>VITA Staff</u>	<u>Purpose of Trip</u>
November 3/4	Maseru, Lesotho	AID representatives. Other organizations in Lesotho active in AT.	Gross	To meet with local officials, explore needs, explain VITA services.
		Y. Mesfin	Gross	Candidate for E. Africa Field Rep.
November 7	Gainesville, Florida	Solar energy training program for LDC engineers, University of Florida	Cecelski	Presentation on "Socio-economic Factors in Renewable Energy Technology Transfer in Developing Countries" and VITA/REP
November 13 - 14	Rome, Italy	UNFAO (J.E.H. Arnold, etc.)	Cecelski	Discuss biomass and Africa activities and collaboration on program possibilities
November 17 - December 13	Nairobi, Kenya; Gabarones, Botswana; Salisbury, Zimbabwe; Dar es Salaam, Tanzania; Arusha, Tanzania	AID, Peace Corps, various national and international institutions, VITA requestors and volunteers	Cecelski	Program development
November 22 - December 2	Bangkok, Thailand	Marcus Sherman, VITA Asia Field Rep. AID representatives	Gross	Visit VITA Asia office Discussions with local AID representatives
November or December	Caribbean		Fera	Program Development
December 1	Bamako, Mali	Daphne Mattravers - Messana Forest Industries Advisory Group UN-ECA Peace Corps/Mali (Director - Henry Homeyer) Other woodstoves practitioners	Wood	Seminar on Fuelwood and Energy. Present findings of Gautam Dutt on stove testing methodologies in Upper Volta
January 2 - 9	Khartoum, Sudan	AID, Peace Corps, various national and international PVOs and institutions, VITA requestors and volunteers	Cecelski	Program Development

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APPENDIX A-5

VITA Internal Proposal Handling Process,
Areas of Assistance, and
Project Selection Criteria

PROPOSAL FLOW PROCESS

Reference # _____

Response due _____

NOTE: Please check off appropriate item as the proposal goes through the identified stages in the process. Include comments as necessary. Sign your name. Except for Stage I—the monitor is responsible for all the stages of the process.

*Indicates where form letters/memos are available - check "PENDING PROPOSAL" file cabinet for folder marked Model Letters/Memos.

PROCESS	✓	COMMENTS	SIGN	DATE
I. LOGGED (Linda)				
a) Assign monitor b) 3 copies for: . Field Rep . Inquiry Service . Monitor Folder				
II. INITIAL REVIEW		(Referred, Rejected, Pending, Names of reviewers)		
a) By monitor and others b) *Acknowledgement, clarifying questions letter, or *rejection sent (objectives - two week action)				
III. FINAL REVIEW		Funding Recommendations, etc.		
a) Clarifications received b) Comments rec'd from Inquiry Ser. c) Field Rep. comments received d) VITA Volunteers comments rec'd e) Comments from other funders/agencies received f) Proposal summary prepared g) Rejection or pending letter sent if necessary				
IV. NOTIFICATION				
a) *Field Representative b) *AID Washington, DC c) *Controller (summary and budget) d) *AID Mission (by cable)				
V. CONTRACT/DISBURSEMENT #1		(\$ amount of check)		
a) *Grant agreement prepared & sent with *Grantee notification 2 wks after AID/W notification b) Grant agreement returned, signed by Director c) Copy of Grant agreement to: . Controller . Publications d) 1st disbursement check sent to Grantee with copy of signed agreement				
VI. REPORTING		Planned	Actual	
a) Report #1 b) Report #2 c) Report #3 d) Final report (30 days after end of Grant period)				
VII. DISBURSEMENTS		Planned	Actual	
a) #1 b) #2 c) #3 d) #4		48		
VIII. FOLLOW UP/EVALUATION		Planned	Actual	

THE VITA RENEWABLE ENERGY PROGRAM

The VITA Renewable Energy Program (VITA/REP) is designed to assist the rural and urban poor by supporting the development, transfer, and diffusion of small-scale renewable energy technologies in the Third World. This program will (1) expand VITA's existing technical assistance mechanisms; (2) promote and support interchange and sharing of information, experience, financial, and other resources; and (3) support these and other efforts to increase the use of renewable energy technologies through a small grants project implementation fund.

To accomplish these objectives, VITA brings a wide range of time-tested resources into action:

- A Documentation Center housing a collection of over 46,000 technical documents, plans, bibliographies, information on organizations/projects, world wide studies, and other written materials. Of these, 3700 documents deal specifically with renewable energy technologies.
- A Volunteer Consultants Roster, within the VITA Volunteer Network, listing over 4000 technical experts and development specialists. More than 600 have specific expertise in the development and practical utilization of alternative energy technologies.
- A network of some 600 public and private institutions that are active in the development and dissemination of low-cost energy technologies.
- A core technical staff experienced in the planning, implementation, training, and evaluation of alternative energy applications in such fields as: agriculture, housing, small and micro-enterprises, water supply and sanitation.

Using these traditional resources, augmented by the new resources of the Renewable Energy Program, VITA can provide:

1. By-mail technical information, manuals, designs, and problem-solving advice through VITA Publications, and VITA's Technical Inquiry Service.
2. Qualified on-site VITA Volunteer consultants and staff for renewable energy projects, training programs, and other activities.
3. Assistance in setting up local, national, regional, and international information and other resource sharing systems.
4. Travel directly related to specific development projects, transfer or dissemination of renewable energy technologies.
5. Training activities and workshops to disseminate renewable energy technologies.
6. Equipment for projects and other activities.
7. Project planning, technical consultation, management, monitoring and evaluation.
8. Technical assistance to specific renewable energy projects, activities and problems.
9. Prototype developing, testing and adaptation of renewable energy technologies as part of international networks.
10. Demonstration, extension support and/or dissemination of renewable energy technologies.
11. Assistance in locating possible funding sources for projects to supplement VITA/REP funding or for projects that do not fit criteria.

VITA/REP
PROJECT SELECTION GUIDELINES

The following guidelines are used by the VITA/Renewable Energy Program (VITA/REP) in selecting projects according to our capabilities, resources and interests. It is suggested that the guidelines be used by individuals or groups in considering whether or not they should solicit VITA/REP assistance in the development of a specific project. Given that the VITA/REP is a small program with limited staff and resources, we must limit our involvement in projects to those which most closely match our objectives.

1. Projects must have potential for directly or indirectly improving the quality of life of lower socioeconomic groups in rural and/or urban areas.
2. Projects should contribute to the development, transfer and/or dissemination of renewable energy technologies.
3. Projects must have a self-help component.
4. Preference will be given to projects which:
 - (a) Are oriented towards "appropriate technologies," which are low cost and utilize local materials and human resources.
 - (b) Are carried out by local community-based organizations with a commitment to assisting low-income groups.
 - (c) Reduce future fossil fuel consumption.
 - (d) Promote community or group participation, particularly by women.
 - (e) Relate to VITA/REP program activities, and contribute to continued collaboration with VITA.
 - (f) Will develop innovative approaches and provide information about factors influencing the successful transfer of renewable energy technologies, especially spontaneous adoption of such technologies.
5. Brief concepts/ideas may be submitted informally, and developed in consultation with VITA staff. Final proposals, however, should include:
 - what is the history/experience of the requesting institution or individual? what groups does it usually work with?
 - what is the purpose of the project? who will benefit if it is successful? how will it help meet energy needs of low income groups, promote community participation and the role of women, etc. (see #4 above).
 - how will the project be carried out and by whom (staff, others)? what are their technical or other qualifications? when will the project begin, and how long will it last?
 - the amount of funding requested from VITA; the amount of contribution by others and by the requester, in money or labor, equipment, etc.; and an estimated budget.

APPENDIX A-6

Small Grants Project Implementation Fund
Status of Proposals Received

VITA RENEWABLE ENERGY PROGRAM

SMALL GRANTS FUND

REF #	PROPOSALS RECEIVED TITLE/ORGANIZATION/COUNTRY	PENDING	REJECTED	APPROVED	REFERRED	APPROVED BY VITA	OBLIGATED	DISBURSEMENTS BY QTR.				TOTAL DISBURSE- MENTS TO DATE/PER PROJECT
								1	2	3	4	
90001	Automotive Mechanic Shop CEVER Honduras			X								
90002	AT Information & Prototype Center CEVER Honduras			X								
90003	Roofing Sheet Factories SERVIVIENDA Colombia	X										
90004	Cement Factory SERVIVIENDA Colombia	X										
90005	Technology & Development Department SERVIVIENDA Colombia	X										
90006	Dehydration of Agricultural Crops in Honduras ICAITI Colombia	X										
90007	Rural Energy Research Center for Development Systems CDA India	X										
90008	Solar Stills Project (Dunham) Columbia University	X										
90009	Water Pumping Windmill Demonstration Shri Shivagi Skikshan Prasarak Mandal Agricultural School Solapur, India			X								
TOTAL THIS PAGE		0	6	0	3	0	0	0	0	0	0	0
PREVIOUS PAGE TOTAL												
CUMULATIVE TOTAL		0	6	0	3	0	0	0	0	0	0	0

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VITA RENEWABLE ENERGY PROGRAM

SMALL GRANTS FUND

REF #	PROPOSALS RECEIVED TITLE/ORGANIZATION/COUNTRY	PENDING	REJECTED	APPROVED	REFERRED	APPROVED BY VITA	OBLIGATED	DISBURSEMENTS BY QTR.				TOTAL DISBURSE- MENTS TO DATE/PER PROJECT	
								1	2	3	4		
90010	Norte del Cauca-Energy Project FUNDAEC-Colombia	X											
90011	Manufacture of Didactic Materials on Lorena Stoves Cooperativo Choqui Icada Guatemala		X			5335	X					5335	5335
90012	Micro Hydro Electric Project in Yandohun & Dungalahun Lofa County Liberia	X											
90013	Small Scale Passive Solar Grain Dryers in Central America ICAITI - Guatemala	X											
90014	Integrated Food, Power, Agriculture Complex University of Arizona	X											
90015	Charcoal Production in Sri Lanka Enterprise Development Inc. Washington, DC	X											
90016	Hydroelectric Fertilizer Plants in Nepal University of Minnesota	X											
90017	Salt Water Pumping Windmill Demonstration & Dissemination Program Bhagavatula Charitable Trust Andhra Pradesh India			X									
90018	Energy Storage for Domestic Cooking in Nepal New York State College	X											
TOTAL THIS PAGE		1	6	1	1	5335	1	0	0	0	5335	5335	
PREVIOUS PAGE TOTAL		0	6	0	3	0	0	0	0	0	0	0	
CUMULATIVE TOTAL		1	12	1	4	5335	1	0	0	0	5335	5335	

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VITA RENEWABLE ENERGY PROGRAM
SMALL GRANTS FUND

REF #	PROPOSALS RECEIVED TITLE/ORGANIZATION/COUNTRY	PENDING	REJECTED	APPROVED	REFERRED	APPROVED BY VITA	OBLIGATED	DISBURSEMENTS BY QTR.				TOTAL DISBURSE- MENTS TO DATE/PER PROJECT
								1	2	3	4	
90019	Biogas Development Dominican Christian Council (DCC)	X										
90020	Solar Food-Dryer Study W.A. Gross - New Mexico	X										
90021	Center for the Adaptation and Promotion of AT for India, Kerala, India		X									
90022	Solar Collector Shop - Pool Moo Agricultural Technical High School, Chungnam Republic of Korea			X								
90023	Demonstration of Windmills & Biogas Digestors CITA Nicaragua (Danilo Saravia)			X	15000	X					6000	6000
90024	AT Center Business Opportunity and Management Advisory Service (BOMAS) Suva, Fiji		X									
90025	Information System Training at VITA-Instituto Nacional de Energia Ecuador			X	2150	X					1774	1774
90026	Rural Development Projects OAS Washington		X									
TOTAL THIS PAGE		2	3	2	1	17150	2	0	0	0	7774	7774
PREVIOUS PAGE TOTAL		1	12	1	4	5335	1	0	0	0	5335	5335
CUMULATIVE TOTAL		3	15	3	5	22485	3	0	0	0	13109	13109

AS

VITA RENEWABLE ENERGY PROGRAM

SMALL GRANTS FUND

REF #	PROPOSALS RECEIVED TITLE/ORGANIZATION/COUNTRY						APPROVED BY VITA				DISBURSEMENTS BY QTR.				TOTAL DISBURSE- MENTS TO DATE/PER PROJECT	
		PENDING	REJECTED	APPROVED	REFERRED		1	2	3	4						
90027	Information Center on Appropriate Technology Centro de Investigacion y Desarrollo de La Educacion Chile	X														
90028	Composting Toilets-NY State College of Agriculture & Life Science (for Mexico)	X														
90029	Alternative Energy Projects. Philippine Center for Appropriate Training & Technology (PCATT)- Philippines	X														
90030	Viability of Hydroelectric Micro Centers in Colombia FundacionMariano Ospina Perez Colombia	X														
90031	Demonstration of Low Voltage Wind Genrators PRIDE Turks and Caicos Islands			X		9794	X								5000	5000
90032	Liquid Piston Engine George Banbury London UK	X														
90033	(Duplicate Proposal)															
TOTAL THIS PAGE		1	4	1	0	9794	1	0	0	0	0	0	0	5000	5000	
PREVIOUS PAGE TOTAL		3	15	3	5	22485	3	0	0	0	0	0	0	13109	13109	
CUMULATIVE TOTAL		4	19	4	5	32279	4	0	0	0	0	0	0	18109	18109	

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VITA RENEWABLE ENERGY PROGRAM

SMALL GRANTS FUND

REF #	PROPOSALS RECEIVED TITLE/ORGANIZATION/COUNTRY	PENDING	REJECTED	APPROVED	REFERRED	APPROVED BY VITA	OBLIGATED	DISBURSEMENTS BY QTR.				TOTAL DISBURSEMENTS TO DATE/PER PROJECT
								1	2	3	4	
90034	Study of Solar Cooker Dissemination ITECA Haiti	X										
90035	Rural Promotion Center Congregation des Petites Soeurs de Sainte Therese de l'enfant Jesus Haiti	X										
90036	Philippines Social Action Center The Social Action Center Prelature of Malaybalav Bukidnon, Philippines	X										
90037	Kaya Woodstove Dissemination Project Kaya/Peace Corps Upper Volta		X		7000	X				5000		5000
90038	PERL (Pacific Equatorial Research Laboratory) Friends of South Pacific Fanning Island, Republic of Kiribati	X										
90039	Investigative Study of the Use of Traditional Energy & AT Activities & Organizations & The Potential Role of VITA in Indonesia (J. Tarrant) Indonesia	X										
TOTAL THIS PAGE		3	2	1	0	7000	1	0	0	5000	0	5000
PREVIOUS PAGE TOTAL		4	19	4	5	32279	4	0	0	0	18109	18109
CUMULATIVE TOTAL		7	21	5	5	39279	5	0	0	5000	18109	23109

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VITA RENEWABLE ENERGY PROGRAM

SMALL GRANTS FUND

REF #	PROPOSALS RECEIVED TITLE/ORGANIZATION/COUNTRY	PENDING	REJECTED	APPROVED	REFERRED	APPROVED BY VITA	OBLIGATED	DISBURSEMENTS BY QTR.				TOTAL DISBURSE- MENTS TO DATE/PER PROJECT
								1	2	3	4	
90040	Promotion of Use of AT in Rural Areas ITCR (Instituto Tecnológico Costa Rica) Inq. Gerardo Mirabelli R., Director Costa Rica		X									
90041	National Documentation and Information Service for Rural Development Fundacion Mariano Ospina Perez Bogota, Colombia		X									
90042	Alternative Fuel Producer Gas Proj. KITOW (Kristian Institute Technology of WEASISI) Ken Calvert New Hebrides	X										
90043	Social Impact Analysis (SIA) Philip B. Musser Upper Volta		X									
90044	Testing of AT Tools New TransCentury, Washington, DC		X									
90045	Energy for Rural Development East-West Resource System Institute Richard Morse Honolulu, Hawaii	X										
90046	Biomass Energy Conference Inq. Donald B. Peterson Costa Rica			X		20000	X				15000	15000
TOTAL THIS PAGE		2	4	1	0	20000	1	0	0	0	15000	15000
PREVIOUS PAGE TOTAL		7	21	5	5	39279	5	0	0	5000	18109	23109
CUMULATIVE TOTAL		9	25	6	5	59279	6	0	0	5000	33109	38109

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VITA RENEWABLE ENERGY PROGRAM

SMALL GRANTS FUND

REF #	PROPOSALS RECEIVED TITLE/ORGANIZATION/COUNTRY					APPROVED BY VITA		DISBURSEMENTS BY QTR.				TOTAL DISBURSE- MENTS TO DATE/PER PROJECT	
		PENDING	REJECTED	APPROVED	REFERRED	OBLIGATED		1	2	3	4		
90047	Demonstration of Biogas Digester in Integrated School Farm Peace Corps and Hogares Juveniles Campesinos Colombia		X			1000	X						
90048	Micro Hydro Electric Generating System David L. Wright, ITDG U.K.	X											
90049	Project to Reduce the Consumption of Wood Fuel ITECA, Institut de Technologie et D'animation Haiti		X										
90050	Sea Salt Extraction Cooperativa de Ahorra "Salinos Ltda", Padre Polo Ecuador	X											
90051	Program for Development of Alternate Energy Sources for the Caribbean Region, ACT Trinidad & Tobago	X											
90052	Adaptation of Low Cost Devices for Biogas Use CEMAT, Guatemala		X			10000							
90053	Biogas & Biofertilizer Symposium CEMAT Guatemala		X			7000	X				7000		7000
90054	Solar Hood Drying Kiln (R. Simmons) Ecuador		X										
	TOTAL THIS PAGE	2	2	3	0	18000	2	0	0	7000	0	7000	
	PREVIOUS PAGE TOTAL	9	25	6	5	59279	6	0	0	5000	33109	38109	
	CUMULATIVE TOTAL	11	27	9	5	77279	8	0	0	12000	33109	45109	

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VITA RENEWABLE ENERGY PROGRAM

SMALL GRANTS FUND

REF #	PROPOSALS RECEIVED TITLE/ORGANIZATION/COUNTRY	PENDING	REJECTED	APPROVED	REFERRED	APPROVED BY VITA	OBLIGATED	DISBURSEMENTS BY QTR.				TOTAL DISBURSE- MENTS TO DATE/PER PROJECT	
								1	2	3	4		
90055	Strategy for Micro Regional Development JUNDEP Chile	X											
90056	The Process and Application of Solar Drying The Farallones Institute Rural Center Occidental, California (Paul Warpeha)		X										
90057	Alcohol from Agricultural Waste Alternate Energy System, Inc. Silver Spring, MD (Terry Pruden)	X											
90058	Energetic Analysis of Appropriate Technologies Foundation for Self-Sufficiency Catonsville, MD - Greg Welsh	X											
90059	Aquaculture, Algae Culture and Biogas Production at Djaina, Auroville Tamil Nadu, South India - Allen Parker/Pierre Legrand	X											
90060	Development of AT Center (Morigong) Assam Jyouti Club (Morigong) Nowgong District, Assam, India	X											
90061	Philippine Appropriate Technology Handbook Philippine Center for Appropriate Training & Technology (PCAT) Philippines		X										
TOTAL THIS PAGE		5	2	0	0	0	0	0	0	0	0	0	0
PREVIOUS PAGE TOTAL		11	27	9	5	77279	8	0	0	12000	33109	45109	
CUMULATIVE TOTAL		16	29	9	5	77279	8	0	0	12000	33109	45109	

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VITA RENEWABLE ENERGY PROGRAM

SMALL GRANTS FUND

REF #	PROPOSALS RECEIVED TITLE/ORGANIZATION/COUNTRY	PENDING	REJECTED	APPROVED	REFERRED	APPROVED BY VITA	OBLIGATED	DISBURSEMENTS BY QTR.				TOTAL DISBURSE- MENTS TO DATE/PER PROJECT	
								1	2	3	4		
90062	Alcohol Production, ASOPANELA Alirio Laguna Cartagena Colombia	X											
90063	Urban Food and Fibre Production in Third World Cities Isabel Wade and Associates San Francisco, CA	X											
90064	Woodstove Researchers Exchange Senegal, Zambia, Tanzania	X											
90065	Urban Food and Fuel Production Slide Show Isabel Wade and Associates San Francisco, CA	X											
90066	Program to Design & Disseminate Improved Woodstoves Lanka Jatika Sarvodaya Shramadana Sangamaya Inc. A.T. Ariyaratne Moratuwa, Sri Lanka			X		5000	X						0
90067	Reafforestation in Korea Study Nautilus International Peter Hayes, Principal Reseacher US/Korea		X										
TOTAL THIS PAGE		4	1	1	0	5000	1	0	0	0	0	0	0
PREVIOUS PAGE TOTAL		16	29	9	5	77279	8	0	0	12000	33109	45109	
CUMULATIVE TOTAL		20	30	10	5	82279	9	0	0	12000	33109	45109	

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VITA RENEWABLE ENERGY PROGRAM

SMALL GRANTS FUND

REF #	PROPOSALS RECEIVED TITLE/ORGANIZATION/COUNTRY						DISBURSEMENTS BY QTR.				TOTAL DISBURSEMENTS TO DATE/PER PROJECT		
		PENDING	REJECTED	APPROVED	REFERRED	APPROVED BY VITA	OBLIGATED	1	2	3		4	
90068	Windmill & Biogas Plant Feasibility Study & a Study of Econ/Social Changes Resulting from Introduction of Technology Verala Dairy Project Society Sangli, India	X											
90069	Feasibility Study of Energy and Technology Development Plan FUNDAEC, Colombia Marco Ortiz	X											
90070	Soft Energy Notes San Francisco, California	X											
90071	Demonstration & Dissemination of Hybrid Sailboats for Fishing Partnership for Productivity, Peace Corps, Dominican Fisheries Division Dominica, West Indies			X	11300	X							
90072	Fact Finding of Reconstruction Needs in Zimbabwe Environment et Developpement du Tiers Monde (ENDA) Dakar, Senegal/Zimbabwe	X											
TOTAL THIS PAGE		4	0	1	0	11300	1	0	0	0	0	0	0
PREVIOUS PAGE TOTAL		20	30	10	5	82279	9	0	0	12000	33109	45109	
CUMULATIVE TOTAL		24	30	11	5	93579	10	0	0	12000	33109	45109	

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VITA RENEWABLE ENERGY PROGRAM

SMALL GRANTS FUND

REF #	PROPOSALS RECEIVED TITLE/ORGANIZATION/COUNTRY	PENDING	REJECTED	APPROVED	REFERRED	APPROVED BY VITA	OBLIGATED	DISBURSEMENTS BY QTR.				TOTAL DISBURSE- MENTS TO DATE/PER PROJECT
								1	2	3	4	
90073	Activities in the Field of Energy Environment & Developpement du Tiers Monde (ENDA) Dakar, Senegal	X										
90074	Diffusion of Improved Stoves in West Africa ENDA (Environnement et Developpement du Tiers Monde) Dakar, Senegal	X										
90075	Performance Evaluation of Biogas/Fertilizer in Various Ecological & Demographic Conditions INE Ecuador	X										
90076	Documentation Center Training Program for Guinea Ministry of Information VITA Mt. Rainer/Guinea	X										
90077	Funding of Solar Water Pump Foundation for Self Sufficiency Inc. Catonsville, MD 21228	X										
90078	Director of Alternative Energy Sources Fundacion Mariana Ospina Perez Bogota, Colombia	X										
TOTAL THIS PAGE		4	2	0	0	0	0	0	0	0	0	0
PREVIOUS PAGE TOTAL		24	30	11	5	93579	10	0	0	12000	33109	45109
CUMULATIVE TOTAL		28	32	11	5	93579	10	0	0	12000	33109	45109

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11. PROJECT REVIEW SHEET

TITLE: BIOGAS AND BIOFERTILIZER SYMPOSIUM, CEMAT, GUATEMALA

REF # 90053

INITIAL x. FINAL x. DATE: 29 Jul 80. BY: Fera

(PROVIDE A BRIEF DESCRIPTION OF PROJECT AND THE INSTITUTION. STATE GOAL, PURPOSE OUTPUTS, INPUTS. REVIEW PROPOSAL AGAINST PROJECT DESIGN CRITERIA, VITA GRANT CRITERIA, STANDARD GRANT PROVISIONS REQUIREMENTS. EXAMINE OTHER FACTORS OR ISSUES BEARING UPON RECOMMENDATION, INCLUDING VITA'S ROLE AND OBJECTIVES. WHY SHOULD VITA FUND/NOT FUND THIS PROPOSAL?)

Institutional Description

Founded in 1976, CEMAT (Centro Mesamericano de Estudios de sobre Tecnologia A apropiada) is a well-known non-profit development organization based in Guatemala. CEMAT undertakes innovate appropriate technology projects in Guatemala and promotes their experiences in other countries as well.

Background

One method employed by CEMAT to promote their project experiences is through workshops and conferences at the village level. International organizations have supported CEMAT's efforts in this regard. CEMAT has already held such conferences previously with a good deal of success. (OLADE, The Latin American Organization on Energy was a primary supporter of these conferences. However, funding for the workshop presented now to VITA had been terminated unexpectedly. CEMAT then turned to VITA for partial financial support to enable them to continue with workshop preparations).

Proposal to VITA

CEMAT has asked VITA to provide US\$7,000 in support of a Workshop/Seminar on "Reutilization of Wastes for the Production of Biogas and Innocuous Biofertilizer." The conference will be held in Panajachel, August 25-29, 1980. Numerous state and non-government organizations from Guatemala, and others from Peru, Mexico, Nicaragua, Africa, Canada, England, Germany, and the U.S. will be represented at the Workshop. Participants will hear speakers familiar with biogas and visit project sites where CEMAT has already constructed some 12 biogas digestors. Panel discussions will also be held.

Funding Rationale

1. CEMAT has presented an urgent request to VITA because of an unexpected funding shortage. VITA's ability to provide quick and responsive assistance has meant the difference of not having to cancel the workshop.
2. Support to CEMAT will help to further closer program relations with CEMAT.
3. The participation of international and national organizations is a most effective method to promote the use of a renewable energy technology given the fact that CEMAT has already had practical project experience at the village level.

APPENDIX A-7

VITA/REP

Projects Approved, 4th Qtr., 79/80
Project Review Sheets

The following projects have been approved by VITA in the fourth quarter; project review sheets are attached:

1. Biogas and Biofertilizer Symposium, CEMAT, Guatemala. \$7,000. (Ref. #90053).
2. Demonstration of Biogas Digester in Integrated School/Farm, Peace Corps and Hogares Juveniles Campaniles, Colombia. \$1,000. (Ref. #90047).
3. Demonstration and Dissemination of Hybrid Sailboats, Partnership for Productivity, Peace Corps, and Fisheries Division, Dominica, West Indies. \$11,300. (Ref. #90071)
4. Construction, Adaptation, and Dissemination of Improved Woodstoves, Lanka Jatika Sarvodaya Shramadana Sangamaya (LJSSS), Sri Lanka. \$5,000. (Ref. #90066).

-11. PROJECT REVIEW SHEET

TITLE: DEMONSTRATION AND DISSEMINATION OF HYBRID SAILBOATS, PARTNERSHIP FOR
PRODUCTIVITY, PEACE CORPS, AND FISHERIES DIVISION, DOMINICA, WEST INDIES
REF # 90071
INITIAL ____ . FINAL ____ . DATE: 8/21/80 . BY: Liz Cecelski

(PROVIDE A BRIEF DESCRIPTION OF PROJECT AND THE INSTITUTION. STATE GOAL, PURPOSE
OUTPUTS, INPUTS. REVIEW PROPOSAL AGAINST PROJECT DESIGN CRITERIA, VITA GRANT
CRITERIA, STANDARD GRANT PROVISIONS REQUIREMENTS. EXAMINE OTHER FACTORS OR
ISSUES BEARING UPON RECOMMENDATION, INCLUDING VITA'S ROLE AND OBJECTIVES.
WHY SHOULD VITA FUND/NOT FUND THIS PROPOSAL?)

Partnership for Productivity is a non-profit, voluntary organization whose aim is to assist the world and urban poor majority to increase their productivity and create economic values in goods and services. PFP provides management in credit training, group/individual business start-up, investment loans, technical assistance and vocational training in commercial activities. A staff member of PFP, Mr. Jerome Glenn is currently working in Dominica. Dominica is a small island nation of 80 thousand people where last year's hurricane David devastated an already serious economic situation: food prices have increased by 45% in the last year, and unemployment is estimated at 24%. In response to the destruction of Hurricane David, the Ministry of Education of Youth through the Rockefeller Brothers Fund approached PFP to conduct a study of the situation and make recommendations for activities which will contribute to the reconstruction of the Dominican economy. PFP began a limited program of assistance funded by RBF in April 1980, designed to provide management in technical assistance, training, credit, and in furnishing technical assistance to small scale economic activities. At the present time, PFP rep Jerry Glenn is providing management assistance directly to small enterprise activities, including a fishing cooperative, a leather craft shop, and a brick making and pottery training center. A training course in business school skills for field agents of the government is also being undertaken, together with a small revolving loan fund.

PFP has been contacted by a Peace Corps volunteer assigned to the Fishery Division boat shop. The PCV, a master boat builder, has already drawn up plans for the construction of fishing sailboats. The Fishing Division has boat building grants from both the FAO and Barclay's Bank to construct 20-foot diesel-powered launches. Though interested in the sailboat design, they regard as experimental and do not have additional funds for construction. They are however, prepared to set aside use of their facilities and assign a PCV full time for the project if funding is available.

VITA funding would pay for materials to build 4 hybrid sailboats for fishing. The boats will be principally sail-powered with the ability also to be propelled by oars or by a small gasoline engine. Both would be sold to individual fishermen or cooperatives and dispersed around the island to increase their visibility. An initial survey has already shown demand to be high, and PFP can assist in obtaining loans if necessary. It is anticipated that once the boats have proven themselves local boat builders will respond. PFP is also working in close cooperation with the Fishery Division in cold storage, distribution, and marketing facilities, which are severe constraints to expanding the fishing industry.

.11. PROJECT REVIEW SHEET

TITLE: DEMONSTRATION OF BIOGAS DIGESTER IN INTEGRATED SCHOOL FARM,
PEACE CORPS AND HOGARES JUVENILES CAMPANILES, COLOMBIA

REF # 90047

INITIAL x. FINAL . DATE: 8 Aug 80. BY: Cecelski

(PROVIDE A BRIEF DESCRIPTION OF PROJECT AND THE INSTITUTION. STATE GOAL, PURPOSE OUTPUTS, INPUTS. REVIEW PROPOSAL AGAINST PROJECT DESIGN CRITERIA, VITA GRANT CRITERIA, STANDARD GRANT PROVISIONS REQUIREMENTS. EXAMINE OTHER FACTORS OR ISSUES BEARING UPON RECOMMENDATION, INCLUDING VITA'S ROLE AND OBJECTIVES. WHY SHOULD VITA FUND/NOT FUND THIS PROPOSAL?)

A PCV mechanical engineer wants to cooperate with a Colombian school in building a biogas digester. The School is Hogares Juveniles Campesinos (Rural Youth Homes), which operates 85 academic-agricultural schools in Colombia. The purpose is to train peasant farm children during the week in relevant matters which they can apply on weekends when they return home. Schools are near medium size towns and provide scholarships. Agricultural instruction is donated by a government agency and uses AT techniques. Students manage small farm from an AT and ecological, self-sufficiency view. The school also sees itself as a demonstration for local farmers.

The integrated farming approach of school--they already compost--lends itself to digester construction and workability. There should be no problems here with manure collection or benefits distribution, as in India. The school has animals, will use the gas itself, and can train its own labor. The probability of success therefore is high. Diffusion possibilities are also high since the farm is already a demonstration project, plus if successful the farm school system (85 such schools) can spread use of methane.

The PCV and the school system are anxious to collaborate to use VITA technical assistance. We should try to provide for future collaboration with these schools, also for dissemination after the PCV leaves and training before. Funding is for materials only and is rather high cost--can local materials be substituted or do we have lower cost design? The School provides labor and PCV.

UPDATE: Sent VITA biogas packet to PCV; received letter from him showing interest in VITA design assistance and interest of schools in continued collaboration.

11. PROJECT REVIEW SHEET

TITLE: CONSTRUCTION, ADAPTATION & DISSEMINATION OF IMPROVED WOODSTOVES,
LANKA JATIKA SARVODAYA SHRAMADANA SANGAMAYA (LJSSS), SRI LANKA

REF # 90066

INITIAL ____ . FINAL x . DATE: 9/22/80 . BY: Linda Yangas

(PROVIDE A BRIEF DESCRIPTION OF PROJECT AND THE INSTITUTION. STATE GOAL, PURPOSE OUTPUTS, INPUTS. REVIEW PROPOSAL AGAINST PROJECT DESIGN CRITERIA, VITA GRANT CRITERIA, STANDARD GRANT PROVISIONS REQUIREMENTS. EXAMINE OTHER FACTORS OR ISSUES BEARING UPON RECOMMENDATION, INCLUDING VITA'S ROLE AND OBJECTIVES. WHY SHOULD VITA FUND/NOT FUND THIS PROPOSAL?)

Summary of Project Proposal:

The wood conserving Stove Project is part of a larger Sarvodaya program which has successfully introduced smokeless stoves in Sarvodaya Gramodaya Centers, and village homes in Sri Lanka in the effort to improve the quality of rural life and increase the role of women in development.

The proposed project is a 2-year program designed to continue building and introducing stoves suited to the varying needs of different geographical zones of Sri Lanka, and training field workers in methods of stove dissemination.

The 4-phase project plan includes a 6-month first stream which involves building modified Guatemalan stoves, training field workers in their construction and use, developing and implementing dissemination methods. Simultaneously during this phase, a second stream is planned to be carried out. This plan involves studying traditional fuels, stoves, and cooking practices designing new types of stoves based upon data from the study, and conducting initial tests in Gramodaya centers, and specific village households.

The succeeding phases each covering a period of six months involve evaluation of newly-developed stove models development of production units for manufacture of successfully tested stoves, and training of Gramodaya and health workers (field workers) in stove construction and use. Follow-up of field workers (disseminators) and modification of course and teaching materials in dissemination methods is included in the plan.

Funding for the \$15,140 budget will be provided by Helvitas Switzerland, and NOVIB Programme Assistance. LJSSS has requested VITA to contribute \$5,000 to carry out the project.

Institutional Description

The LJSSS is part of the Sarvodaya Shramadana Movement, a non-political people's movement founded in 1958 and legally recognized by an Act of Parliament. It has spread its influence now to more than 3,000 villages.

The movement's activities are geared to integrated rural development based on traditional and cultural values. People's participation is the foundation on which the movement originated.

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Fish is not an important part of the Dominican diet because the fishing industry is quite undeveloped. Marketing problems are great, but a significant problem is the high cost of imported gasoline and the whole outboard engine technology. The average life of an outboard in Dominica is two years. Currently two types of boats are manufactured: Log canoes and keel boats. Boats are unstable, poorly constructed, short lived, can carry only a small sail, and row and motor poorly. The modified sailboat to be built is a modified sharpe about 18 feet long, similar to the Chesapeake Bay crab skiff, which has successfully been proven. It is cheap, rows and motors well, and moves nicely with a single sail of a 100 square feet. The boat is also stable will not sink if capsized and can be safely and easily beached. Since the hurricane, there is an extreme shortage of boats, facilitating introduction of a new model. To minimize objections, nonetheless, the plan is to build the boats with transom and sterns to facilitate the use of outboards, and to introduce them with the spirtsail, the traditional sail of the island.

Funding for the project includes some capital expenses (budget attached) to augment the workshop, and the labor of 2 semi-skilled Dominican workers who will be trained to aid with the construction. The Peace Corps Volunteer will submit quarterly reports to PFP on finances, construction, testing, and use of the boats. All money received back from sales will be used to finance further construction.

This project appears to fit quite well into VITA's renewable energy program. Dominica is one of the poorest of the Caribbean islands, and improving the fishing industry would benefit not only low income fishermen but possibly in the longer run the nutrition of the entire population. Using sail power rather than diesel will also reduce dependence on imported oil and other technology. The possibilities for spreading this technology to other Caribbean islands are also good, particularly since the PFP already has on-going activities in other islands. In particular, a Dominican organic farmer assisted by the PFP is already assisting in setting up an organic farming center in Haiti. The organization carrying out the project, the PFP, is well known as a capable organization. The PFP is eager to collaborate with VITA both in the Dominica project and in other parts of the Caribbean. For example, VITA volunteers might review the boat design proposed by the PCV.

A copy of the proposal and budget are attached.

- UPDATE:
- 1) VITA Volunteer Don Erdman, Fisheries Division, Puerto Rico, with Caribbean boat building and fishing experience will review the boat design and proposal with PCV for suitability for Dominican fishing, wind, and water conditions, and will continue to assist project, including an on-site visit if appropriate.
 - 2) On-site visit by Senior Advisor, Liz Cecelski September 8, 1980. Discussions resulted in increased emphasis on two aspects: (a) informal training of boatbuilders who often "hangout" at the boatyard; and (b) evaluation of longer-term impact.

APPENDIX A-B

VITA/REP

Budget Expenditures
8/31/79 - 8/31/80

	Documentation Center 630205	Inquiry Service 630210	Volunteer Resources 630211	Field Reps		Network 640400	Publications		Res. & Prog Devt. 660000	Totals
				Home Office 640300	Asia 640301		Distribution 650505	Development 650510		
Salaries	31,716	33,405	8,670	5,170	12,462	5,160	12,616	55,653	108,702	273,642
Fringe Benefits	5,648	5,992	1,550	929	2,243	930	2,249	9,947	19,630	49,126
Consultants	655	-	4,385	659	-	-	-	16,046	36,296	58,041
Computer	-	-	1,695	-	-	-	-	28,043	-	29,738
Travel & Allowances	80	-	105	2,422	11,619	-	-	59	30,698	44,903
Printing & Photography	2,165	-	216	-	-	-	12,977	9,240	1,691	26,297
Other Direct Costs	11,494	8,458	1,521	732	7,937	209	3,436	15,051	103,126	151,964
Field Offices	-	-	-	-	12,798	-	-	-	-	12,798
Grants	-	1,764	-	-	-	-	-	-	43,345	45,109
Total Direct Costs	51,758	49,699	18,150	9,912	47,059	6,307	31,270	134,047	343,488	691,698
Overhead	12,525	11,241	3,982	2,399	11,308	1,526	7,497	24,367	55,077	130,002
Total Costs	64,283	60,940	22,132	12,311	58,367	7,833	38,767	158,414	398,565	821,700

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