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WINROCK INTERNATIONAL

MEMORANDUM

TO: Ross Pumfrey

cc: John Kadyszewski, Beth Richards, R. Stanley, USAID, CDIE/DI

FROM: Sinnammal Souppaya *SS*

DATE: November 27, 1996

SUBJECT: Revised NGO/REI Workplan for 1995-1996

Attached is the revised NGO/REI Workplan for 1995-1996 under Cooperative Agreement No: LAG-5730-A-00-6001-00

Winrock is currently preparing a memo that summarizes the significant revisions. We will be forwarding that memo to you shortly.

Please let me know if you have questions concerning this Annual Workplan.

Thank you

Attachments: a/s

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PD-ABN-508

Non-Governmental Organization/Renewable Energy Initiative

UNITED STATES AGENCY FOR
INTERNATIONAL DEVELOPMENT

COOPERATIVE AGREEMENT NO. LAG-5730-A-00-6001-00

ANNUAL WORKPLAN

FOR THE PERIOD FROM NOVEMBER 6, 1995

THROUGH

NOVEMBER 5, 1996

RENEWABLE ENERGY AND THE ENVIRONMENT PROGRAM OF
WINROCK INTERNATIONAL
INSTITUTE FOR AGRICULTURAL DEVELOPMENT

TABLE OF CONTENTS

TABLE OF CONTENTS	I
I. INTRODUCTION	I
II. WORKPLAN ACTIVITIES	I
Activity 1: NGO/REI Program Management	1
Activity 2: Renewable Energy Project Support Office (REPSO) Network	6
2A. REPSO--Brazil	9
2B. REPSO--Central America	13
2C. REPSO--India	17
2D. REPSO--Indonesia	21
2E. REPSO--Philippines	24
Activity 3: Multilateral Development Bank Initiative	27
Activity 4: Utility Initiative	31
Activity 5: International Fund For Renewable Energy And Energy Efficiency (IFREE)	34
Activity 6: Renewable Energy And Efficiency Training Institute (REETI)	40
Activity 7: Center For Renewable Energy And Sustainable Technology (CREST)	50
Activity 8: Volunteers In Technical Assistance (VITA)	55
III. PROJECTED QUARTERLY BUDGET	60

I. INTRODUCTION

The mission of the Non-Governmental Organization Renewable Energy Initiative (NGO/REI) is to increase the availability of affordable energy in USAID-assisted countries and to improve economic development and natural resource management by using clean renewable energy technologies. Specifically, the purpose of the NGO/REI activities is to reduce technical, financial, economic, and institutional risks associated with renewable energy systems in order to encourage public and private sector interests to invest in commercially-proven renewable energy systems.

The NGO/REI is led by the Renewable Energy and Environment Program of Winrock International Institute for Agricultural Development through a Cooperative Agreement with the United States Agency for International Development (USAID). To accomplish the Initiative's objectives, Winrock has assembled a unique network of non-governmental organizations which work in conjunction with the Renewable Energy Project Support Offices (REPSOs) Winrock has established in five key countries. Winrock's primary partners in the NGO/REI are the Center for Renewable Energy and Sustainable Technology (CREST) of the Solar Energy Research and Education Foundation (SEREF), the International Fund for Renewable Energy and Energy Efficiency (IFREE), the Renewable Energy and Energy Efficiency Training Institute (REETI), and Volunteers in Technical Assistance (VITA). Winrock's REPSOs are located in Brazil, Central America (Guatemala), India, the Philippines, and Indonesia. These organizations serve as a link between in-country public and private organizations and industry to accelerate the expansion of renewable energy use in developing countries and thereby improving the quality of life for rural people.

Winrock and its partners in the NGO/REI are all not-for-profit non-governmental organizations (NGOs). The NGO/REI is, in part, intended to promote and enhance close cooperation among these institutions to maximize the efficiency and effectiveness of the work carried out by each group. Coordination through the REPSOs ensures that efforts are demand-driven and linked with in-country realities. Working together produces synergies that benefit the programmatic goals of each member organization of the NGO/REI team as well as the overall goals of the NGO/REI itself.

II. WORK PLAN ACTIVITIES

Activity 1: NGO/REI Program Management

Winrock International is responsible for overall management of the NGO/REI. This management activity will involve management, oversight, and administration of the USAID-Winrock Cooperative Agreement including developing and overseeing subagreements and working with NGO/REI network members. It includes supervision of subcontractors and consultants and the responsibility for providing all deliverables to USAID as scheduled and within budget. It also includes meeting all reporting requirements as set forth in the Cooperative Agreement.

Scope of Work

Task 1: Assemble NGO/REI management and implementation team, hiring new staff as appropriate.

Output: NGO/REI team.

Task 2: Design, manage, implement, and evaluate cooperative agreements with each NGO Network subagreement partner (or “member”), including standard financial management procedures.

Output: Four subagreements, sound financial management controls.

Task 3: Prepare and monitor budgets. Process monthly financial transactions, and provide financial reports.

Output: Budgets, budget monitoring, monthly financial cycle processing, financial reports.

Task 4: Prepare annual master workplan, incorporating input from subagreement partner organizations and REPSOs.

Output: Master workplan.

Task 5: Prepare quarterly and other necessary reports for USAID.

Output: Quarterly and other reports.

Task 6: Establish NGO/REI Advisory Board, and hold quarterly meetings.

Output: Advisory Board, Advisory Board meetings.

Task 7: Establish process for program evaluation based on USAID’s strategic objectives, including results indicators and baseline studies.

Output: Results indicators and baseline studies.

Task 8: Hold/attend Winrock planning retreats as appropriate.

Output: Coordination of program activities, re-evaluation of program objectives and progress.

Timetable for Implementation/ Key Milestones

Activity	Time Frame																																																			
	Nov-95				Dec-95				Jan-96				Feb-96				Mar-96				Apr-96				May-96				Jun-96				Jul-96				Aug-96				Sep-96				Oct-96				Nov-96			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
1.0 NGO/REI																																																				
1.9 Expansion Opportunities and Business Development																																																				
1.9.1 Concept Paper Preparation					x	x	x		x	x	x																																									
1.9.2 Circulate for Comment (draft then final)																																																				
1.9.3 Planning Retreat																																																				

Activity 2: Renewable Energy Project Support Office (REPSO) Network

Background

The primary problems of rural energy supply are political, institutional, and financial, not technical. Consequently, the renewable energy program emphasizes development of local institutions and human resources. The program plans to build knowledge and capacity by working with local organizations and individuals to implement specific projects. Too often, the experience gained in project implementation is lost as individuals move to new careers or as organizations are reorganized with new objectives. Winrock seeks to create an institutional home for the experience gained through implementation in its Renewable Energy Project Support Offices (REPSOs).

Winrock began developing the concept of REPSOs in 1991 to stimulate greater understanding of how sustainable energy sources can be better integrated into national and multinational development efforts. Since the inception of the REPSO concept, the Office of Energy at USAID (G/ENV/EET) has provided support for the REPSOs through both the Biomass Energy Systems Training project (BEST, which is focused on biomass technology), and the Renewable Energy Applications and Training project (REAT, which covers all renewable energy technologies). In addition, the USAID Mission in India has chosen Winrock and the India REPSO to implement a Mission program through a separate cooperative agreement (RECOMM).

Although Winrock continues to experiment with different models, all REPSOs have certain common characteristics:

(a) Building Capacity

Local problems require local solutions. Winrock is committed to building indigenous capacity so that effective delivery mechanisms will be developed by local organizations. In its project activities, Winrock consciously seeks to maximize the use of locally available expertise and relies on Advisory Boards in each country to provide guidance on how best to solve specific problems and to disseminate knowledge about what is working.

Winrock is particularly interested in enhancing expertise in the private sector. Through its REPSOs, Winrock hopes to stimulate creation of new institutional models for development with greater reliance on private/public cooperation.

(b) Improving Rural Services

There is a strong linkage between energy use and quality of life. Once adequate food is available, the next improvement in quality of life almost always requires energy--whether it be to purify and pump clean water or to provide lighting so the family can spend time together after dark or to power a radio or television. Everywhere in the world, people are willing to spend a disproportionate part of their income to reach what they perceive to be basic advances in their quality of life.

Currently, the lack of any plan for bringing energy to large areas of the developing world leaves many people with few options for meeting even modest power needs. Because

opportunities for employment outside of traditional agriculture are few, people are leaving rural areas. Those who remain, challenged to survive, often have little choice but to over-exploit the natural resource base. Poor management of biomass resources often undermines the local ecology.

(c) Technology Readiness

Over the past fifteen years, private companies have developed a new generation of power technologies that are modular in nature and can provide reliable power at smaller scales. Although proven on a large scale in the commercial conditions of the United States, renewable energy technologies continue to be deemed "too expensive" or "inappropriate" compared to conventional fossil-fueled technology. Real market conditions in developing countries send an opposite message. Because of maintenance requirements, low reliability, and costly fuel delivery for fossil systems, renewable technologies more frequently represent the preferred commercial option for developing country applications than they do for applications in the United States.

(d) Market Aggregation

Emerging markets for renewable energy technology in the developing world are often invisible to developers and adapters of technology. These potential markets can be made more visible by focused efforts to aggregate demand for widely used services such as power supply, communications, education, or clean water. Greater awareness of the magnitude of demand for services can help stimulate new ideas on effective delivery mechanisms including developing local entrepreneurs, new credit schemes, and collaboration with local non-governmental organizations.

Winrock currently operates REPSOs in Central America, India, the Philippines, and Indonesia and plans to establish a new REPSO in Brazil by the end of 1995. Each REPSO has specific activities underway or planned. The following sections provide background for each country program and expected results during the period of the Cooperative Agreement. Support for renewable energy activities through the REPSO network is the central activity planned under the Cooperative Agreement.

In addition to the specific tasks described for each REPSO, Winrock carries out the following management tasks across the network for renewable energy activities.

Objective

Develop the capabilities of selected countries through the REPSO Network. Support REPSOs in Central America, the Philippines, Indonesia, India, and Brazil to identify the technical, financial, economic, and institutional barriers to the introduction of renewable energy systems and to take actions to reduce risks of project development. Cultivate model projects in collaboration with private partners.

REPSO countries match the priorities of USAID: the Philippines, Indonesia, India and Brazil are among the most important countries for work on climate change, and Central America is critical

because of the commitments made by President Clinton under the CONCAUSA Declaration. Winrock will also link Asian REPSO activities to the Asia Sustainable Energy Initiative to ensure maximum benefits.

The REPSOs will work primarily with commercially proven renewable energy technologies that could have major impacts in the rural areas of developing countries. Through the development of specific commercially viable projects, Winrock will be better able to identify and remove development barriers and verify impacts. Using local capabilities developed in Central America, Indonesia, India, the Philippines, and Brazil, Winrock will use competitive procurements to help select private projects with which it will share development costs.

Winrock will seek to add value through the provision of technical advice and by working to create a supportive policy and financial environment. Each REPSO has an Advisory Board made up of influential individuals from a cross section of public and private institutions.

Scope of Work

Task 1: Review and comment on annual workplans for each REPSO.

Output: Winrock-approved REPSO annual workplans.

Task 2: Maintain network of technical specialists that can be called upon to provide specialized expertise as requested from individual REPSOs.

Output: Resource for technical expertise for REPSOs.

Task 3: Develop and oversee standard financial management procedures for each REPSO.

Output: Standard financial management procedures implemented by each REPSO.

Task 4: Collect and disseminate information among REPSOs and to interested individuals and organizations in the United States.

Output: Responses to requests for information, attendance/presentations at appropriate conferences, interactions and idea exchanges among REPSOs, new business leads for industry.

Task 5: Prepare reports of REPSO activities for inclusion in the quarterly REPSO network newsletter, REPSOource.

Output: Quarterly publications of REPSOource.

Results/Indicators of Success

Each REPSO works actively to build cooperation between government decision makers, non-governmental organizations, and private companies. We intend to highlight examples in which

cooperation has led to new approaches that accelerate delivery of rural services and improve natural resource management.

The evaluation of results of the activities of the REPSO Network will be a component of the evaluation process for the NGO/REI Cooperative Agreement. The purpose of the evaluation will be to determine the progress made towards accomplishing specific results as outlined below. The evaluation should summarize lessons learned and recommendations for future actions. Winrock proposes that the evaluation focus on seven intended results:

1. Policy changes in target countries/regions (Central America, Brazil, India, Indonesia, and the Philippines) as a result of Project activities;
2. Additional installed renewable energy capacity in target countries as measured by increase in volume of transactions of renewable energy companies;
3. Number of joint ventures and other business deals between U.S. companies and target country counterparts;
4. Additional capital available through multilateral institutions for investment in renewable energy systems as a measurable indication of investment capital facilitated by the program;
5. Increase in rural services through means of renewable energy in terms of water supply, health, communication, education, lighting, and local industry employment for target areas;
6. Quality and variety of new approaches to providing reliable rural energy supply; and
7. Number of counterpart NGOs in target countries or regions with renewable energy programs.

2A. REPSO--Brazil

Background

Winrock is committed to poverty alleviation and rural development and is supportive of a long-term presence in Brazil. From 1991 to 1994, the Winrock Renewable Energy and the Environment Program (REEP) collaborated with Brazilian organizations on several visible renewable energy initiatives in Brazil. This collaboration was in five principal areas:

- i) utility exchange on distributed renewable energy applications;
- ii) development of a methodology for quantifying carbon sequestered in biomass plantations;
- iii) support for the biomass integrated gasifier/gas turbine project;
- iv) review of cane energy opportunities with the International Cane Energy Network, and

v) analysis of charcoal markets in Brazil and possible applications for emerging conversion technologies.

After setting up an office, the REPSO will recruit and train local staff to lead the REPSO and establish linkages with key organizations in Brazil.

REEP, in collaboration with US/ECRE, has provided regular briefings and documentation to USAID/Brazil of these efforts and a comprehensive report of the status of renewable energy in Brazil and the relationship of renewable energy to Mission objectives. REEP has maintained regular communication with public and private sector institutions in Brazil and with US counterparts, including utilities, universities, national laboratories, the World Bank/GEF, and industry.

Objective

The objective of the REPSO in Brazil is to continue to build upon earlier technical collaboration and information exchange to strengthen Brazil in-country capability for promotion of investment in renewable energy technologies. Winrock expects to contribute to significant progress in opening electricity generation, transmission, and distribution to private companies. The REPSO will provide assistance in local market and capacity building, information dissemination, project identification and development, provision of pre-investment study funds, identifying partners for US and Brazilian companies, and industry based training in renewable energy.

The tasks to be supported under the Cooperative Agreement for the REPSO in Brazil during 1995/96 are described in the Scope of Work below. Since this activity is being supported through Environmental Initiative for the Americas (EIA) funds, many of these tasks and associated expenditures will occur over a two year period.

Scope of Work

Task 1: Provide technical assistance, conduct and facilitate selected resource assessments, and provide financial engineering for promising renewable energy projects.

Output: Selected resource assessments, creation of a project pipeline for cost shares (Task 2).

Task 2: Support competitive solicitations to select non-biomass renewable energy projects with which to share project development costs. Emphasis on wind, solar, and small hydropower technologies.

Output: Cost shares for feasibility and prefeasibility studies.

Task 3: Strengthen and assist ABEER, the Brazilian Renewable Energy Trade Association, through exchange of information with US industry and national laboratories; translation and reprinting of US based renewable energy documents; and development of technical standards and policy analyses. A subagreement will be signed with ABEER to achieve these goals.

Output: Translated renewable energy documents, preparations for 3rd National Action Planning conference and U.S. Trade delegation, industry updates (for linkage with U.S. industry and development of technical standards and policy analyses), final report (Year 2).

Task 4: Work with World Bank to provide targeted assistance for preparation of renewable energy sub-project components of loans to Brazil in coordination with CEPTEL, the Brazilian Electric Power Research Institute, the World Bank Industry and Energy Department and select Brazilian utilities.

Output: Preliminary study, preparations for WB delegation, written recommendations for priority studies.

Task 5: Brazilian Utility Initiative: a) Use computerized models and information exchange as part of “twinning program” with select U.S. and Brazilian utilities; b) Collaborate with the National Rural Electric Cooperative Association (NRECA) for training, technical assistance and technology transfer to Brazilian Cooperatives; c) Develop model projects that demonstrate the viability of delivering renewable energy services through utilities.

Output: a) Exchanges between U.S. and Brazilian utilities; b) Workshops on productive uses of renewable energy, and discussions with Brazilian Cooperatives to identify renewable energy projects; c) model projects showing that a utility company can be the appropriate mechanism for demonstrating the viability of generating electricity from renewable energy resources.

Task 6: REPSO management including local Advisory Board meetings.

Output: Advisory Board meetings.

Task 7: Collaborate with women’s organizations and other institutions to promote the productive use of renewable energy in rural areas, or uses that intersect with other NGO work in rural areas.

Output: Hold a Women’s Workshop to focus on the role of gender in renewable energy projects and development in Brazil (discussions will be held with NGOs prior to the workshop).

Timetable for Implementation/ Key Milestones

2B. REPSO--Central America

Background

In Central America, conventional rural electrification projects will not be able to solve the severe shortage of electricity in the rural areas of the region. At the current pace of implementation, it would take over 100 years to supply central-grid electricity to more than 9,000 villages lacking such services in Guatemala alone. Moreover, available and affordable electricity is a formidable bottleneck for any development initiative in the region.

The Central American REPSO was initially established in 1991 in Costa Rica in collaboration with Fundación Ambio. The home for the REPSO was transferred to the Fundación Solar in Guatemala in April 1994. Fundación Solar is a local non-profit created to improve economic development in Guatemala and Central America by providing leadership and technical assistance with the development of renewable energy projects. The REPSO's objective in both locations has been to heighten the awareness of decision-makers, private investors, equipment vendors, and the general public of the benefits, costs, and arrangements needed to adopt renewable energy technologies in the region.

Winrock has worked on various energy initiatives in Central America since 1989. This work has been in five areas: i) hosting private power and renewable energy technology workshops in Costa Rica, El Salvador, and Guatemala; ii) development of the Guatemala Renewable Energy Trade Guide; iii) development of the Guatemalan Initiative on Joint Implementation; iv) collaboration with Costa Rican public and private institutions to develop private power legislation and regulations; and v) cost shared funding for prefeasibility studies in Costa Rica and Guatemala. REEP has maintained regular communication with public and private-sector institutions in Central America.

In December 1994 President Clinton and the Presidents of the seven Central American countries signed the CONCAUSA Declaration, which included commitments by the U.S. Government to provide support for the increased use of renewable energy in the sub-region. The work of the REPSO will help the U.S. Government meet that commitment.

Objective

The mission of the Central America REPSO is to accelerate the commercialization of renewable energy in Central America in order to improve quality of life.

The tasks to be supported under the Cooperative Agreement for the REPSO in Central America during 1995/96 are described below. Since this activity is being supported through Environmental Initiative for the Americas (EIA) funds, many of these tasks and associated expenditures will occur over a two year period.

Scope of Work

Task 1: Project development assistance for previously funded cost-share grants including reviewing reports and invoices, providing support as necessary for project development, facilitating contacts with U.S. industry and project developers, and providing project descriptions as needed.

Output: Project descriptions; assistance to project developers who received cost-shares.

Task 2: Manage the cost-shared pre-investment program in the Central America REPSO. Announce availability of cost-shares, select winning proposal, and issue agreement to support a project.

Output: One cost-shared pre-investment study granted.

Task 3: Provide support to the peace process in Guatemala in terms of renewable energy and sustainable development. Help design a rural electrification strategy and assist selected in-country NGOs or private firms that have funding to procure hardware for renewable energy but lack technical assistance.

Output: Provision of technical assistance to in-country NGOs and private firms interested in development of renewable energy projects; assistance in the design of a rural electrification strategy.

Task 4: REPSO Communications including: a) regular contact with Winrock's Washington-based Country Coordinator for Central America; b) production of a quarterly on-line "REPSO Central America News" which provides updates on private power and renewable energy developments in Central America; and c) local Advisory Board meeting.

Output: Quarterly on-line "REPSO Central America News;" Advisory Board meeting.

Task 5: Collaborate with women's organizations and other institutions to promote the productive use of renewable energy in rural areas, or uses that intersect with other NGO work in rural areas, including: a) hold a workshop to initiate this activity; b) work with at least three organizations to develop NGO-directed rural development programs utilizing renewable energy technologies in their women in development (WID) programs; and c) write a summary of the results of these activities.

Output: Hold a Women's Workshop to focus on the role of gender in renewable energy projects and development in Central America; development of rural development programs with a WID focus incorporating renewable energy technologies; summary of the results of these activities.

Task 6: Update and disseminate a trade guide for El Salvador (cofunded by BEST).

Output: Completed trade guide distributed to U.S. and El Salvadoran industry, trade associations, government agencies, and NGOs.

Note:

If the Guatemalan peace process is delayed or derailed, Task 2 will be changed to “develop a Trade Guide for Renewable Energy Projects in at least one other Central American country based on the guides created for Guatemala and El Salvador.”

Timetable for Implementation/ Key Milestones

2C. REPSO--India

Background

Winrock has engaged in several activities in India related to renewable energy since 1989, prior to the establishment of the REPSO office. These activities were funded by USAID and other sources and include:

- Technical support of an Indian company (Suryovonics) producing solar lanterns and establishing a test leasing program for photovoltaic (PV) systems through financial intermediaries (funded by the Rockefeller Foundation)
- Participation in an India Supervision Mission for the World Bank to review the progress of the Solar Photovoltaic Market Development Component of the Renewable Resources Development Project
- Investigations preliminary to establishment of a REPSO in India consisting of extensive conversations with the India Renewable Energy Development Agency (IREDA) and key players in the wind and PV sectors
- Interaction between Indian and U.S. utilities through participation in the utility renewable energy group
- U.S. utility input to an Indian workshop that planned a policy and regulatory initiative for renewable energy
- Winrock has worked extensively in the biomass sector to help establish programs in support of sugar mill cogeneration and other biomass energy systems. Biomass activities are conducted under the BEST cooperative agreement; current activities are described in the BEST annual workplan

The India REPSO was created in early 1995. Winrock set up the REPSO office in Delhi in conjunction with other Winrock programs, allowing the new REPSO to benefit from the existing Winrock administrative infrastructure. The REPSO program and staff size are being gradually expanded in response to growing project support.

The REPSO quickly established linkages with key organizations in India. It initiated collaboration with the World Bank to examine rural energy markets in preparation for new policy initiatives and a future rural energy loan. In the last quarter of 1995, USAID/India awarded the REPSO a 3-year grant to implement the Renewable Energy Commercialization (RECOMM) Project, building upon the REPSO foundation originally funded exclusively through G/ENV/EET. The RECOMM project focuses on five areas: Cane cogeneration, Rural photovoltaic (PV) commercialization, Emerging technologies, Financial advisory services, and Outreach and marketing.

The work described below is funded through G/ENV/EET (NGO/REI cooperative agreement), and is intended to complement the Mission-funded activities being implemented by the REPSO staff through RECOMM.

Objective

The primary objective of the REPSO in India is to support the commercialization of renewable energy systems. India has strong technical and analytical capacity and significant experience in the development of renewable energy systems. In recent years India has become much more open to foreign investors and has introduced major initiatives encouraging private power investment and clarifying rules and regulations. A significant commercial success has been achieved in the case of grid-connected wind energy systems, with some 250 MW of capacity installed in the past year alone, leading to a total installed capacity of about 375 MW. Commercial success in other sectors has been limited, partially as a result of government subsidy programs directed to underprivileged groups with little capacity to pay for even subsidized systems.

The REPSO will focus on the commercialization process, although it will continue to provide assistance in local market and capacity building, information dissemination, project identification and development, provision of pre-investment study funds, identifying partners for U.S. and Indian companies, and industry-based training in renewable energy.

The tasks to be supported under this project during 1995/96 are described in the Scope of Work below.

Scope of Work

Task 1: REPSO staff, administration and support including: a) Office rent and administrative services; b) Computer equipment and furnishings; c) One additional staff person to handle wind and hydro programs, plus partial support for finance and outreach project officers; d) Issue Quarterly Renewable Energy Project Information System (REPIS) printout; and e) Advisory board.

Output: Wind and hydro staff member hired; Quarterly REPIS printouts; Advisory Board meetings.

Task 2: Indo-U.S. wind mapping technology exchange. The U.S. National Renewable Energy Laboratory (NREL) has developed extensive expertise in analyzing data from many sources and preparing national wind power maps. The Indian Institute of Tropical Meteorology (ITM), Bangalore, is responsible for national wind data collection. This activity will facilitate the exchange of experience and techniques between the U.S. and India through a visit to ITM by NREL senior staff. Based on NREL's recommendations, Winrock may purchase equipment and software needed to computerize GIS system wind-mapping in India and provide training in its use.

Output: NREL staff member visit to ITM resulting in information exchange/ training of ITM staff and recommendations for further action; possible purchase of equipment and software for GIS wind mapping and ITM staff trained in its use.

Task 3: World Bank (WB) Rural Energy Loan Development: The REPSO is currently collaborating with the WB on a study of renewable energy markets in rural India (funded through RECOMM). This study is expected to lead to a rural energy loan to India. This proposed activity will support REPSO participation in the loan project development process and cover support for participation by staff and consultants.

Output: Preparation of a loan package for rural energy (including renewables) in India.

Task 4: Cost-shared pre-investment study program: hydro, solar or other non-biomass renewable energy technologies. This activity will encourage potential developers of small hydro or other renewable energy technology projects by sharing the cost of initial project exploration and feasibility studies.

Output: Pre-investment cost-shares for commercial projects.

Task 5: Hydro trade event. India has extensive small hydro sites and there is a need to familiarize government officials as well as project developers with the current status of the technology. Under this task the REPSO will provide travel funds for Indian government officials to attend Hydrovision '96 and tour selected hydropower sites in the Northeastern U.S. (travel funds for project developers being provided by other organizations). Attendees will also have the opportunity to meet U.S. project developers.

Output: Attendance by Indian government officials at Hydrovision '96 and tour of hydropower sites in Northeastern U.S.

Task 6: Assist governments of Uttar Pradesh and Himachal Pradesh States to develop policies and procedures for allocating hydro projects to private developers and negotiating private power purchase agreements.

Output: Signed private power purchase agreements in Uttar Pradesh and Himachal Pradesh States for hydro projects.

Task 7: Develop library of documents and books on hydropower at the REPSO.

Output: Purchase of documents and books on hydropower.

Timetable for Implementation/Key Milestones

2D. REPSO--Indonesia

Background

Indonesia possesses significant renewable energy resources, yet these resources often go unused due to lack of information and understanding. The widespread use of renewable energy technologies that can utilize these resources faces major challenges in this country. Local experience and awareness among decision-makers, private investors, equipment vendors, and the general public of the benefits, costs, and arrangements needed to make these technologies work are limited.

Winrock has worked on various renewable energy initiatives in Indonesia since 1989, and has maintained regular communication with public and private sector institutions in Indonesia and with U.S. companies and the World Bank. The Indonesia REPSO was established in February 1993 and was initially created in partnership with a local for-profit company. Its activities include the sponsorship of a major symposium on renewable energy in November 1993. Unfortunately, the relative weakness of renewable energy markets compared to more conventional fuel sources has made private sector interest in renewable energy weak in spite of significant commercial opportunities. In addition, capital for investment in conventional systems has been available. Government programs maintain artificially low energy prices throughout the country; these subsidies and unfriendly government policies have kept commercially attractive renewable energy projects from development.

Winrock is currently restructuring the REPSO in Indonesia. It is hoped that a new local organization will be identified in early 1996 to assume the role of the REPSO. In addition to the REPSO, Winrock manages the USAID/Jakarta-funded Windpower for Islands and Nongovernmental Development (WIND) Project.

Objective

The primary objective of the REPSO in Indonesia is to remove the policy barriers to commercialization of renewable energy systems and to broadly disseminate information about opportunities to Indonesian and U.S. companies with commercial capabilities. Because of its relatively strong financial position, Indonesia has been able to attract private investment although concerns about transparency continue to discourage some investors. REPSO activities will be undertaken in collaboration with the Asia Sustainable Energy Initiative to maximize objectives and to ensure coordination with Resident Energy Advisors and country plans of the Mission.

The tasks to be supported under the Cooperative Agreement for the REPSO in Indonesia during 1995/96 are described in the Scope of Work below.

Scope of Work

Task 1: Identify a new organization to assume the role of the REPSO in Indonesia.

Output: Operational REPSO in Indonesia.

Task 2: Collaborate with U.S. industry to develop projects for a World Bank program that plans to lend at least \$50 million to Indonesia for renewable energy projects beginning in late 1996.

Output: Participation of U.S. renewable energy industry in World Bank loan.

Task 3: Manage the cost-shared pre-investment program in the Indonesia REPSO. Announce availability of cost-shares, select winning proposals, and issue agreements to support projects. It is expected the REPSO will have to work with individual proposers to strengthen proposals.

Output: One to two cost-shared pre-investment studies granted.

Task 4: The REPSO will continue support for policy and regulatory reform. Winrock plans to use its Advisory Board to increase awareness of institutional barriers at senior levels of the Indonesian government.

Output: Recommendations made to reform power sector regulations; suggestions for changes in Indonesian policies to increase support for renewable energy projects.

Task 5: REPSO management including local Advisory Board meeting.

Output: Advisory Board meeting.

Task 6: Coordinate renewable energy programs with local NGOs interested in renewable energy project development.

Output: Renewable energy projects identified by NGOs.

Task 7: Prepare REPSO source newsletter featuring Indonesia.

Output: REPSO source newsletter.

Task 8: Develop and disseminate a Renewable Energy Technology Trade Guide to assist U.S. project developers and equipment vendors in exploring business opportunities in Indonesia.

Output: Renewable Energy Technology Trade Guide.

Task 9: Develop and maintain a database on renewable energy contacts and business leads in Indonesia.

Output: Database containing key renewable energy contacts and business leads in Indonesia.

Timetable for Implementation/Key Milestones

2E. REPSO--Philippines

Background

Winrock has worked on renewable energy initiatives in the Philippines since 1992. In October 1993 Winrock set up its REPSO in the Philippines in conjunction with the Winrock regional office in Manila, and has established strong linkages with key organizations working on renewable energy systems in the country. In its first two years of operation, the REPSO concentrated its efforts on three program areas: i) renewable energy project identification and preparation; ii) trade promotion and technology transfer; and iii) developmental utility initiative.

In addition to the REPSO, Winrock also manages the Renewable Energy Financing and Technical Assistance (REFTA) Project funded through USAID/Manila which began in November 1994. This project provides financing for renewable energy projects in the form of both loan and equity investments.

Objective

The primary objective of the REPSO in the Philippines is to support the commercialization of renewable energy systems. Winrock plans to build on a successful first round solicitation to select renewable energy projects with which to share project development costs. The REPSO in the Philippines will focus on sharing costs for the development of private renewable energy projects, although it will continue to provide assistance in local market and capacity building, information dissemination, project identification, identifying partners for U.S. and local companies, and industry based training in renewable energy. REPSO activities will be undertaken in collaboration with the Asia Sustainable Energy Initiative to maximize objectives and to ensure coordination with Resident Energy Advisors and country plans of the Mission.

The tasks to be supported under the Cooperative Agreement for the REPSO in the Philippines during 1995/96 are described in the Scope of Work below.

Scope of Work

Task 1: Project Development Assistance: provide technical assistance and financial engineering for promising projects supported during the first round of the pre-investment cost share program. Continue monitoring existing and proposed projects.

Output: Projects that can access financing from REFTA and other sources of project investment.

Task 2: Manage the cost-shared pre-investment program in the Philippines REPSO. Announce availability of cost-shares, select winning proposals, and issue agreements to support projects.

Output: One to two cost-shared pre-investment studies granted.

Task 3: Continue to develop model project profiles designed to highlight renewable energy successes in the Philippines.

Output: Model project profiles.

Task 4: Manage a wind-mapping activity with the U.S. National Renewable Energy Laboratory (NREL) and the Department of Science and Technology (DOST-Philippines), and promulgate the results. NREL will act as a consultant on this activity.

Output: General wind atlas of the Philippines illustrating varying degrees of wind resource potential available throughout the country.

Task 5: REPSO management including local Advisory Board meeting.

Output: Advisory Board meeting.

Task 6: Provide policy assistance to accelerate necessary government approvals for renewable energy projects.

Output: Renewable energy projects accredited by Philippines Department of Energy

Task 7: Organize US/ECRE trade mission.

Output: Joint ventures discussed between U.S. industry and local counterparts.

Task 8: Coordinate renewable energy programs with local NGOs interested in renewable energy project development.

Output: Renewable energy projects identified by NGOs.

Task 9: Prepare REPSO newsletter featuring the Philippines.

Output: REPSO newsletter.

Task 10: Develop and maintain Renewable Energy Information System database.

Output: Database containing key renewable energy contacts in the Philippines.

Timetable for Implementation/Key Milestones

Activity 3: Multilateral Development Bank Initiative

Multilateral development banks exert substantial influence over public and private perception of the commercial viability of specific projects. Winrock plans to work closely with the staff at the multilateral banks to identify model projects well-suited to the operational preferences of each bank and to provide the analytical support needed to accelerate funding. Although the multilateral banks support a decreasing percentage of total global investment in the energy sector, they can effectively use their funds to attract private funding by extending repayment terms and reducing perceived risk of default.

Background

The Multilateral Development Bank Policy Initiative of Winrock's Renewable Energy and the Environment Program (REEP) works with U.S. industry and with its international government customers to provide technical, financial, institutional, and project preparatory advisory services to multilateral development banks (MDBs). The initiative aims to promote enhanced inclusion of renewable energy services in MDB financed projects. In 1992 and 1993, the REEP Program worked closely with the Global Environment Facility (GEF) at the World Bank to pioneer private/public partnerships to introduce advanced commercial technologies in developing countries.

Beginning in 1994, the REEP program has provided advisory services in close association with US/ECRE to several organizations in the World Bank Group: i) the International Finance Corporation (IFC) in its development of a \$200 million Renewable Energy and Energy Efficiency (RE/EE) Fund for capital investments; ii) the Africa Technical Department, including the Environmentally Sustainable Development Division in promoting a Renewable Energy Strategy for Africa (RESA); iii) the Latin America/Caribbean Technical Department in promotion of inclusion of renewable energy for productive uses in integrated rural development loans; iv) the Asia Technical Department Alternative Energy Unit in best practices for solar home systems and in supervisory work in India for the photovoltaic subcomponent of the \$450 million renewable energy program with the Indian Renewable Energy Development Agency; v) the Solar Initiative of the World Bank Industry and Energy Department in promotion of an overall World Bank Group renewable energy strategy.

The REEP program will continue to work closely with MDB staff to address MDB policy barriers including: i) procurement policies; ii) guidelines for specification and bid evaluation; iii) MDB internal incentive structures favoring conventional approaches to energy supply; iv) MDB/host country dialogue on regulatory reform (subsidies for conventional approaches, import duties, tariffs, restrictions, tax codes); and v) hindrances to full information availability in support of the increased use of renewable energy technologies.

Briefings for World Bank task managers on each of the major renewables are planned in conjunction with industry trade associations and Bank staff in the Industry and Energy Department and key regions. Additional technical assistance will be provided to the IFC in the development of the RE/EE Fund. REEP will also assist the World Bank through REPSO collaboration in-country on inclusion of renewable energy in existing and planned loans and credits.

Objective

REEP has established an initiative designed to promote the incorporation of renewable energy and energy efficiency into multilateral development bank financed projects. The goal of the initiative is to increase MDB finance of renewable energy through collaboration with principal decision makers within industry and the World Bank Group. Results can be measured by the amount of financing MDBs make available for renewable energy projects. The initiative is designed to enhance private sector investment opportunities in renewable energy technologies.

A second objective is to work with MDBs, especially the World Bank/GEF program, to attract private developers of technology to design and test applications of emerging energy technology adapted for the special needs of developing country markets.

The tasks to be supported under the Cooperative Agreement during 1995/96 are described in the Scope of Work below.

Scope of Work

Task 1: Conduct briefings on renewable energy for World Bank task managers and Solar Initiative staff in the Industry and Energy Department and key regions (e.g. Latin America/Caribbean, Africa). This task is cofunded under the BEST agreement.

Output: Specific technology briefings for World Bank task managers.

Task 2: Continue work with MDBs in REPSO countries to include renewable energy in existing and planned loans and credits. Promote industry linkage to World Bank Solar Initiative. Provide technical assistance through a short-term consultancy for development of a renewable energy subproject component in existing sector loans (Brazil loan for rural dispersed markets, India rural energy loan).

Output: Project profiles and briefing materials for MDBs; preliminary study for WB loan to Brazil (see also Brazil REPSO Task 4); consultants to help prepare the India rural energy loan (see also India REPSO Task 3).

Task 3: Assist in preparations for possible formation of an "Alternative Energy Unit" to be established at the Asian Development Bank (ADB). Investigate and prepare objectives and workplan by interviewing key ADB renewable energy staff.

Output: Workplan, including objectives, for an Alternative Energy Unit at the ADB.

Results/Indicators of Success

1. Additional capital available through multilateral institutions for investment in renewable energy systems as a measurable indication of investment capital facilitated by the program.
2. Progress towards the establishment of renewable energy activities at the Asian Development Bank.

Timetable for Implementation/Key Milestones

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Activity 4: Utility Initiative

National utilities have been the primary institutions responsible for the delivery of electricity to rural areas. In many cases, utilities have been managed to meet social or political objectives rather than the power needs of rural populations. Attempting to make power available to rural populations at prices far below the cost of production and distribution has undermined the financial viability of the utilities and decreased the reliability of power supply. Winrock plans to identify utility partners who can help demonstrate new models for meeting rural power needs.

Background

The Utility Initiative of Winrock's Renewable Energy and the Environment Program (REEP) links US utilities with host-country counterparts to provide an exchange of technical information, training, and project preparation assistance leading to enhanced inclusion of clean renewable energy resources for electricity generation.

Beginning in 1990, the REEP program facilitated a collaborative utility exchange on distributed renewable energy applications between Pacific Gas & Electric and two Brazilian utilities from Bahia State: Companhia Hidro Elétrica do São Francisco (CHESF) and Companhia de Electricidade do Estado da Bahia (COELBA). Since that time, numerous interactions have been made and communications maintained between REEP and utilities in Central and South America and Asia.

In 1994 the program was expanded with the creation of a Program Officer Position to continue to link U.S. and target country utilities in support of the increased use of biomass and other renewable energy technologies; an Advisory Board was conceived and prospective members were identified and interviewed; REPSO country activities under the utility initiative were conducted in the Philippines, Indonesia, and Guatemala; one Senior Associate was retained; and an International Symposium on Renewable Energy and Energy Efficiency Finance was held in conjunction with US/ECRE and relevant institutions to address the role of utilities in deployment of renewable energy and energy efficiency with a focus on investment opportunities.

In 1995/1996, the initiative will build upon successful momentum established through the creation of an "International Renewable Energy and Energy Efficiency Finance Network" including a Network Newsletter. The Brazil REPSO workplan described earlier in this document includes activities that complement the activities described in this Utility Initiative section.

Objective

REEP has established an initiative designed to promote the incorporation of renewable energy and energy efficiency into the least-cost integrated resource planning efforts within the utility sector in select developing countries through capacity building and field implementation. The goal of the initiative is to link electric utilities in developing countries with interested U.S. utilities for collaboration on alternative energy supply assessments. Such collaboration will help developing country utilities compare the costs of distribution under the traditional central station utility model with the costs under a decentralized model known as the "developmental utility." The initiative is

designed to enhance private sector investment opportunities in biomass and other renewable energy technologies.

The tasks to be supported under the Cooperative Agreement during 1995/96 are described in the Scope of Work below.

Scope of Work

Task 1: Develop a comprehensive baseline analysis of high-value applications of distributed renewable energy for grid stabilization in Brazil and link analytical results to proposed regulatory changes. This work is to be conducted by NRECA.

Output: Baseline analysis report.

Task 2: In coordination with in-country REPSOs, a) prepare and implement specific country activity plans for wind and solar technologies including information dissemination; b) conduct personnel exchanges (technical and managerial “twinning” of U.S. and host-country utilities under the REEP Utility Exchange Program); and c) prepare investment grade “model projects” in Brazil (see Task 5c in REPSO Brazil workplan).

Output: a) specific country activity plans (e.g. utility section of Brazil REPSO workplan); b) technical/ management personnel exchanges; c) high profile “model projects” that demonstrate the viability of delivering renewable energy services through utilities.

Task 3: Develop and disseminate four yearly volumes of the *Clean Energy Finance* newsletter of the “International Renewable Energy and Energy Efficiency Finance” Network of utilities (Network Newsletter to be implemented in collaboration with external entities and modeled on the successful *International Clean Energy Network Newsletter*). Facilitate the operation of the network through coordination and communication with member organizations.

Output: *Clean Energy Finance* newsletters.

Results/Indicators of Success

1. Policy changes in REPSO countries as a result of Utility Initiative activities;
2. Increase in rural services through means of renewable energy in terms of water supply, health, communication, education, lighting, and local industry employment for target areas;
3. Quality and variety of new approaches to providing reliable rural energy supply; and
4. Number of utility exchanges regarding renewable energy programs.

Timetable for Implementation/Key Milestones

Activity 5: International Fund for Renewable Energy and Energy Efficiency (IFREE)

This activity allows the International Fund for Renewable Energy and Energy Efficiency (IFREE) to continue to foster environmentally sound energy projects in USAID-assisted countries (Brazil and Central America). IFREE does this by supporting pre-investment activities for specific commercial projects that apply renewable and related environmentally sensitive energy technologies in developing countries. In addition to USAID participation in IFREE, other support is provided from the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the Rockefeller Foundation.

Background

One of the major barriers encountered by energy entrepreneurs is the high cost of preparing project proposals for consideration by potential lenders, investors, government programs, and partners. IFREE's Pre-Investment Funding Program helps defray the high-risk, front-end cost of preparing such proposals. IFREE offers conditional loans of up to \$50,000 to support up to one-half of the pre-investment costs of proposed projects.

For a project to be eligible for funding, the request for pre-investment funding must demonstrate that the proposed project satisfies a number of threshold criteria. Projects must utilize biomass, energy efficiency, geothermal, hydro, natural gas, solar, or wind technologies. They must be commercial, replicable, and involve predominantly US equipment, materials or services. They must be undertaken by participants previously involved in similar types of projects who have a capable in-country partner, agent or advocate. Finally, the projects must be attractive to next stage funders and investors. Project participants also must be willing to share the cost of the proposed pre-investment study.

Proposals that meet the threshold criteria are reviewed by a Technical Committee to verify that the proposed technology application has been successful elsewhere and is appropriate in the context of the proposal. The Federal Agency Committee evaluates the ability of the project to be replicated and its attractiveness to international lenders and investors. The Industry Committee evaluates the commercial potential of the project and the participants. Finally, the Environmental Sustainability Committee assesses the proposer's plan to address the environmental issues related to the project.

A final due diligence review, conducted by the IFREE Technical Secretariat, confirms that the proposer has the financial capability to perform the proposed work. Proposals that have successfully completed this portion of the review process are referred to the IFREE Funders Committee, which, in turn, makes recommendations to the Board of Directors.

The Board makes the final determination to award approved proposers up to \$50,000 to support up to one-half the cost of the pre-investment work. This decision is rendered within 90 days of the completion of the application. If the project goes to financial closure, the pre-investment loan must be repaid to IFREE.

As of September 1995, IFREE has the following RE/EE projects in its pipeline in various phases of the pre-investment funding review process.

LOCATION	CAPACITY/TECHNOLOGY
Brazil	50 MW Wind Farm
Honduras	30 MW Wind Farm
Guatemala	42 MW Hydro
Honduras	Up to 100 MW Hydro
Guyana	30 MW
Argentina	30 MW Wind Farm

IFREE's geographical foci for IFREE programming and project proposal development for the Pre-Investment Funding Program have included Brazil and Central America. Background information on the market conditioning, intelligence gathering, innovative financing, and policy activities, as well as additional related country-specific activities that have taken place in the past follows. All of these background activities have led to the current position of IFREE. These activities have set the stage that enables and allows for the submission of RE/EE project proposals for which this funding is requested.

Brazil

In Brazil, IFREE's continuing efforts have been to identify Brazilian private sector partners with whom US companies could associate for the long-term development of the Brazilian market. In the short term, the US-Brazilian teams have focused on the World Bank's (WB) Northeast Rural Development Loan (known in Brazil as the Programa de Apoio ao Pequeno Produtor Rural, or PAPP), which is the WB's first non-energy loan specifically to designate renewable energy projects as eligible for WB funding.

In September 1994, IFREE contacted the ten PAPP state coordinators, and offered to contribute 50% of the state's PAPP project cost share required to trigger the World Bank contribution. This offer, where accepted, replaced disbursements to individual companies. As a result, the state of Rio Grande do Norte approved 10 projects. The State requested the 50% cost share for several projects.

IFREE helped support the development of and has worked very closely with the Associação Brasileira De Empresas De Energia Renovável E Eficiência Energética (ABEER) which is a legally registered renewable energy trade association and provides a counterpart for activities both in the PAPP program and more broadly, in bringing private sector attitudes and resources to bear on the evolution of the RE/EE market in Brazil. IFREE also collaborated with ABEER in drafting a Presidential order allowing funds of the Conta da Compensação de Combustível (CCC) to be used for renewable

energy projects. The CCC has been used to levelize the price of diesel fuel in Brazil. IFREE had worked with CCC officials to help them understand and then accept the concept of avoided subsidy.

Since IFREE's initial involvement in Brazil, power-sector reform has progressed swiftly. Starting in 1994, a series of initiatives has led to increasing opportunities for independent power production. The newly-created National System for Electricity Transmission (SINTREL) established the basic regulations for the use of the existing grid by independent power producers (wheeling). Most recently, a broad federal law on the concession of public services has further detailed terms and conditions for private sector participation in the electric power sector. The first public bidding for the privatization of a federally-owned electric utility and the corresponding concession took place on May 18, 1995.

IFREE anticipates its continuing institution building (development and implementation of ABEER PAPP Strategy) and regulatory reform (development of substitute private power legislation) activities will result in an expansion of the State Cost-share Match Programs under PAPP and power sector reform on independent power production (by invitation of Senator Teotonio Vilela, the author of the private power legislation pending in the Brazilian Congress). IFREE anticipates these efforts will lead to:

- 10-20 projects under World Bank PAPP Loan
- identification of additional renewable energy and efficiency projects for pre-investment funding program

Central America and the Southern Cone

IFREE's widespread involvement in Central America and the Southern Cone has included efforts related to renewable energy and energy efficiency proliferation in Guatemala, Costa Rica, Nicaragua, Honduras and Argentina. IFREE has worked with government officials, utilities, private developers, cooperatives and others in these countries in preparing renewable energy project proposals, arranging for financing, and helping shape relevant policy issues.

IFREE was selected as the NGO advisor to the White House on the renewable energy component of the Summit of the Americas Conference in December 1994. IFREE also participated as technical advisor to the White House team negotiating with the Central American governments on the definition of the energy component of the CONCAUSA (the US-Central America Joint Declaration) in Guatemala.

In January 1995, IFREE Staff traveled to Guatemala to participate in the follow-up Summit of the Americas/CONCAUSA Regional Central American Ministers Meeting in Guatemala City. In follow-on meetings IFREE met with several Energy Ministers and Secretaries from Latin America to explore project development opportunities and the legal and regulatory frameworks and private investment climate of several countries as related to the energy sector.

Honduras

In January IFREE organized and participated in an industry consortium mission to Honduras to discuss and present varied specific options in the renewable energy field that could be included in the energy portfolio of Honduras to the Honduran Government, including Officials of the Office of the President and Honduran Ministers, and ENEE, the national utility.

IFREE will design activities that will also focus on assisting Honduras to make continued progress in its commitment to the development of its sustainable energy sector and in particular, to facilitate the implementation of a number of US sponsored or co-sponsored renewable energy projects.

Objective

The objective of the work is to support the entrance of US renewable energy and energy efficiency (RE/EE) industry companies in the targeted markets through identification and funding of pre-investment studies for profitable and environmentally sound projects. IFREE helps to overcome major barriers encountered by energy entrepreneurs, including the high cost of preparing project proposals for consideration by potential lenders, investors, government programs and partners. IFREE's Pre-Investment Funding Program helps defray the high-risk, front-end cost of preparing such proposals.

Scope of Work

Task 1: Cost-share awards for RE/EE Pre-Investment Studies.

Output: 6 Approved RE/EE Pre-Investment Studies.

Task 2: Administration of proposals from U.S. companies. Management of subagreements.

Output: Completed pre-investment studies.

Task 3: Reporting requirements for USAID on quarterly basis and as required over one year period.

Output: Quarterly reports for USAID.

Task 4: Outreach and industry linkage to U.S. and in-country counterparts through REPSOs: a) project identification, Brazil and Central America; b) participate in/assist with industry trade missions/seminars; c) distribute Central American and Brazilian market intelligence (on-going and as-received).

Output: New projects identified, participation in trade missions/ seminars, distribution of Central America and Brazil Market intelligence.

Results/Indicators of Success

1. Additional installed renewable energy capacity in Central America and Brazil as measured by increase in volume of transactions of renewable energy companies.

2. Number of joint ventures and other business deals between U.S. companies and host-country counterparts.

Timetable for Implementation/Key Milestones

See timeline.

IFREC

Activity	Time Frame												
	Nov-96	Dec-96	Jan-97	Feb-97	Mar-97	Apr-97	May-97	Jun-97	Jul-97	Aug-97	Sep-97	Oct-97	Nov-97
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
WINROCK/USAID NGO/REI													
TASK 1 COST SHARE AWARDS FOR PRE-INVESTMENT STUDIES													
1.1 Meetings/Phone Conferences with Developers RE Proposal Submission	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x
1.2 Evaluation of Proposals for Pre-Investment Funding	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x
1.3 Preparation for Funders Committee Meeting	x x x			x x x x			x x x x				x x x x		
1.4 Funders Committee Meeting		x			x			x				x	
1.5 Board of Directors Approval of New Project Funding		x x			x x			x x			x x		
1.6 Contract Development for Funding Disbursement			x x		x x			x x			x x		
TASK 2 MANAGEMENT OF COST SHARE SUBAGREEMENTS													
2.1 Cost Share Contract Signature			x x			x x			x x			x x	
2.2 Receipt of Developer Quarterly Project Reports												x x x x	
2.3 Receipt of Developer Draft Pre-Investment Study	x x x		x x x x				x x x x					x x x x	
2.4 Receipt of Developer Pre-Investment Study			x x x x						x x x x			x x x x	
2.5 Provision of Assistance to Developer (US and In-Country) As Needed												x	
TASK 3 REPORTING REQUIREMENTS TO WINROCK/USAID													
3.1 Signature of Winrock Subagreement	x x												
3.2 Development of Annual Workplan Timeline	x												
3.3 Submission of Monthly Performance Reports		x	x	x	x	x	x	x	x	x	x	x	x
3.4 Submission of Monthly Billing		x	x	x	x	x	x	x	x	x	x	x	x
3.5 Submission of Evaluative Final Report													x
3.6 Submission of Quarterly Financial and Program Progress Reports			x x			x x			x x			x x	
TASK 4 OUTREACH AND INDUSTRY LINKAGE													
4.1 Project Identification-Brazil (with IFREE rep and/or REPSO)	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x
4.2 Project Identification-Central America (with IFREE rep and/or REPSO)	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x
4.3 Participation in and/or Assistance with Industry Trade Missions/Seminars		x x x x		x x x x			x x x x			x x x x			
4.4 Distribution of CA Market Intelligence, Partnering/Project Opportunities**										x x x x			
4.5 Distribution of Brazil Market Intelligence, Partnering/Project Opportunities**													
** Distributed on an on-going as-received basis													

Note: activities are to take place in 95-96, not 96-97!

Activity 6: Renewable Energy and Efficiency Training Institute (REETI)

The Renewable Energy and Efficiency Training Institute is a non-profit corporation dedicated to promoting renewable energy and energy efficiency by developing support for and organizing training events. REETI specializes in training activities relating to solar, wind, biomass, geothermal, microhydro, hydrogen, and energy efficiency technologies. Training events are primarily conducted by experts from the U.S. renewable energy and energy efficiency industries for interested energy stakeholders from certain developing countries. Training events can be in-country or in the U.S. and can last from one day to several weeks. Typical audiences range from technicians to energy policy makers. REETI's portfolio of industry experts are qualified to train on any subject relating to renewable energy and energy efficiency (RE/EE), such as system design or business and financial development. REETI training events are usually linked to specific RE/EE projects or to long term market development activities. Training will be performed in key USAID countries where host country and U.S. industry interests in renewable energy and efficiency converge.

SubActivity 1: International Training Program

Background

REETI's primary mission is to develop and implement international RE/EE training events. Since its inception in 1993, REETI has conducted training programs on three continents and trained more than 600 students from 26 countries. REETI Alumni include utility and entrepreneurial technicians, project developers, policy makers, financiers, and other stakeholders from the international community. The results of REETI's training programs include: 1) identification and facilitation of \$1.3 billion of potential renewable energy projects in Latin America and the Caribbean as part of the Renewable Energy in Americas (REIA) program; 2) significant increases in U.S. industry exports to Latin America and Africa; 3) the facilitation of the Renewable Energy for African Development (REFAD) program in South Africa and Botswana; and 4) private power initiatives favorable to U.S. renewable energy technologies in several Caribbean and Central American countries. REETI is committed to providing training programs and services that are needs-based, client-focused, and results-oriented.

Objective

The objective of this activity, the International Training Program, is to identify and develop training and educational programs in Asia and Latin America. REETI will target high-priority USAID countries and sub-regions (e.g. Brazil, Indonesia) for this activity. REETI will also seek to facilitate and leverage additional multilateral, bilateral, and marketplace support for renewable energy training programs in each country.

REETI will work closely with Winrock International, the REPSO Network, the U.S. Export Council for Renewable Energy (US/ECRE), the REIA initiative, and the Asia Pacific Initiative for Renewable Energy and Energy Efficiency to accomplish this activity. REETI will also use the contacts and training opportunities identified by its international training needs survey, conducted in 1995, to determine focus areas and in-country capability.

The proposed activities will be structured to provide first-rate training services and technical assistance to the public and private sectors. The activities will use highly qualified training professionals, modern training methods, the latest engineering and design principles, and proven renewable energy equipment in all of its training courses. Specific course development programs and implementation strategies will be designed according to market needs and interests.

Scope of Work

TASK 1: International Training Needs Assessment Missions

Within each target country or sub-region, REETI will conduct a Training Needs Assessment Program (TNAP). Through surveys and contacts, the TNAP will characterize existing renewable energy and efficiency training capabilities and programs and identify the individuals and organizations involved. Through TNAP missions to the selected countries, the program will also characterize and prioritize additional in-country training needs and training program implementation strategies and evaluate the impact these training programs will have on the local energy infrastructure. REETI will conduct at least four Training Needs Assessment Missions for the following targeted countries/regions: India, Brazil, Peru (a trip will not be taken to Peru), Indonesia, and the Philippines (subject to Mission approval).

Outputs:

- Trip reports from TNA missions
- TNA Final Reports for Asia and Latin America, including results from questionnaires or surveys conducted

TASK 2: Training Course & Materials Development

Upon completion of the TNAP activities, the proposed project will develop specific training courses and materials according to the results of the TNAP reports. The determination of which courses will be developed will be made in conjunction with the local energy infrastructure players, the international organizations involved in the region, and the U.S. industry. The courses selected will be those that are likely to make the most significant impact on the marketplace. At this time, it is likely that the proposed project will develop training courses on issues ranging from private power development and community development to energy system modeling and project finance. Course materials will include traditional course manuals and worksheets. However, when appropriate and feasible, course materials will include computer software and other multimedia design tools. Courses and materials will be developed in the native or common business language of the target country or region (e.g. Spanish, Portuguese, English, etc.).

Output:

- Outlines of Training Course Materials

Timetable for Implementation/Key Milestones

Task 1: TNA Missions

2nd Quarter 1995/96 - TNA Mission to India; evaluate training priorities of Peru (no trip involved)

3rd Quarter 1995/96 - TNA Mission to Brazil

4th Quarter 1995/96 - TNA Mission to Brazil (2nd one), TNA Mission to Indonesia and Philippines.

Task 2: Training Course Development

June 1996 to September 30, 1996.

SubActivity 2: Alumni Network Development

Objective

The objective of this activity is to develop a sustainable REETI Alumni Network. The purpose of the Alumni Network will be to encourage and facilitate long-term professional relationships between REETI Alumni, REETI Trainers, and U.S. industry. REETI will also seek to develop a number of communication tools and networking mediums for use by the Alumni Network and REETI Trainers. The outcome of this activity will be a sustainable link between REETI, the Training Community, the Alumni, and U.S. industry. REETI will work closely with Winrock International, the REPSO Network, US/ECRE, the REIA initiative, and the Asia Pacific Initiative to accomplish this activity.

Scope of Work

TASK 1: REETI Alumni Database

The purpose of this task is to develop a database of REETI Alumni in developing countries. The database will be used to track the long-term impact of renewable energy training and market development activities on individuals who have completed REETI training programs. The database will include contact information, biographical data, technology choice and training course interests, as well as information about renewable energy projects or programs undertaken as a result of REETI training activities. In addition, the database will track each individual's contact with projects and programs undertaken by REETI partners (i.e. Winrock International, US/ECRE, etc.).

In order to collect the necessary information for the database, REETI will conduct a survey of its existing alumni. The activity will involve developing a questionnaire for distribution to REETI alumni. In addition, in order to ensure rapid collection of information at future training events, REETI will develop a standard form for inclusion in all student course packages. REETI will require that students complete the questionnaire and return it to a REETI representative by the end of the course.

Outputs:

- Sample REETI Alumni Survey and Sample REETI Student Questionnaire used to obtain information for the Alumni Database.

TASK 2: REETI Training Newsletter

The purpose of this task is to develop and publish a quarterly newsletter on international renewable energy and energy efficiency training activities. The newsletter will review training events and programs completed by REETI and others in the training community during the quarter, discuss upcoming training events and programs, discuss esoteric issues of interest to the training community (i.e. training quality, training metrics, etc.), and establish a forum for Trainers and Alumni to discuss their professional and personal experiences with RE/EE technologies.

This activity will require REETI to track the training activities of several other organizations and agencies (i.e. IIE and USETI). REETI is particularly well positioned to accomplish this task because it serves as the staff of the Committee on Renewable Energy Commerce and Trade (CORECT) and Committee on Energy Efficiency Commerce and Trade (COEECT) Training Subcommittees. The primary activity of the Subcommittees is to track training and educational activities taking place in the marketplace.

Output:

- Copies of the Quarterly Newsletter

Timetable for Implementation/Key Milestones**Task 1: Alumni Database**

2nd Quarter 1995/96 - Sample Alumni Survey

2nd Quarter 1995/96 - Sample Student Questionnaire

Task 2: Training Newsletter

2nd - 4th Quarter 1995/96

SubActivity 3: Trainer Database Expansion**Objective**

To upgrade and expand the existing REETI database of U.S. renewable energy and energy efficiency trainers and training programs so as to better serve the RE/EE industry's training interest in the energy marketplace. Also, to develop a database of international non-U.S. RE/EE trainers, training organizations, and training courses. This new information will prove invaluable as REETI begins to construct an international training network and conduct DBIT training activities.

Scope of Work

TASK 1: Trainer Database Expansion

REETI will verify the accuracy of the existing database and solicit new training information (names, courses, areas of expertise, etc.) from the U.S. RE/EE industry. This activity will involve constant communication and information exchanges between REETI and the RE/EE communities and their trade and professional associations. REETI will also solicit other trainers from a number of sources for expansion of the overall number of accessible trainers within the database. REETI will develop the information and flexibility of the overall database for greater ease of use in mailings and regular communication and outreach. Another sub-database of experts (non-trainers, such as academicians, etc.) within the renewable energy and efficiency industries will also be developed. A sub-database of international trainers will also be developed for use in other projects such as DBIT program staff development. With the advent of DBIT technologies and a more open and willing international market, international trainers will become more and more important to REETI as a training resource.

Output:

- *REETI Trainer Database* - REETI will generate an expanded database on a quarterly basis for submission under these deliverables. A report of the expansion activities will accompany each submission of the database. Each report will include the expanded database in both paper and computer form.
- *International Trainer Database* - REETI will generate a database of non-U.S. international trainers on a quarterly basis. Both paper and computer forms of the database will be included in the reports.

Timetable for Implementation/ Key Milestones

Task 1: Trainer Database Expansion

4th Quarter 1995 - September 30, 1996
REETI Trainer Database

4th Quarter 1995 - September 30, 1996
International Trainer Database

SubActivity 4: Distance-Based Interactive Training Development

Background

The Distanced Based Interactive Training (DBIT) concept is best seen within a multimedia environment. The mix of technologies available for DBIT activities includes compressed video, Internet, satellite, microwave repeaters and other telecommunications systems, as well as a host of other 'hard' media forms such as videotape. How the DBIT technologies are used depends on program goals, client needs, and resource availability. When DBIT training programs are designed with the needs, interests, and capabilities of the client in mind, they can greatly enhance U.S.

industry's ability to "transfer" renewable energy and efficiency technology expertise and information from the U.S. to the marketplace.

DBIT technologies easily lend themselves to renewable energy and efficiency training activities. DBIT technology can potentially allow renewable energy and efficiency training programs to reach a wide audience in several locations simultaneously. Therefore, DBIT technology is expected to greatly reduce the total training costs necessary to build a sustainable energy infrastructure in the global marketplace. Lower costs will result from reducing travel expenses, labor, and time costs associated with traditional training methods and programs.

Objective

The objectives of this activity are to develop a catalog of courses for use in a DBIT environment, form a comparative analysis of various DBIT technologies, and build a model plan for future DBIT program development.

Scope of Work

TASK 1: DBIT Program Implementation Plan Development

During this phase of the DBIT program development, REETI will develop a comprehensive implementation strategy for conducting Distance-Based Interactive Training Programs. REETI will utilize the information developed during the previous year's activities to identify individuals and organizations who will sponsor and/or act as partners in the implementation of DBIT activities. As needed, REETI will conduct preliminary DBIT training tests to ascertain the technical reliability, cultural effectiveness and overall effectiveness of the various DBIT training platforms in accomplishing REETI's goals.

- a) REETI expects to concentrate on Internet-based training scenarios to maximize the scope and reach of RE/EE training programs. REETI will work closely with the Center for Renewable Energy and Sustainable Technologies (CREST), Volunteers in Technical Assistance (VITA) and other concerns from the renewable energy and energy efficiency community to accomplish this task.
- b) REETI also expects to concentrate on satellite-based training scenarios to maximize the scope and reach of RE/EE training programs. REETI will work closely with the Camber Corporation, the University of Maryland and other concerns from the renewable energy and energy efficiency community to accomplish this task.

Outputs:

- *DBIT Feasibility Study* - This document will outline the various technologies and methods with which DBIT programs can be implemented. Included in the document will be comparative analyses of the various technologies and their compatibility with the unique constraints and demands of international training such as infrastructure limitations, cultural barriers, etc. An assessment of the overall effectiveness of those technologies in achieving REETI's goals will also be included.

- *DBIT Implementation Plan* - This document will outline REETI's intended plan for implementation of a comprehensive DBIT program. Included in the document will be collaborators and partners who will assist in the implementation of the programs and proposed locations for local/regional training centers.
- *Final Report* - This document will outline the results of REETI's action on the previously developed DBIT Implementation Plan. Included will be an assessment of the overall benefits of the implemented program and any future actions needed to improve or augment the program.

Timetable for Implementation/Key Milestones

Task 1: DBIT Program Implementation Plan Development

2nd Quarter 1995/96 - DBIT Feasibility Study

3rd Quarter 1995/96 - DBIT Implementation Plan

4th Quarter 1995/96 - Final Report

SubActivity 5: Training Program Quality Assurance

Objective

REETI will continue to conduct Quality Assurance (Q&A) on new and existing training programs and trainers from U.S. industry. During 1995, REETI initiated a process by which the U.S. Department of Energy laboratories, including the National Renewable Energy Laboratory (NREL) and Sandia National Laboratories (SNL) and others were able to conduct Q&A on training courses conducted by REETI. However, this process must be further developed, refined, and institutionalized. The objective of this effort is to establish a routinized mechanism for ensuring high-quality, timely, and relevant training in the areas of renewable energy and energy efficiency.

Scope of Work

Task 1: Quality Control Board Development

Using staff members from the DOE's National Laboratories including NREL, Sandia and LBL, REETI will develop and staff a Training Quality Control Board to evaluate RE/EE training programs and trainers. REETI will coordinate the work of the Board with the RE/EE industry to maintain technical accuracy and ensure that the appropriate market perspective is incorporated into the training program review process. In order to accomplish this task REETI will:

- a) Develop a Quality Control Board;
- b) Staff one Quality Control Board meeting and hold meetings with individual Quality Control Board members during its initial set-up and operation.

Outputs:

- *Quality Control Board Development Report* - This document will name the members of the Board, their relevance to the Board and the criteria by which they were selected for the Board. The report will also include a set of action items for the Board to address within the remaining proposal timeframe
- Annual Meeting Report
- Conference Call Report and Final Report

Task 2: REETI Training Metric Development

REETI will develop a draft metric for evaluating the impact of RE/EE training activities in the U.S. and overseas. This draft metric will be developed using the combined guidance of CORECT, the training community, RE/EE industries, and the Quality Control Board. This draft metric will form the model against which all REETI training programs are measured. Periodic studies of the metric will be done to ensure its relevance to present-day trends in training and the RE/EE industry.

Outputs:

- Strategy Document on Development of the Metrics.
- *REETI Training Draft Metric Report* - This draft document will describe the standards by which REETI's training programs will be evaluated. Two report documents will be submitted as deliverables under this activity. The reports will describe the standard development process to date and will include action items for future standards development.

Timetable for Implementation/Key Milestones

Task 1: Quality Control Board Development

1st Quarter 1995/96 - Strategy Document: Quality Control Board Development

2nd Quarter 1995/96 - Annual Meeting Report

September 30, 1996 - Conference Call Report and Final Report

Task 2: REETI Training Draft Metric Development

1st Quarter 1995/96 - Strategy Document on Development of the Metrics

September 30, 1996 - Draft Metric Development Report

Results/Indicators of Success

Some end-results of the proposed programs will be the increased ability for Asian and Latin American nations to more easily pursue a sustainable development path by using indigenous renewable energy resources and energy efficiency strategies. By increasing the flow of training information the potential for renewable energy and efficiency project development and implementation is increased significantly. The resultant programs will improve the ability of the local, private, and public sectors to design and implement effective sustainable energy projects through the newly created base of expertise. Furthermore, by initiating a dialogue between the

regional stakeholders within the energy infrastructure, the programs will create an increase in regional cooperation and commerce. These efforts, and the resultant trainer base, are expected to facilitate the adoption and application of sustainable technologies for developmental purposes.

Indicators

Indicators of success in undertaking these activities under the NGO/REI program include:

- Inclusion of renewable energy projects in state-level plans and social programs (such as electrification of schools, clinics and rural villages)
- Inclusion by utilities of renewable energy projects in expansion plans for grid-connected projects
- Increased inclusion by utilities of renewable energy technologies in grid and off-grid electrification projects
- Inclusion of non-governmental organizations (NGOs) of renewable energy technologies for specific project applications
- Increased sales and exports of US products to Latin American regions

Activity 7: Center for Renewable Energy and Sustainable Technology (CREST)

SubActivity 1: Spanish/English Renewable Energy Applications CD-ROM

Background

The Center for Renewable Energy and Sustainable Technology (CREST) has developed a prototype interactive multimedia kiosk on renewable energy applications. Right now it is a demonstration model. A CREST demonstration of the kiosk in Guatemala to Latin American government officials, energy professionals, and NGOs found a tremendous response and interest in using the kiosk throughout Central and Latin American countries for promoting renewable energy projects. The CD-ROM was designed for a U.S. audience, with most case studies focused on the U.S. This project will modify and enhance the kiosk with Central and Latin American applications, case studies, and relevant information for making the CD-ROM useful throughout Central and South American Spanish-speaking countries (LAC).

Objective

The objective is to highlight successful renewable energy case studies through the use of interactive multimedia computer software that integrates text, photos, video, animations, and spreadsheet, and interactive exercises. The goal is to get the bi-lingual CD-ROM into the hands of USAID officials, key decision makers, and educators in order to increase the awareness and acceptance of renewable energy technologies for delivering energy services. The CD-ROM offers the opportunity to deliver significant amounts of useful information at a fraction of the cost of conventional and traditional forms of information transfer (e.g., photocopying and mail, fax, on-site travel, phone).

Scope of Work

Task 1: Analyze current and near-term availability to target audiences of CD-ROM capable equipment in the LAC region. Produce a prototype of the bi-lingual (Spanish/English), interactive multimedia CD-ROM by incorporating Spanish translation into sections of the English-based renewable energy kiosk.

Output: Demonstration of Prototype CD-ROM disc to USAID Contract Manager.

Task 2: Develop and produce a final bi-lingual (Spanish/English), interactive multimedia CD-ROM on renewable energy. Includes gathering case studies, images, video clips; programming multimedia resources into format; translating final multimedia resources.

Output: Demonstration of Version 1.0 CD-ROM disc to USAID Contract Manager.

Task 3: Produce master CD-ROM disc, duplicate 2,000 copies, design and produce jacket cover and mailing pouch, and perform postage distribution.

Output: 25 copies of final CD-ROM sent to USAID Contract Manager, and 1 copy sent to each USAID Energy/Environment Officer in Central and Latin America.

Timetable for Implementation/Key Milestones

Task 1: Months 1 and 2 will focus on producing the bilingual prototype that incorporates sections of Spanish translation into English-based renewable energy kiosk.

Task 2: Months 3 through 8 will focus on gathering relevant multimedia materials from a variety of sources on Latin American relevant renewable energy applications, digitizing selected multimedia materials, programming materials into format design, and translating selected materials into Spanish.

Task 3: Months 9 through 12 will focus on producing master CD-ROM disc, duplicate 2,000 copies, design and produce jacket cover and mailing pouch, and perform postage distribution.

SubActivity 2: Development of Internet-based International Information on Renewable Energy Applications

Background

CREST will take the interactive multimedia CD-ROM on renewable energy and post it on the Internet, making it available to users in more than 100 countries worldwide. CREST will take selected case studies and other relevant materials for processing into the HTML format required for posting on the Internet and via electronic mail. This process will provide access to the nearly 100,000 visitors a month at CREST's Internet site, in addition to making the information available to electronic mail users in more than 160 countries.

Objective

The objective is to highlight successful renewable energy case studies through the use of low-cost, computer-based communication tools like the Internet. The goal is to transfer key digital files and information to AID officials, key decision makers and educators in order to increase the awareness and acceptance of renewable energy technologies for delivering energy services. Internet-based communication offers the opportunity to deliver significant amounts of useful information at a fraction of the cost of conventional and traditional forms of information transfer (e.g., photocopying and mail, fax, on-site travel, phone).

Scope of Work

Task 1: Convert the bi-lingual interactive multimedia CD-ROM on renewable energy into the HTML format necessary for posting on the Internet, and then post the converted files on to the Internet.

Output: Demonstration of a working Internet version of the bi-lingual, interactive multimedia CD-ROM converted and posted on the Internet.

Task 2: Collect additional case studies and other relevant information about renewable energy applications useful in AID targeted countries, to be digitized, and then converted into the HTML format, and then posted on the Internet.

Output: Establish a site on the Internet that showcases AID-funded successful renewable energy projects in AID-targeted countries.

Timetable for Implementation/Key Milestones

Task 1: In months 1 through 4, complete conversion of the bi-lingual interactive multimedia CD-ROM on renewable energy into the HTML format necessary for posting on the Internet, and then post the converted files on to the Internet.

Task 2: In months 5 through 12, collect additional case studies and other relevant information about renewable energy applications useful in AID targeted countries, to be digitized, and then converted into the HTML format, and then posted on the Internet.

SubActivity 3: Outreach Development about CREST's Internet- and CD-ROM-based Information about Renewable Energy Applications

Background

For the past two years CREST has been working with all the U.S. renewable energy trade associations to provide them all with Internet-based presences. CREST's Internet resource, Solstice, is being used by roughly 100,000 people per month, downloading the equivalent of one million pages of text equivalent (an increasing fraction in the form of digitized photos and slides). The purpose of this activity is to attend key gatherings of energy officials and make them aware of CREST's CD-ROM and Internet-based resources on renewable energy and energy efficiency.

Objective

The objective is to ensure widespread use of this low-cost information resource by performing on-site demonstrations and workshops of how to access the resources about renewable energy and energy efficiency case studies and other relevant information.

Scope of Work

Task 1: Prepare for and attend two key conferences of energy professionals, government officials, NGOs and other relevant energy decision makers in India. Demonstrate both the CD-ROM and Internet-based resources on renewable energy and energy efficiency.

Task 2: Prepare for and attend a key conference of energy professionals, government officials, NGOs and other relevant energy decision makers in Brazil. Demonstrate both the CD-ROM and Internet-based resources on renewable energy and energy efficiency.

Output Tasks 1 & 2: Four quarterly reports which include presentations and workshops given at each attended conference.

Timetable for Implementation/Key Milestones

Task 1. Attend key conferences of energy professionals, government officials, NGOs and other relevant energy decision makers in India. Demonstrate both the CD-ROM and Internet-based resources on renewable energy and energy efficiency. Date TBD as based on USAID approval.

Task 2. Repeat the same efforts as Task 1, but in Brazil. Date TBD as based on USAID approval.

Results/Indicators of Success

1. Quality and consistency of available information regarding renewable energy provided to decision makers in the LAC region;
2. Greater confidence in renewable energy technologies as a result of increased access to information;
3. Higher exports of U.S. renewable energy equipment as a result of greater information availability and increased confidence in renewable energy technologies.

Activity 8: Volunteers in Technical Assistance (VITA)

Designing an Electronic Network for Knowledge of Renewable Energy/Efficiency Applications in Development Agriculture

Background

Volunteers in Technical Assistance (VITA) was created to provide technical information and assistance to individuals and NGOs in developing countries. VITA has managed a Technical Inquiry Service for development continuously since 1959, and has made weekly radio broadcasts on technology through the Voice of America since 1986; the overwhelming majority of inquiries and broadcasts have featured sustainable agriculture and/or renewable energy. In addition, VITA has managed renewable energy and agriculture programs in several developing countries, particularly in African countries.

VITA responds to about 2,000 questions each month, tapping the knowledge of its more than 5,000 volunteers, as well as the research results and publications of many institutions. Approximately 4,000 of the volunteers have experience in either renewable energy or agriculture and food processing in developing countries. VITA has produced more than 200 publications, now available in ASCII format for easy distribution to requesters, and on CD-ROM. In addition, VITA has trained several hundred people in developing countries to manage information, and has working agreements with 200 local information centers.

Nevertheless, VITA recognizes that millions of people in developing countries still do not receive even the basic agriculture, health, education, environment, and other information they need to improve their lives. In fact, at a time when the hardware and software for electronic information sharing are multiplying dramatically in developed countries, developing countries are often unable to take advantage of these tools in spite of increasing need for this type of information.¹

Two of the major reasons for this growing dilemma are the lack of communications infrastructure, and the lack of skills in gathering, managing, and disseminating information.

To help deal with the lack of communications infrastructure, VITA has developed a set of tools to facilitate access to information, especially in the remote areas of developing countries. These technologies include VITAsat (low earth orbiting satellite) - data only, VITApac (terrestrial digital radio networks) - voice and data, and VITAnet (bulletin board/mailler) - phone, connected to Internet through special gateways. All of these technologies can be powered by solar photovoltaics and batteries.

¹ Fifteen percent (15%) of the world's population has access to seventy-one (71%) of the world's phone lines. Telephone density in developing countries is less than 1 line per 100 residents; in Africa it is about 1 line/250 residents. While the Internet is growing rapidly in the developed world, it has barely penetrated developing countries. Fidonet is the way most developing country users access Internet, with great difficulty and expense.

To help deal with the problems of information management and dissemination, VITA has developed specialized electronic networks in disaster preparation, mitigation, and prevention (PMP), telemedicine, and renewable energy. These "knowledge" networks will ultimately link universities and technical centers first with their peers in other countries, and then with local information centers that will make the information available through trained managers. Internet will be the connector, and VITA will help provide communications tools where necessary.

VITA has collaborated with US/ECRE for the past several years in demonstrating the value of VITAsat for renewable energy technology transfer to developing countries. Not only has the system proved useful for e-mailing project management information and general information about renewable energy, but VITAsat is also being used to monitor and control remote hybrid renewable energy power stations in Indonesia.

VITA will collaborate with REETI and CREST in their efforts to make renewable energy information and training materials accessible in developing countries. To this end, in early 1996 it will host an Internet conference about a proposed network for information on the productive uses of renewable energy. Conference participants will include selected VITA alumni and representatives from USAID, DOE, USDA, EPA, World Bank, UNDP, CREST, REETI, IFREE, US/ECRE, Winrock International, the International Society of African Scientists, the Special Program for Agricultural Research in Africa, the Consultative Group on International Agricultural Research, Inter-Action, related NGOs, and others.

Based on the outcome of the Internet conference and a follow-up meeting in Washington, VITA will develop a pilot network that will be evaluated for further development.

Objective

VITA's objective in this project is to design an electronic network to enable people and institutions in developing countries to access and/or share information in renewable energy/efficiency use for productive uses such as agriculture, health services, etc.

Scope of Work

Task I: Internet Conference

VITA will establish and moderate a private Internet conference in early 1996 (see items 1-5 on timeline). The discussion will focus on a proposal ("network design paper") for a specialized information network to exchange information about the applications of renewable energy/efficiency in developing country productive uses. It will also describe existing networks that are on related subjects, and will consider how such a network would link to or complement REETI and CREST efforts in order to avoid duplication of work. The conference will have an agenda, a description of the rules of participation, and a limited time period, starting and ending in the first quarter of 1996. VITA will summarize conclusions from the conference in a paper and distribute it to all participants.

Output: Summary Paper: VITA will summarize the Internet conference discussions into a single document that will be circulated electronically for final review and input. The final concept paper will then be made available for review by others beyond the working group. The paper will become the basis for outreach, planning, workplan development, and fund raising.

Task 2: Washington D.C. Meeting

VITA will convene a one-day meeting of representatives of the participating organizations. To save costs, the meeting will be held in the U.S. where most of the organizations already have offices. The focus for discussion and resolution will be the summary paper. The result of the meeting should be the outline of a workplan, with emphasis on establishing and evaluating a pilot electronic network for renewable energy and energy efficiency information. See items 6-7 on timeline.

Output: Brief Report on Washington meeting: the recommendations from the meeting in Washington, including the outline of a workplan for the network for information on productive uses of renewable energy, will be summarized in a very brief report.

Task 3: Materials Development

Based on the outcome of the Internet conference and the Washington, DC meeting, develop draft materials with REETI and other organizations. This effort will be in tandem with REETI's "Distance-Based Interactive Training Development" program (item 9 on timeline). Draft materials will be reviewed by REPSO staff, in-country NGOs, and others.

Output: Materials for the network that will provide information on productive uses of renewable energy.

Task 4: Program Implementation and Outreach

With CREST, develop access to Internet, and integrate Internet tools including World Wide Web where feasible. Implement the pilot network in the Philippines and South Africa (items 8, 10, & 11 on timeline). Trips will be taken to these countries to facilitate network implementation.

Output: Provide access to Internet and Internet tools; operating pilot network that provides information on productive uses of renewable energy.

Results/Indicators of Success

1. VITA activities such as the Internet Conference create and improve the quality and variety of new approaches to providing reliable rural energy supply as a result of information exchange on renewable energy and energy efficiency.
2. The number of counterpart NGOs in target countries included in the network will depend on the conference participants. As this is a new approach, any participation can be considered a success and a base on which to build.

Timetable for Implementation/Key Milestones

Task 1: First and second quarters 1995/96

Task 2: Third quarter 1995/96

Task 3: Fourth quarter 1995/96

Task 4: Fourth quarter 1995/96 and Year Two

VITA - YEAR ONE ACTIVITY		TIME FRAME												
		Nov. 95	Dec. 95	Jan. 96	Feb. 96	Mar. 96	Apr. 96	May. 96	Jun. 96	Jul. 96	Aug. 96	Sep. 96	Oct. 96	Nov. 96
1	Private Internet Conference													
1.1	CREST Subagreement													
1.1.1	Negotiate Subagreement	x												
1.1.2	Finalize Subagreement		x											
1.2	Design Internet Conference			x										
1.2.1	Integrate Internet Tools - Web and Gopher			x										
1.2.2	Establish security (access)			x										
2	Select Conference Moderator			x										
2.1	Establish Procedures & Schedule			x										
3	Select Conference Participants													
3.1	Identify Ag and Ren Experts			x										
3.2	Invite Participation			x										
4	Network Design Paper for Conference Discussion													
4.1	Research Issue Interfaces (Ag & Ren)			x										
4.2	Select Writer			x										
4.3	Write Draft Paper			x										
4.3.1	Distribute Paper to Participants			x										
5	Manage Private Internet Conference													
5.1	Report - Network Design				x	x	x	x	x					
6	Meeting to Review Conference & Develop Workplan													
6.1	Make Arrangements							x						
6.2	Invite Participants							x						
6.3	Conduct Meeting to Develop Network Workplan							x						
6.4	Report								x					
7	Draft Workplan for Pilot Network									x				
7.1	Review Workplan									x				
8	REPSO - Pilot Network Workplan Review													
8.1	Modify Workplan for Philippines									x				
9	Develop Network Materials													
9.1	Distance Education Materials										x			
9.2	Training Materials										x			
10	S. Africa - Pilot Network Workplan Review													
10.1	Modify Workplan for S Africa										x			
11	Initiate Pilot Network												x	
12	Annual Report													x

III. PROJECTED QUARTERLY BUDGET

NGO Renewable Energy Initiative

Projected Quarterly Budget for 11/6/95 - 11/5/96

Line Item	1995	1996				Total
	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	
A. Salaries, Fringe Benefits	43,102	70,042	70,042	70,042	26,939	280,166
Consultants, S-T Research Specialists	13,369	21,725	21,725	21,725	8,356	86,900
o Winrock Management Support	22,308	36,250	36,250	36,250	13,942	145,000
<i>(for managing the Sub-recipients)</i>	78,779	128,017	128,017	128,017	49,237	512,066
B. Travel	13,663	22,202	22,202	22,202	8,539	88,808
Other Direct Costs	12,558	20,407	20,407	20,407	7,849	81,628
	26,221	42,609	42,609	42,609	16,388	170,435
C. Equipment	4,615	7,500	7,500	7,500	2,885	30,000
D. <u>Subagreements</u>						
Winrock (Cost shares and all other subagreements)	58,538	95,125	95,125	95,125	36,587	380,500
IFREE	57,692	93,750	93,750	93,750	36,058	375,000
REETI	42,308	68,750	68,750	68,750	26,442	275,000
VITA	9,846	16,000	16,000	16,000	6,154	64,000
CREST	30,769	50,000	50,000	50,000	19,231	200,000
Total Subagreements	199,154	323,625	323,625	323,625	124,472	1,294,500
E. Indirect Costs	39,538	64,250	64,250	64,250	24,711	256,999
Total	348,307	566,000	566,000	566,000	217,692	2,264,000

***4th Qtr. broken into two periods**

4th Qtr. 1995 is 8 weeks (11/6/95 - 12/31/95)

4th Qtr. 1996 is 5 weeks (10/01/96 - 11/02/96)