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NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

AID/SOD/PDC-G-0076

STATUS REPORT - DECEMBER 31, 1980

A. PURPOSE OF THE GRANT

This thirty-three month grant was made to NRECA for its International Programs Division on July 19, 1978, effective June 1, 1978. In the first instance, funds were provided to cover the period June 1, 1978 through February 28, 1979. A second tranch of grant funds was approved by USAID on March 5, 1979, to cover the period March 1, 1979 to February 29, 1980, with a third and final allocation of funds being approved on March 1, 1980 for the period March 1, 1980 to February 28, 1981.

As originally projected under this grant, NRECA activities would be as follows: surveys, feasibility and design studies carried out in priority countries worldwide; informing, educating and consulting with AID/W, USAID Missions, international finance institutions, U.S. voluntary agencies and other U.S. cooperative groups regarding the benefits of rural electrification within the context of rural development; assisting in establishing at least one international federation of rural electric systems; developing the Philippine program into an on-the-job training and information site for other LDC delegations, training provided by NRECA in the U.S. at member coops for participants and foreign visitors; recruiting and placing long-term teams of rural electrification specialists and advisors in countries where programs have been approved and funded; training of host country participants in design and evaluation; undertaking or participating in evaluations of ongoing programs; and special studies and consultations as needed and requested.

B. PROGRESS AND ACHIEVEMENTS UNDER THE GRANT

Geographic review

The overall program has moved ahead well during the intervening period between the last report and the end of the year. Of considerable importance has been the establishment and growth of our Small Decentralized Hydropower (SDH) program. IPD staff have also been instrumental in helping in the establishment of a hemisphere-wide association of electric cooperatives to be headquartered in Brazil. One negative note was the cancellation of our contract with the Bolivian Government due to the worsening political relations between that country and the United States. Washington office staff ~~now number seventeen with~~ twenty-eight staff presently overseas.

The project in Bangladesh is moving ahead at a rate exceeding our expectations. NRECA staff there is now up to its full strength of ten (10) positions. Following the very successful June 2, 1980, first rural electric cooperative energization ceremony, presided over by President Ziaur Rahman, additional areas have been energized and house-wiring continues at an accelerated rate. Because of the success of the project, the Agency for International Development has agreed to advance the funding date for the next tranch of money. The World Bank is keenly interested in the project as are the Governments of Kuwait and the United Arab Emirates with the former government having recently agreed to the funding of eight additional project areas.

The Philippine National Electrification Administration, under the able leadership of Administrator General Dumol, continues to make excellent progress in expanding the number of cooperatives and area being covered.

The number of connections now stands at approximately 1.4 million, reaching over nine (9) million consumers. The NRECA is still considering providing a full-time advisor to the newly formed Federation of Electric Cooperatives in the Philippines, but is awaiting a final decision on this from the NEA.

The project in Indonesia is making satisfactory progress with interim construction underway in Lombok, Central Java and Lampung. Small surplus generators have been supplied to Lombok and Lampung as an interim measure while waiting for the larger Canadian-supplied generators. The two outer island project areas serve as a training center for training linemen, electricians and administrative staff. Housing on the island of Sulawesi is being completed for the IPD advisor in Luwu who should be residing there full time by mid-January.

An eight volume study was completed by NRECA personnel in mid August which is the second feasibility study for the PLN (Government Power Authority) in Central Java. These studies assess future site selections for the second phase of the project. The reports were well prepared and have been well received. Studies for additional cooperative project areas are scheduled to be undertaken in March or April of 1981.

The World Bank-funded management and operations improvement project in Jamaica continues to make good progress. IPD staff along with representatives from Blue Ridge Electric Membership Corporation and the Resident Project Manager attended a year-end review session with the senior management staff of the Jamaican Public Service Corporation in Kingston to review achievements during the first year and to plan for the ensuing year. The project is now entering the implementation stage based on the

recommendations resulting from extensive studies carried out during the first phase of the project. The coming year will be a "hands-on" type of operation designed to assist the JPS staff in the overall improvement of their operations.

Project activity in Bolivia has come to a temporary halt. NRECA was informed by the USAID Mission in La Paz that funds were being withdrawn by the U.S. Government because of the cancellation of AID funds to Bolivia. The resident project manager returned to the United States in early November and is awaiting re-assignment, possibly in Yemen or Bangladesh. Although a small project in size, this was a major disappointment to IPD staff, as it was developing into a good opportunity to carry out a well conceived productive uses program.

IPD staff participated in the First Congress of Electric Cooperatives of the Americas held in Porto Alegre, Brazil from October 21-24. Also participating from the U.S. were the Manager and two Board Members from Adams Electric Cooperative of Gettysburg, Pennsylvania and an electric cooperative lawyer from North Carolina who presented a well received paper at one of the general sessions. One result of the congress was the establishment of the Organization of American Cooperatives of Electricity (OACE) with the by-laws of the organization being approved in principle by delegates from Argentina, Brazil, Bolivia, Chile, Costa Rica, Ecuador and the United States. The headquarters of the new organization will be in Brazil with the first President coming from Argentina. In addition to Brazil and Argentina, Chile and the U.S. (provisionally) are represented on the board.

IPD also participated in a week-long seminar sponsored by the Inter-American Development Bank in Asuncion, Paraguay. The seminar was entitled "Possible Strategies for Economic Development with an Abundant Supply of Electric Energy." A paper was presented detailing NRECA's overseas experiences in rural electrification. IPD staff visited Trinidad and Tobago at the request of the General Manager of the Trinidad and Tobago Electricity Commission to discuss ways in which NRECA might assist that country in upgrading its electric service. Assistance was also given to the Panamanian Institute of Water Resources and Electrification in connection with their planned \$51 million rural electrification program.

On September 15th, the NRECA's Yemen team delivered to the Yemen General Electricity Corporation an extensive report on the results of their work there during the first year of the project. A seven volume "Interim Report" was handed over to the chairman of the YGEC detailing out in specific terms the development of twenty area coverage project sites. The report has received very high marks from both the YGEC and the World Bank. Detailed design work is presently underway for all twenty project sites along with the development of materials specifications and tender document format. Further discussions with Yemen government officials resulted in the decision for the NRECA to assume supervisory responsibilities through the construction implementation phase of the project.

The five-man team in Egypt spent their first few months in Cairo getting settled into their new offices and homes, dealing with a myriad number of logistic problems and generally familiarizing themselves with a very complex bureaucratic situation within the electric power sector in Egypt. The two

principal program tasks that have been undertaken since their arrival is to begin to analyze the financial system presently in use within the Ministry of Electricity with the long range view of standardizing and simplifying the system, and to study and develop recommendations for the most effective future organizational structure for a rapidly growing rural electrification program. The World Bank reviewed this project in November and came up with a number of suggestions about its long range objectives. The review team gave our team members high marks for their efforts to date.

Other activities with Middle East and Africa region include an exploratory visit to Ghana by IPD Staff to discuss with the Minister of Energy and his staff possible assistance by the NRECA for Ghana's rural electrification program and the possible development of renewable alternative energy sources for the production of electric power. Staff visits were also made to Liberia and the Ivory Coast.

Project evaluation

The review and preparation of a number of project evaluation studies has occupied a great portion of the IPD staff time during the past six months. In September, with the assistance of a professional evaluation firm, Practical Concepts, Inc., a comprehensive evaluation methodology was developed to measure the social economic and the impact of rural electrification projects. A proposal to carryout one such evaluation activity has been submitted to USAID for funding.

In November a 200-page institution viability evaluation report was completed on four rural electric cooperatives in Costa Rica. IPD staff visited the four cooperatives during July and applied data collection forms

developed during the spring. The report measures the state of organizational and technical capacity developed by the cooperatives as well as relative project operating efficiencies, service area saturation effectiveness and financial performance.

During this same period, USAID completed its own internal evaluation of rural electric projects in the Philippines, Bolivia, Ecuador and Costa Rica, for the purpose of developing a sector paper on the merits and problems of funding future rural electrification projects. At the request of USAID, much IPD staff time was allocated to critiquing and assisting AID synthesize the findings of these evaluations.

Alternative energy

In July 1980, IPD's Small Decentralized Hydropower (SDH) office sent a team of specialists to Lima, Peru to assist the AID Mission in formulating their project paper for a program in small scale hydropower development. The program was designed to promote rural and regional social-economic development through reasonably priced hydro-generated electrical energy and to provide technical assistance to the mini hydro program within the Ministry of Energy and Mines.

The Mission requested the assistance of several Spanish speaking experts to prepare portions of the project paper (which AID requires for the evaluation of any proposed project). In addition, the team was involved with supervising the preparation of feasibility studies for two proposed mini hydro sites that are being developed by ELECTROPERU, the Peruvian national electric authority.

In August the AID Mission in Morocco requested the immediate services of a small-scale hydro specialist to assist the Mission in reviewing the Moroccan country assessment performed by a large engineering firm. The Mission felt that the firm was oriented toward large scale civil works and needed to be guided toward smaller scale projects. Three potential sites have been identified for development and site data is presently being collected.

In November, the SDH Program's Principal Engineer, traveled to Panama to inspect a number of small hydro demonstration sites, identify available data, and review project specifications. He also provided technical assistance regarding low voltage distribution facilities and the overall course of action of the Panama mini-hydro program.

Approximately 100 rural communities in Panama have expressed strong interest in having a mini hydroelectric unit installed in their area. With NRECA assistance AID is working with the Panamanians to identify the 40 most feasible sites and is presently gathering data for the prefeasibility studies.

Information concerning a wide range of small hydro activities is being collected by the IPD. SDH staff have developed a data bank of U.S. manufacturers of small hydroelectric equipment. The manufacturers have been contacted and, in some cases, visited by NRECA. Their products have been classified for appropriate applications and they are being notified by NRECA whenever requests for U.S. equipment suppliers are given to NRECA. SDH staff have also developed a personnel pool of individuals and firms with expertise in small scale hydropower who are able and willing to work

in LDC's. These individuals are categorized according to their area of specialty, language ability, and experience with development projects.

During the past months SDH staff have visited numerous small scale hydro sites in the U.S. and developing countries and begun to observe which technologies work in developing countries and those which require further development. In addition, the staff is drawing together data on the most productive uses for power which can be incorporated into small, decentralized energy projects.

On August 19-21, the SDH Program conducted its first international workshop on small hydro development. The workshop was held at the Hotel Inter-Continental Quito in Quito, Ecuador, and attracted 118 attendees from 11 different Latin American countries and the U.S. The seminar was jointly sponsored by SDH/NRECA, in cooperation with USAID, the Instituto Nacional de Energia (Ecuador), and the Instituto Ecuatoriano de Electrificacion. The SDH Program staff was responsible for development of the technical program, including recruitment, coordination and reimbursement of AID-sponsored attendees, and preparation of printed matter relating to the conference.

Training

During the past year a substantial number of individual training programs and observation tours were carried out by NRECA staff in the U.S. involving approximately forty participants from eight different countries. In addition to the regular annual course on the "Organization and Operation of Rural Electric Systems" carried out for participants from Bangladesh,

Jordan, Thailand and India, two groups of Indonesian trainees came to the United States for extensive on-the-job training with a number of cooperatives and public utility districts. Each group remained in the United States for a six-week period, which included one week of formalized management training in addition to the "hands-on" experience offered by each host institution, altogether sixteen Indonesian trainees participated in these programs.

Observation tours were arranged for the Deputy Chairman of the Yemen General Electricity Corporation and the Chairman of the Bangladesh Rural Electrification Board, who spent three weeks in the United States thoroughly familiarizing himself with the rural electrification program here. A three-month program was arranged for a manager of a cooperative in Costa Rica, while the Jamaica Public Service Corporation sent one of its staff to the United States for an extensive observation tour. Three members of the Egyptian Ministry of Electricity attended the NRECA's annual meeting and were later introduced to operating electric cooperatives.

Overseas training programs have been carried out primarily through the technical assistance programs supported by AID Mission project funds. Over the past year NRECA advisors have conducted a number of formal training programs in both Indonesia and Bangladesh as part of their project implementation responsibilities. Other training programs are in the planning stages in Yemen, Egypt and Jamaica. It is anticipated that more emphasis will be given to developing overseas training capability in the future.

Home office

Much of the IPD's staff time has been spent over the last few months in discussion with AID officials concerning the future role that the NRECA will be expected to play in furthering AID's interest in rural development, particularly rural electrification. At the present time, it appears that much more emphasis should be given to working on second generation problems with already established rural electric systems including more productive uses of energy, energy conservation, the development of alternative energy sources, improved management and operations practices and increased cooperative-to-cooperative activities. As mentioned earlier IPD have also been involved heavily in evaluating AID's own internal evaluation of their past rural electrification programs which are presently undergoing very close scrutiny. Staff travel has included visits to Brazil, Costa Rica, Jamaica, Bolivia, Egypt, Yemen and Indonesia.

C. PROBLEMS ENCOUNTERED AND PROPOSED RESOLUTION

As described earlier in the report, the biggest disappointment during the past year was the cancellation of the Bolivian project. This was not due to the cancellation of the project itself as much as it was to the fact that IPD staff looked upon this particular project as an excellent opportunity to develop an effective productive uses program that would, if subject to close observation and serious evaluation, result in project development information that could be very useful in many other situations. While the chances are admittedly slim for this particular project being reinstated, it is hoped that similar concern in other AID Missions can be identified and that other projects with essentially the same objectives can be undertaken elsewhere.

While one of the objectives of the grant may have been achieved in the strictest sense of the word with the creation of the Organization of American Cooperatives of Electricity (OACE) in November, efforts to create a number of other cooperative federations have moved along somewhat more slowly - particularly in Costa Rica and (for obvious reasons) in Nicaragua. Some encouragement, however, can be noted in other instances such as in the Philippines. As these and other national entities come into being, it is only natural that the NRECA will be looked to for guidance and assistance in their development. Examples of this include the recent visit by the President and General Manager of the Philippine Federation to the United States and the upcoming visit by a delegation from Brazil for a survey of cooperatives and cooperative support organizations in this country.

A serious attempt has been made over the past year to develop some significant evaluation competence within the NRECA and it is the view of IPD staff that good progress has been made in this area. However, it has been learned in this process that the costs associated with such an activity are much greater than had been anticipated both in terms of dollar costs and staff time. Nevertheless, one institutional viability study was completed during this period. While it was anticipated that one social and economic impact study would also be undertaken during 1980 this has proven to be impossible. An evaluation methodology was developed however and it is hoped that adequate funds will be located to actually carry out the study sometime within the next year.

On a number of occasions during the past year, IPD staff have been approached by member cooperative systems offering, on a purely voluntary basis, surplus

materials and supplies to overseas cooperatives that might have use of this kind of assistance. Here again, shortage of staff time and funds have precluded the NRECA from responding to these offers as positively as we would have liked. As this seems to be an excellent way to foster the type of cooperative-to-cooperative relationships that can be both immediately productive and long-lasting, it is hoped that some way can be found in the near future that will enable the NRECA to take advantage of these opportunities as they arise. More staff time will need to be devoted to this undertaking in the future.

D. ACTIVITY PLAN FOR THE FUTURE

Discussions are presently underway with AID staff concerning the NRECA's role in AID's future development efforts. These are focusing generally on "second generation" cooperative development issues and the role of electric energy in the rural development.