

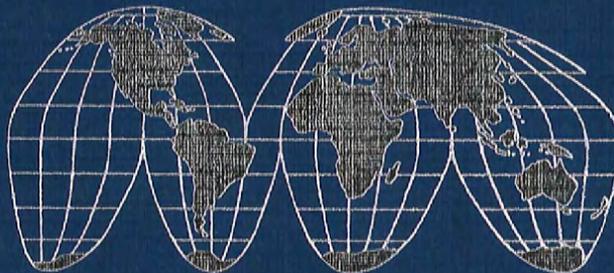
---

# International Programs Division

**National Rural Electric  
Cooperative Association**

**USAID/BHR/PVC  
Cooperative Program Support  
Grant (CPSG)  
May 1994 – May 1997**

**FINAL REPORT**



**National Rural Electric  
Cooperative Association**

**National Rural Electric  
Cooperative Association**

**USAID/BHR/PVC  
Cooperative Program Support  
Grant (CPSG)  
May 1994 – May 1997**

**FINAL REPORT**

## TABLE OF CONTENTS

<b>1. Goal and Purpose.....</b>	<b>2</b>
<b>2. Results/Impacts.....</b>	<b>2</b>
<b>3. Country-Specific Results</b>	
<b>Latin America.....</b>	<b>4</b>
<b>Asia.....</b>	<b>7</b>
<b>Africa.....</b>	<b>7</b>
<b>EE/NIS.....</b>	<b>8</b>
<b>4. General Activities.....</b>	<b>10</b>
<b>5. Budgetary Information.....</b>	<b>10</b>

**National Rural Electric Cooperative Association**  
**Cooperative Program Support Program**  
**under Cooperative Agreement FAO-0192-A-00-4032-00**

**Summary Final Report**  
**May 1, 1994 – May 31, 1997**

**Goal and Purpose**

The goal of NRECA's Cooperative Program Support Program Grant project (CPSG) was to increase the contribution of electrification development in the support of sustainable social and economic development overseas. The purpose of the CPSG was to increase the scope, efficiency, financial viability and environmental soundness of consumer-controlled electric generation and distribution companies and cooperatives in 11 countries.

The project activities carried out during the three-year period helped USAID to achieve its strategic objectives for sustainable economic development, environment and democracy. Through strengthening over 150 cooperative systems, the project extended electric service to rural areas, generated millions of dollars in system savings through efficiency programs, and mobilized substantial capital. With CPSG support, NRECA also conducted extensive policy dialogue with national authorities in 15 countries to allow cooperatives to compete in rapidly deregulated energy environments, including promoting cooperative pilot projects as an alternative approach to privatization. For the environment, the project launched 11 new initiatives for conservation and launched major projects for renewable and alternative energy systems. For democracy, the project introduced grassroots democratic practices for 50,000 electric consumers who were directly affected.

**Results/Impacts**

In most areas, NRECA reached or exceeded the expected results of the project. In some areas, such as capital mobilization, initiatives were started that were still on-going, with good prospects for achieving outputs beyond the expected levels. These activities will be continued by NRECA in future years.

Broad Based Economic Growth	Project Goals	Project Results
# of cooperative systems assisted	LAC 100 Asia 50 Africa <u>2</u> 152	97 51 <u>0</u> 148
\$ of savings/capital mobilized	LAC 50 million Asia 50 million Africa 14 million Materials \$700,000 <u>114.7 m</u>	\$20.0 million \$ 5.0 million \$ 0 <u>\$ 3.2 million</u> Total \$ 28.2 million
# of policies, reforms and strengthened coops	LAC 9 Asia 3 Africa 3 NIS <u>1</u> 16	8 3 3 <u>1</u> 15

Successful privatization models	LAC 5 Africa <u>2</u> <u>7</u>	6 <u>2</u> 8
<b>ENVIRONMENT</b>		
# of new/modified activities to conserve the environment	LAC 4 Asia 3 Africa <u>7</u> <u>8</u>	5 4 <u>2</u> <u>11</u>
# of coops with renewable or energy efficiencies	LAC 3 Asia <u>1</u> <u>4</u>	5 <u>1</u> <u>6</u>
<b>INSTITUTIONAL STRENGTHENING</b>		
# of studies	HQ 1 Africa 1	2 0
# of proposals	8	14
Distribution of surplus materials donated by U.S. coops	3,000 <u>units</u>	42 containers
# of pilot projects	7	2
# of meetings	10	13
# of new sister coops	4	2
# of proposals and \$ from AID	5 \$100 million	10 \$25 million
# of people reached	<u>35,000</u>	<u>50,000</u>

## Country-Specific Results

### **Latin America**

Argentina. Through workshops, study tours, and in-country technical assistance activities, NRECA assisted electric cooperatives in Argentina to develop and implement a strategy to take advantage of the Government's new emphasis on private management of the power sector. NRECA's primary thrust was to work with the national association of electric cooperatives in Argentina (FACE) in developing a self-help capital finance program. NRECA also carried out several specific projects, including a technical assistance project with an electric cooperative in the Province of Rio Negro to provide technical assistance to improve technical and administrative efficiency, and separate projects with electric cooperatives in the provinces of Misiones and Entre Rios to take advantage of government initiatives that would allow the cooperatives to expand their service areas. Most of the funding for these activities came from the beneficiary cooperatives.

Bolivia. NRECA provided technical assistance under direct contract with Bolivian electric cooperatives covering a range of service areas, as the government installed a new national energy policy involving fundamental changes in the electric utility sector. NRECA is also completing the formation of a new foundation as a local NGO to carry out a range of activities with electric cooperatives and to support the electric cooperative movement on an continuing basis. This may involve intervention with bankrupt cooperatives to revamp their organizational and financial structure, through the proposed foundation, with the goal of maintaining cooperatively-managed electric service in the country.

Brazil. NRECA placed a long-term advisor in Brazil and developed a number of on-going technical assistance programs with Brazilian electric cooperatives. Expenses were shared with the association of electric cooperatives in southern Brazil and the U.S. Department of Energy. NRECA also provided technical assistance to the Brazilian Cooperative Federation (INFRACOOP) to identify projects for development including a loss-reduction program. The NRECA advisor carried out

- presentations of four loss-reduction workshops to the cooperatives;
- preparation and circulation of questionnaires to determine load characteristics of small users;
- investigation of the potential for renewable energy development through the cooperatives;
- purchasing and using an infra-red heat detector to locate equipment with high losses; and

- power supply strategies; and development of five hydroelectric plants.

Caribbean Region. NRECA continued its agreement with CARILEC, the association of over 20 electric utilities in the Caribbean, to replicate or extend existing NRECA services to strengthen and modernize small island electric companies. NRECA formed CARILEC under separate USAID funding in the late 1980s with the goal of developing a similar common services association for the small utilities in the Eastern Caribbean region. The CPSG strengthened CARILEC through conferences, procurement and training. In particular, NRECA developed a link between CARILEC and a NRECA member procurement service cooperative in Georgia with a future goal of extending U.S. electric cooperative procurement enterprise to overseas cooperatives and utilities.

Colombia. NRECA developed a program to pursue consumer ownership and cooperative models as part of the government's energy privatization policy. One utility was transferred to new consumer-owned utility services company, and several other project feasibility studies were planned with the support of the World Bank.

Costa Rica. Prior to country close out, NRECA supported energy efficiency and environmental initiatives being carried out by the electric cooperatives and CONELECTRICAS, including a global-warming project. NRECA thereafter signed a long-term support agreement with the four electric cooperatives in Costa Rica that covered the period June 1995 – May 1997 to fund technical support programs including training, joint services, efficiency improvements, and power system development. NRECA also developed a watershed restoration project that would be linked with the San Lorenzo Hydroelectric Power Project under the Clinton Administration's pilot initiative for Joint Implementation, one of the options promoted as NRECA's contribution to greenhouse gas emission abatement. Finally, the Costa Rican cooperatives were among the first to participate in the development of currently on-going plans to develop a Latin American fund modeled on the National Utilities Finance Corporation in the U.S. As in the CFC's case, the fund is aimed to facilitate electric cooperative development under regional privatization efforts.

Chile. NRECA worked with the US and Chilean governments, in collaboration with renewable energy associations in the U.S., to develop programs for renewable energy and energy efficiency investment, through existing and newly-formed electric cooperatives. NRECA also developed programs for various technical and management improvements in Chile's existing electric cooperatives.

El Salvador. NRECA established a new electric cooperative in the northern war zone province of Morazan, as a model for developing rural electrification in similar areas of the country.

Also, as part of its overall energy efficiency program, NRECA developed linkages between its donated equipment and materials program and environmental initiatives to leverage new donor resources. NRECA provided equipment and technical assistance to two distribution companies and two cooperatives formed with NRECA assistance. One company is operating more efficiently with the installation of high-voltage transformers and the other improved environmental conditions in its service areas by extending electricity to rural populations who are burning firewood and kerosene.

Guatemala. NRECA worked with the government, a Guatemalan rural development association, and local and multilateral banks on a commercially-based program to develop a community-based electrification program. NRECA also supported creation of a local foundation (FINER) in collaboration with an existing foundation (GENESIS) and multilateral lending institutions. With FINER, NRECA is developing private-sector financial/technical support for community-led electrification schemes. The CPSG was used to fund home-office support for these activities.

Mexico. NRECA developed a project that involved creating a link with rural electrification development in northern Mexico and NRECA member systems based in Arizona. In particular, a pilot solar PV electrification project was developed on the Arizona border with Sonora State for implementation with \$50,000 in seeding funding from the U.S. sponsoring utilities, and a follow-up project is planned that would establish a cooperatively organized solar PV electrification agency in Sonora state.

Peru. Working with multilateral agencies currently planning new electrification projects, NRECA assisted the government in evaluating the electric cooperative experience and related NRECA experience in consumer-ownership as the vehicle for rural electrification and potentially, privatization of provincial distribution utilities. NRECA and the Government of Peru co-sponsored a workshop on rural electrification, institutional and economic policy in the spring of 1996. Subsequently, NRECA sent two specialists under World Bank financing to evaluate two provincial utilities in preparation for their possible privatization. As a result of these activities, NRECA began assisting the Peruvian Government in developing a \$300 million rural electrification program with the World Bank and the Inter-American Development Bank including alternative institutional models, such as cooperatives.

## Asia

Philippines. NRECA worked with Philippine cooperatives to reduce the administrative and technical losses in selected systems. NRECA conducted an electric distribution loss-reduction program under PVC's Non-Agricultural Cooperative Development IQC that introduced various loss-reducing techniques to several pilot cooperatives. These efforts strengthened the co-ops, allowing them to connect more consumers and reduce environmental pollutants. USAID/Philippines followed up an expression of interest for additional funding for an expanded program of this kind which NRECA is continuing to discuss with the Mission. NRECA also helped PHILRECA, the local cooperative association create a common service procurement corporation which was established and operating successfully. Under World Bank funding, NRECA carried out contracts to improve the cooperatives materials management systems, and to study the institutional options for managing regional electric repair centers. One of the outputs of this effort was a proposal to create new "repair" cooperatives with the electric systems as members. If implemented, the repair centers would mobilize approximately \$5,000,000 of development assistance for the Philippine electric cooperatives.

NRECA conducted an AID and World Bank-funded study looking at the institutional options for ownership of the 69 kV transmission system, formation of second-tier *Transmission and Common Services Corporation* to operate the transmission network and foster consolidation of cooperatives.

India. NRECA assisted electric cooperatives in strengthening their political position as India moved to privatize its electric sector. NRECA carried out studies on the viability of establishing new cooperatives, mostly in West Bengal and strengthen the legal rights and authority of existing systems. NRECA prepared a proposal to the *U.S. Trade and Development Agency* to study the feasibility of establishing a generation and transmission (G&T) type electric utility. The National Dairy Development Board (NDDB) of India, which leads a highly successful dairy cooperative program, was the local sponsoring agency.

## Africa

Ghana. NRECA developed renewable energy program for cooperatives and community-based groups which developed into a proposal by NRECA to the UNDP to create a solar photovoltaic (PV) electrification project. The UNDP provided funding to the Government of Ghana for a project that is currently being implemented with support from the DOE.

South Africa. NRECA initiated a project for renewable energy development in the Republic of South Africa following the electrification of President Mandela and his announcement that rural electrification would be a priority of his government. NRECA also explored the creation of electric cooperatives with ESKOM, the national power agency. NRECA subsequently carried out a renewable energy contract with the Sandia National Laboratories; one for an electrification program using stand-alone PV systems and the other for community water-pumping using wind power.

Uganda. NRECA approach the Government of Uganda with a concept for developing a cooperatively organized solar PV electrification corporation and prepared a proposal for the UNDP for funding to implement. The proposal involved attracting private capital financing and local equity formation. Among other financing sources contacted, NRECA worked through ACDI/Uganda to promote the idea Uganda's credit cooperatives. The UNDP approved the project for funding, although implementation was pending identification of counterpart funding.

Regional. NRECA conducted training and seminars with participants from several countries to promote the use of cooperatives as an institutional option when privatizing the electric sector. NRECA hosted a visit by a senior delegation from Burundi that resulted in a contract to carry out a study on the feasibility of cooperative electrification under World Bank financing. This effort was delayed for several months, and later canceled due to security and safety issues in Burundi.

## **EE/NIS**

Kyrgyzstan. NRECA was invited by the Kyrgyzstan State Energy Holding Company (KSECO) to visit Kyrgyzstan for the purpose of evaluating the potential for electric cooperative development. NRECA sent to specialists to evaluate the conditions for cooperative development, and won agreement with KESCO to establish a pilot project in two areas outside the capital city. The legislative and legal basis for creating and operating parts of the existing KSECO distribution system as electric cooperatives was developed, and a proposal for implementing the pilot project was developed for funding under the U.S. Energy Association's Utility Partnership Program. USEA did not fund the project, which was later included in the NRECA proposal to PVC for follow-up under the current CDP grant program.

## **General Activities**

**Sister Cooperatives.** During the CPSG period, NRECA continued to sponsor a “sister cooperatives” program among some 20 member systems and counterpart electric cooperatives overseas. These relationships provided for interchange on new technologies, competitiveness strategies, and various voluntary programs including meetings at NRECA annual meetings, and equipment donations. During the period NRECA was also able to establish two new sister cooperative pairings.

**Donated Materials.** NRECA shipped 42 containers of donated materials overseas during the three-year CPSG period. NRECA sent meters, transformers, line hardware, conductor, etc. to rural systems and cooperatives in Bolivia, Costa Rica, El Salvador, and the Philippines. Table 1 summarizes this activity during the grant period.

**Information Dissemination.** NRECA published annually detailed reports to its membership and overseas clients on technical, institutional and financial electrification issues and wrote over 20 articles on overseas development activities in NRECA publications that are subscribed by its membership. Several articles appeared in the Christian Science Monitor and other nationally recognized publications.

**Training.** NRECA offered a number of training courses based on the U.S. rural electric cooperative model, including four 6-week courses on the organization and operation of electric cooperatives that included visits to NRECA member systems by participants from countries all over the world. These courses helped to strengthen the management skills in existing electric cooperatives overseas, and also introduced the electric cooperative management model to officials in governments and utility agencies from other countries.

**Financing Initiative.** NRECA started the development of a new capital finance program for cooperatives overseas. Modeled on the National Rural Utilities Cooperative Finance Corporation (CFC) in the U.S., the purpose of this initiative is to ‘grow’ the sector role of cooperatives as privatization spreads across the emerging market world. Specifically, NRECA’s “CFC initiative” would provide a basis for existing electric cooperatives to expand their role and service mix, on one hand, and on the other hand to provide a strategic capital mechanism to execute promising projects that would promote the cooperative form of ownership and service company where electric cooperatives do not exist. Working with potential financial partners in the multilateral sector and in the private sector, NRECA developed initial financial analyses on project, and a

general prospectus and financial pro-forma for establishing an international version of the CFC.

Annual Meetings. NRECA's international programs staff participated in all three NRECA annual meetings carried out during the CPSG period. These events provided opportunities to meet with representatives from NRECA members systems that actively participate in NRECA's international programs, and to invite delegates from electric cooperatives overseas to maintain a familiarity with the U.S. electric cooperative movement, new technologies, products, management practices, policies and strategies for future growth.

### **Budgetary Information**

The total project cost for NRECA's program was \$1,798,772. NRECA provided roughly \$3 million in equivalent contribution over the life of CPSG period, primarily in the form of donated materials and equipment. The total amount of grant funds received from USAID was \$1,787,773, as summarized in Table 2.

**TABLE 1. SUMMARY OF CONTRIBUTIONS OF MATERIALS AND EQUIPMENT**

<b>Country</b>	<b>Shipments</b>	<b>Value</b>
Guatemala	11	800,000
Philippines	7	693,100
El Salvador	7	678,500
Bolivia	4	265,000
Costa Rica	11	546,100
Nicaragua	1	170,000
Republic of Georgia	1	4,500
<b>Totals</b>	<b>42</b>	<b>3,157,200</b>

\* Note: Values based on U.S. dollar

TABLE 2. FINAL STATUS REPORT ON CPSG (AID/FAO-0192-A-00-4032-00)

DESCRIPTION	MAXIMUM OBLIGATED FUNDING	EXPENDED TO DATE 12/31/97	BALANCE OF OBLIGATED FUNDING
Personnel	\$ 532,952.00	\$ 623,774.24	(\$90,822.24)
Fringe Benefits	255,817.00	233,995.19	21,821.81
Consultants	54,808.00	34,517.10	20,290.90
Travel/Per Diem	249,708.00	142,660.82	107,047.18
Equipment/Procurement	48,572.00	25,179.84	23,392.16
Other Direct Costs	287,343.00	220,919.31	66,423.69
Sub-Total	1,429,200.00	1,281,046.50	148,153.50
Overhead	369,572.00	506,726.23	(137,154.23)
Total	\$1,798,772.00	\$1,787,772.73	\$10,999.27