

PD-AAU 013

Six Month Report
Institutional Support Grant
January 1, 1983
to
June 30, 1983

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COOPERATIVE DEVELOPMENT
INSTITUTIONAL SUPPORT GRANT

SIX MONTH REPORT

National Rural Electric Cooperative Association
Name of Organization

January 1, 1983 - June 30, 1983
Time Period of Report

July 29, 1983
Date Submitted

Grant No. AID/SOD/PDC-G-0076
Grant No. PDC-0222-G-SS-3110-00

This report is to be completed semi-annually by recipients of institutional support grants for cooperative development from the Agency for International Development (AID). The reports are to cover the periods January 1 - June 30, and July 1 - December 31; they are due one month following the reporting period (i.e., February 1 and August 1 of each year).

A. Staff Characteristics

1. Please describe those professional and support staff members permanently employed by the organization whose salaries were supported at least one-quarter time by the institutional support grant during the past six months.

<u>Name</u>	<u>Position Title</u>	<u>Average Hours Per Week Supported by Grant</u>
(a) Samuel Bunker	Administrator IPD	19 Hrs.
(b) Thomas Quirk	Asst. Admin. Finance & Contracts	13
(c) James Cudney	Asst. Admin. Program Development	26
(d) George Doud	Regional Admin. Middle East and Africa	20
(e) Philip Costas	Asst. Admin. Economic Analysis & Evaluations	18
(f) James Lay	Regional Admin. for Latin America & Caribbean	34
(g) Edward Gaither	Regional Admin. Asia & Pacific	10
(h) Leeto Mach	Secretary	20
(i) Loyse Francois	Secretary	14
(j) Marlene Karletta	Secretary Translator	27
(k) Marie Lang	Secretary Translator	23
(l) Vallarie Harper	Word Processor Specialist	12
(1) (m) Martha Halidou	Secretary	22
(2) (n) Jessica Putnam	Temporary Word Processor Specialist	13

- (1) Replacement for Loyse Francois
 (2) Replacenment for Vallarie Harper

2. Please describe those persons employed through the grant on short-term consultancies during the past six months.

<u>Name</u>	<u>No. of Days Employed</u>	<u>Brief Job Description</u>
(a) William Irelan	31	21 days - Core Grant 10 days - Training Catalog Preparation
<u>Short-term Specialists</u>		
(b) Jose Rodriguez	12	Assignment in Dominican Republic
(c) Leonard Rogers	15	Assignment in Dominican Republic
(d) Philip Savoie	12	Assignment in Haiti
(e) Ashley Lyman	11	Assignment in Haiti

3. For those professional staff members permanently employed by the organization who were supported for at least quarter time by the grant, please attach to this form brief descriptions of their professional backgrounds and actual job responsibilities (if a currently applicable version is not on file with AID). Try to limit these descriptions to one page per person, and please do not include full resumes.

Brief descriptions of the background of members of the professional staff were filed with the report of July 1982.

4. How many grant or contract proposals (applications or substantive amendments) for international development projects have been submitted by your organization in the past six months ...*
- | | |
|--|----------|
| (a) For AID-supported cooperative projects? | <u>2</u> |
| (b) For other AID-supported projects (i.e., not cooperative)? | <u>1</u> |
| (c) For cooperative projects supported by other organizations? | <u>1</u> |
| (d) For other projects supported by other organizations (i.e., not cooperative)? | <u>2</u> |

Note: The AID RFP for rural electrification in Pakistan (RFP-391-0473-001) was issued on May 9, 1983. The term of the proposed project is five years. NRECA is preparing a response to this proposal.

*Include all proposals prepared by the organizational unit receiving the AID institutional support grant (e.g., CLUSA International Development, NRECA international office, all of ACDI, etc.), not just those proposals developed using institutional support grant funds.

5. Please describe all your overseas projects which were operational in the past six months, including new grants or contracts received. List ongoing projects first, then new grants/contracts received. (Treat amendments which substantially expand project time, resources or scope as new grants/contracts). All IQC work orders and cooperative-to-cooperative grants should be included.

Country/Region	Term of Grant/ Contract 19__ - 19__ & Type of Grant/ Contract (OPG, IQC, etc.)	Brief Description/Program (One Sentence)	Source & Dollar Amount*			Check (✓) if Cooperative Develop. Is**		
			\$ From AID	\$ From Host Country	\$ From Other Sources	A Prime Objective	A Secondary Objective	Not An Explicit Objective
1. Indonesia	1978-1984 AID Contract	Rural Electrification Implementation (Central Java and 3 outer island sites)	234,875			X		
2. Bangladesh	1978-1984 Host Country AID Funded	National Program of Cooperative Rural Electrification	628,848			X		
3. Yemen Arab Republic	1979-1984 Host Country World Bank funded	Rural Electrification Design & Supervision of Construction			178,536			X
4. Egypt	1979-1983 Host Country World Bank Funded	To assist the Egyptian Electri- city Authority to carry out a reorganization of the distribu- tion of the electric power sec- tor in Egypt.			131,403			X
5. Global Small Hydro	1980-1983 Cooperative Agreement AID	To assist AID field missions and LDCs in the identification, design and implementation of small scale, decentralized hydro- power projects.	350,746				X	
6. General Support Grant	1978-1983	To provide support to the central planning and management functions of NRECA/IPD.	156,574			X		
7. Development Education (Bidden-Pell) Grant	1982-1983		5,542			X		

*Dollar amounts should reflect actual project expenditures in U.S. dollars during the six-month period. Only expenditures which are administratively controlled by the grantee organization should be listed.

**Cooperative Development projects include among their explicit objectives: establishing new cooperative institutions, strengthening existing cooperative institutions, or helping to define cooperative policy; they may include other objectives as well.

5. Please describe all your overseas projects which were operational in the past six months, including new grants or contracts received. List ongoing projects first, then new grants/contracts received. (Treat amendments which substantially expand project time, resources or scope as new grants/contracts). All IQC work orders and cooperative-to-cooperative grants should be included.

Country/Region	Term of Grant/ Contract 19__ - 19__ & Type of Grant/ Contract (ORG, IQC, etc.)	Brief Description/Program (One Sentence)	Source & Dollar Amount*			Check (✓) If Cooperative Develop. Is**		
			\$ From AID	\$ From Host Country	\$ From Other Sources	A. Primo Objective	A. Secondary Objective	Not An Explicit Objective
8. Indefinite Quantity Contract - Costa Rica	WO #2	Rural Electrification Study			13,905	X		
9. Bangladesh Commodities	1982-1983	Purchase of laboratory equipment for pole treating plant in Bangladesh	7,485					
10. Malaysia	1983	Assessment of small hydro devel- opment plans.		13,217				
11. Core Support Grant	April 1983 - March 1986	To provide support to the central planning and management functions of NRECA/IPD.	126,998			X		
12. Western SAMOA	1983 UNDP	Assessment of electric power project development			6,220			
13. Peru Invitational Travel		Cooperative Assessment			2,236	X		
14. Philippines	1983 Asian Devel- opment Bank	Special Study			3,205	X		

*Dollar amounts should reflect actual project expenditures in U.S. dollars during the six-month period. Only expenditures which are administratively controlled by the grantee organization should be listed.

**Cooperative Development projects include among their explicit objectives: establishing new cooperative institutions, strengthening existing cooperative institutions, or helping to define cooperative policy; they may include other objectives as well.

6. Please describe each of the project identified in Item 5 in terms of objectives, intervention strategies, and content areas. (Check all that are appropriate).

Project No. *	OBJECTIVE				INTERVENT. STRAT.				CONTENT AREA								
	Establish New Coop. Instit.	Strengthening Existing Cooperative Instit.	Help Define Coop. Policy	Other: Non-Coop. Policy	Training	Technical Assistance	Capital Assistance	Financial Assistance	Housing	Electrification	Agricultural Marketing	Agricultural Supply	Agricultural Production	Consumer Credit	Small Enterprise/Small Business Credit	Handicrafts	Other Consumer Cooperatives
1. Indo	X	X	X		X	X			X								
2. Bang	X		X		X	X			X								
3. YAR				X					X								
4. Egypt				X	X	X			X								
5. SDH				X	X	X			X								
6. Gen.	X	X	X	X	X	X			X								
7. Dev. Ed									X		X						
8. IQC C.R.	X		X			X			X								

*Use the number designation from Item 5.

Please describe each of the project identified in Item 5 in terms of objectives, intervention strategies, and content areas. (Check all that are appropriate).

Project No.*	OBJECTIVE				INTERVENT. STRAT.				CONTENT AREA								
	Establish New Coop. Instit.	Strengthening Existing Cooperative Instit.	Help Define Coop. Policy	Other: Non-Coop. Related	Training	Technical Assistance	Capital Assistance	Financial Assistance	Housing	Electrification	Agricultural Marketing	Agricultural Supply	Agricultural Production	Consumer Credit	Small Enterprise Business Credit	Handicrafts	Other Consumer Cooperatives
9. Bang.								X									
10. Mala.				X		X		X									
11. Gen.	X	X	X	X	X	X		X									
12. Samoa				X		X		X									
13. Peru			X			X		X									
14. Phil.		X	X			X		X									

*Use the number designation from Item 5.

Item 7

Please describe in what ways, if any, your organization is attempting to use, or is presently using P.L. 480 receipts in overseas projects. Describe the amount of P.L. 480 receipts used, if applicable.

Although we have made inquiries in Bangladesh and in several countries in the Caribbean in the past several months, we have not identified the availability of any P.L. 480 funds.

It is our understanding that the large rural electrification project being proposed for Pakistan would utilize local currency as a major element of local support.

Item 8

Cooperative Projects' Beneficiary Information

NRECA field advisory consultancy services continue to be provided to two overseas rural electrification programs where a cooperative development component is included in project design. The projects are found in Bangladesh and in Indonesia. As indicated in Items 4 and 5, concerted effort has been made through NRECA contract activity and pre-feasibility studies to initiate new NRECA rural electrification cooperative projects in Costa Rica, Haiti, the Dominican Republic, the Philippines and India during the past six months.

Bangladesh

Presently, there are thirteen operating rural electric cooperatives in Bangladesh. Foreign exchange funding for construction and technical assistance to program development for these systems has been provided by USAID. Another additional group of twenty cooperative rural electrification projects are currently being developed. USAID has provided funds for commodity purchases for four of these projects, and technical assistance services to all twenty. Commodity purchases for the remaining projects are being provided by the World Bank, the Kuwait Fund and the Asian Development Bank.

Beneficiary data on the initial thirteen cooperatives are found in Figures 8-1 and 8-2. As of May 1983, 64,354 consumers were receiving electric

service from the cooperatives, including direct electric service to approximately 150,000 rural area family dwellings, and over 2,000 agricultural enterprises and farm irrigation users.

Consumer service connections increased 63,7% (53,990 families) during the November 1982-May 1983, six-month period. Over 1,500 new farm irrigation facilities were initially served during this six-month period, the predominance of which were not served by diesel pump set irrigation facilities previously. These statistics indicate that significant economic impact continues to be made in Bangladesh, through implementation of the cooperative rural electrification program.

Indonesia

USAID is funding the development of ten electrification projects in Indonesia. Three of the projects are rural electrification cooperatives located on the outer islands. The remaining seven projects are rural electrification district projects managed by the Indonesian State Electricity Company (PLN), located in Central Java. The cooperatives own their power generators, which serve cooperative members. The PLN projects receive power from the high voltage transmission grid criss-crossing Central Java.

Beneficiary data on the three electric cooperatives are found on Figure 8-3. Service connections have remained rather stable over the past six-

month period. This is due to limited generation capacity available during the past six-months. Even though connection levels have remained limited, the data indicate that a greater proportion of power available is being used for agricultural and social use, rather than for home lighting consumptive purposes. This is indicated by additional numbers of agro/industrial consumers, schools and public lights being served.

Over the next six-month period consumer connections should increase dramatically as the result of system expansion construction taking place currently. 850Kw. of new generation capacity will be added at the Lampung cooperative. 400Kw. of new generation capacity will be added to the Lombok and Luwu projects. At year-end consumer connections at the three cooperatives are expected to double. With such increase in project scale, project impact is expected to increase greatly, especially in the small scale and commerce industries sectors.

BANGLADESH RURAL ELECTRIFICATION COOPERATIVE PROJECTS' CONSUMER CONNECTIONS
OVER A SIX-MONTH PERIOD

COOP PROJECT NAME	CONNECTIONS AS OF			NET CONSUMERS CONNECTED	6-MONTH GROWTH RATE	NEW FAMILIES SERVED (EST.)
	NOVEMBER 1982	MARCH 1983	MAY 1983			
DHAKA-I	9,200	11,046	12,194	2,994	32.5%	6,357
COMMILLA-I	5,791	7,493	7,959	2,168	37.4%	4,682
COMMILLA-II	2,444	3,821	4,241	1,797	73.5%	3,880
TANGAIL	1,480	3,099	3,423	1,943	131.3%	4,196
SYLHET-I	578	967	1,177	599	103.6%	1,293
SYLHET-II	2,979	3,969	4,285	1,306	43.8%	2,820
JESSORE-I	1,844	4,275	5,392	3,548	192.4%	7,662
JESSORE-II	4,032	7,406	7,124	3,092	76.7%	6,677
PABNA-I	354	1,183	1,551	1,197	338.1%	2,585
PABNA-II	1,056	1,325	1,518	462	43.8%	998
PABNA-III	3,528	5,558	6,120	2,592	73.5%	5,597
RAJSHAHI-I	3,419	4,604	5,122	1,703	49.8%	3,678
RAHSHAHI-II	2,601	3,854	4,252	1,651	63.5%	3,565
TOTALS	<u>39,306</u>	<u>58,600</u>	<u>64,358</u>	<u>25,052</u>	<u>63.7%</u>	<u>53,990</u>

SOURCE: RURAL ELECTRIFICATION BOARD, BANGLADESH

BANGLADESH RURAL ELECTRIFICATION COOPERATIVE PROJECTS

STATISTICS OF SERVICE CONNECTIONS

(UP TO MARCH 1983)

Name of Cooperative	Residential Meters (Families enjoying electric connection)	Agricultural	Industrial & Commercial	Others	Total
Dhaka-I	10314 (25,785)	422	227	83	11046
Comilla-I	6615 (16,537)	159	685	34	7493
Comilla-II	2898 (7,254)	88	823	12	3821
Sylhet-I	875 (2,187)	4	76	12	967
Sylhet-II	3901 (9,752)	24	25	19	3969
Tangail-I	2666 (6,665)	200	215	18	3099
Rajshahi-I	3625 (9,062)	251	682	46	4604
Rajshahi-II	3642 (9,105)	63	96	53	3854
Pabna-I	794 (1,985)	14	355	20	1183
Pabna-II	1202 (3,005)	35	81	7	1325
Pabna-III	5074 (12,685)	330	75	79	5558
Jessore-I	4038 (10,095)	143	71	23	4275
Jessore-II	4973 (12,432)	132	2210	91	7406
TOTALS	50617 (126,542)	1865*	5621	497	58600

*1,482 of which comprise connections for irrigation pumping. Approximately 300 irrigation pumps were connected during March 1982.

SOURCE: RURAL ELECTRIFICATION BOARD, BANGLADESH

INDONESIAN RURAL ELECTRIFICATION COOPERATIVE PROJECTS¹⁾

PROFILE OF SERVICE CONNECTIONS

(AS OF JUNE 1983)

COOP LOCATION	SERVICES					TOTAL SERVICES
	RESIDENTIAL/ COMMERCIAL	AGRO/ INDUSTRIAL	SCHOOLS/ HEALTH FAC.	MOSQUES	PUBLIC LIGHTS	
LAMPUNG	1,418	6	3	13	25	1,465
LOMBAK	1,939	11	10	20	42	2,022
LUWU	702	3	3	8	45	761
SUMS (6/83)	4,059	20	16	41	112	4,248 ³⁾
SUMS (11/82)	4,036 ²⁾	15	12	38	43	4,144

1) Excludes services to seven additional rural electrification projects funded by USAID located in Central Java, where over 9,500 services have been provided to date. Project receive grid power.

2) Drop in connections due to more stringent collection policies being implemented, particularly at Lombok.

3) Connections presently limited due to generation constraints at coop localities.

SOURCE: NRECA INDONESIAN FIELD TEAM

Item 9

Project Beneficiary Data Collection Activity

NRECA staff continue to supervise and participate in a number of on-going activities related to the collection and synthesis of data relating to the economic circumstances of rural electrification project beneficiaries.

ADB Rural Electrification Survey to Member Countries

As example, Mr. Costas of the NRECA staff is an advisor to this study sponsored by ADB. At ADB expense he traveled to Manila in February to work with ADB staff and consultants in drafting the design, implementation plan and field documents to undertake the survey. Also, he has been coordinating ADB survey collection matters with NRECA field staff in Bangladesh and Indonesia. Comprehensive beneficiary data on the rural electrification programs in Bangladesh, Indonesia, the Philippines, Malaysia, India, Pakistan and Thailand is presently being collected. This data will be stored by ADB with other donor organizations, including USAID, at survey completions, estimated to be at year-end.

Provincial/Beneficiary Electrification Authority (PEA), Thailand Data Collection System

At the ADB meeting a PEA official invited Mr. Costas to visit PEA offices to critically review PEA's beneficiary data collection system, instituted five years ago. The methodology and survey results of this data system were shared with NRECA, and through NRECA is being shared with researchers,

country rural electrification officials, USAID and other donor organizations. The methodological approach was specifically reviewed and shared with USAID/Dhaka and REB officials in Bangladesh, as a possible approach to incorporate in that country's rural electrification project monitoring system.

Bangladesh Rural Electrification Program Data Collection

During March NRECA Washington staff met with REB officials, USAID/mission staff and NRECA field staff to review rural electrification program baseline data collection activity in Bangladesh. Agreement was reached to expand the scope of services of the NRECA evaluation field advisor, and the USAID evaluation officer to form this data base into a coherent beneficiary data monitoring system.

Data Sharing of Beneficiary Data

NRECA continues to spend a significant portion of its time, briefing and supplying information to independent researchers and development organizations interested in beneficiary data on rural electrification programs. During the past six months numerous briefings have been held with UN, IBRD, and IAB officials. Information has been supplied to other organizations such as FAO, ILO and UN Habitat. Rural electrification research activity and data are also being maintained and shared with other USAID sponsored organizations, such as RFF and CRC.

Item 10 (a)

Cooperative-to-Cooperative Activities

The linking of cooperatives between the U.S. and Latin America in the sister cooperative activity is as follows: (1) Adams Electric Cooperative of Gettysburg, Pennsylvania has been linked with the Rural Electric Cooperatives of San Carlos, Ciudad Quesada, Costa Rica. Todd-Wadena Electric Cooperative of Wadena, Minnesota has been linked with the Rural Electric Cooperative of Chillan, Chile. (2) Talca Rural Electric Cooperative of Talca, Chile has requested a sister cooperative and the Agralite (Electric) Cooperative of Benson, Minnesota has agreed to become the sister cooperative. Final matching is in process. (3) The National Federation of Electric Cooperatives (FENACOPEL) of Chile has requested to become the sister cooperative of the State-Wide Association, Texas Electric Cooperatives, Inc., of Austin, Texas. The Rural Electric Cooperative of Los Santos of San Marcos de Tarrazu has requested to become the sister cooperative of San Bernard Electric Cooperative of Belleville, Texas. The process of matching is now taking place. (4) The Kit Carson Electric Cooperative of Taos, New Mexico has requested a sister cooperative and the selection process is now taking place.

NRECA continues to make efforts to advance the development of federations of cooperatives and to improve their contacts with U.S. organizations. We continue to work with the Organization of American Cooperatives of Electricity (OACE) in the American Hemisphere and with the Federations of Electric Cooperatives of the Philippines (FECOPHIL).

Item 10 (b)

Visits to Rural Electric Cooperatives - Training in the United States

During the reporting period, NRECA in cooperation with the U.S. Department of Agriculture conducted a six-week course entitled "The Organization and Operation of Rural Electric Systems." Seven officials from six different countries participated in the course this year. A management seminar was held at the Adams Electric Cooperative, Gettysburg, Pennsylvania, utilizing their training facilities. The trainees also split into two groups for a two-week period and each of the two groups visited a rural electric cooperative for a week and then moved on to a second rural electric cooperative for additional training. Thus, five member rural electric systems of NRECA participated in this training effort.

The NRECA/University of Missouri-Rolla Training Program entitled "Modern Computer Aided Distribution Practices" started on June 28, 1983. Thirteen participants from nine different countries reported to NRECA on June 28 to begin the training program. This formal training program includes one week of practical training at the Blue Ridge Electric Cooperative at Lenoir, North Carolina before moving on to the University of Missouri campus at Rolla, Missouri.

Item 10 (c)

Mobilization of Human Resources

At the request of the State-wide Federation of Electric Cooperatives of the State of Ceara, Bolivia, NRECA, working through the Volunteer Development Corps, recruited and helped orientate one Senior Management Specialist and one Senior Rural Electrification Engineer for a three-month assignment to the State of Ceara to give assistance and training in management practices and operating and maintenance and train federation staff in coop education techniques and electricity use. The federation serves 13 member coops, with 15,000 user members over a network of some 6,000 kilometers of line.

The NRECA helped recruit a job training and safety specialist for assignment to the rural electric cooperative of Santa Cruz, Bolivia through the Volunteer Development Corps. The Volunteer Specialist will assist, for a period of three months, in the training of Hot Line workers in this 65,000 member cooperative.

The NRECA also helped to recruit a rural telephone specialist to assist the telephone cooperative in Santa Cruz, Bolivia in the training of its crews, who will also be assigned to work for up to three months through the Volunteer Development Corps.

Contribution of Materials

During the reporting period the Wright-Hennepin Cooperative Electric Association of Maple Lake, Minnesota has offered to donate approximately 250 four dial meters to overseas cooperatives. NRECA is circulating

this offer to cooperatives in countries which use the same voltages as the United States.

The Arkansas Electric Cooperatives, Inc., the Statewide Association of 18 distribution cooperatives, has offered to send excess materials to cooperatives in Latin America. Mr. Leon Evans, a former NRECA staff member, is coordinating this effort for IPD and there is a high probability that these materials will be sent to rural electric cooperatives in the Province of Santa Cruz, Bolivia.

Item 11

Approximately what is the dollar equivalent of the human and financial assistance which has been received for your organization's international activities from U.S. cooperatives and their members in the past six months?

- (a) Financial contributions \$ _____
- (b) Value of In-Kind* contributions (Approx.): \$ 25,000
- (c) Contributions have been received from how many organizations and how many individuals apart from their organizational contributions?

	No. Organizations Contributing	No. Individuals Contributing (Non-organizational)
Dollars	_____	_____
In-Kind	<u> 7 </u>	_____

*The in-kind contribution derives from the participation of member systems of NRECA in the various training activities that were carried out during the first six months of 1983.

1. After the NRECA Annual Meeting in Las Vegas, a group of seminar participants received on-the-job training at the facilities of the Texas Association of Electric Cooperatives at Austin, Texas.
2. As part of the May-June formal training course in the "Organization and Operation of Rural Electric Systems," five different rural electric cooperatives participated in the training of the participants.
3. As part of the UMR/NRECA course in "Modern Computer Aided Distribution System Practices," participants spent a week at the Blue Ridge Electric Cooperative at Lenoir, North Carolina.

These activities represent a significant contribution of time by the managers and staffs of these systems.

Item 12

Overseas Project Monitoring and Performance Evaluation Procedures

No new formal procedures were instituted over the past six months to monitor ongoing overseas project activity. However, monitoring procedures have been reviewed and discussed with advisors returning from overseas tours. General consensus exists that increased levels of counterpart training activity in project monitoring methods would have proven beneficial in past project designs. Special attention therefore has been placed on this matter in developing new technical assistance proposals with USAID.

Item 13

Overseas Project Impact Study Procedures

No new formal procedures were instituted over the past six months to assess the impacts of overseas projects. We continue to concentrate our efforts in utilizing the methods and lessons learned developed during the preparation of our Impact Study of the Rural Electrification Program in the Philippines, as the basis of assisting in the design of other evaluation systems, as is presently being crystalized, for example, in Bangladesh. Meanwhile, NRECA staff also continues to participate in evaluations focused on workshops sponsored by USAID, and exchange evaluation concepts, fundings and methods with other cooperative development organizations.

Item 14

Recent Rural Electrification Impact Evaluation Citations

Two major activities are being undertaken at present relating to the impact of rural electrification programs in developing countries. The first involves the multiple-country survey of rural electrification experience being undertaken by the ADB (see Item 9). The other involves a detailed analysis in book form of rural electrification program benefits and impacts in India and Columbia being conducted by RFF.

Drafts of the latter work have been sent to NRECA for review comments and critique. The analysis is partly funded by USAID/Office of Energy. Chapter 4 of the book is of special interest. It deals with a discussion and analysis of the role that rural electrification plays in developing rural small-scale industries and commerce. The chapter summarizes the important role that "human" capital plays in the establishment of rural business. The study concludes that electrification does appear to stimulate business development above and beyond the level that would have existed without electricity. Copies of the draft report can be made available by contacting Dr. Doug Barnes at RFF.

Cited below is an article concerning rural electrification impacts in Bangladesh, found in the Rural Electrification Board (REB), Bangladesh Newsletter of January-March 1983. The REB is the national level lending agency for rural electrification cooperatives in Bangladesh.



Rural Electrification: Impact on Industrialisation

Like many other countries in the world, a section of the national planners raised questions on the financial viability of rural electrification programme in Bangladesh. The principal fear was whether only a few domestic consumers in the rural areas would be able to support the programme financially. They were not at all optimistic about any major impact on the growth of small or medium scale industries. The project was, therefore, launched as a pilot or experimental scheme.

At the time of membership drive in the newly organised Rural Electric Societies, some very interesting statistics came up. In the first place, due to cautions from many circles, the initial house-hold sign-up was predicted in the project papers to be around 15%. But actual sign-up recorded was almost 40%. The rural people of Bangladesh were already development-oriented and it cost little effort to motivate them for taking electric connections; rather they came forward with all out cooperation to electrify their villages early. Numbers of potential small industrial and irrigational consumers also showed considerably higher than what the planners initially thought. And soon the plan was modified and connection target was refixed at almost double the number of original estimates. And when the engineers went out in the field to stake the distribution lines potential industrial and irrigational consumers still turned out to be more than the revised estimates by almost 45% (1300 as against the revised estimate of 900). And when sections of distribution lines began to be energized the actual numbers of industries established still crossed the numbers of industrial consumers staked (within the span of 3000 miles up to Dec. 82 total number of industrial consumers staked was 720 where already 856 have been connected and many more are coming up). It means that even those who did not sign-up earlier, planned and

set up small industries when the line was energized. Another aspect of industrial connection is that at the time of planning except the tea gardens of Sylhet RES-I and Shlhet RES-II in rest of the 11 RESs only one large industry was thought about. But now, many of the energized Rural Electric Societies have more than one large industries or bulk consumers such as cold storage. Principal reasons for growth of industries in the rural areas are comparatively cheaper cost of land; government patronisation through tax holidays and custom concessions for imported capital goods and obviously availability of adequate and reliable supply of power through Rural Electric Societies.

Consumption Pattern

A study reveals that the total sales of energy in the 12 energized RESs during 1982 calender year was 22,425 mwh. Out of this house hold consumers shared 7790 mwh, irrigational sector consumed 3540 mwh and the industrial sector used 10890 mwh; thus their respective share of consumption being house hold 34.74%, irrigation 15.80% and industries 48.66% other uses (schools hospitals etc) being 0.80% bringing the total (direct) productive uses to 65.26%. This definitely sorts out some initial doubts about productive uses of electricity in the rural areas and indicates some bright prospects for the rural electrification programme in Bangladesh.

Taken from: REB Newsletter/Jan-Mar 1983.