

PD-AAN-840

RURAL ELECTRIFICATION PROJECTS

I N D O N E S I A

NRECA TEAM REPORT

P L N

INDONESIA

(JUNE - AUGUST 1983)



NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

JAKARTA, INDONESIA

R E P O R T

NRECA INDONESIAN TEAM REPORT

UNITED STATES AGENCY FOR
INTERNATIONAL DEVELOPMENT

Contract No. AID/ASIA C1347

Loan No. 497-T-052

IMPLEMENTING AGENCIES:

DIREKTORAT JENDERAL BINA USAHA KOPERASI
Directorate General of Cooperatives Structure Development

PERUSAHAAN UMUM LISTRIK NEGARA
National Electric Power Agency

CONSULTANTS:

National Rural Electric Cooperative Association
Management, Organization and Training

C.T. Main International, Inc.
Architect and Engineering

11

TABLE OF CONTENTS

Description & Objectives of the Project	. . . . .	1
NRECA Team	. . . . .	2
Map of Central Java	. . . . .	3
Central Java Activities	. . . . .	4-7
Klaten RE Demonstration Project Statistics	. . . . .	8
Central Java RE Billing Statistics (June & July)	. . . . .	9-10
Pictures	. . . . .	11-12
Organization Management Training Progress Schedule	. . . . .	13
Summary of NRECA Expenditures	. . . . .	14
Person-months Information	. . . . .	15

111

I. DESCRIPTION AND OBJECTIVES OF PROJECT (PLN)

The Government of Indonesia is vitally interested in the electrification of rural Indonesia, and has taken steps with the assistance of the United States Government (USAID) to implement pilot rural electrification programs. Fewer than 1% of the rural people in Indonesia presently enjoy the benefits of electric service. Rural electrification is essential in developing the wealth of forest and agricultural land, minerals, and water resources. The "area coverage" concept of electrification will bring better living conditions to millions of rural residents and will spread benefits to all of Indonesia.

Ten Pilot Rural Electrification Project areas have been selected. Seven of the projects are in Central Java and are to be constructed and developed by the state owned national power company (PLN) who will own and operate these systems. The source of power for these systems will be the existing PLN transmission grid in Central Java.

The National Rural Electric Cooperative Association through their International Programs Division is serving as consultant to PLN in organization, management and technical areas. Services for PLN includes providing assistance in organization of staffs to operate the systems in Central Java, as well as in cost accounting, O&M methods, housewiring and training.

SEVEN PLN PROJECTS

<u>SERVICE AREA</u>	<u>VILLAGES TO BE SERVED</u>	<u>APPROXIMATE NO. OF CONNECTIONS</u>	<u>ESTIMATED NO. OF RECEIPIENTS</u>
Klaten	95	25,000	225,000
Pem/Pek	103	20,000	180,000
Bantul	21	20,000	180,000
Wonogiri	54	15,000	135,000
Sragen	49	15,000	135,000
Magelang	83	20,000	180,000
Banyumas	35	15,000	135,000
TOTALS	440	130,000	1,170,000

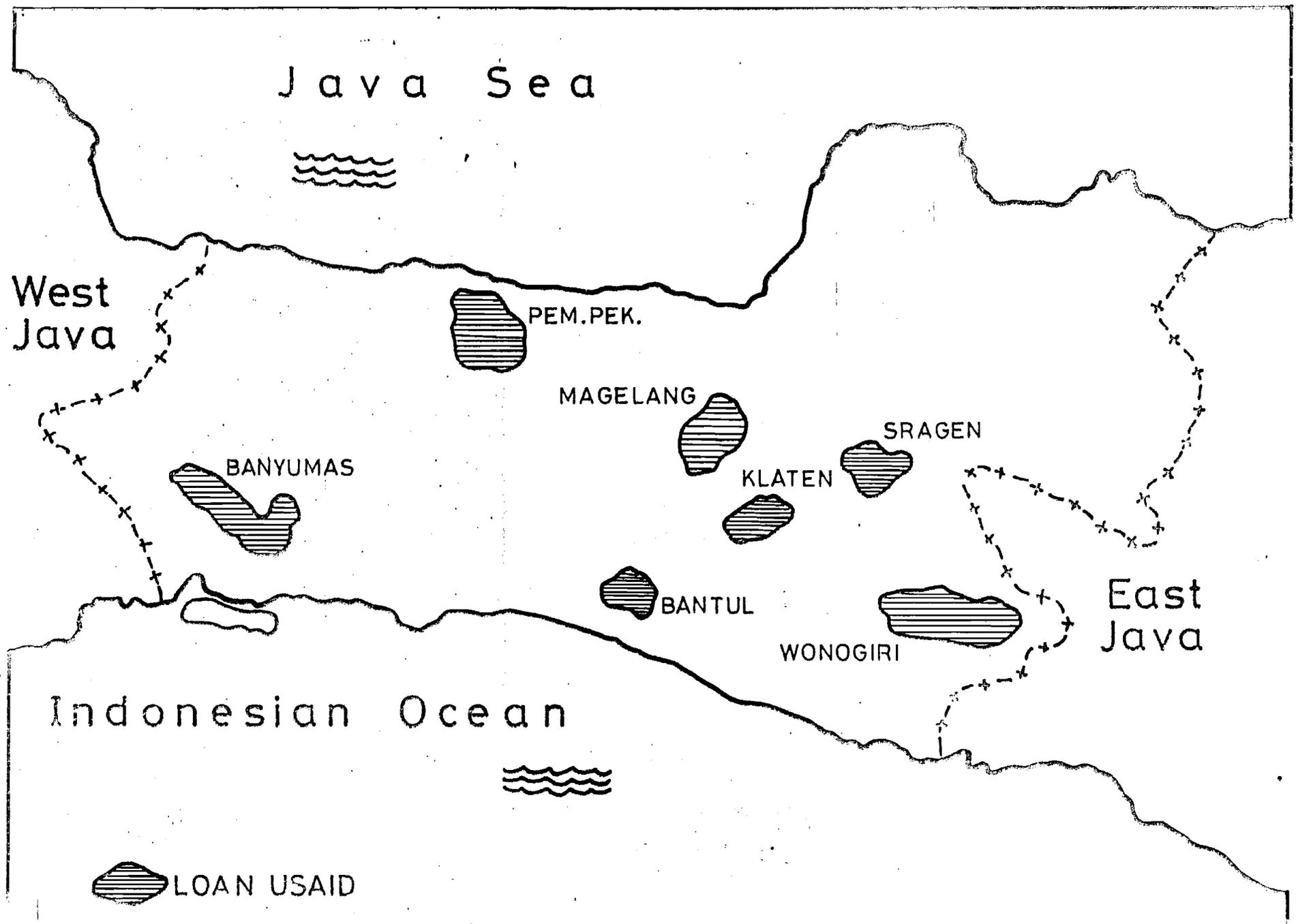
The above tabulations are estimates for the end of the third year of commercial operation.

The personnel which NRECA is furnishing for the performance of this contract are as follows :

<u>NAME</u>	<u>TITLE</u>	<u>ADDRESS</u>
Ray Shoff	Team Leader/ Administrative/ Finance Officer	Ratu Plaza Apartment #1002 Jl. Jenderal Sudirman PH : 712209 ext. 2015
Louie Sansing	RE Project Advisor & PDO/Cooperative Training Coordinator	Jl. Galuh I/4A Kebayoran Baru PH : 735478
* Sam Adkins	PLN Project Advisor, Central Java, and REC Project Advisor	c/o C.T. Main Inc. Box. 26 Semarang PH : 024-312701

* Position vacated July 31, 1983

CENTRAL JAVA



 LOAN USAID

3

CENTRAL JAVA ACTIVITIES

I. GENERAL

Mr. Sam Adkins, NRECA Team Consultant for PLN, completed his assignment on July 31st, 1983, and returned to the United States. Mr. Adkins served in his Central position since March of 1979.

Only two NRECA Team members remain in Indonesia :

Mr. Louie Sansing, training officer; and Mr. Ray Shoff, Team Leader and administrative/finance officer, both based in Jakarta.

The team has an office at the PLN Rural Electrification Department in Jakarta, and has retained the office used by Mr. Adkins at PLN - Central Java. NRECA staff has started regular visits to Central Java, and will continue fulfilling their responsibility to PLN until the NRECA/USAID contract terminates in 1984.

II. PLN - R.E. Central Java Activities

The Construction Division of PLN in Central Java (P.I.Ring.) continued to install distribution lines in the seven project areas during this reporting period. By the end of August, 45,000 poles had been set, out of a total of approximately 69,000 required for the seven projects.

Transfer of materials for the housewiring/service entrances continued from P. I. Ring. warehouse in Semarang to the project headquarters sites. Much of the transfer activity was to the Purwokerto project this period, since warehouse facilities were just recently made available at this project.

There was no substantial increase in consumer connection levels this period, due primarily to logistics problems. By the end of August, about 15,000 consumers had been connected out of the 130,000 estimated potential.

III. NRECA - PLN Activities

In addition to the daily contacts with PLN officials in Semarang, NRECA team members visited the Pemalang project on two occasions (Housewiring training was in progress).

Mr. Adkins was at PLN-RE Pusat twice for meetings on overseas-training planning. Mr. Shoff traveled to Central Java to work with PLN staff on three separate trips.

The NRECA counterpart from PLN in Central Java, Mr. Butar-Butar, continues to provide valuable assistance in the RE program. This was an especially important period for him since he worked closely with Mr. Adkins, prior to Mr. Adkins departure, and with Mr. Shoff during his trips to Central Java.

IV. TRAINING

PLN Distribution Central Java began housewiring training in the Rural Electrification Project Areas of Central Java. Participants are contract workers selected by the KUD (community cooperative) in each of the Kecamatans. Instructors for this phase of the PLN-RE Program are employees from the PLN Distribution Central Java, Branch Technical Sections.

Responsibility for wiring the individual houses in each Project area will be contracted to the KUD's. PLN Distribution Central Java will Coordinate and Supervise the housewiring program. PLN will also provide the necessary hand tools for this activity on a "loan basis" to the KUD.

As of the end of the reporting period, eighteen (18) PLN RE Training Sessions have been completed involving 436 participants. The training which PLN Central Java is recently conducting (housewiring training) will, during the period of the RE Project, involve approx. 325 workers from the local areas of the RE Projects.

V. PLN RURAL ELECTRIFICATION DEMONSTRATION PROJECT

In May, 1979, PLN made electric service available to the villages of Jonggrangan, Karangnom, and Gergunung as a Demonstration Project. These villages are located within the Klaten RE Project area, one of the locations that make up the PLN-USAID RE Program in Central Java.

At the close of July, 1983, the Demonstration Project was serving 2199 customers. Each customer consumed an average of 48 KWH for the month. The average KWH per customer per month for the year 1982 was 45. The average for the first 7 months of 1983 is 50 KWH per month. (Statistics are on page 8)

Statistical data from the Klaten Demonstration project has been very useful in RE planning, not only in Indonesia but for RE planners in neighboring countries. As the seven projects develop, four of these will be monitored as total RE projects.

Monthly financial & statistical reports will be prepared for use by PLN, lending agencies, and other interested agencies.

VI. REPORT SUMMARY

The PLN/USAID Rural Electrification program in Central Java is at a turning point. After long delays in the start of construction, caused primarily by the time-frame for material/equipment procurement, there is convincing evidence that PLN is building-up for a massive construction program.

Although only 12 % of the projected 3rd operating year customer potential are now connected in the RE projects, this percentage will change rapidly. About 65 % of the poles are already set. PLN construction crews are located at each site. Plans are being formulated for the use of contractor(s) to supplement PLN construction-crew activity.

Housewiring trainors are on stand-by ready to train additional housewiring installers. PLN Distribution, Central Java, their Semarang headquarters RE staff, and the Branch staff, are prepared for large scale customer sign-up programs.

NRECA visualizes that, by our next reporting period, significant progress will have been made.

KLATEN RE DEMONSTRATION UNIT
BILLING STATISTICS 13 MONTH PERIOD

COLUMN NUMBER									
1	2	3	4	5	6	7	8	9	10
JULY 1982	90,763	2003	45	6,851,790	3421	2439	982	54	75
AUGUST	90,789	2017	45	6,925,820	3433	2436	996	54	76
SEPTEMBER	91,035	2023	45	6,932,821	3427	2430	997	54	76
OCTOBER	89,944	2039	44	6,973,715	3420	2045	1014	54	78
NOVEMBER	81,429	2043	41	6,799,980	3328	2299	1028	56	81
DECEMBER 82	97,623	2057	47	7,370,830	3583	2533	1048	53	76
Jan. 1983	116,113	2057	56	8,109,610	3942	2885	1058	51	70
FEBRUARY	118,870	2062	58	8,286,905	5045	4019	1026	70	88
MARCH	94,206	2069	45	8,966,390	4334	3313	1021	73	95
APRIL	84,399	2074	41	8,486,160	4091	3010	967	74	100
MAY	106,272	2082	51	* STATISTICS	NOT AVAILABLE				
JUNE	111,460	2092	53	* 13,042,165	6234	5505	729	103	117
JULY 1983	105,085	2149	48	9,317,160	4236	3608	789	73	87

COLUMN NUMBER :

- | | |
|-----------------------------|--|
| 1. MONTH | 6. AVERAGE RUPIAH PER CUSTOMER (TOTAL) |
| 2. TOTAL KWH BILLED | 7. AVERAGE ENERGY CHARGE PER CUSTOMER |
| 3. TOTAL CUSTOMERS BILLED | 8. INSTALLATION & HOUSEWIRING CHARGE |
| 4. AVERAGE KWH PER CUSTOMER | 9. COST PER KWH (RUPIAH) ENERGY ONLY |
| 5. TOTAL RUPIAH BILLED | 10. COST PER KWH (RUPIAH) TOTAL |

* COMPUTER PROBLEM, MAY - JUNE PERIOD.

PLN
CENTRAL JAVA RE PROJECTS
BILLING STATISTICS
JUNE - 1983.

1	2	3	4	5	6	7	8	9	10
PEKALONGAN	141.257	2612	54	18.704.440	7160	4029	3128	75	132
KLATEN	327.860	4486	73	28.776.080	6415	4910	1505	67	88
MAGELANG	42.299	1191	35	6.720.250	5642	2676	2965	75	159
WONOGIRI	17.245	322	54	1.651.765	5130	3847	1230	72	96
SRAGEN	146.579	2370	62	11.736.340	4952	4369	531	71	80
PURWOKERTO	22.412	481	46	3.186.755	6625	3426	3198	74	142
BANTUL	155.464	2772	56	14.287.040	5154	4353	689	78	92
TOTAL/AVERAGE	636.714	14.234	45	85.062.670	5976	3944	1892	73	113

Column Number

- | | |
|-----------------------------|--|
| 1. Project | 6. Average Rupiah Per Customer (Total) |
| 2. Total KWH Billed | 7. Average Energy Charge Per Customer |
| 3. Total Customers Billed | 8. Installation & Housewiring Charge |
| 4. Average KWH Per Customer | 9. Cost Per KWH, Energy only (Rupiah) |
| 5. Total Rupiah Billed | 10. Cost Per KWH, Total (Rupiah) |

PLN
CENTRAL JAVA R.E. PROJECTS
BILLING STATISTICS
JULY - 1983

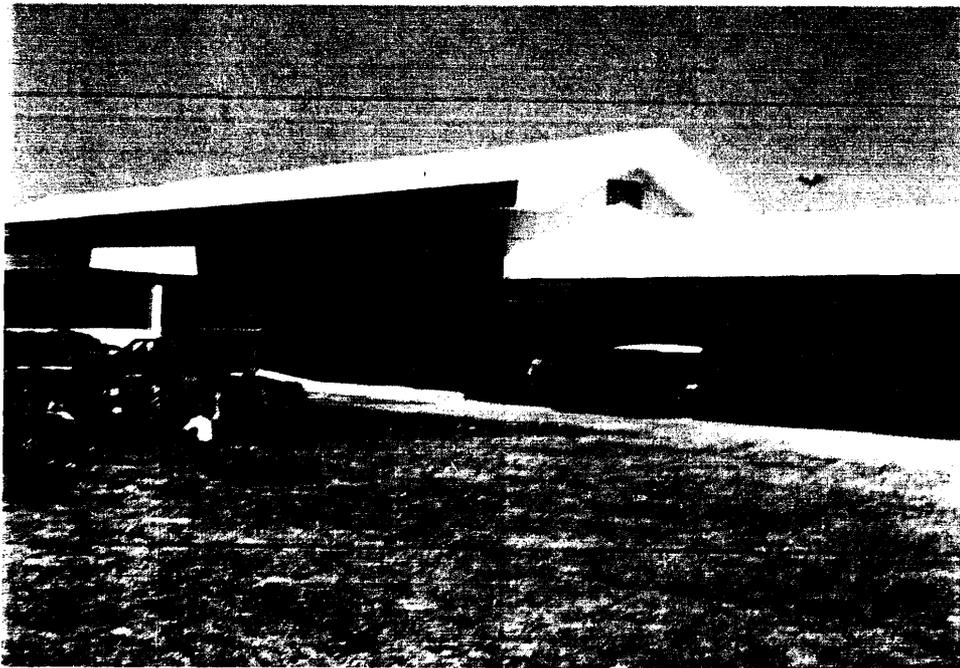
1	2	3	4	5	6	7	8	9	10
PEKALONGAN	158.780	2.656	60	18.569.120	6.991	4.368	2.623	73	117
KLATEN	259.552	4.599	56	24.086.800	5.237	3.976	1.261	70	93
MAGELANG	44.033	1.209	36	5.973.225	4.941	2.731	2.210	75	136
WONOGIRI	35.567	459	77	3.527.855	7.686	5.276	2.410	68	99
SRAGEN	147.806	2.422	61	11.779.450	4.864	4.317	547	71	80
PURWOKERTO	20.582	491	42	2.861.370	5.828	3.650	2.178	87	139
BANTUL	189.331	3.039	62	16.542.095	5.443	4.715	728	76	87
TOTAL / AVERAGE	855.651	14.875	56	83.339.915	5.856	4.148	1.708	74	107

COLUMN NUMBER

- | | |
|-----------------------------------|--|
| 1. Project | 6. Average Rupiah Per Customer (Total) (5:3) |
| 2. Total KWH Billed (A) | 7. Average Energy Charge Per Customer (D:3) |
| 3. Total Customers Billed (B) | 8. Installation & Housewiring Charge (6-7) |
| 4. Average KWH Per Customer (2:3) | 9. Cost Per KWH, Energy only (Rupiah) (D:2) |
| 5. Total Rupiah Billed (C) | 10. Cost Per KWH, Total (Rupiah) (5:2) |

CENTRAL JAVA RE ACTIVITIES

A view of the office Building at the Bantul project headquarters site. (Near Jogjakarta). The left wing is for accounting/administrative activities, and the right wing has offices for the General Manager & Technical department.



A view of the warehouse at the Bantul project. On the left side, housewiring materials, KWH meters, and other service-entrance materials are in storage, under the control of Distribution, Central Java. (Formerly known as Wilayah XIII). On the right side, PLN construction branch, P.I. Ring, maintains offices for primary/secondary line-construction personnel.

CENTRAL JAVA RE ACTIVITIES



Mr. Eddie Slamet (left front) of PLN training department, and Mr. Soemarto Soedirman, (right front) PLN-RE department, conducting an RE training-course "planning session". This session, held at P.I. Ring's conference room, Semarang, was attended by P.I. Ring and Distribution Central-Java personnel plus NRECA staff).



Mr. Butar Butar, (left) material-coordinator and NRECA counterpart, from Distribution Central Java, confers with PLN staff member at the Pemalang (Tegal) RE project headquarters site. (The inside storage area of this warehouse is full of materials procured through the USAID loan).

INDICATES PERIOD OF PERFORMANCE
 INDICATES PERIOD OF EVALUATION

ORGANIZATION, MANAGEMENT
 PLN-RURAL ELECTRI

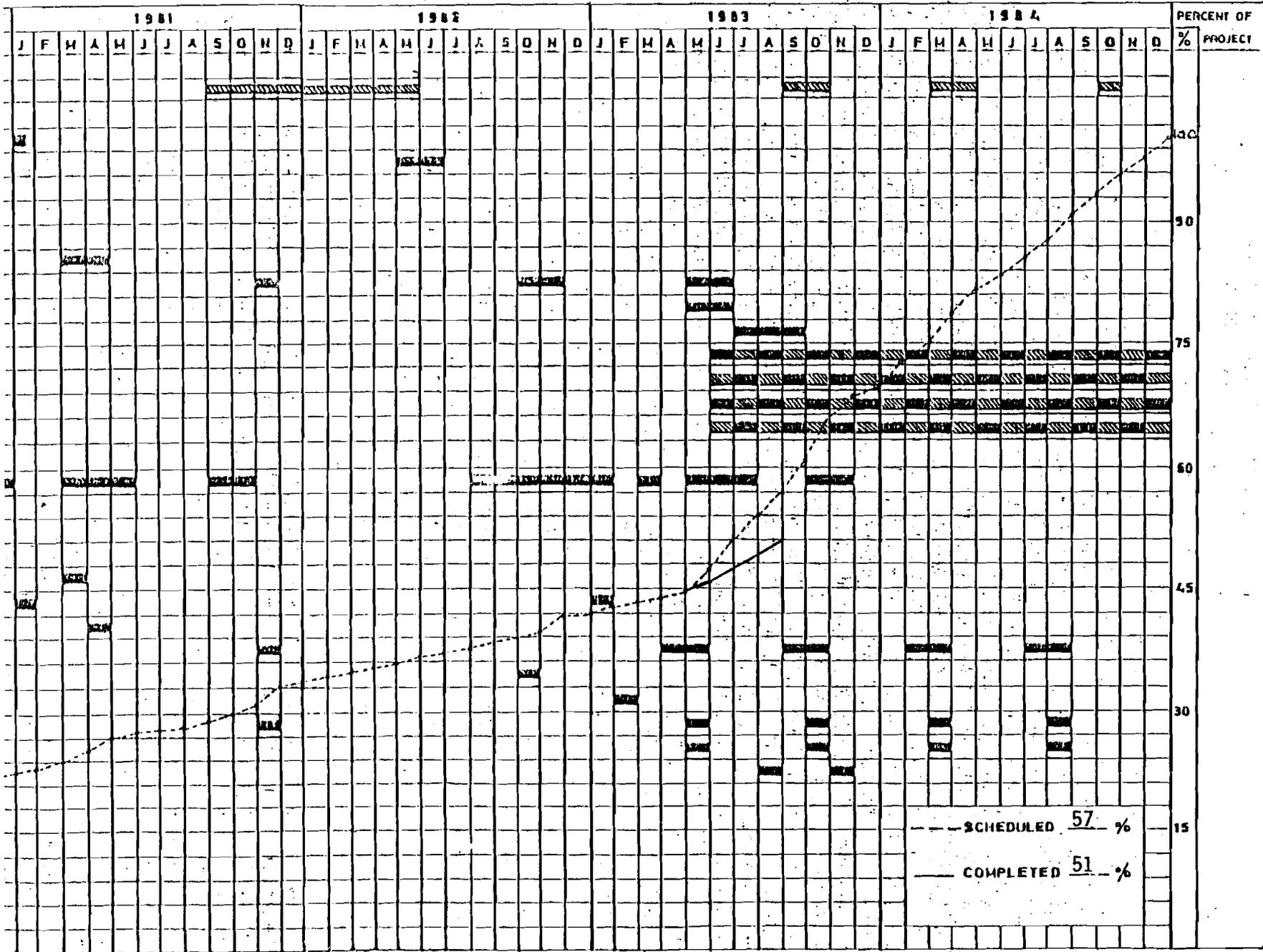
13

DESCRIPTION	1979												1980													
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D		
ORGANIZATION MANAGEMENT	PROJECT IMPLEMENTATION PLAN — PREPARATION	█																								
	MAN POWER REQUIREMENTS CONST. — PLANNING	█																								
	MAN POWER REQUIREMENTS, OPERATING — PLANNING	█																								
	SELECTION OF MANAGEMENT PERSONNEL — ADVISING			█	█																					
	TOOLS, WORK EQUIP. REQUIREMENTS — ADVISING	█																								
	HEADQUARTERS COMPLEX REQUIREMENTS — ADVISING						█																			
	BILLING & ACCOUNTING REQUIREMENTS — PREPARATION						█																			
	HOUSE WIRING & SERVICE DESIGN — PERFORMING													█												
	REPORTING & MONITORING SYSTEMS — PREPARATION																									
	SELECTION HOUSE WIRING PERSONNEL — ADVISING																									
	SELECTION CUSTOMER CONTACT PERSONNEL — ADVISING																									
	SELECTION OPERATING EMPLOYEES — ADVISING																									
	BILLING & ACCOUNTING PROCEDURES — ADVISING																									
	REPORTING & MONITORING — ADVISING																									
	MANAGEMENT OF SYSTEMS — ADVISING																									
OPERATIONS & MAINTENANCE SYSTEMS — ADVISING																										
TRAINING	PREPARATION OF TRAINING MATERIAL & CONTENT																									
	MANAGEMENT PERSONNEL IN COUNTRY																									
	MANAGEMENT PERSONNEL OUT OF COUNTRY																									
	CONSTRUCTION SUPERVISION																									
	ACCOUNTING																									
	MATERIAL & EQUIPMENT LOGISTICS																									
	CONSTRUCTION LINE MAN																									
	CONSTRUCTION ELECTRICIANS																									
	KILO WATT HOUR METERING																									
	ENGINEERING																									
	CUSTOMER CONTACT																									
	METER READING, BILLING & COLLECTING																									
	OPERATION & MAINTENANCE																									

BEST AVAILABLE COPY

MENT & TRAINING - PROGRESS SCHEDULE ECTRIFICATION CENTRAL JAVA

130



BEST AVAILABLE COPY

Summary of Expenditures

National Rural Electrification Cooperative Association
 1800 Massachusetts Ave., N.W.
 Washington, D.C. 20036

AID/ASIA - C 1347
 Date: June 1983
 Period of contract: 8/25/78 - 8/31/83

	Budget	Total Expense To Date	Prior Billings	Current Billings
Salaries - Field	\$ 1,205,000	\$ 1,136,124.14	\$ 1,124,018.88	\$ 12,105.26
Salaries - Home	216,000	198,998.49	195,899.91	3,098.58
Fringe Benefits	448,000	425,115.71	420,145.13	4,970.58
Consultant Fees	34,706	33,906.25	33,906.25	-
Allowances	418,000	357,949.39	355,767.98	2,181.41
Travel and Transportation	396,470	354,936.32	348,866.51	6,069.81
Other Direct Costs	148,824	105,829.53	105,647.01	182.52
Overhead	603,000	565,976.42	559,590.81	6,385.61
Equipment and Materials	30,000	20,739.58	20,739.58	-
TOTAL	\$ 3,500,000	\$ 3,199,575.83	\$ 3,164,582.06	\$ 34,993.77

hl

PERSON-MONTHS BY POSITION, NRECA CONSULTANT TEAM

(Contract as amended March 14, 1983)

POSITION	PRESENTLY FILLED BY	CONTRACT PERSON-MONTHS	EXPENDED THIS PERIOD	EXPENDED THROUGH AUG.'83		PERSON-MONTHS REMAINING	PERCENT OF CONTRACT EXPENDED
				PLN	PDO		
Team Leader (Administrative Finance Officer)	Ray Shoff	69	3	15	44	10	86 %
Senior RE Specialist/ Training Officer	Loufe Sansing	63	3	7	48	8	87 %
***Senior RE Specialist/ PLN - Advisor REC - Advisor	Sam Adkins	53	2	49	4	-	100 %
**RE Specialist Luwu-project Advisor	John DeFoor	47	0	-	47	-	100 %
*Administrative Officer	-	33	0	5.5	27.5	-	100 %
*Lombok Advisor	-	42	0	-	42	-	100 %
*Lampung Advisor	-	46	0	.5	45.5	-	100 %
Short Term Advisors	-	19	0	14	3	2	89 %
Consultants	-	8	0	7.5	.5	-	100 %
		380	8	98.5	261.5	20	95 %

* Positions vacated, July 31, 1982

** Position vacated February 2, 1983

*** Position vacated July 31, 1983