

RURAL ELECTRIFICATION PROJECTS
INDONESIA



NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION
JAKARTA, INDONESIA

NRECA TEAM REPORT
PDO
INDONESIA
(AUGUST & SEPTEMBER 1982)

MONTHLY REPORT

NRECA INDONESIAN TEAM REPORT

UNITED STATES AGENCY FOR
INTERNATIONAL DEVELOPMENT

Contract No. AID/ASIA C1347

Loan No. 497-T-052

IMPLEMENTING AGENCIES:

DIREKTORAT JENDERAL KOPERASI
Directorate General of Cooperatives

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

DESCRIPTION AND OBJECTIVES OF PROJECT (DGC)

The Government of Indonesia (GOI) has initiated a demonstration rural Electrification program which is planned to provide areawide electric power distribution in ten specified areas within the next four or five years. The objective of this program is to demonstrate conclusively that reliable electric service and the social and economic benefits that accrue therefrom can be made available to the very poor people at a price they are able to pay.

Three of the electrical distribution systems will be located on separate islands outside of Java and will be implemented through rural electric cooperatives organized by the Directorate General of Cooperatives (DGC). The National Electric Power Agency (PLN) operates an extensive electric system in Central Java, and is responsible for constructing, operating and maintaining the seven systems located on that island.

The U.S. Agency for International Development (USAID) is assisting the GOI in this demonstration by making available AID grant funds to provide organizational, management and technical advisory services. The National Rural Electric Cooperative Association (NRECA), through its International Programs Division, was contracted by AID to provide these services because of its demonstrated capability and experience in assisting rural electric cooperatives in developing nations throughout the world.

NRECA is working with the two separate agencies charged with implementing the project. Because of the different organization, management, training and experience of these two agencies, the services provided by NRECA differ in scope and location. The services for DGC include complete assistance in the organization of the individual cooperatives; including staffing patterns, job descriptions, cost accounting, O&M methods, training, planning, policies and procedures, housewiring and etc. The NRECA services and progress to date for the seven systems in Central Java are the subject of a separate report.

The three outer island projects are located on Central Lampung (South Sumatra), East Lombok, and Luwu (South Sulawesi) and are to be constructed and developed

by the member-consumers themselves through the organization of rural electric cooperatives. Each cooperative will construct, own operate a diesel generating plant to provide power for the distribution system. (The Canadian Government is assisting with the generating project). A special agency known as the Project Development Office (PDO) under the Directorate General for Cooperatives (DGC) is the GOI implementing agency for the Cooperatives.

The key personnel which NRECA has agreed to furnish 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	REC Project Advisor & PDO/Cooperative Training Coordinator	Ratu Plaza Apartment #1103 Jl. Jenderal Sudirman PH : 712209 ext. 2020
Sam Adkins	PLN Project Advisor, Central Java, and REC Project Advisor	c/o C.T. Main Inc. Box. 26 Semarang PH : 024-312701
John DeFoor	REC Project Advisor, Luwu	KLP Sanabotana Desa Minna - Bone Bone Kabupaten Luwu South Sulawesi

(REC = Rural Electric Cooperative)

LOCATIONS OF PROJECT SITES



NRECA-TEAM ACTIVITIES

I. PREFACE

--- It may be noted on page two of this report that only four persons remain on the NRECA/Indonesia team. Two team members reside in Jakarta, one in Semarang, Central Java, and one in Luwu, South Sulawesi.

In accordance with the terms of the USAID/NRECA Contract-Amendment, finalized this reporting period, the NRECA team will be reduced to two team members by the end of July 1983, and phase-out entirely in May 1984.

With reduced staff-level, and absence of on-site advisors at the Lampung and Lombok REC's, our bi-monthly reports hereafter will be in condensed form.

II. GENERAL

--- During August and September, nine project visitations were made by Jakarta-Semarang NRECA-staff; four man-trips to the Lombok REC; four to the Lampung REC; and one to the Luwu REC to assist the on-site advisor.

--- Our team maintained coordination with staff of co-consultant, C.T. Main, in our Sarinah-Building office facilities. Major areas of coordination were :

- Assistance in determining material/equipment items to be included in the final "catch-all" IFB.
- Review of distribution system labor-contract draft
- Work-procedure publication, material/equipment ordering by REC's
- Power-plant problems in existing plants, REC's
- Material/equipment receiving, REC's
- Office furnishings, REC's headquarters
- Manpower/equipment requirements, distribution system construction
- Agenda items for PDO-RE Coordination meeting

III. PROJECT DEVELOPMENT OFFICE ACTIVITIES

--- NRECA team members prepared agenda items for, and participated in, a coordination meeting held at the PDO-RE office this period. This coordination meeting, the first to be held in 1982, was attended by representatives of USAID-PTE, PDO-RE, C.T. Main, and CIDA.

Major subjects among the 23 agenda items, and action taken, are listed as follows :

1. Material/Equipment Receipt at the REC's

It was reported that the REC's staff are following proper procedures in the receipt of USAID/loan-procured materials/equipment. There are no major problems with the flow of receiving documents.

2. Office Furniture/Equipment procurement

NRECA up-dated a list of suggested items to be included in procurement for REC offices. PDO-RE staff will price these items on the local market to determine a realistic monetary figure for budgeting.

3. Distribution-System Construction

Discussion related to construction by contract versus REC crews. NRECA was requested to analyze manpower, vehicle, tool and equipment requirements, to complete distribution system construction in an eighteen-month period. (The listing was prepared and circulated this reporting period).

4. U.S. \$loan Commitments/Balances

Discussion centered on the uncommitted loan balance and possible use thereof. It was agreed that the \$100,000 line-item in the loan for training-purposes, must be retained. NRECA is to recommend what overseas training should be included and estimated costs. (This study was in process at the end of this period)

5. Kwh-meter Service-Entrances and Housewiring material Requirements

It was reported that approximately 51,000Kwh meters have been ordered for the REC's, however, the materials on-order to complete the service-entrances are only sufficient for 18,000 installations. In additions, housewiring materials (internal wiring) have been ordered for only 18,000 installations.

NRECA contended that sufficient H.W. materials are already on-order. Additional procurement of H.W. material can be funded from the H.W. revolving-fund (use of loan money to buy H.W. materials ----- sell the materials to the members ----- use the proceeds to buy more materials) However, NRECA urged that additional service-entrance materials, which are a part of the distribution-system (not H.W.), be ordered with remaining U.S.\$ loan funds. (Additional discussion on this subject followed, after the coordination meeting, but the issue was not finalized).

6. Adjustment of Re-loan agreements BRI - REC

It was explained that in 1979, when a division of the \$10M USAID loan was made to the three REC's, minimal information was available upon which to realistically divide the loan.

At this time, when most of the material/equipment requirements for each REC are on order, or at least identified, it is noted that a shortfall of \$ loan funds will exist at two REC's, and an excess will exist at the third REC.

It was agreed that PDO-RE/NRECA would obtain the latest projections on material/equipment costs and initiate action to revise existing \$ loan totals in BRI-REC re-loan agreements.

--- Other major areas of coordination between PDO-RE/NRECA, and comments thereon, are listed as follows :

1. Demonstration-project expansion, Lampung REC.

As reported earlier, an international agriculture-exposition will be held in this REC's service area in the second quarter of 1983. Electric service is an important ingredient to contribute to the success of this exposition.

This REC will begin construction of an electrical distribution system in the third quarter of this year. One 100-Kw gen-set is being obtained through USAID excess-property sources, to be supplemented by interum generation from the GOI/CIDA loan package, for power-supply to the new distribution-system.

PDO-RE is offering full-support to this project, however, construction thereof, must be timed to arrival of construction materials procured through the USAID loan.

2. Accountant/Bookkeepers selection/training.

PDO-RE/NRECA/REC's screened applicants for positions within the REC's accounting-departments at the Lombok and Luwu REC, and positions within PDO-RE's accounting department.

A Training-course is scheduled for training of six selectees in November, 1982.

3. Work-procedure/Guideline preparation and publication

The NRECA team continued to up-date written materials, used as instruction sheets at the REC's. Included this reporting period were guidelines on:

- Membership application and Rights-of-way solicitation.
- Job-order (maintenance order) numbering system and processing procedure.
- Housewiring-program Implementation.
- Construction-material procurement and construction-material code numbering.

- Service-Drop (service-line) staking, staking sheets, and processing thereof.
- Fabrication/utilization of conductor-Reels for stringing.

4. Project-visitation "Check-List"

With the elimination of NRECA on-site positions at two REC's, it became apparent that a means of "continuing-evaluation" must be developed and utilized during NRECA team-member project-visits. As a result, NRECA developed a CHECK-LIST format, presented this to PDO-RE for approval, and began using this evaluation-tool in the month of August.

5. "Man-Specifications", manager-positions in the REC's

NRECA outlined recommendations for qualifications of manager-selectees for the REC's, and presented these to PDO-RE this period. The plan is to advertise in five major newspapers throughout Indonesia and receive applications at the earliest possible date.

Summary

The above information relates to key-areas of NRECA/PDO-RE coordination during this reporting period. Numerous subjects, not included above, were discussed and decisions made during NRECA/PDO-RE staff daily-contact in our joint office facilities, Sarinah-Building, Jakarta.

SINAR RINJANI ELECTRIC COOPERATIVE, EAST LOMBOK

I. Membership/Board of Directors

--- This cooperative, organized in 1979, held its third annual meeting of members in September. Approximately 150 members attended the meeting, conducted at Aikmel, and heard reports from management of the REC. An election was held for one position on the five man Board of Directors.

II. MANAGEMENT

--- The PDO-RE acting manager assigned to this project, Mr. Ridwan, continued to function on a full-time basis. Aside from annual meeting preparations, his major activities related to; interviewing applicants for employment positions which became vacant due to resignations or terminations; monitoring receipt of construction materials/equipment from USAID-Loan procurement; closeout of completed distribution-system construction (for the RE demonstration project) and proper assignment of construction-costs; monitoring headquarters-site construction at the REC's Aikmel location; preparation for construction of the backbone distribution system; and managerial functions relating to the operations and maintenance of the 2000-consumer RE demonstration project.

III. STAFF

The Cooperative is still "weak" in key employment positions in the Office Services Department. As reported in previous sections of this report, action is being taken to remedy the situation.

Outside-personnel, power-plant and distribution-system personnel, perform their respective functions with a relatively high degree of efficiency.

IV. CONSTRUCTION

A contractor has more than fifty employees constructing the headquarters-facilities for the REC at Aikmel, Lombok. Completion of the key facilities, warehouse and material/equipment storage area, is expected by March 1983.

Distribution-system expansion is expected to begin by April, 1983, after USAID-loan-procured construction materials are on-site in sufficient quantities to support a full-scale construction program.

V. OPERATIONS

This REC continues to operate and maintain an electrical distribution system serving five villages in the REC demonstration-area. In these five villages, part of the thirty-two villages included in the REC's service area, nearly 2000 member-consumers are being provided with electric service. Financial and statistical data may be found on pages 14 and 17.

SINAR SIWO MEGO ELECTRIC COOPERATIVE, LAMPUNG

I. Membership/Board of Directors

The Board of Directors at this REC remain on in in-active status as a result of action taken by DGC officials in July, 1982. A caretaker-committee has been appointed to temporarily fulfil the functions of the Board of Directors. At a later date, an annual meeting of members will be called, and an election held to re-instate or replace Board members.

II. Management

In late 1980, PDO-RE assigned one of their staff members, Ir. Ibrahim Sanusi, as acting-manager of this REC. Mr. Sanusi continues to serve in this capacity.

It is planned that applications for the managers position will be solicited beginning in October, 1982. Selection of a full-time manager should be completed soon thereafter.

III. S t a f f

This REC is blessed with qualified staff members in the majority of employment-positions. Employee-turnover has been minimal. Construction Material-control is above average. Accounting-reporting is performed in accordance with PDO-RE procedures, and current financial statistical reports are being received at PDO-RE.

IV. Construction

Minor distribution-system expansion is in progress in the RE demonstration area near Metro, Lampung. Consumer-connections are now approaching the one thousand four hundred (1,400) level.

Planning is in progress for the installation of distribution lines and generating facilities in another sector of the REC's service area. This relates to electrification in the area where the GOI will host an Agricultural-Exposition in the second quarter of 1983. (Referred to in previous sections of this report.

Headquarters facilities are now under construction in the REC's headquarters compound near Kotagajah. A warehouse and open-storage facilities should be completed by March 1983.

V. Operations

In keeping with sound business practices, this REC increased their tariff by a small percentage, effective September 1982. This action will insure that cash income continues to exceed cash expenses. (Financial and statistical information may be found on pages 15 and 17)

Consistently, the Lampung REC has lead the three pilot-REC's in financial stability. This relates to both energy-revenue and house-wiring funds. This is due primarily to, maintaining realistic tariff levels, and good management in their housewiring-loan program.

SAMABOTUNA ELECTRIC COOPERATIVE, LUWU, SULAWESI

I. Membership/Board

--- This REC has a Board of Directors who are active in their role as a policy-making body. Unfortunately, their activities sometimes are identified as duties-of-the-manager. Part of this problem relates to absence of full-time management, and turn-over of acting-managers.

--- Membership solicitation has been limited to the villages of Bone Bone and Mangkutana, the areas where RE demonstration projects are operational. In the fourth quarter of 1982, membership solicitation will be resumed throughout the project area in preparation for construction of the main distribution-system.

II. Management

--- PDO-RE has experienced difficulty in assignment of acting managers for this REC. The second assignee was preparing to leave his assignment at the end of September. It is not known who the replacement may be, or when the replacement will be made.

NRECA staff believes that the problem is two-fold; the remoteness of this REC service area, that is, the difficulty of travel and communications; and the apparent inability of acting-manager to MANAGE the REC, since Board members and the DGC project-coordinator seemingly share the duties of a manager.

Efforts are being made to solve this management problem. NRECA/PDO-RE have prepared "man-specifications" for the position of permanent-manager. It is expected that application solicitation will begin this October.

III. S t a f f

--- The "operation and maintenance" department and "Member Service" department of this REC are staffed with capable personnel. For existing requirements, (small-size generator-sets operation) the "power-production" department is also staffed with capable personnel. The weakness in staff positions relates primarily to "office services" department, general bookkeeping-accounting.

With the departure of the second acting-manager, who is an accountant by profession, there will be a complete void in REC's general accounting section.

However, as included earlier in this report, action is being taken to solve the problem. Two persons have been selected for booking positions and will be trained at PDO-RE beginning in November.

IV. Construction

--- This period, the Luwu REC performed clean-up work on the distribution lines which were constructed in Mangkutana in early 1982. Minor additions were made to the Bone Bone electrical distribution system. Planning continued for proposed-construction in two other villages, considered to be further extension of RE demonstration projects. (The main distribution-system construction is scheduled to begin in the first quarter of 1983).

--- A contractor is working at the REC's headquarters near Bone Bone, constructing headquarters facilities.

V. Operations

--- In the month of August, seven hundred thirty nine (739) consumers were billed in the two-village RE area. The Kwh/per month/per member useage averaged 26Kwhs during 1982, highest of the three REC's (operating statistics are on pages 16 and 17)

SUMMARY, August-September 1982 NRECA report

--- This reporting period is a part of the "transition period" for the three REC's, "operating and maintaining RE demonstration electrical-systems and preparing for an extensive construction program ----- soon to be involved in construction and operation of large electric utility networks".

This is the "breathing-period" ----- the time for PDO-RE and consultants to evaluate the capabilities of the REC's, and to make improvements as deemed necessary.

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LINE #	OPERATIONS	JANUARY
	<u>PENDAPATAN/REVENUE</u>	
1.	Pendapatan Tenaga Listrik (Operating revenue)	3.017.815,-
2.	Pendapatan Lain-Lain (Miscellaneous Revenue)	23.700,-
3.	JUMLAH PENDAPATAN (TOTAL REVENUE)	3.041.515,-
	<u>PEMBAYARAN/EXPENSES</u>	
4.	Pembangkit (Power Plant) - Bahan bakar (fuel)	1.861.780,-
5.	- Operational (Operations)	331.975,-
6.	- Pemeliharaan (Maintenance)	294.575,-
7.	JUMLAH BIAYA PRODUKSI (TOTAL PRODUCTION EXPENSES)	2.488.330,-
8.	Jaringan Distribusi (Distribution)-Operasional(Operations)	166.935,-
9.	-Pemeliharaan(Maintenance)	61.016,-
10.	JUMLAH BIAYA JARINGAN DISTRIBUSI(TOTAL DISTRIBUTION EXPENSES)	227.951,-
11.	Pembayaran Langganan (Consumer-accounts expense)	517.908,-
12.	Biaya Umum (General and Administrative)	817.061,-
13.	Biaya Penjualan (Sales expense)	35.000,-
14.	JUMLAH BIAYA OPERASIONAL (TOTAL OPERATING EXPENSES)	4.086.250,-
15.	Marginal Brutto (Gross Operating Margin) (3 minus 14)	(1.044.735,-) (
16.	Bunga Pinjaman (Interest expense)	1.040.857,-
17.	Marginal Tunai (Cash Operating Margin) (15 minus 16)	(2.085.592,-) (
18.	Depresiasi (Depreciation/Amortization)	1.346.422,-
19.	Marginal netto (Net Operating Margin) (17 minus 18)	(3.432.014,-) (
	<u>PENDAPATAN NON OPERASIONAL (NON-OPERATING REVENUES)</u>	
20.	Pendapatan Rewiring (Rewiring income)	2.556.700,-
21.	Pendapatan Lain-lain (Other income)	15.197,-
22.	JUMLAH PENDAPATAN NON OPERASIONAL (TOTAL NON OPERATING REVENUE)	2.571.897,-
	<u>PEMBAYARAN NON OPERASIONAL (NON OPERATING EXPENSE)</u>	
23.	Biaya Rewiring (Rewiring expense)-Material (Material)	1.924.940,-
24.	-Upah Buruh (Labor)	356.500,-
25.	-Lain lain (Other)	106.386,-
26.	JUMLAH BIAYA NON OPERASIONAL (TOTAL NON OPERATING EXPENSE)	2.387.826,-
27.	Marginal non operasi (Non Operating Margin) (22 minus 26)	(184.071,-) (
28.	JUMLAH MARGINAL (TOTAL MARGINAL) (19 plus 27)	(3.247.943,-) (
29.	Sumbangan Pemerintah/DIP (Contribution from DIP fund)	3.513.093,-
30.	JUMLAH MARGINAL/DIP (TOTAL MARGINAL INCLUDING DIP) (28 plus 29)	(243.150,-) (
	Jumlah Langganan (Number receiving service)	1.876
	Jumlah kWh (kWhs billed)	39.952
	Pendapatan rata2 setiap bulan (Average revenue per consumer)	Rp. 1.605,- Rp.
	Pendapatan rata2 setiap rekening kWh (Average revenue per kWh billed)	Rp. 73,125 Rp.
	Konsumsi kWh rata setiap bulan (Average kWh consumption per consumer)	22

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COOPERATIVE OPERATING REPORT 1982

SINAR RINJANI, LOMBOK

MARCH	APRIL	MAY	JUNE	JULY	AUGUST
3.102.470,-	3.189.150,-	3.204.645,-	3.070.265,-	3.559.680,-	
80.274,-	20.938,-	111.094,-	50.500,-	4.800,-	
3.182.744,-	3.210.088,-	3.315.739,-	3.120.765,-	3.564.480,-	
2.067.517,-	2.156.508,-	2.403.994,-	2.360.703,-	2.339.529,-	
265.125,-	621.428,-	788.048,-	314.540,-	305.275,-	
343.715,-	1.501.184,-	1.316.283,-	1.325.985,-	1.684.007,-	
2.676.357,-	4.279.120,-	4.508.325,-	4.001.228,-	4.328.811,-	
75.729,-	47.310,-	96.360,-	143.160,-	129.676,-	
59.434,-	53.442,-	70.757,-	63.665,-	154.782,-	
135.163,-	100.752,-	167.117,-	206.825,-	284.458,-	
359.220,-	298.752,-	722.136,-	386.486,-	590.258,-	
982.231,-	886.427,-	897.271,-	882.766,-	1.346.555,-	
35.000,-	35.000,-	39.000,-	35.000,-	93.500,-	
4.187.971,-	5.600.051,-	6.333.849,-	5.512.305,-	6.643.582,-	
(1.005.227,-)	(2.389.963,-)	(3.018.110,-)	(2.391.540,-)	(3.079.102,-)	
1.137.069,-	1.137.069,-	1.137.069	1.137.609,-	1.137.069,-	
(2.142.296,-)	(3.527.032,-)	(4.155.179,-)	(5.528.609,-)	(4.216.171,-)	
939.251,-	943.459,-	1.223.215,-	1.534.646,-	1.536.395,-	
(3.081.547,-)	(4.470.491,-)	(5.378.394,-)	(5.063.255,-)	(5.752.566,-)	
410.077,-	732.187,-	2.010,-	-	-	
16.506,-	16.629,-	16.464,-	-	-	
426.583,-	748.807,-	18.474,-	-	-	
308.539,-	554.444,-	1.591,-	-	-	
57.500,-	96.500,-	-	-	-	
98.849,-	198.950,-	19.280,-	6.445,-	-	
464.888,-	849.894,-	20.871,-	6.445,-	-	
(38.305,-)	(101.082,-)	(2.397,-)	(6.445,-)	-	
(3.119.852,-)	(4.521.578,-)	(5.380.791,-)	(5.069.700,-)	(5.752.566,-)	
4.175.442,-	1.854.330,-	1.581.654,-	1.881.250,-	5.227.245,-	
(1.055.590,-)	(2.717.248,-)	(3.799.137,-)	(3.188.450,-)	(525.321,-)	
1.860	2.078	2.038	2.019	2.016	1.951
42.922	38.464	39.682	36.436	52.919	55.481
Rp. 1.664,-	Rp. 1.531,-	Rp. 1.569,-	Rp. 1.517,-	Rp. 1.761,-	1.864
Rp. 69,-	Rp. 78,45	Rp. 77,-	Rp. 81,-	Rp. 65,-	63,8
24.	20,-	20,25	18,81	27,02	28

LINE 0	OPERATIONS	JANUARY
	<u>PENDAPATAN/REVENUE</u>	
1.	Pendapatan Tenaga Listrik (Operating revenue)	3.107.890,-
2.	Pendapatan Lain-Lain (Miscellaneous Revenue)	6.500,-
3.	JUMLAH PENDAPATAN (TOTAL REVENUE)	3.114.390,-
	<u>PEMBAYARAN/EXPENSES</u>	
4.	Pembangkit (Power Plant) - Bahan bakar (fuel)	770.990,-
5.	- Operational (Operations)	437.645,-
6.	- Pemeliharaan (Maintenance)	2.500,-
7.	JUMLAH BIAYA PRODUKSI (TOTAL PRODUCTION EXPENSES)	1.211.135,-
8.	Jaringan Distribusi (Distribution)-Operasional(Operations).	20.282,-
9.	-Pemeliharaan(Maintenance)	49.225,-
10.	JUMLAH BIAYA JARINGAN DISTRIBUSI(TOTAL DISTRIBUTION EXPENSES)	69.507,-
11.	Perkiraan Langganan (Consumer-accounts expense)	267.552,-
12.	Biaya Umum (General and Administrative)	278.468,-
13.	Biaya Penjualan (Sales expense)	-
14.	JUMLAH BIAYA OPERASIONAL (TOTAL OPERATING EXPENSES)	1.826.562,-
15.	Margin Brutto (Gross Operating Margin) (3 minus 14)	1.287.728,-
16.	Bunga Pinjaman (Interest expense)	-
17.	Margin Tunai (Cash Operating Margin) (15 minus 16)	1.287.728,-
18.	Depresiasi (Depreciation/Amortization)	-
19.	Margin netto (Net Operating Margin) (17 minus 18)	1.287.728,-
	<u>PENDAPATAN NON OPERASIONAL (NON-OPERATING REVENUES)</u>	
20.	Pendapatan Housewiring (Housewiring income)	166.207,-
21.	Pendapatan Lain-lain (Other income)	-
22.	JUMLAH PENDAPATAN NON OPERASIONAL (TOTAL NON OPERATING REVENUE)	166.207,-
	<u>PEMBAYARAN NON OPERASIONAL (NON OPERATING EXPENSE)</u>	
23.	Biaya Housewiring (Housewiring expense)-Material (Material)	140.186,-
24.	-Upah Buruh (Labor)	17.400,-
25.	-Lain lain (Other)	1.400,-
26.	JUMLAH BIAYA NON OPERASIONAL (TOTAL NON OPERATING EXPENSE)	158.986,-
27.	Margin non operasi (Non Operating Margin) (22 minus 26)	7.221,-
28.	JUMLAH MARGIN (TOTAL MARGIN) (19 plus 27)	1.294.949,-
29.	Sumbangan Pemerintah/DIP (Contribution from DIP fund)	1.697.173,-
30.	JUMLAH MARGIN/DIP (TOTAL MARGIN INCLUDING DIP) (28 plus 29)	2.992.122,-
	Jumlah Langganan (Number receiving service)	1.346
	Jumlah kWh (kWhs Billed)	28.475
	Pendapatan rata2 setiap bulan (Average revenue per kWh billed)	2.308
	Pendapatan rata2 setiap rekening	109.1
	Konsumsi rata-rata per bulan (Average kWh consumption per consumer)	21.2

SINAR SIWO MEGO ELECTRIC COOPERATIVE, LAMPUNG

MARCH	APRIL	MAY	JUNE	JULY	AUGUST
3.125.130,-	3.065.455,-	3.438.925,-	3.301.190,-	3.732.165,-	3.611.555,-
1.000,-	4.000,-	15.225,-	14.300,-	11.000,-	68.350,-
3.126.130,-	3.069.455,-	3.454.150,-	3.315.490,-	3.743.165,-	3.579.905,-
1.078.981,-	1.326.902,-	1.410.071,-	1.220.141,-	1.452.800,-	1.700.586,-
352.104,-	431.855,-	468.010,-	405.000,-	519.779,-	574.236,-
57.347,-	-	-	-	6.000,-	3.856,-
1.488.512,-	1.758.757,-	1.878.081,-	1.625.141,-	1.978.579,-	2.278.678,-
6.311,-	74.656,-	98.878,-	134.238,-	41.584,-	58.213,-
203.566,-	116.211,-	50.644,-	73.619,-	89.824,-	44.927,-
209.877,-	190.867,-	149.522,-	207.857,-	131.408,-	143.140,-
248.277,-	517.461,-	366.397,-	313.811,-	332.162,-	673.861,-
552.100,-	501.500,-	509.005,-	379.177,-	389.640,-	455.101,-
-	-	-	-	-	-
2.498.766,-	2.968.585,-	2.903.005,-	2.525.986,-	2.831.789,-	3.550.780,-
627.364,-	100.870,-	551.145,-	789.504,-	911.376,-	129.125,-
-	-	1.096.390,-	708.719,-	708.719,-	1.096.390,-
627.364,-	100.870,-	(545.245,-)	80.785,-	202.657,-	(967.265,-)
-	566.158,-	3.263.744,-	1.096.390,-	1.096.390,-	708.719,-
627.364,-	(465.288,-)	(3.808.989,-)	(1.015.605,-)	893.733,-	1.675,-
-	-	-	-	-	-
172.901,-	115.240,-	255.253,-	468.142,-	191.590,-	160.740,-
115.529,-	-	115.001,-	298.096,-	294.377,-	2.970.32
288.430,-	115.240,-	368.254,-	786.238,-	485.967,-	-
-	-	-	-	-	-
59.278,-	92.329,-	117.553,-	192.144,-	145.655,-	122.982,-
11.425,-	19.400,-	19.650,-	37.875,-	27.550,-	22.925,-
13.850,-	125.762,-	118.691,-	101.142,-	72.910,-	37.572,-
84.553,-	237.491,-	255.894,-	331.161,-	256.115,-	182.879,-
203.877,-	(122.251,-)	112.360,-	455.077,-	219.852,-	274.893,-
831.251,-	(587.539,-)	(3.696.629,-)	(560.528,-)	(653.881,-)	(1.401.091,-)
3.322.263,-	2.134.167,-	2.704.450,-	1.674.554,-	1.431.550,-	1.486.540,-
4.153.514,-	1.546.628,-	(992.179,-)	1.114.026,-	772.669,-	85.449,-
1.317	1.323	1.339	-	-	1.373
30.427	28.409	38.671	-	-	35.176
2.374	2.317	2.568	-	-	2.360
102,7	107,9	88,9	-	-	102,7
23	21,5	20,9	-	-	25,6

LINE 0	OPERATIONS	JANUARY
	<u>PENDAPATAN/REVENUE</u>	
1.	Pendapatan Tenaga Listrik (Operating revenue)	848.895,-
2.	Pendapatan Lain-Lain (Miscellaneous Revenue)	18.000,-
3.	JUMLAH PENDAPATAN (TOTAL REVENUE)	866.895,-
	<u>PENBAYARAN/EXPENSES</u>	
4.	Pembangkit (Power Plant) - Bahan bakar (fuel)	514.976,-
5.	- Operational (Operations)	376.805,-
6.	- Pemeliharaan (Maintenance)	60.500,-
7.	JUMLAH BIAYA PRODUKSI (TOTAL PRODUCTION EXPENSES)	952.281,-
8.	Jaringan Distribusi (Distribution)-Operasional(Operations)	37.000,-
9.	-Pemeliharaan(Maintenance)	293.720,-
10.	JUMLAH BIAYA JARINGAN DISTRIBUSI(TOTAL DISTRIBUTION EXPENSES)	330.720,-
11.	Perkiraan Langganan (Consumer-accounts expense)	88.475,-
12.	Biaya Umum (General and Administrative)	1.113.790,-
13.	Biaya Penjualan (Sales expense)	-
14.	JUMLAH BIAYA OPERASIONAL (TOTAL OPERATING EXPENSES)	2.485.266,-
15.	Marginal Brutto (Gross Operating Margin) (3 minus 14)	(1.618.371,-)
16.	Bunga Pinjaman (Interest expense)	595.015,-
17.	Marginal Tunai (Cash Operating Margin) (15 minus 16)	(2.213.386,-)
18.	Depresiasi (Depreciation/Amortization)	158.795,-
19.	Marginal netto (Net Operating Margin) (17 minus 18)	(2.372.181,-)
	<u>PENDAPATAN NON OPERASIONAL (NON-OPERATING REVENUES)</u>	
20.	Pendapatan Housewiring (Housewiring income)	249.902,50
21.	Pendapatan Lain-lain (Other income)	48.517,50
22.	JUMLAH PENDAPATAN NON OPERASIONAL (TOTAL NON-OPERATING REVENUE)	298.480,-
	<u>PENBAYARAN NON OPERASIONAL (NON-OPERATING EXPENSE)</u>	
23.	Biaya Housewiring (Housewiring expense)-Material (Material)	243.100,-
24.	-Upah Buruh (Labor)	46.650,-
25.	-Lain-lain (Other)	-
26.	JUMLAH BIAYA NON OPERASIONAL (TOTAL NON-OPERATING EXPENSE)	289.750,-
27.	Marginal non operasi (Non Operating Margin) (22 minus 26)	8.730,-
28.	JUMLAH MARGINAL (TOTAL MARGINAL) (19 plus 27)	(2.363.451,-)
29.	Sumbangan Pemerintah/DIP (Contribution from DIP fund)	2.747.891,-)
30.	JUMLAH MARGINAL/DIP (TOTAL MARGINAL INCLUDING DIP) (28 plus 29)	384.440,-
	Jumlah Langganan (Number receiving service)	384
	Jumlah kWh (kWhs Billed)	9.825
	Pendapatan rata2 setiap bulan (Average revenue per consumer)	Rp. 2.211,-
	Pendapatan rata2 setiap rekening kWh (Average revenue per kWh billed)	86,4
	Konsumsi kWh rata setiap bulan (Average kWh consumption per consumer).	25,6

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SAMABOTUNA ELECTRIC COOPERATIVE, LUWU

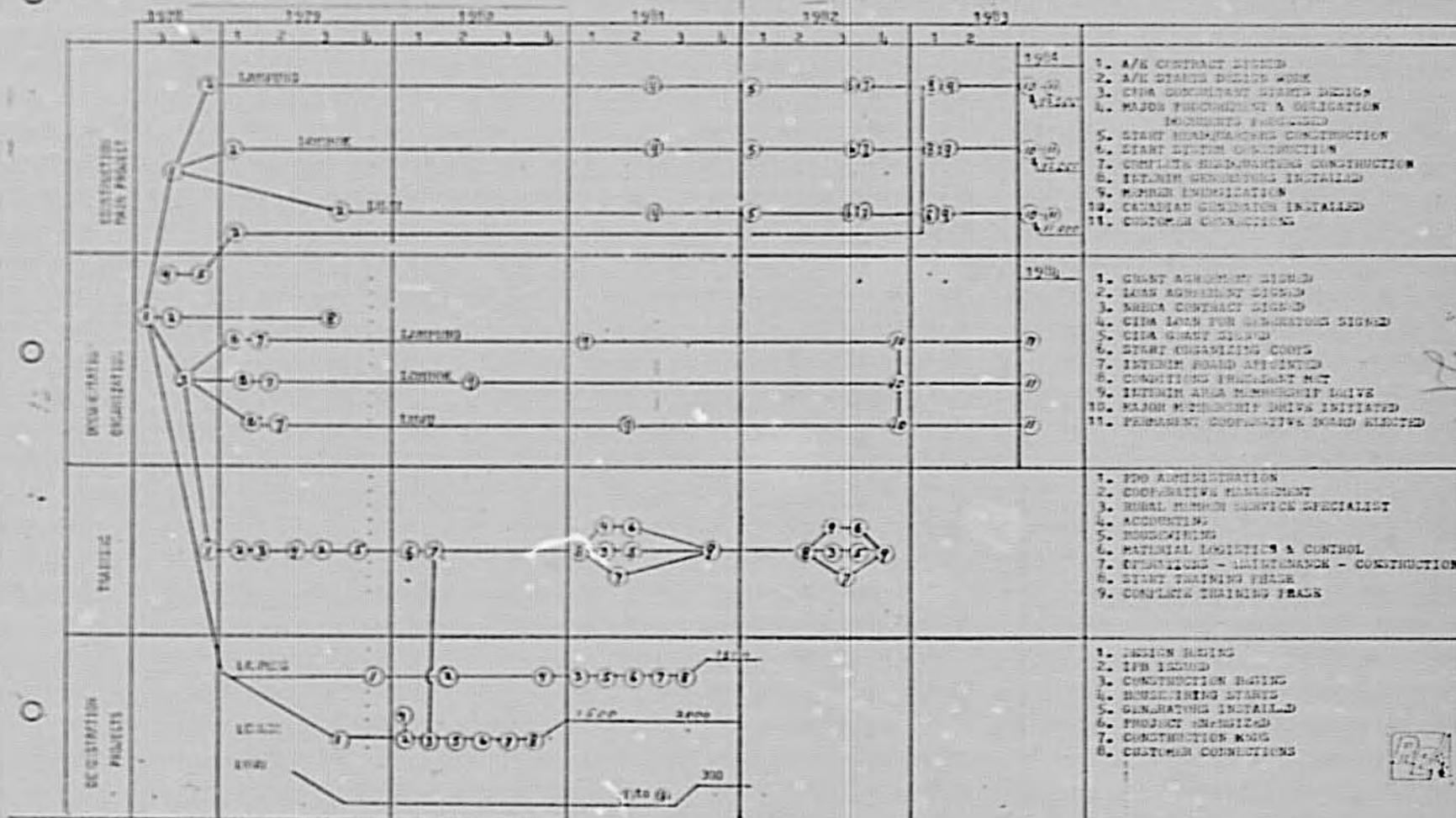
MARCH	APRIL	MAY	JUNE	JULY	AUGUST
872.400,-	884.280,-	1.143.025,-	1.415.965,-	1.615.835,-	1.479.700,-
13.000,-	14.500,-	19.500,-	25.840,-	16.500,-	45.500,-
885.440,-	898.780,-	1.162.525,-	1.441.805,-	1.632.335,-	1.525.200,-
590.235,-	650.607,50	693.535,-	1.160.817,50	1.338.918,-	1.324.543,75
459.240,-	210.459,-	-	276.261,-	377.189,-	311.394,-
53.600,-	140.173,-	94.435,-	107.656,-	152.834,-	158.604,-
1.103.075,-	1.001.239,50	787.970,-	1.544.734,50	1.868.941,75	1.794.541,75
28.415,-	78.016,-	420.883,-	123.385,-	136.529,-	147.651,-
272.320,-	22.175,-	-	-	174.513,-	126.094,-
300.375,-	100.191,-	420.883,-	123.385,-	311.042,-	273.745,-
68.700,-	21.345,-	72.917,-	66.975,-	100.752,-	96.000,-
1.115.330,-	1.125.936,-	589.025,-	894.023,-	994.575,-	1.408.482,-
2.587.840,-	2.248.711,50	1.870.795,-	2.629.117,50	3.275.310,75	3.572.768,75
(1.702.400,-)	(1.349.937,50)	(708.270,-)	(1.187.312,50)	(1.642.975,75)	(2.047.568,75)
595.015,-	601.810,-	601.810,-	591.810,-	591.810,-	591.810,-
2.297.415,-	(1.951.741,50)	(1.310.080,-)	(1.779.122,50)	(2.234.785,75)	(2.639.378,75)
158.795,-	158.795,-	158.795,-	164.535,-	164.535,-	164.535,-
2.456.210,-	(2.110.536,50)	(1.468.875,-)	(1.943.657,50)	(2.399.320,75)	(2.803.913,75)
18.020,-	2.094.457,-	2.113.045,50	102.067,50	67.074,-	14.425,-
1.200,-	66.590,-	24.641,-	(220.582,50)	545,-	1.600,-
19.220,-	2.161.047,-	2.137.686,50	(118.515,-)	67.619,-	16.025,-
237.500,-	1.589.506,-	922.185,-	991.250,-	51.490,-	12.397,-
13.625,-	54.824,-	1.127,-	85.640,-	195.751,-	132.090,-
251.125,-	1.644.330,-	923.312,-	1.076.801,-	247.241,-	144.487,-
(231.905,-)	516.717,-	1.214.374,50	1.195.406,-	(179.622,-)	(128.462,-)
(2.688.115,-)	(1.593.819,50)	(254.500,50)	(3.020.548,50)	2.578.942,75	(2.932.375,75)
2.524.404,-	2.672.058,-	1.077.000,-	1.634.351,-	1.846.670,-	4.914.755,-
(163.711,-)	1.078.238,50	(1.331.500,50)	1.726.197,50	(732.272,75)	1.982.378,25
396	405	403	405	726	739
11.316	10.840	10.755	9.960	17.062	20.125
Rp. 2.203,-	Rp. 2.822,-	Rp. 2.836,-	Rp. 1.476,-	Rp. 2.226,-	Rp. 2.002,-
77.1	81.6	106.3	142.2	94.7	73.5
28.6	26.8	26.7	24.6	23.5	27.2

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COMPARATIVE OPERATION STATEMENTS
FIRST 7 MONTHS OF 1982

<u>REVENUE</u>	<u>SAMABOTUNA</u>	<u>SINAR RINJANI</u>	<u>SINAR SIWO MEGO</u>
1. Operating revenue	7,661,600	22,338,950	22,806,970
2. Miscellaneous revenue	122,840	328,945	55,275
3. Total revenue	7,784,440	22,667,895	22,862,245
 <u>EXPENSES</u>			
4. Power plant-fuel	5,477,713	14,998,015	8,183,981
5. -operations	1,970,604	2,965,101	2,973,178
6. -maintenance	655,922	8,972,861	65,847
7. TOTAL PRODUCTION EXPENSES	8,074,239	26,935,977	11,223,006
8. Distribution-operations	879,615	758,906	387,337
9. -maintenance	996,024	555,613	605,444
10. TOTAL DISTRIBUTION EXPENSES	1,875,639	1,314,519	992,781
11. Consumer-accounts expense	486,664	3,037,006	2,302,376
12. General and administrative	7,254,887	6,817,955	2,788,569
13. Sales expense	-	307,500	-
14. TOTAL OPERATING EXPENSES	17,691,429	38,412,957	17,306,732
15. Gross operating Margin (3 minus 14)	(9,906,989)	(15,745,062)	5,555,513
16. Interest expense	4,172,285	7,863,271	3,201,456
17. Cash operating Margin (15 minus 16)	(14,079,274)	(23,608,333)	2,354,057
18. Depreciation/Amortization	1,123,045	8,437,389	6,022,682
19. Net operating Margin (17 minus 18)	(15,202,319)	(32,045,722)	(3,668,625)
 <u>NON-OPERATING-REVENUES</u>			
20. Housewiring income	4,546,035	(3,700,974)	1,412,583
21. Other income	398,296	108,481	1,023,003
22. TOTAL NON-OPERATING REVENUE	4,944,321	3,849,355	2,435,586
 <u>NON-OPERATING EXPENSE</u>			
23. Housewiring expense-material	3,789,122	2,789,514	747,145
24. -labor	1,098,393	510,500	133,300
25. -other	-	430,140	436,255
26. TOTAL NON-OPERATING EXPENSE	4,887,515	3,730,154	1,316,700
27. Non operating Margin (22 minus 26)	56,306	79,701	1,118,386
28. TOTAL MARGIN (19 plus 27)	(15,146,013)	(31,966,021)	(2,549,739)
29. Contribution from DIP fund	9,851,172	24,154,440	14,533,830
30. TOTAL MARGIN INCLUDING DIP (28+29)	(5,294,841)	(7,774,581)	11,984,091
31. AVERAGE REVENUE/CONSUMER/MONTH	Rp. 2,372	Rp. 1,623	Rp. 2,330
32. " " " PER KWH BILLED	Rp. 83.9	Rp. 75.4	Rp.106.6
33. " " " KWH CONSUMPTION/CONSUMER	26.3	22.4	22.5

NRECA NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION
 1800 Massachusetts Avenue, N.W.
 Washington, D.C. 20036/202 837 8140

F.D-3 - R.E. WITH TRACKS ON



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LOMBOK REC ACTIVITIES

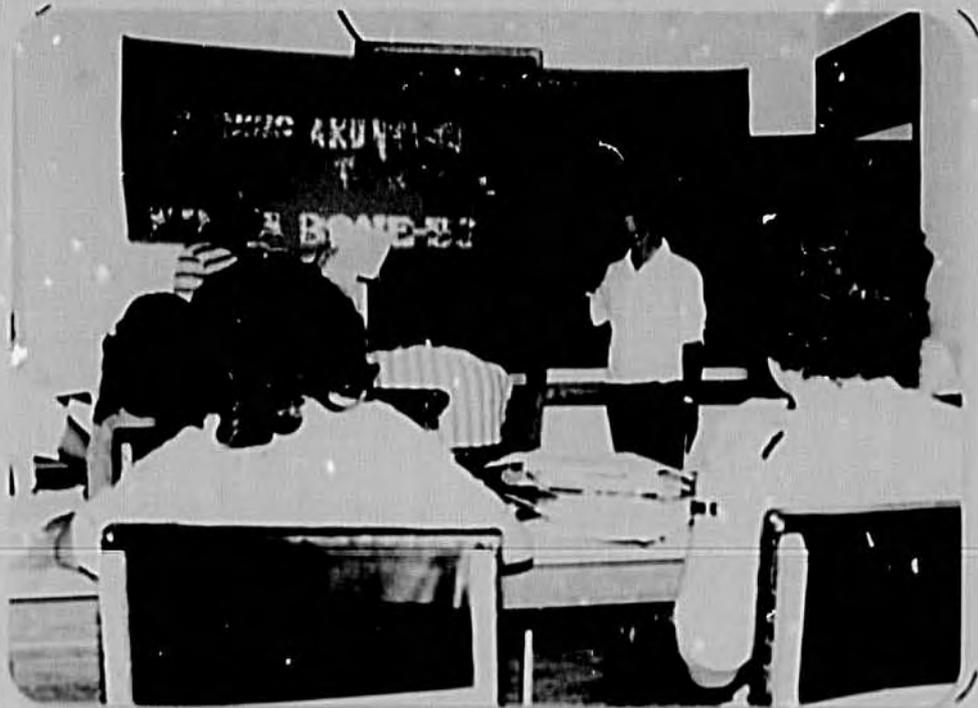


NRECA project-advisor Sam Adkins, and Sabdo Winulyo, REC line-foreman, inspecting distribution lines in the village of Suralaga, East Lombok (the fifth village to receive electric service in the REC's service area)

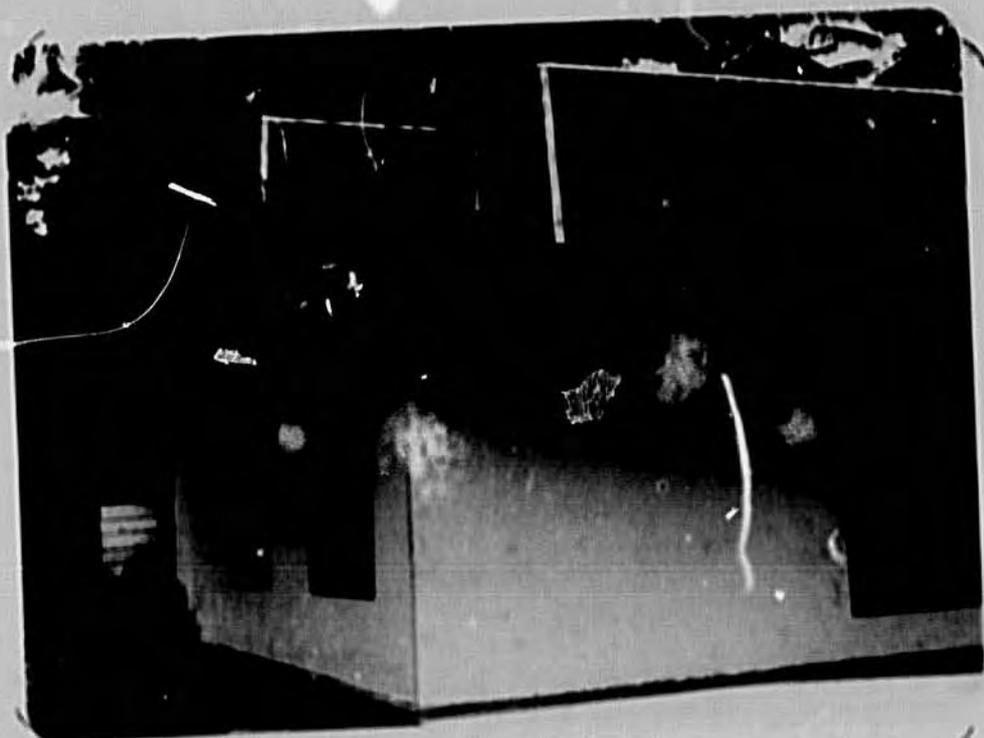


REC acting-manager, Mr. Ridwan reviewing headquarters construction-drawings in the construction area, Aikmel, Lombok. C.T. Main's engineer, Mr. Katindoy, (in yellow cup), staff member, and NRECA staff member, Mr. Shoff, participated in the briefing.

LUWU REC ACTIVITIES



Acting-manager, Mr. Waluyan, conducting a training course at the REC's headquarters in Bone Bone, assisted by NRECA staff.



One of the REC's "CASH REGISTERS", a kwh-meter installation in Bone Bone, with the consumer account-number neatly stenciled next to the meter.

Summary of Expenditures

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

AID/ASIA - C 1347
 Date: August, 1982
 Period of contract: 8/25/78 - 3/31/83

	Budget	Total Expense To Date	Prior Billings	Current Billings
Salaries - Field	\$ 1,095,000	\$ 992,312.08	\$ 967,245.35	\$ 25,066.73
Salaries - Home	187,000	153,973.44	149,550.17	4,423.27
Fringe Benefits	416,000	369,000.06	360,844.73	8,155.33
Consultant Fees	34,706	33,906.25	33,906.25	-
Allowances	398,000	324,372.39	320,845.19	3,527.20
Travel and Transportation	386,470	299,568.47	291,551.72	7,716.75
Other Direct Costs	140,000	93,620.48	93,696.37	(75.89)
Overhead	292,000	487,344.29	474,958.49	12,385.80
Equipment and Materials	28,000	18,931.46	18,931.46	-
TOTAL	\$ 2,977,176	\$ 2,773,028.92	\$2,711,829.73	\$ 61,199.19

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PERSON-MONTHS BY POSITION, NRECA CONSULTANT TEAM

(Contract as amended September 28, 1982)

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POSITION	PRESENTLY FILLED BY	CONTRACT PERSON-MONTHS	EXPENDED THIS PERIOD	EXPENDED THROUGH SEPT. 82		PERSON-MONTHS REMAINING	PERCENT OF CONTRACT EXPENDED
				PLN	PDO		
Team Leader (Administrative Finance Officer)	Ray Shoff	68	2	11.5	36.5	20	71%
Senior RE Specialist/ Training Officer	Louie Sansing	62	2	7	37	18	71%
Senior RE Specialist/ PLN - Advisor REC - Advisor	Sam Adkins	53	2	41.5	1.5	10	81%
RE Specialist Luwu-project Advisor	John DeFoor	49	2	-	43	6	88%
*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%
* Positions vacated, July 31, 1982		380	11	87.5	236.5	56	85%