

**RURAL ELECTRIFICATION PROJECTS**  
**INDONESIA**

NRECA TEAM REPORT

PDO

INDONESIA

(JUNE & JULY 1982)



**NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION**

**JAKARTA, INDONESIA**

NRECA TEAM REPORT

PDO

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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



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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

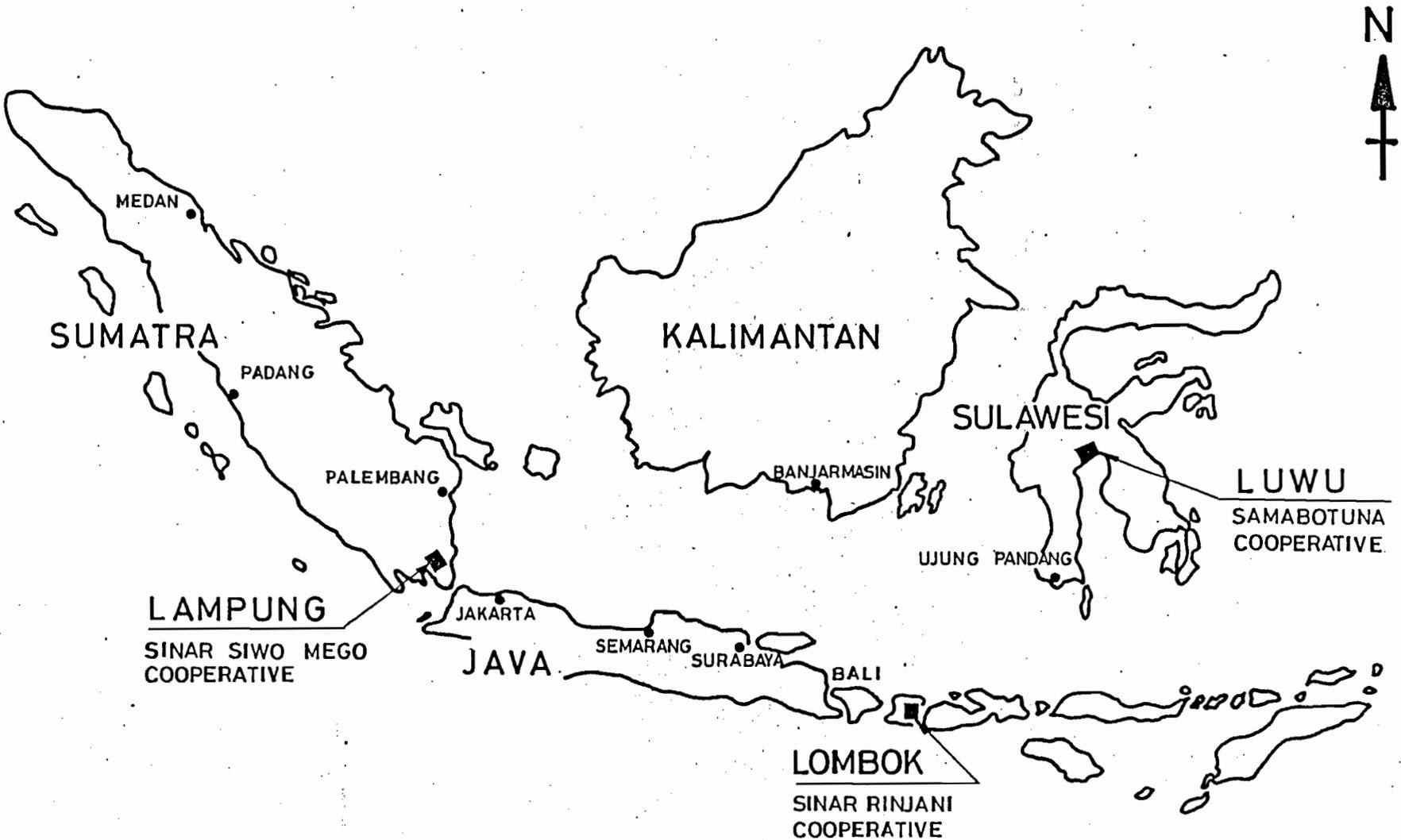
by the member-consumers themselves through the organization of rural electric cooperatives. Each cooperative will construct, own operate a diesel generating plant to provide power for the distribution system. (The Canadian Government is assisting with the generating project). A special agency known as 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>
Peter McNeill	Team Leader	Pondok Indah Bukit Hijau VIII/31 PH : 761132
Louie Sansing	Sr. RE Specialist	Ratu Plaza Apartment #1103 Jl. Jenderal Sudirman PH:: 712209 ext. 2020
*Sam Adkins	Sr. RE Specialist	c/o C.T. Main Inc. Box 26 Semarang PH : 024-311832
Paul Swanson	Sr. RE Specialist	Kotak Pos 43 Ampenan, Lombok PH : 0364-23517
John DeFoor	RE Specialist	c/o Bina Marga Office Jl. Imam Bonjol 8 Palopo. S. Sulawesi
Ray Shoff	Administrative/Finance Officer	Ratu Plaza Apartment #1002 Jl. Jenderal Sudirman PH : 712209 ext. 2015
Claude Franke	RE Specialist	P.O. Box 88 Tanjung Karang Lampung PH : 0721-53701

\* PLN Advisor

# LOCATIONS OF PROJECT SITES



## NRECA-Team Activities

### I. General

--- The NRECA Team Leader and the training officer were in-country throughout this two-month reporting period. The administrative-finance officer, the third member of the NRECA Jakarta-based team, was on leave for a period of four weeks.

--- Mr. Ed Gaither, NRECA-IPD Regional Administrator for ASIA & the PACIFIC, visited Indonesia for a one-week period in the month of June. During his visit, contact was made with USAID and GOI officials to appraise team performance as related to scope of work.

--- A two-day NRECA team-meeting was held during the time of Mr. Gaither's visit. Project status-reports were presented by all NRECA field-advisors. The chief of PDO-RE, and representatives of co-consultant C.T. Main, participated in discussions and planning for expediting project implementation.

--- Other visitors during this period were, Dr. Dave Zoellner, manager of small-hydro section NRECA/IPD, and Mr. James Heifner, NRECA Team-leader in Bangladesh. Dr. Zoellner was in country at the request of USAID/PTE to assist in preliminary step for studies of mini hydro potential in Indonesia. Mr. Heifner consulted with NRECA/Indonesia team members on areas of mutual concern.

--- NRECA/Jakarta Team members made three project visitations this period. The Team Leader assisted the Lombok project advisor; the training officer worked with the Lampung Cooperative staff; and administrative-finance officer spent several days with the Luwu project staff.

--- A sizable reduction in NRECA/Indonesia staff occurred during the last weeks of this reporting period. The Lampung project advisor, Mr. Claude Franke, left Indonesia during the week of July 19th, the Lombok project advisor, Mr. Paul Swanson, departed July 27th, and team-leader, Peter McNeill, resigned from his position on July 30th.

The four remaining NRECA team-members have accepted multi-duties with; the Luwu project advisor John DeFoor on-call for periodic visitations to other RE projects; training officer Louie Sansing accepting the dual assignment of roving project-advisor; the NRECA advisor to PLN in Central Java, Mr. Sam Adkins, is assigned to visit PDO-RE projects intermittently; and the administrative-finance officer, Ray Shoff, accepting the duties of team-leader.

Several meetings were held with USAID officials to consummate an amendment to the USAID/NRECA contract. Concurrence of team member re-assignments was received from the chief of PDO-RE, and the PLN Deputy Director for RE.

## II. NRECA/PDO Activities

--- A USAID/W evaluation team performed an evaluation of the PDO-RE and the three RE Cooperatives during this reporting period. NRECA/Jakarta staff assisted the two-man evaluation team by providing background information, and financial and statistical data. The NRECA field-advisors accompanied evaluation-team members during project visitations.

At the end of July, the evaluation-team report was in draft form at the USAID/PTE office. The final report may be made available by September.

--- NRECA team members assisted the PDO-RE in procurement of maintenance parts for the temporary power plants at the RE sites. Electrical Equipment was obtained locally and hand-carried to the Luwu project to up-grade power production facilities. Additional maintenance parts were ordered from the manufacture of the USAID-furnished gen-sets, in Stockton California, to be utilized by each RE project.

--- Coordination continued with the PDO-RE and co-consultants C.T. Main on various aspects of project implementation. Of particular significance this period was a joint review of construction standards (distribution-system specifications) which had been prepared by C.T. Main, and mapping plans/requirements for the Cooperative's service-areas.

--- PDO-RE and NRECA staff studied the effects of the reduced financial support from GOI at the project level. Local funding, referred to as DIP funding, has contributed substantially to offsetting operating-costs of the RE demonstration projects. Beginning in this fiscal year, April 1st 1982 to April 1st 1983, funding has been substantially reduced.

The major effect relates to personnel problems. Upper limits on salaries, for key-positions of employment, are well below that which is required to obtain and hold capable employees. During the discussions, it was agreed that salaries must be topped-off from general-revenue of each cooperative. Managers of the cooperatives have been authorized to provide this adder.

### III. Training

--- NRECA team-members coordinated preparations for a training course on the subject of "Engineering procedures for Rural Distribution Systems".

This five-day course was held at the Lampung Cooperative during the month of June, with a total of ten participants from the three Cooperatives. Instructors included C.T. Main, NRECA, and PDO-RE staff members. The construction standards manual, prepared by C.T. Main staff, was the reference for training course presentations.

Key sections of the manual were translated to Bahasa Indonesia by local NRECA staff. Drawings of the various construction assembly units (CAU's) were reviewed, and their entry into staking-sheets explained.

--- The NRECA training officer met with PDO-RE Technical-Department staff members on three occasions. Of major importance was discussion on PDO-RE responsibilities during construction of the RE distribution systems. It was recognized that joint-planning, C.T. Main, PDO-RE, and NRECA, was essential to complete preparations for the construction-period.

--- Training materials from completed courses were assembled and photocopied. PDO-RE was supplied with the latest materials for their "training section" library.

--- Other training activities of the NRECA team related to reviewing training-course materials, from completed courses, and selecting key segments to be issued to the cooperatives as "work-procedures".

#### IV. Problem areas

A. Problem areas as related to the NRECA activities, may be pinpointed to the fulfillment of scope-of-work in the months that follow.

With only four team-members, and consultant obligations to both PDO-RE and PLN, adequate coverage of all areas of responsibility will be most difficult. Every possible effort will be exerted to fulfill NRECA duties, however, it is important that all parties concerned recognize the limitation imposed by staff-reductions.

B. Problem areas in the PDO-RE functions may be reported as follows, in a sequence of importance as viewed from NRECA's standpoint:

1. --- Placement of orders for interim generation; to help the PDO-RE demonstration projects, stay "alive"; and to fulfill the power requirements as the basic electrical distribution systems are expanded at each RE project site.
2. --- Contracting for wood-poles, the all important ingredient necessary to complete the construction material inventory requirements prior to distribution-system construction.
3. --- Selection of permanent managers and department heads for the three RE Cooperatives, and development of the organizations necessary to operate and maintain the RE Cooperatives when they become fully operational.
4. --- Procurement of permanent power-supply --- an area where, promises must now be replaced with firm commitments.

We are pleased to note that problem "two" above is in process of being resolved by PDO-RE/C.T. Main action. Unfortunately, this is not true of the other problem areas. The PDO-RE chief and NRECA staff will have in-depth discussion on problems "one" and "three" at the earliest possible date.

## OUTER-ISLAND PROJECTS

### LAMPUNG ELECTRIC COOPERATIVE (SINAR SIWO MEGO)

#### I. General

--- As referred to earlier in this report, the on-site NRECA project advisor departed Indonesia in July. This on-site position, which has been filled by an NRECA team member since late 1978, has been abolished due to funding restrictions.

Jakarta-based NRECA team members will travel to this project hereafter, and provide a minimum of semi-monthly consultant visits.

--- At the Cooperative, construction materials continued to arrive, and were transferred overland from dock to the cooperative's permanent headquarters site at Kotagajah. Improvements were made at the storage site, as overhead-protection was provided to store materials and equipment that must be semi-protected from the elements.

--- Engineering activities continued and all available employees assisted C.T. Main staff in field-staking, staking sheet preparation and construction-assembly-unit tabulation. Priority was given to the area where the GOI will host an agricultural exposition in mid-1983, and in which electrical distribution lines will soon be installed.

--- Plans proceeded for procurement of a wood-pole treatment plant, to be owned and controlled by the cooperative. The treatment plant, with a reported capacity for treating fifty (50) poles per four-hour period, may be operational, at a location within the Cooperative's service area, in the fourth quarter of 1982.

#### II. Organization/management

--- The acting manager of the Cooperative and the NRECA advisor continued their daily-coordination this period.

Major attention was given to; planning for expansion of the distribution-system; manpower requirements for operating and maintaining the expanded electrical facilities/connections; and up-grading power-supply for present needs, and requirements for the immediate future.

--- Member-service department personnel began the task of assigning consumer account-numbers in areas where construction will soon begin. Maps were prepared designating meter-reading routes and assigned consumer numbering.

--- A major break-through was accomplished relating to employee moral problems, which were a result of reduction in salaries due to limited GOI supporting-funds (DIP funds). Management received approval from the PDO-RE to "top-off" salaries for key-employees from available general-revenue. An acceptable wage and salary plan was promptly formulated.

### III. Operations

--- On July 1st, The Cooperative began providing 24-hours electric service from their diesel-engine power plant at Metro, continuing this round-the-clock service throughout the month. This is significant since productive-use of electric service can now be promoted, an activity of little value during the period May 1981 through June 1982 when only 12-hour electric service was available.

--- Operating statistics (see page 18 ) indicate that Kwh consumption grew from 23.5 Kwhs per consumer in June, to an average of 34.8 Kwhs in July. This rather large increase may be contributed "in-part" to 24-hour service, however, NRECA staff believes the July average may level-off to a lower figure in the months that follow.

--- Financial reports from the Lampung cooperative continued to reflect project viability, as revenues exceeded cash expenses throughout the first seven months of 1982 (see operating report on page 20). In fact, revenues were sufficient to defray both cash expenses, and the share of interest expense that relates to operations.

Other key-indicators of the cooperatives sound business operations may be viewed on their June "balance-sheet", found on page # 22 of this report. For example, line #13 and #18 tell the story of house-wiring-program accomplishments: Outstanding H.W. loan balances total only Rp 334,241, while cash in the bank from H.W. collections total Rp 17,521,599.

--- Interesting statistical-data was obtained from a study of the billing summary for the month of May. Only 14% of the consumers were in the minimum-use classification of one to ten Kwhs; 30% in the eleven to twenty grouping; 23% in the twenty one to thirty classification; 21% in the thirty one to fifty grouping; and the balance of 12%, consumed more than fifty Kwh during the 12-hour electric-service periods for that month.

#### IV. Problem areas

(A) --- On July 14th, the Board of Directors of this cooperative was suspended. NRECA understands that the membership will again elect a Board of Directors at a future membership meeting. Meanwhile, one person has been appointed to serve as a go-between; Cooperative manager; DGC Coordinator; membership.

Considering all the problems that have existed relating to Board members and Board functions at this cooperative, it may be erroneous to list suspension of the Board in "problem areas". Time will tell.

(B) --- It may be noted on page 18 , the total services installed at this cooperative by the end of July was 1349 connected services an 144 disconnected services. The number of disconnects approached 10% of the total services installed.

This is a rather high percentage, exceeding the disconnect percentage at the other two pilot RE projects. It may not be cause for alarm, since the per-cent of potential consumers that were connected when distribution lines were installed, is well in excess of feasibility-study projections. (Possibly 70%) However, it does point out a need to screen applicants, with affordability a consideration, before the Cooperatives accept members.

#### Lombok Electric Cooperative (Sinar Rinjani)

##### I. General

--- The NRECA-advisor position, that had existed since April of 1979, was abolished at the end of July. Hereafter, semi-monthly project visitations will be made by the remaining NRECA consultants, alternating between Semarang-based and Jakarta-based NRECA staff.

--- At the project this month, activities centered primarily on operations and maintenance of energized electrical facilities. Distribution system construction has been curtailed awaiting arrival of USAID-loan procured construction materials, and additional generation.

--- Twenty-four hour electric service continued in the five-desa RE demonstration-project area. Consumer-connections totaled as of the end of July two thousand four hundred two (2402).

--- Site-preparation began for the construction of permanent headquarters facilities. Initial deliveries of construction materials arrived and were stored at the cooperatives temporary warehouse in Aikmel.

## II. Organization/management

--- The USAID/W evaluation team visited the project during July. The PDO-RE acting manager of the cooperative, Mr. Ridwan, and the NRECA advisor, provided information and data.

--- The cooperative up-dated position-descriptions for key employment positions. NRECA and the Cooperative's staff coordinated, with a goal of completion of this task in our next reporting period.

--- For several months, the billing and posting department has been behind in their functions. We were pleased to note that, by the end of July, consumer-records for energy sales and housewiring were up-to-date.

--- The cooperative has been attempting to determine an equitable method of collecting for street-lighting services. This period, it was agreed that a flat charge of twenty-five rupiah (Rp 25) per member per month would be applied. This trial-billing is now in effect.

--- Prior to his departure, the NRECA project advisor re-appraised the productive-use potential in the RE demonstration area. Suggestions for greater utilization of electric service were documented and reviewed with management.

## III. Operations

--- Power plant personnel have been struggling to keep the USAID-furnished excess property generators operational. (Numerous electrical and mechanical problems have occurred in recent months) NRECA procured a new voltage regulator, PDO-RE procured diodes and other parts, and both assisted the cooperative wherever possible.

The peak-load on the power plant now approaches 300 Kw's, necessitating the use of four 100Kw gen-sets over the peak load period. Day-time load has grown from the original 23 Kws in early 1981, to approximately 40 Kw's.

#### IV. Problem areas

(A) --- Greater coordination is needed between PDO-RE/cooperative and various GOI national and regional departments. Recently, a community water-system was installed in the cooperatives headquarters desa of Aikmel. The GOI department responsible for the installation, furnished two gen-sets, with a total capacity of 40 Kw's, to provide pumping requirements.

This is regrettable, since the cooperatives distribution lines were near the pump location, and service could have easily been provided. Duplication of generating facilities, and loss of potential day-time load for the cooperative, is certainly not in the best interests of the GOI/USAID RE program.

(B) --- The absence of qualified accountants has previously been reported as a problem area. Financial and statistical reporting remains several months behind.

Steps were taken in July to overcome this handicap. The PDO-RE chief instructed the project coordinator to advertise for accounting applicants. Unfortunately, by July ending, no progress had been reported.

#### Luwu Electric Cooperative (Samabotuna)

##### I. General

--- The NRECA project advisor was on-site during this reporting period.

It is planned that this full-time position will be retained until the end of March, 1983, and the present advisor will continue to function in this capacity.

--- A member of the USAID/W Evaluation Team visited this project in July. The acting manager of the cooperative, and the NRECA advisor, provided transportation and other assistance.

--- A major event this period was the official energization of electrical facilities in Mangkutana, the second desa to receive electric service from the cooperative. Among the dignitaries to attend the June 15th, energization ceremonies were; Junior Minister of Cooperatives, Bustanil Arifin; Sjoufjan Awal, chief of the PDO-RE; and Ima Suwandi, Regional Head of DGC. Members of local and national news media were also in attendance.

--- An accountant from PDO-RE, and the NRECA administrative-finance officer, visited the project this period. One important assignment was the evaluation of banking facilities, and banking procedures followed at the cooperative.

--- The NRECA project advisor continued his efforts to obtain small-size generators, and other property, being declared excess by the Inco Mining Company in Soroako. He received favorable indications that five or more vehicles may be made available to the cooperative, but gensets may not become available for several months.

## II. Organization/management

--- The NRECA project advisor met with the Board of Directors of the Cooperative on several occasions this period.

Major subjects for discussions were; planning for extending electrical facilities in Mangkutana and the energization ceremony; planning for other REIL projects to provide electric service to desa Watu and Sabang; receiving, handling, and storage of construction materials; and personnel problems.

--- Regular meetings were held between the cooperative's manager and key-staff members. At these weekly meetings, the NRECA advisor provided agenda items, and guidance in the establishment of productive staff-meetings as a management tool.

--- Emphasis was placed on improving house-wiring collections; monthly reporting of statistical data; and preparation of operations-department accomplishment and outage reports.

### III. Operations

--- The number of connected-consumers increased to seven hundred forty two (742) by the end of July. Average Kwh consumption per member, 12 hour electric service, was 26 Kwhs in that same month (statistic on page 19 ).

--- Improvements were made in the power plant in Bone Bone. With assistance from NRECA, the cooperative staff installed additional metering, corrected voltage regulation problems, and synchronized gen-sets.

--- The cooperative began holding monthly safety meetings, with power plant and operations department personnel in attendance. The NRECA advisor lead discussion on accidents or near accidents that had occurred, and safety procedures to be followed in the future.

### IV. Problem areas

--- Accountant problems still leads the list of problem areas.

The accountant who was trained for that position left employment with the cooperative in the month of April. Record-keeping and reporting are months behind.

Advertisements were placed in local newspapers in an attempt to solve this problem. By the end of July, two applications had been received. Hopefully the difficulty of attracting qualified accountants to this somewhat-remote location can soon be overcome.

LAMPUNG OPERATING STATISTICS (1982)

	January	February	March	April	May	June	July
Numbers consumers billed	1,346	1,325	1,317	1,323	1,339	1,348	1,349
Temporary disconnects (non payment) (accumulative)	35	108	122	119	131	150	144
Total revenue	Rp 3,107,890	Rp 3,063,215	Rp 3,126,730	Rp 3,065,455	Rp 3,438,925	Rp3,301,190	Rp3,732,165
Total kwh billed	28,475	27,339	30,427	28,409	38,691	34,152	46,971
Average revenue per consumer	Rp 2,308	Rp 2,291	Rp 2,374	Rp 2,317	Rp 2,568	Rp2,449	Rp 2,786
Average number kwh per consumer	21.16	21	23	21.5	28.9	23.5	34.8
kwh generated	29,174	23,214	25,754	29,795	32,003	31,400	37,132
Liters diesel fuel consumed	10,980	9,782	11,485	14,212	15,083	12,930	16,893
kwh's generated per liter	2.71	2.37	2.24	2.09	2.1	2.42	2.19
Fuel and lube oil cost	Rp 778,370	Rp 924,096	Rp 1,078,981	Rp 1,326,902	Rp 1,410,071	Rp1,224,653	Rp1,551,439
Fuel cost per kwh generated	Rp 26.17	Rp 40	Rp 42	Rp 44.5	Rp 44	Rp39	Rp 41,78
% system losses	4.5	-	-	4.5	-	-	-
Peak kw demand	143	145	145	148	156	152	168

LUWU OPERATING STATISTICS (1982)

BONE BONE

MANGKUTANA

	APRIL	MAY	JUNE	JULY	MAY	JUNE	JULY
Number consumers billed	403	405	473	489	196	253	253
Services disconnected, months-end	5	3	8	3	-	-	4
Total revenue	Rp 884,650	Rp 808,390	Rp 980,100	Rp 1,103,485	Rp 295,655	Rp 435,865	Rp 512,350
Total Kwh billed	10,755	9,960	12,343	14,270	3,066	4,719	5,855
Office use	176	124	172	143	-	-	-
Average revenue per consumer	Rp 2,195	Rp 1,995	Rp 2,072	Rp 2,256.60	Rp 1,508	Rp 1,723	Rp 2,025
Average number Kwh consumer	27	25	26	29	16	19	23
Kwh generated	11,991	12,501	14,460	16,830	-	5,369	7,100
Liters diesel fuel consumed	5,540	5,825	6,100	6,750	3,000	3,285	4,300
Kwh's generated per liter	2.16	2.15	2.37	2.5	1	1.63	1.7
Fuel and lube oil cost	Rp 643,850	Rp 666,125	Rp 669,750	Rp 823,250	Rp 390,750	Rp 304,830	Rp 453,650
Fuel cost per Kwh generated	Rp 54	Rp 53	Rp 46	Rp 49	Rp 125	Rp 57	Rp 64
% system losses	9	20	14	15	-	12	16
Peak Kw demand	68	65	72	75	-	28	34

MONTHLY FINANCIAL AND STATISTICAL REPORT To : Project Development Office For Rural Electrification	" SINAR SIWO MEGO " LAMPUNG Name of Cooperative For the month of: <u>June</u> , 19 <u>82</u> .
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Section A : Statement of Operations

	This month Last Year	This month This Year	This Year To Date
<b>REVENUE :</b>			
1. Operating revenue	-	3.301.190,-	19.074.805,-
2. Miscellaneous Revenue	-	14.300,-	44.275,-
3. TOTAL REVENUE	-	3.315.490,-	19.119.080,-
<b>EXPENSES</b>			
4. Power Plant - Fuel	544.660,-	1.220.141,-	6.731.181,-
5.     - Operations	8.215,-	405.000,-	2.453.399,-
6.     - Maintenance	-	-	59.847,-
7. TOTAL PRODUCTION EXPENSES	552.875,-	1.625.141,-	9.244.427,-
8. Distribution - Operations	-	134.238,-	345.753,-
9.     - Maintenance	-	73.619,-	515.620,-
10. TOTAL DISTRIBUTION EXPENSES	-	207.857,-	861.373,-
11. Consumer-accounts expense	-	313.811,-	1.970.214,-
12. General and Administrative	1.668.675,-	379.177,-	2.398.929,-
13. Sales expense	-	-	-
14. TOTAL OPERATING EXPENSES	2.421.550,-	2.525.986,-	14.474.943,-
15. Gross operating Margin (3 minus 14)	( 2.421.550,-)	789.504,-	4.644.137,-
16. Interest expense	-	708.719,-	2.492.737,-
17. Cash Operating Margin (15 minus 16)	-	80.785,-	2.151.400,-
18. Depreciation/Amortization	-	1.096.390,-	4.926.292,-
19. Net Operating Margin (17 minus 18)	( 2.421.550,-)	( 1.015.605,-)	( 2.774.892,-)
<b>NON-OPERATING - REVENUES</b>			
20. Housewiring income	984.941,-	488.142,-	1.220.993,-
21. Other income	-	298.096,-	728.626,-
22. TOTAL NON-OPERATING REVENUE	984.941,-	786.238,-	1.949.619,-
<b>NON-OPERATING EXPENSE</b>			
23. Housewiring expense - Material	1.190.605,-	192.144,-	601.490,-
24.     - Labor	142.450,-	37.875,-	105.750,-
25.     - Other	673.009,-	101.142,-	363.345,-
26. TOTAL NON-OPERATING EXPENSE	2.006.064,-	331.161,-	1.070.585,-
27. Non Operating Margin (22 minus 26)	1.021.123,-	455.077,-	879.034,-
28. TOTAL MARGIN (19 plus 27)	( 3.442.673,-)	( 560.528,-)	( 1.895.858,-)
29. Contribution from DIP Fund	740.975,-	1.674.554,-	13.102.280,-
30. TOTAL MARGIN INCLUDING DIP (28+29)	( 2.701.698,-)	( 1.114.026,-)	(11.206.422,-)

Section B : Consumers sales and Revenue Data.

	This Month This Year			This Month Last Year		
	# Rec. Service	Kwh s Billed	Rp. Amount	# REC. Service	KWH s Billed	Rp. Amount
1. Residential	1.348	34.152	3.301.190			
2. Commercial						
3. Industrial						
4. Public Buildings		353	11.825			
5. Irrigation						
6. Street Lights		1.476	49.446			
7. Other						
<b>T O T A L</b>	1.346	35.981	3.362.461			
Average Revenue per Consumer			Rp. 2.449,-	Rp.		
Average Revenue per kwh billed			Rp. 97,-	Rp.		
Average kwh consumption per consumer			25.			

MONTHLY FINANCIAL AND STATISTICAL REPORT To : Project Development Office For Rural Electrification	" SINAR RINJANI " Name of Cooperative For the month of: <u>    A P R I L    </u> , 19 <u>82</u> .
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Section A : Statement of Operations

	March up to May Last Year	This month This Year	This Year - To Date
<b>REVENUE :</b>			
1. Operating revenue	6.861.310,-	3.189.150,-	12.504.360,-
2. Miscellaneous Revenue	41.964,-	20.938,-	162.551,-
3. TOTAL REVENUE	6.903.274,-	3.210.088,-	12.666.911,-
<b>EXPENSES</b>			
4. Power Plant - Fuel	2.561.309,-	2.156.508,-	7.893.789,-
5.                   - Operations	1.062.750,-	621.428,-	1.557.238
6.                   - Maintenance	910.380,-	1.501.184,-	4.646.586,-
7. TOTAL PRODUCTION EXPENSES	4.534.439,-	4.279.120,-	14.097.613,-
8. Distribution - Operations	542.179,-	47.310,-	389.710,-
9.                   - Maintenance	114.083,-	53.442,-	266.409,-
10. TOTAL DISTRIBUTION EXPENSES	656.262,-	100.752,-	656.119,-
11. Consumer-accounts expense	799.699,-	298.752,-	1.338.126,-
12. General and Administrative	3.681.625,-	886.427,-	3.691.363,-
13. Sales expense	-	35.000,-	140.000,-
14. TOTAL OPERATING EXPENSES	9.652.025,-	5.600.051,-	19.923.221,-
15. Gross operating Margin (3 minus 14)	( 2.748.751,-)	( 2.389.963,-)	( 7.256.310,-)
16. Interest expense	4.209.805,-	1.137.069,-	4.452.064,-
17. Cash Operating Margin (15 minus 16)	( 6.958.556,-)	( 3.527.032,-)	( 11.708.374,-)
18. Depreciation/Amortization	1.648.647,-	943.459,-	4.143.133,-
19. Net Operating Margin (17 minus 18)	( 8.067.203,-)	( 4.470.491,-)	( 15.851.507,-)
<b>NON-OPERATING - REVENUES</b>			
20. Housewiring income	1.648.628,-	732.187,-	3.698.964,-
21. Other income	30.052,-	16.620,-	92.417,-
22. TOTAL NON-OPERATING REVENUE	1.678.680,-	748.807,-	3.791.381,-
<b>NON-OPERATING EXPENSE</b>			
23. Housewiring expense - Material	1.083.643,-	554.444,-	2.787.923,-
24.                   - Labor	242.700,-	96.500,-	510.500,-
25.                   - Other	330.823,-	198.950,-	404.415,-
TOTAL NON-OPERATING EXPENSE	1.657.166,-	849.894,-	3.702.838,-
Non Operating Margin (22 minus 26)	( 21.514,-)	( 101.087,-)	( 88.543,-)
TOTAL MARGIN (19 plus 27)	( 8.585.689,-)	( 4.571.578,-)	( 15.762.964,-)
Contribution from DIP Fund	11.792.235,-	1.854.330,-	15.501.291,-
TOTAL MARGIN INCLUDING DIP (28+29)	( 3.206.549,-)	( 2.717.248,-)	( 261.673,-)

Section B : Consumers sales and Revenue Data

	This Month This Year			This Month Last Year		
	# rec. Service	KWH s Billed	Rp. Amount	# REC. Service	KWH s Billed	Rp. Amount
1. Residential	2.078	38.464	3.137.200,-		28.706	2.145.785,-
2. Commercial						
3. Industrial						
4. Public Buildings						
5. Irrigation						
6. Street Lights	5	2.186	51.950,-	3	1.100	22.660,-
7. Other						
<b>T O T A L</b>	2.083	40.650	3.189.150,-		29.806	2.168.445,-
Average Revenue per Consumer			Rp. 1.531,-			Rp
Average Revenue per kwh billed			Rp. 78,45			Rp. 72,75
Average kwh consumption per consumer			20,-			

Per 30 Juni 1982.

AKTIVAInstalasi

1.	Biaya Organisasi (Organization Expense)	Rp	6.662.683,-
2.	Instalasi Pembangkitan Tenaga (P.P. Plant)	"	32.311.962,-
3.	Instalasi Distribusi (Distribution Plant)	"	256.677.010,-
4.	Instalasi Umum (General Plant)	"	37.719.570,-
5.	Jumlah Instalasi Dalam Pelayanan (Total)	"	333.371.225,-
6.	Dikurangi: Depresiasi (LESS: Depreciation)	"	18.705.560,-
7.	Pekerjaan Konstruksi Sedang Berjalan (CWIP)	"	61.525.545,-
8.	Nilai Neto Instalasi Utility (baris 5 plus 7 minus 6) (Net Utility Plant)	Rp	<u>376.191.210,-</u>

Tunai (Cash)

9.	Dana Terbatas, Simpanan Anggota (Membership Fees)	Rp	1.816.192,-
10.	Dana Umum (General Funds)	"	28.446.996,-
11.	Dana Konstruksi, Rekening Pengurus (CF, Board acct.)	"	1.288.383,-
12.	Dana Konstruksi, Rekening Manager (CF, Managers acct.)	"	6.820,-
12A.	Kas Kecil (Petty Cash)	"	-
13.	Dana Housewiring, Rekening Pengurus (HW, Board acct.)	"	17.521.595,-
14.	Dana Housewiring, Rekening Manager (HW, Managers acct.)	"	-
15.	Jumlah Tunai (baris 9 + 10 + 11 + 12 + 12A + 13 + 14 + 15) (Total)	Rp	<u>49.079.986,-</u>

Penerimaan (Receivables)

16.	Piutang - Tenaga Listrik (AR, Energy sales)	Rp	7.683.849,-
17.	Piutang - Housewiring (Acct. Receivables, HW)	"	334.241,-
18.	Piutang - Lain-lain (Acct. Receivables, Other)	"	69.620,-
19.	Piutang - Karyawan & Pengurus (AR, Employees & Directors)	"	-
20.	Jumlah Piutang (baris 16 + 17 + 18 + 19) (Total)	Rp	<u>8.807.710,-</u>

Inventaris dan Persediaan (Materials & Supplies)

21.	Bahan Bakar (Fuel)	Rp	892.815,-
22.	Material/perbekalan listrik (Materials, supplies)	"	60.604.145,-
23.	Material/perbekalan housewiring (Material, supplies, housewiring)	"	12.466.992,-
24.	Perbekalan kantor (Office supplies)	"	-
25.	Material/perbekalan power plant (Power plant & other)	"	-
25A.	Biaya penyimpanan (Stores expense)	"	1.606.212,-
26.	Jumlah inventaris dan persediaan (baris 21 + 22 + 23 + 24 + 25 + 25A) (Total)	Rp	<u>75.370.164,-</u>

Pembayaran Dimuka (Pre-payments)

27.	Asuransi (Insurance)	Rp	-
28.	Sewa gedung (Building rental)	"	-
29.	Sewa alat-alat (Equipment)	"	-
30.	Lain-lain (Other)	"	-
31.	Jumlah pembayaran dimuka (baris 27 + 28 + 29 + 30) (Total)	Rp	<u>-</u>

Dana Kredit yang Tersedia (Loan Funds available)

* 32.	Dana Rupiah tersimpan (Rupiah loan, uncommitted)	Rp	2.098.183.032,-
33.	Dana Rupiah, sudah diambil (Rupiah loan, committed)	"	-
34.	Dana US Dollar, tersimpan (US\$ loan, uncommitted)	"	405.099.411,-
35.	Dana US Dollar, sudah diambil (US\$ loan, committed)	"	-
36.	Dana Dollar Kanada, tersimpan (Can.\$ loan, uncommitted)	"	5.000.000.000,-
37.	Dana Dollar Kanada, sudah diambil (Can.\$ loan, committed)	"	-
38.	Jumlah Dana Kredit yang Tersedia (baris 32 + 33 + 34 + 35 + 36 + 37) (Total)	Rp	<u>7.503.282.443,-</u>
39.	Hutang yang Ditangguhkan (Deferred Debits)	Rp	<u>1.928.166.890,-</u>
40.	Jumlah AKTIVA (baris * + 15 + 20 + 26 + 31 + 38 + 39) (Total Assets)	Rp	<u>9.940.378.403,-</u>

\* Dikurangi baris 65, Bunga Yang Terkumpul  
(Less line #65, Accrued Interest)

Prepared by:  
(Disiapkan oleh:)

Approved by:  
(Disetujui oleh:)

Date:

(Tanggal:)

- 22 -

Date submitted to PDO-RE:

(Tanggal penyerahan ke PDO-RE:)

### P A S I V A

#### Sisa Hasil Usaha (Liabilities)

41. Anggota, yang disetujui Pengurus (Memberships approved)	Rp 1.691.000,-	
42. Anggota, belum disetujui Pengurus (Memberships unapproved)	" 43.000,-	
42A. Bunga untuk keanggotaan (Interest credited)	" 82.192,-	
43. Jumlah Simpanan Anggota (baris 41 + 42 + 42A) (Total)		Rp 1.816.192,-
44. Sisa hasil usaha, operasional tahun lalu (Operating margin, prior years)	" 8.498,-	
45. Sisa hasil usaha, non-operasi tahun lalu (Non-operating margin, prior years)	" 788.371,-	
46. Sisa hasil usaha, operasional tahun ini (Operating margin, this year)	" ( 2.774.892,- )	
47. Sisa hasil usaha, non-operasi tahun ini (Non-operating margin, this year)	" 879.034,-	
48. Jumlah sisa hasil usaha (baris 44 + 45 + 46 + 47) (Total)		Rp 1.098.989,-

#### Hutang Jangka Panjang (Long-term Debt)

49. Pinjaman Rupiah di BRI (BRI Loan)	Rp 2.369.625.000,-	
50. Pinjaman US Dollar di BRI (US \$ Loan)	" 2.500.000.000,-	
51. Pinjaman Dollar Kanada di BRI (Can. \$ Loan)	" 5.000.000.000,-	
52. Jumlah Hutang Jangka Panjang (baris 49 + 50 + 51) (Total)		Rp 9.869.625.000,-

#### Hutang Jangka Panjang (Account Payable)

53. Rekanan/Supplier (Suppliers)	Rp -	
54. Kontraktor (Contractors)	" 612.685,-	
55. Bahan bakar (Fuel)	" -	
56. Lain-lain (Other)	" 25.000,-	
57. Jumlah Hutang Jangka Pendek (baris 53 + 54 + 55 + 56) (Total)		Rp 637.685,-

#### Simpanan Langgan (Consumer Deposits)

58. Tenaga Listrik (Energy Sales)	Rp 4.438.400,-	
59. Housewiring	" -	
60. Simpanan Lain-lain (Other)	" -	
61. Jumlah Simpanan Langgan (baris 58 + 59 + 60) (Total)		Rp 4.438.400,-

#### Bunga Hutang (Interest Charges)

62. Pinjaman Rupiah - BRI (BRI Loan)	Rp 5.782.532,-	
63. Pinjaman US Dollar - BRI (US \$ Loan)	" 4.639.318,-	
64. Pinjaman Dollar Kanada - BRI (Can. \$ Loan)	" -	
65. Jumlah bunga hutang (baris 62 + 63 + 64) (Total)		Rp 10.421.850,-

#### Berbagai Pasiva Lainnya (Accruals)

66. Sewa (Rentals)	Rp -	
67. Gaji (Payroll)	" -	
68. Cuti Karyawan (Vacation)	" 5.000,-	
69. Lain-lain (Other)	" 336.380,-	
70. Jumlah Pasiva Lain-lain (baris 66 + 67 + 68 + 69) (Total)		Rp 341.380,-
71. Perkiraan sebelah kredit yang ditangguhkan (Deferred Credits)		Rp -

#### Bantuan Pemerintah (Contribution)

72. Konstruksi (Construction)	Rp 24.096.955,-	
73. Operasional (Operations)	" 30.099.930,-	
74. Jumlah Bantuan Pemerintah (baris 71 + 72) (Total)		Rp 54.196.885,-
75. Jumlah PASIVA (Total LIABILITIES)		Rp 9.940.378.403,-

## NERACA - K.L.P. "SINAR RINJANI"

per 31 Maret 1982.

## A K T I V A

Instalasi

1.	Biaya Organisasi (Organization Expense)	Rp.	14.497.777,-	
2.	Instalasi Pembangkitan Tenaga (P.P. Plant)		108.038.889,-	
3.	Instalasi Distribusi (Distribution Plant)		319.630.378,-	
4.	Instalasi Umum (General Plant)		50.298.550,-	
5.	Jumlah Instalasi Dalam Pelayanan (Total)		492.465.594,-	
6.	Dikurangi: Depresiasi (LESS: Depreciation)	(	12.302.829,-)	
7.	Pekerjaan Konstruksi Sedang Berjalan (CWIP)		86.498.760,-	
8.	Nilai Neto Instalasi Utility (baris 5 plus 7 minus 6) (Net Utility Plant)	Rp	566.661.525,-	

Tunai (Cash)

9.	Dana Terbatas, Simpanan Anggota (Membership Fees)	Rp	2.113.356,-	
10.	Dana Umum (General Funds)		8.195.173,-	
11.	Dana Konstruksi, Rekening Pengurus (CF, Board acct.)		32.400,-	
12.	Dana Konstruksi, Rekening Manager (CF, Managers acct.)		5.945.113,-	
12A.	Kas Kecil (Petty Cash)		6.463.883,-	
13.	Dana Housewiring, Rekening Pengurus (HW, Board acct.)		11.400.265,-	
14.	Dana Housewiring, Rekening Manager (HW, Managers acct.)		--	
15.	Jumlah Tunai (baris 9 + 10 + 11 + 12 + 12A + 13 + 14 + 15) (Total)	Rp	34.150.190,-	

Penerimaan (Receivables)

16.	Piutang - Tenaga Listrik (AR, Energy sales)	Rp	4.017.540,-	
17.	Piutang - Housewiring (Acct. Receivables, HW)		12.666.622,-	
18.	Piutang - Lain-lain (Acct. Receivables, Other)		5.480.169,-	
19.	Piutang - Karyawan & Pengurus (AR, Employees & Directors)		45.950,-	
20.	Jumlah Piutang (baris 16 + 17 + 18 + 19) (Total)	Rp	22.210.281,-	

Inventaris dan Persediaan (Materials & Supplies)

21.	Bahan Bakar (Fuel)	Rp	393.432,-	
22.	Material/perbekalan listrik (Materials, supplies)		55.380.962,-	
23.	Material/perbekalan housewiring (Material, supplies, distr.)		3.071.739,-	
24.	Perbekalan kantor (Office supplies) housewiring)		5.418.681,-	
25.	Material/perbekalan power plant (Power plant & other)		8.468.051,-	
25A.	Biaya penyimpanan (Stores expense)		426.595,-	
26.	Jumlah inventaris dan persediaan (baris 21 + 22 + 23 + 24 + 25 + 25A) (Total)		73.159.460,-	

Pembayaran Dimuka (Pre-payments)

27.	Asuransi (Insurance)	Rp	--	
28.	Sewa gedung (Building rental)		--	
29.	Sewa alat-alat (Equipment)		--	
30.	Lain-lain (Other)		59.718.567,-	
31.	Jumlah pembayaran dimuka (baris 27 + 28 + 29 + 30) (Total)	Rp	59.718.567,-	

Dana Kredit yang Tersedia (Loan Funds available)

32.	Dana Rupiah tersimpan (Rupiah loan, uncommitted)	Rp	1.737.162.500,-	
33.	Dana Rupiah, sudah diambil (Rupiah loan, committed)		516.849.467,-	
34.	Dana US Dollar, tersimpan (US\$ loan, uncommitted)		2.125.000.000,-	
35.	Dana US Dollar, sudah diambil (US\$ loan, committed)		--	
36.	Dana Dollar Kanada, tersimpan (Can. \$ loan, uncommitted)		4.468.750.000,-	
37.	Dana Dollar Kanada, sudah diambil (Can. \$ loan, committed)		--	
38.	Jumlah Dana Kredit yang Tersedia (baris 32 + 33 + 34 + 35 + 36 + 37) (Total)	Rp	7.814.063.033,-	
39.	Debet yang Ditangguhkan (Deferred Debits)	Rp	1.841.562,-	
40.	Jumlah AKTIVA (baris 8 + 15 + 20 + 26 + 31 + 38 + 39) (Total Assets)	Rp	8.571.804.618,-	

\* Dikurangi \* is 65, Bunga Yang Terkumpul  
(Less: is 65, Accrued Interest)



LOMBOK-COOPERATIVES ACTIVITIES



Mr. Ridwan, Acting manager of the Cooperative (center) conducts Dr. James Keddie, consultant with RMI, Mataram, on a tour of a furniture manufacturing (productive-use) establishment.



Chief warehouseman, Mr. Muhamad, proudly displays the new material-racks installed in the cooperative's temporary warehouse.

LAMPUNG-COOPERATIVES ACTIVITIES



The "Overhang" was extended around the building being used to store USAID-procured construction materials, (Kotagajah, Lampung) to accommodate large quantities of materials.



Numerous reels of conductor, to be used in the electrical distribution system, are stored on protective-timbers near the building pictured above.

TRAINING



Employees of the Lampung Cooperative who attended the "Engineering" training course held at Metro, Lampung, June 1982.



Employees of the Lombok Cooperative receiving instruction from Mr. Alfian Nurmalay, PDO-RE training officer, and Mr. Louie Sansing, NRECA training officer. This course on "work-procedures", was held in Aikme], Lombok.

PERSON-MONTHS BY POSITION, NRECA CONSULTANT TEAM  
 (Contract as amended September 11, 1981)

POSITION	PRESENTLY FILLED BY	CONTRACT PERSON-MONTHS	EXPENDED THIS PERIOD	EXPENDED THROUGH JULY		PERCENT OF CONTRACT
				PLN	PDO	
Team Leader	Peter McNeill	54	1	10	36	85
Training Officer	Louie Sansing	45	1	7	35	93
Administrative Officer	Ray Shoff	33	1	5.5	27.5	100
PLN Advisor	Sam Adkins	42	1	40.5	.5	98
Lampung Advisor	Claude Franke	54	1	.5	45.5	85
Lombok Advisor	Paul Swanson	50	1	0	42	84
Luwu Advisor	John DeFoor	49	1	0	41	84
Short-term Advisors		19	0	14	3	89
Consultants		8	0	7.5	.5	100
		354	7	85	231	89

Summary of Expenditures

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

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

	Budget	Total Expense To Date	Prior Billings	Current Billings
Salaries - Field	\$ 1,095,000	\$ 942,741.61	\$ 918,237.87	\$ 24,503.74
Salaries - Home	187,000	145,245.60	140,866.42	4,379.18
Fringe Benefits	416,000	345,905.38	337,071.83	8,833.55
Consultant Fees	34,706	33,906.25	33,906.25	
Allowances	398,000	314,854.69	308,716.40	6,138.29
Travel and Transportation	386,470	287,787.54	285,823.52	1,964.02
Other Direct Costs	140,000	91,153.42	89,230.18	1,923.24
Overhead	292,000	462,859.00	450,728.17	12,130.83
Equipment and Materials	28,000	18,931.46	18,931.46	
TOTAL	\$ 2,977,176	\$ 2,643,384.95	\$ 2,583,512.10	\$ 59,872.85