

PD-AAJ-544

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**RURAL ELECTRIFICATION PROJECTS
INDONESIA**



NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

JAKARTA, INDONESIA

IRECA TEAM REPORT

PLN

INDONESIA

DECEMBER 1979

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M O N T H L Y R E P O R T

INDONESIAN TEAM REPORT

UNITED STATES AGENCY FOR
INTERNATIONAL DEVELOPMENT

Contract No. AID/ASIA CI347

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 (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, and 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 for 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 transmissions grid in Central Java.

The National Rural Electric Cooperative Association through their International Programs Division are 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.

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PLN ACTIVITIES AND DEVELOPMENT

Activities during the month of December, 1979 at PLN in Semarang, indicate considerable progress in the implementation of the seven Rural Electric Projects in Central Java. Completion of these projects will provide adequate electric service to over 200,000 residences and small businesses in this area.

Each of the seven projects will operate as a separate branch from the PLN district headquarters in Semarang. In preparation to establish the branch operations PLN Wilayah XIII and P.I. Ring, along with NRECA and C.T. Main have begun activities related to the construction of the headquarters facilities at each project.

Design adjustments of the headquarters and storage buildings at each project site are in progress and upon completion will be reviewed for approval. Equipment needs for each building have also been established and will become a part of the project.

All the headquarters sites were visited during the month of December by consultants in Semarang along with representatives from USAID, Jakarta. The purpose of the visit was to view the property purchased by PLN for each project Headquarters Complex and assess the degree of site preparation necessary before the erection of the buildings can begin.

In order to establish criteria for monitoring the degree of acceptability of electric service in the rural areas by the population PLN constructed a Demonstration Project at Klaten in Central Java, one of the proposed project areas. Electric service was provided to approximately 2000 homes in the Desas of Jonggrangan, Karanganyam and Gergungan. After 8 months of operations, 93.4% of the households (1868) have requested service and are now enjoying the convenience of electric service. Information gained from this project will be of use in viewing the consumer sign-ups in the implementation of Rural Electrification in Central Java.

The training program for the employees who will operate the Rural Electric Projects in Central Java is operational. Presently there are 10 PLN management employees in the United States receiving instructions from Electric Utilities in management techniques, and also observing operational procedures. During the month of December, the itinerary was established for 2 additional employees from PLN Pusat to proceed to the United States in early January 1980, to observe and evaluate the training of these 10 employees. After the completion of the training in the United States the last of January, 1980, the 10 management employees, along with the 2 evaluators will proceed to the Philippines and observe utility operations in that area.

Considerable work was accomplished during the month of training courses for the project operational and maintenance employees. Because of changes in the construction schedule some of the training dates are being adjusted to relate more closely to the arrival of material.

NRECA and C.T. Main, Inc. employees in Semarang combined their efforts during the month to establish specifications and requirements for the material that will be required to wire the houses in the Rural Electric Project areas of Central Java. It is estimated that sufficient amounts of housewiring material to wire approximately 85,000 houses will be required during the project construction period and the first 3 years of operations. Specifications and requirements for kilowatt hour metering of each customer was also established.

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Meetings During the Month

- November 25 - Jakarta - Discussions with PLN Training Dept. relative to course criteria and dates.
- 26 - Jakarta - USAID - Discuss departure of Group #III to the United States.
- December 4 - Semarang - NRECA, USAID, P.I. Ring, Wilayah XIII and C.T. Main, Inc. Discuss wood poles and Headquarters Complexes.
- 6 - Jakarta - PLN Pusat Training Department - training course adjustments.
- 6 - Jakarta - USAID - Project meeting.
- 11 - Semarang - Wilayah XIII with representatives of USAID, NRECA and Wilayah XIII, General Activities.
- 14 - Semarang - C.T. Main, Inc. discussions with Project Engineer relative to headquarters facilities.
- 17 - Semarang - Wilayah XIII - Headquarters buildings C.T. Main, NRECA - Wilayah XIII.
- 21 - Semarang - P.I. Ring, C.T. Main, NRECA - and wood pole suppliers - wood pole specifications and requirements.
- 26 - Jakarta - Team meeting.
- 26 - Jakarta - USAID - C.T. Main - PLN and NRECA - Discuss IFB tools and equipment.

Field Trips

- December 10 - Travel to Yogyakarta, meet with Mr. Pete McNeil, NRECA Team Leader in the Philippines - review the Klaten Demonstration Project.
- 19 - Visit all of Central Java Rural Electric Projects.
- 20 - Sites with Mr. Beryl Morrow, Project Engineer, C.T. Main, Inc. and Mr. Bob Davis - Project Engineer from USAID.

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GENERAL

Mr. Tom Quirk, Assistant Administrator, NRECA International Programs Division, came to Jakarta in December to negotiate contract amendments to include feasibility studies and increase the number of man-months as were contemplated in the initial contract.

The amended contract provides that NRECA representatives along with USAID and GOI representatives will visit up to 40 areas proposed by the GOI as possible rural electrification sites.

After site visits and a review of the pertinent data collected in accordance with the agreed upon selection criterion, the NRECA team will make a recommendation, based on an order of priority, as to which areas can most readily be developed into technically, economically and financially viable rural electrification systems.

A minimum of five printed site specific feasibility studies will be provided to USAID and the GOI by April 15, 1980 and a minimum of fifteen additional studies shall be provided by December 31, 1980.

The NRECA Team Leader made a field trip to West Kalimantan to survey potential RE sites. As a result of this field trip an additional field trip was planned.

Two team members, along with Drs. Hoer Sutrisno, DGC Jakarta, made field trips to West Kalimantan to survey potential RE sites. Two sites were selected for a survey. One site selection was the area between Singkawang and Bengkayang, the other was between Anjungan and Karangan

One problem in West Kalimantan is the lack of roads. Rivers are used in many cases for transportation. Much of the travel in West Kalimantan would require the use of boats and/or motorcycles. Another problem is that many people live a long distance from developed roads.

The 1980 budget for the Feasibility Study Team was completed and ready to be sent to PDO.

The budget for the NRECA team was also completed and ready to be sent to PDO.

The budget preparation for the three cooperatives is extremely difficult. Some of the most important questions that remain unanswered are:

1. Will a headquarters building be constructed in 1980?
2. Who owns the furniture and equipment presently being used in the coop office?
3. Will this furniture and equipment be available for use in the future or will it be replaced with new furnishings?
4. What are the plans and goals for the year 1980?

To summarize the problems there has been very little communication. Few questions have been answered. Information asked for has not been received.

Two official guidelines have been adopted by PDO. They are Internal Organization No.1: Arrangements of Board Meetings and External Organization No.1: Membership Enrollment.

Mr. Pete McNeil, the Philippines NRECA Team Leader, visited in Jakarta one week. He visited with officials of USAID and the Government of Indonesia.

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NRECA TEAM MEMBERS

<u>NAME</u>	<u>TITLE</u>	<u>ADDRESS</u>
Dennis Wilson	Team Leader	Ampera Complex, B-1 Ampera Raya 16 Jakarta Selatan PH: 732225
Lloyd Lake	Sr. RE Spec.	P.O. Box 88 Tanjung Karang Lampung PH: 52058
Ray Shoff	Training Officer Sr. RE Spec.	Jl. Dukuh Patra II/73 Jakarta Selatan PH: 824308 ext. 394
Louie Sansing	Sr. RE Spec.	Kotak Pos 43 Ampenan Lombok PH: 23517
Paul Swanson	Sr. RE Spec.	Jl. Dukuh Patra II/74B Jakarta Selatan PH: 824308 ext. 206
Sam Adkins	Sr. RE Spec.	c/o C.T. Main Inc. Box 26 Semarang PH: 024-311832
Bill Grigg	Administrative Officer	Gumuk 16A Kemang Jakarta Selatan PH: 794403

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REPORT OF MAN MONTHS EXPENDED/NRECA CONSULTANT TEAM

PERSONNEL	TOTAL MAN MONTHS	MONTH OF DECEMBER	CUMULATIVE THROUGH DECEMBER	PERCENT OF CONTRACT
Long Term Specialists:				
Dennis Wilson, Team Leader	19	1	14.3	75.26
Ray Shoff, Training Officer	19	1	12.7	66.84
Bill Grigg, Administrative Officer	19	1	6.45	33.94
Sam Adkins, PLI Advisor	42	1	9.7	23.09
Rural Electrification Specialists:				
Louie Sansing	44	1	10.6	24.09
Lloyd Lake	44	1	15.3	34.77
Paul Swanson	44	1	10.55	23.97
TOTAL MAN MONTHS	231	7	79.6	34.45
Short Term Specialist	30	0	6.1	20.3

FINANCE PAGE

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

AID/ASTA - C 1347

Date September 1979

Period of Contract 8/25/78-8/25/82

	Budget	Total Expense To Date	Prior Billings	Current Billings
Salaries - Field	713,820	172,314.66	157,316.44	14,998.22
Salaries - Home	96,400	33,116.05	30,068.53	3,047.52
Fringe Benefits	203,533	66,701.90	61,967.17	4,734.73
Consultant Fees	20,000	----	----	----
Allowances	313,620	81,731.32	67,315.40	14,415.92
Travel & Trans.	234,750	55,992.15	50,171.43	5,820.72
Other Direct Costs	71,000	19,435.53	17,498.44	1,937.09
Overhead	180,049	47,970.29	43,0007.60	4,962.69
Equipment & Mat'ls.	15,000	5,622.07	2,365.54	3,256.53
TOTAL	1,838,172	482,383.97	429,710.55	53,173.42

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PLN TRAINING COURSE SCHEDULE

COURSE#	TITLE	1979		1980				1981				1982				
	Introduction/Supervision	■	■													
	Orientation/Customer Contact	x	x													
101	Construction Supervision			x	x											
102	Trainers Training			y	x											
103	Dist. Plan/Design			y	x	x	x									
104	Apprentice Lineman			y	x											
105	Housewiring					x	y	x	y	y						
106	Material Logistics					x										
107	Accounting/Reporting					y	x									
108	Fleet Apparatus						x									
109	Meter Reading							x								
110	Productive Use								y							
111	Engineering Dist. System								y	y						
112	Material/Warehouse								y	y						
113	Accounting Reporting									y	x					
114	Sectionalizing/Protection										x	x				
115	Operation/Maintenance										x	y				
116	Supervision											x	y			
117	Safety											y	y			
118	Information												x	x		
119	Communication System													x	x	
120	Maintenance														x	x

Courses scheduled y
 Courses completed ■

10

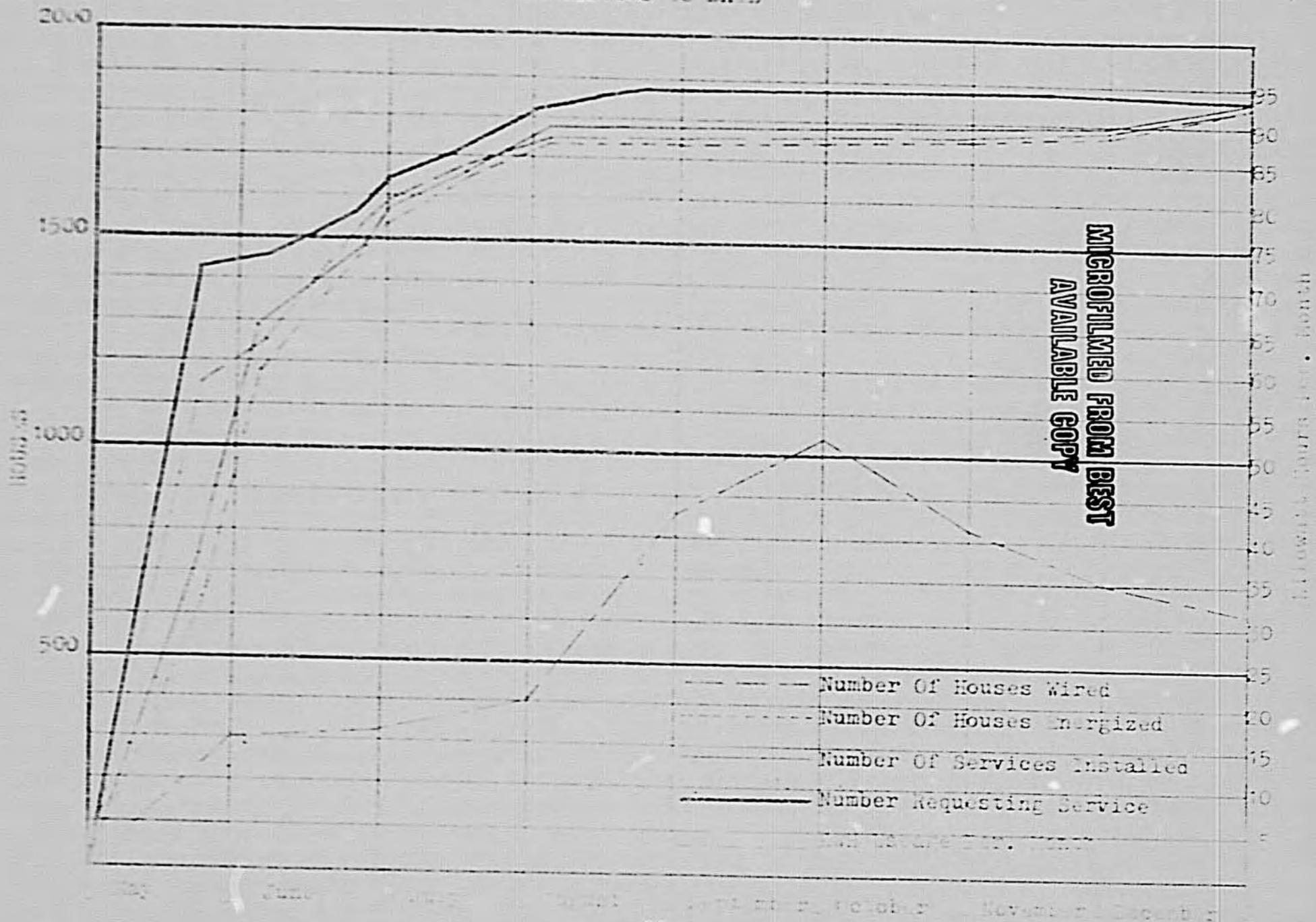
HOUSEWIRING AND SERVICE INSTALLATION REPORT

PERIOD ENDING December 31, 1979PROJECT AREA KLATEN

ITEM	DESCRIPTION	TOTAL TO DATE		TOTAL THIS PERIOD	TOTAL IN PROJECT	PERCENT OF TOTAL	NUMBER OF DAYS THIS PERIOD	AVERAGE PER DAY	NUMBER OF WORKERS	AVERAGE MANDAYS PER HOUSE
		LAST PERIOD DATE Dec.1	THIS PERIOD DATE Dec. 31							
1	Number of house completed (wiring)	1852	1868	16	2000	93.4	22	.73		
2	Number of houses started, not complete	16		16						
3	Total	1868	1868							
4	Number of services installed	1814	1868	54	2000	93.4	22	2.45		
5	Number of services not installed	54		54						
6	Total	1868	1868							
7	Number of houses energized	1793	1868	75	2000	93.4	22	3.41		
8	Number of customers requesting service	1868	1868		2000	93.4				
9	Have made down payment	1868	1869	01	2000	93.4				
10										
11	KWH meter reading circuit this project (monthly only)									
11	Total KWH consumed this project									
12	Average KWH per customer									

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PLN ELATEN RURAL ELECTRIC PILOT UNIT
STATISTICS TO DATE

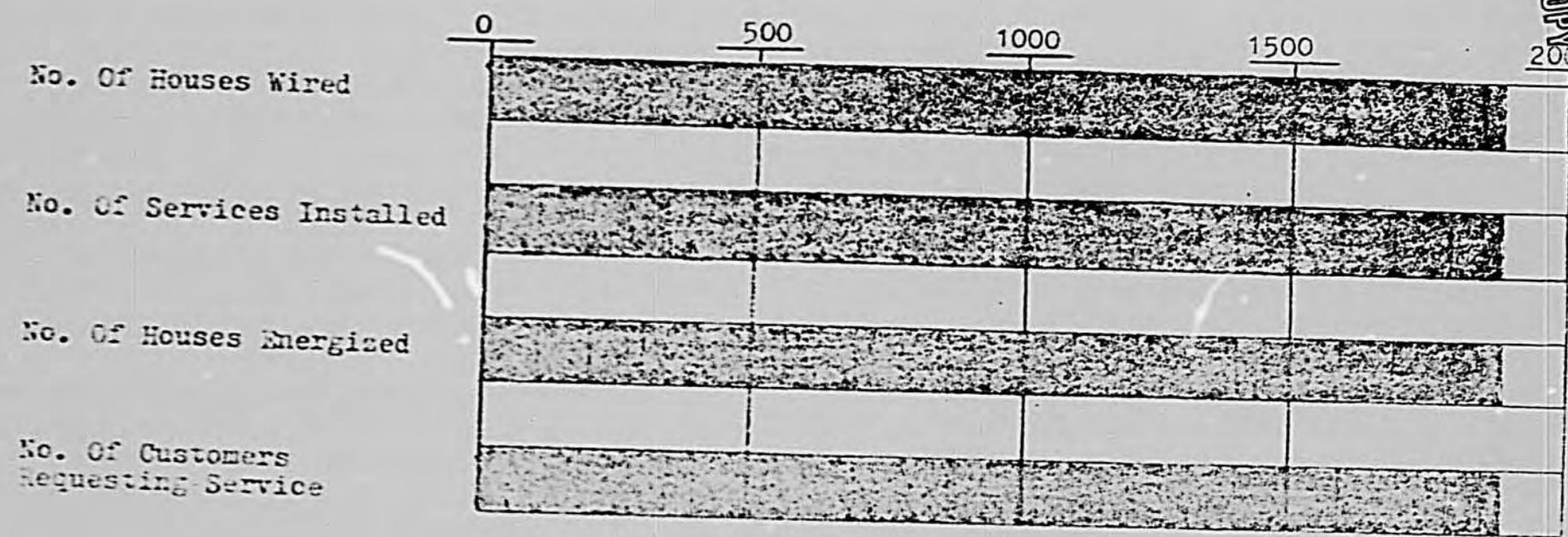


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12
Percent - per cent (100/100)

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PLN. KLATEN RURAL ELECTRIC PILOT UNIT
 MONTH OF DECEMBER 1979.



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ADDITIONAL STATISTICS

1. Total KWH Billed	<u>57,335</u>	4. Total Amount billed	Rp. <u>3,746,975.-</u>
2. Total Customers Billed	<u>1,779</u>	5. Average Bill Per. Customer (Total)	Rp. <u>2,106.-</u>
3. Average KWH Per. Customer	<u>32</u>	6. Average Energy Charge Per. Customer	Rp. <u>1,071.-</u>
		7. Installation & Connection Charge	Rp. <u>1,035.-</u>

LOCATIONS OF PROJECT SITES



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