

COMMITTEE ON RURAL ELECTRIC COOPERATIVES



REPORT (PART II)

RURAL ELECTRIFICATION CORPORATION

NEW DELHI

MAY, 1973

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RURAL ELECTRIC
COOPERATIVES**

REPORT

(PART II)



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ANNEXURES

I.	Notification appointing the Committee.	
II.	Notification appointing Shri P.K. Ramanujam as member of the Committee.	3
III.	Questionnaire to cooperatives.	4
IV.	Questionnaire issued to State Governments, SEBs/Registrars.	30
V.	List of persons/institutions from whom replies were received.	38
VI.	Terms of reference for special studies to Indian Institute of Management etc.	39
VII.	Summaries of special studies – Hukeri society.	46
VIII.	Summaries of special studies—Kodinar society.	53
IX.	Summaries of special studies—Mula Pravara society.	60
X.	Summaries of special studies—Sircilla and Lucknow societies.	67
XI.	Circular regarding utilisation of special fund.	72
XII.	Report of the Informal Committee on Member Education.	77
XIII.	Note circulated by the Ministry of Irrigation and Power.	95
XIV.	Terms and conditions of REC loans.	105
XV.	Administrative charts of cooperative societies.	107
XVI.	Consumer tariff in cooperatives.	112
XVII.	Summary of discussions with representatives of State Governments etc. – Lucknow.	128
XVIII.	Summary of discussions with representatives of State Governments etc. – Sircilla.	134
XIX.	Summary of discussions with representatives of State Governments etc. – Mula Pravara.	143
XX.	Summary of discussions with representatives of State Governments etc. – Hukeri.	150
XXI.	Summary of discussions with representatives of State Governments etc. – Kodinar.	157

ANNEXURE I

RURAL ELECTRIFICATION CORPORATION LIMITED
(A Govt. of India Undertaking)

No. 2/3 (10)/71-REC
P. Box No. 3823
D-5, NDSE Part-II
New Delhi-49
Grams : "RECTRIC"
Dated : 15.2.1972

In pursuance of a recommendation made by the Advisory Committee on Pilot Rural Electric Cooperatives in their fourth meeting held on 28th December, 1971, and in accordance with the decision taken at the meeting of the Board of Directors held on 29th December, 1971 the Chairman of the Corporation has been pleased to constitute a Committee consisting of the following :

1. Shri S.S. Puri,
Joint Secretary (Agriculture)
Planning Commission, and
Member of the Board of
Directors of the REC. Chairman
2. Shri N. Chaturvedi, Chairman,
Rajasthan Cooperative Central
Land Development Bank, and
Member of the Board of Directors
of the REC. Member
3. Shri C. Laxmipati,
Retired Chief Engineer,
Andhra Pradesh State Electricity
Board, and Member of the Board
of Directors of the REC. Member
4. Shri A. F. Couto, Director,
Ministry of Irrigation & Power,
and Member of the Board of
Directors of the REC. Member

Secretary of the Committee :

Shri K. Sundararajulu, who will shortly join the Cooperative Division of the REC, will serve as Secretary of the Committee.

Terms of reference :

2 The Committee will examine all aspects of the formulation, organisation and working of the five Pilot Rural Electric Cooperatives financed by the REC with a view to evaluating their performance, problems and promise, and in the light of such evaluation—

- (i) make interim recommendations on such items as may require urgent consideration; and
- (ii) suggest guidelines for the future in regard to the existing cooperatives as well as those which may hereafter be promoted with assistance from the Rural Electrification Corporation.

It is hoped that the Committee will be able to submit an interim report within about 3 months and the final report within about 6 months.

3. The Committee may, if it considers it necessary, co-opt one person as additional member. The Committee will meet as often as necessary and devise its own procedure of work, including tours and field visits.

Sd.
(C.V. Nair)
Secretary

Copy to :

Chairman & Members of the Committee.
All Directors of the REC.
All Members of the Cooperative Advisory Committee.
Secretary, Ministry of Irrigation & Power.
Secretary, Planning Commission.
P.S. to Chairman, M.D./T.D./F.A./Secretary, REC.

RURAL ELECTRIFICATION CORPORATION LIMITED
(A Govt. of India Undertaking)

P. Box No. 3823
D-5, N.D.S.E. Part II,
New Delhi-49.

Ref : No. 2/3 (10)/71-REC

Dated the August 9, 1972

NOTIFICATION

In partial modification of this Corporation's Notification of even number dated the 15th February, 1972, constituting the Committee on Rural Electric Cooperatives, the Chairman, Rural Electrification Corporation, is pleased to nominate Shri P. K. Ramanujam, Director in the Ministry of Irrigation and Power, Government of India, as a member of the Committee in the place of Shri A.F. Couto, who has since relinquished office in that Ministry.

Sd.
(C.V. Nair)
Secretary

To

Shri P.K. Ramanujam,
Director,
Ministry of Irrigation & Power,
Shram Shakti Bhavan, New Delhi.

c. c : Chairman and Members of the Committee.
All Directors of the Rural Electrification Corporation.
All Members of the Cooperative Advisory Committee.
Secretary, Ministry of Irrigation and Power, New Delhi.
P.S. to Chairman/T.D./FA&CAO/Chief (COPT), REC.

ANNEXURE III

QUESTIONNAIRE ADDRESSED TO PILOT RURAL ELECTRIC COOPERATIVES

Part I Introductory

1. Name of the Society :
2. Date of Registration under the State Cooperative Societies Act :
3. Area of operation :
(No. of villages)
4. Project area according to the Project Report
5. Date of obtaining licence for distribution of electricity :
6. Area for which licence has been obtained for distributing electricity :
7. Period for which licence has been obtained :
8. Date of commencement of operations :

Part II. Membership, General Body and the Board of Management :

1. No. of members as on 31.3.1972 :
 - (a) Individuals :
 - (i) Agriculturists
 - (ii) Others
 - (b) Small Industrial Establishments :
 - (c) Panchayats/Municipalities :
 - (d) Other Cooperatives :
 - (e) Others :
 - (f) Total :

2. (a) No. of service connections taken over from State Electricity Board.
- (b) Of (a) above, number admitted as members.
- (c) No. of service connections given by the Society after it started functioning.
- (d) Of (c) above, number admitted as members.
- (e) Number of persons admitted as members to whom no service connection has yet been given.
- (f) Is there any difficulty in enrolling persons to whom service connections have been given, as members?

General Body

3. How many meetings of the General Body have been held so far? Please indicate the dates on which these meetings were held ?
4. Is there a system of representative General Body i.e. the membership is divided into several constituencies and each constituency to the General Body of the Society.

Board of Directors

5. (a) What is the composition of the present Board of Directors? How is it constituted?
- (b) How many members of the present Board are elected?
- (c) How many members of the present Board are nominated by the Government/ Registrar of Cooperative Societies in their personal capacity/as ex-officio directors?
- (d) What is the term of the Board ?
- (e) If the present Board is a nominated one, when was it nominated and for what period ?

- (f) Is the Chairman of the Board elected by the Board of Management or nominated by the Government/R.C.S.
- (g) Please indicate the changes, if any, made by the State Government/R.C.S. of their nominees on the Board of management since the inception of the Society.
- (h) Total number of Board meetings held so far.
- (i) Of (h) above, number of adjourned meetings.

Part III. Resource Mobilisation and its utilisation :

Long term resources :

As on 31.3.1972 (Rs. in '000)
(Rs. in '000)

1. Share capital :
 - (a) Individuals :
 - (b) Cooperatives :
 - (c) Panchayats/Municipalities :
 - (d) State Government :
 - (e) Others (Specify) :
 - (f) Total :
2. Internal Resources :
 - (a) Statutory Reserve Fund :
 - (b) Special Fund :
 - (c) Other Funds :
 - (d) Total :
3. Borrowings from REC for :
 - (a) Taking over assets of the State Electricity Board :
 - (b) New construction :
 - (c) Total :

4. Long term Borrowings, if any, from :
 - (a) State Government :
 - (b) State Electricity Board :
 - (c) Others :
 - (d) Total :

5. Service connection charges, collected from members :
 - (a) Agri. connections :
 - (b) Industrial connections :
 - (c) Commercial/Domestic connections :
 - (i) Light and fan :
 - (ii) Power :
 - (d) Street light connections :
 - (e) Other connections e.g.
 - (i) H.T. connections :
 - (ii) Temporary connections :

6. Security deposits received from Consumers (against power bills)
 - (a) Amount transferred by the State Electricity Board :
 - (b) Amount received by the Society after its starting :
 - (c) Total :

Resources for working capital :

7. Borrowings towards working capital from :
 - (a) Cooperative Banks :
 - (b) Commercial Banks :
 - (c) State Government/State Electricity Board :
 - (d) Others (Specify)
 - (e) Total :

Terms and conditions on which resources have been raised :

8. Is share capital collection from members linked to the type of service connections given? If so, briefly indicate the scales prescribed.
9. In respect of borrowings from State Governments, State Electricity Board, Banks, etc. Kindly indicate the rate of interest, the term of the loan and the security for the loans, if any.
10. (a) If the society is taking security deposits from the consumers, indicate the scale of such deposits for each category, the period of such deposits and the rate of interest paid on such deposits:
 (b) Is the S.E.B. taking security deposits from consumers? What are the scales prescribed by the SEB, the term for such deposits and the rate of interest?

Utilisation of Resources:

Rs. in '000

11. Total long term Resources
 1 + 2 + 3 + 4 + 5 + 6 of the above items.....
12. Total block investment as on 31.3.72:
 - (a) Amount given to SEB for taking over of assets :
 - (b) Value of new works executed :
 - (c) Value of works under construction :
 - (d) Investment in Stores :
 - (e) Investment in tools, plant, vehicles, furnishings etc.
 - (f) Other fixed assets :
 - (g) Total :
13. Balance of un-utilised amount :
 (item No. 11-Item No. 12)

14. Total O & M expenditure upto 31-3-1972 :
15. How does the actual expenditure for the first year of operation compare with the estimates made in the project report. If there has been short fall in expenditure, kindly indicate the items that accounted for the short-fall.
16. What were the unit costs assumed in the project report for various items like 11 KV lines, L.T. lines, Distribution Transformers and service connections and what is the actual unit cost on these items ?
17. If there is increase in the unit cost, how does the society propose to meet this additional cost :
18. Has the Society finalised the verification of valuation statements of assets transferred by the S.E.B. ? If not, the reasons for the delay :
19. What is the expenditure incurred upto the date of commencement of operations by the Society ? Has this preliminary expenditure been capitalised/treated as deferred revenue expenditure ?

Note : Give details in annexure I

Part IV : Operational Efficiency :

Targets and Achievements

1. Please indicate in Annexure 2 the physical targets fixed for the first year of operation and achievement upto 31.3.1972 :
2. Briefly indicate the reasons for the shortfall, if any, in achieving various physical targets :
3. Indicate the measures taken/proposed to be taken to accelerate the implementation of the scheme in the subsequent years :

4. Line losses :

- (a) No. of units purchased from the date of starting to 31.3.1972 :
- (b) No. of units sold :
- (c) No. of units un-accounted for :
- (d) % of line losses :

Note : Give month-wise details in annexure 3.

5. Technical Details :

- (i) Are any returns obtained by the management in respect of line losses from the field officers as in the enclosed Annexure ? Please give the information for the last 6 months.
- (ii) Are the 11 KV H.T. Metering sets through which supply is obtained by the cooperative calibrated periodically ?
- (iii) Are the distributions under each point of supply clearly demarcated so that line losses against each point of supply can be determined ?
- (iv) What are the tail end voltages in the different areas mentioned in the previous item ? Please furnish the details as in the enclosed Annexure 5.
- (v) While sanctioning working estimates is there any practice of calculating voltage regulations theoretically ?
- (vi) Is there any practice for determining the under loaded distribution transformers ? Are there any arrangements to take periodically longest readings during peak load period ?

- (vii) How are agricultural and industrial 3-phase services given ? Are 3-phase; 4 wire meters only used for such services ? If single-phase meters are used for such services for any reason, is there any programme to replace them by 3-phase, 4 wire meters ?
 - (viii) Is a meter test bench available ? Are all meters tested periodically as prescribed in the Rule No. 57 of I.E. Rules 1956 ?
 - (ix) What are the arrangements in the cooperative to check and eliminate unauthorised services ? Is there any annual verification of services ? Is any vigilance cell formed in the cooperative to organise surprise checks for eliminating malpractices and prevention of theft of energy ?
 - (x) What are the remedial measures proposed to be taken to bring down the line losses to 15 per cent in the first instance and 10 per cent within two or three years ? Is any additional capital investment necessary to do so ? If so, is any estimate prepared ?
 - (xi) Is there any practice to scrutinise the consumption of industrial services ? Are large variations in respect of this consumption investigated ?
5. **Construction of new lines :**
- (i) What are the standards adopted for construction of new lines ?
 - (ii) Are the standards followed by the State Electricity Board adopted by the Cooperative ?
 - (iii) When will REC standards in respect of conductors and transformers be adopted ?

- (iv) What is the basis of taking up extensions in the area served by the cooperative? Are the remunerative standards prescribed by the corresponding State Electricity Board followed?

7. Operation and Maintenance

- (i) Is periodical maintenance carried out as per maintenance schedule adopted by the corresponding State Electricity Board?
- (ii) Is the maintenance work in arrears? If there are arrears, what are the reasons?
- (iii) What are the percentage failures of distribution transformers in the area?
- (iv) Were there any major break-downs in the supply lines or equipment resulting in power failure to any area for more than six hours? If so, a statement of such break-downs may be furnished in the tabular statement appended to this note. (Annexure 6) :

8. Safety Measures

- (i) Are any special steps taken to avoid electrical accidents in the area? (specify) :
- (ii) Are safety precautions prescribed for carrying out work on the electrical lines and equipment followed?
- (iii) Is authorised list of workmen maintained as per Rule 3 of I.E. Rules 1956?
- (iv) Are periodical inspections of all consumers' installations carried out as per Rule 46 of I.E. Rules 1956?
- (v) Are the provisions of Rule 45 I.E. Rules 1956 followed strictly in giving new services?

- (vi) What are the total number of fatal and non-fatal electrical accidents in the area month-wise from the commencement of operations by the cooperative. Are probable reasons for these accidents determined and remedial measures taken to avoid recurrence ?

9. Procurement of materials :

- (i) What is the procedure adopted by the cooperative in procurement of materials ?
- (ii) What are the steps taken to ensure regular supply of materials so that works do not suffer ?

10. Progress of works :

- (i) How is the progress watched ? Are targets fixed and kept up ?
- (ii) What is the organisation which evaluates the progress and takes steps to avoid short falls ?

Part V : Rate structure and operating Revenue :

1. What is the cost of the bulk power per unit assumed in the project report ?
2. What is the bulk power cost at 11 KV lines assumed by the State Electricity Board, for its own R.E.C. Schemes ?
3. What is the cost at which the SEB has agreed to supply electricity to the cooperative ?
4. If there is a two part tariff, what is the actual average cost per unit of the electricity supplied by the SEB to the cooperative ?

5. What are the rates assumed in the project report and the rates actually charged by the cooperative in respect of following connections ?

Tariff assumed in the Project Report	Per unit : Tariff charged by the cooperative	Average per unit yield during the last 12 months	Percentage of connected load to total
(1)	(2)	(3)	(4)

(a) Agricultural

(b) L.T. Industrial

(c) H.T. Industrial

(d) Domestic

(e) Commercial

(f) Street lights

(g) Average per unit yield for the entire connected load during the last 12 months :

6. How does the tariff charged by the Cooperative compare with the tariff charged by the S.E.B. ?
7. Is the tariff fixed by the Society itself or is it determined by the SEB/State Government ?
8. Do you consider that the present margin retained by the Society for the sale of power, adequate ?
9. Operating Revenue—Give details as per annexure 7.
10. Does the Board of Directors review the DCB statement.

Part VI Financial Results : upto 31.3.1972

1. Give the financial results of the Society in the proforma given at Annexure 8 :
2. Give the proforma balance sheet as on 31.3.1972 in the enclosed annexure 9 :

3. What is the cumulative position of loss or profit as on 31.3.1972 :
4. Briefly explain the reasons for losses, if any. What measures have been taken/proposed to be taken to improve the financial position of the society :

Part Revenue Accounts :
VII

1. What accounting system has been adopted ? Is it according to the recommendation of the working group ? Is it working satisfactorily ? Have you any suggestions to make to improve the system ?
2. Is billing being done from office or on the spot ?
3. What is the time lag between the meter reading and the billing ?
4. Who is doing the meter reading ?
5. Who is preparing energy bills ? Is any check being carried out on the preparation of bills before issue ?
6. How is it ensured that bills for all users are being issued every month ?
7. Have the power sales by the society been in accordance with the anticipated power sales in the Project report ? If not, what is the short-fall and its reasons ?
8. Reasons for heavy outstandings from consumers and steps taken for its recovery.
9. Procedure adopted for collection of cash from consumers, and its deposit in the bank ?

Store Accounts :

10. What accounting system for maintenance of stores accounts has been adopted ? Is it according to the recommendations of the Working Group ? Is the system working satisfactorily? Have you any suggestion to make for its improvement ?
11. What procedure has been adopted for purchases ? What are the powers of various authorities to effect purchases ?
12. What is the total amount of purchases made from the following sources upto 31.3.1972 ?
 - (a) Government departments
 - (b) Electricity Boards
 - (c) Suppliers
 - (d) Other sources
13. Are the materials, on receipt, checked ? If so by whom and the percentage of check carried out ?
14. Are the stores being maintained centrally ? If not what is the accounting procedure for transfer of stores from central stores to stores at site ?
15. What is the designation of the Officer who authorises issue of stores ?
16. Is it ensured that the issues are adjusted periodically in monthly accounts ? The periodicity may please be indicated ?
17. How are the incoming materials priced and what is the amount charged for store indirect and handling charges ?
18. How are the issue rates fixed ?
19. Is the quantity in stores ledger and value ledgers reconciled every month ?

20. What is the procedure and periodicity for the verification of stock balances ?
21. What is your construction programme for the year 1972-73 ? What is the value of material in stock with the society as on 31.3.1972 ? Does the stock consist of all items in required proportion ?
22. Has any maximum and minimum levels been fixed ? If not what is the basis for present stock piling ?

Works Accounts :

23. What accounting system has been adopted for the works accounts ? Is it in accordance with the recommendations of the Working Group ? Is it working satisfactorily ? Have you any suggestions to make for its improvement ?
24. What are the numbers and dates of the detailed technical estimates sanctioned upto 31.3.1972 ?
25. What are the total number of job/work orders and the amount involved since the start of the cooperative upto 31.3.1972 ?
 - (a) Out of the above how many job orders have been completed and closed upto 31.3.1972 ?
 - (b) Reasons for not closing the accounts of the balance job orders ?

Capital Works :

26. What is break up of the cost of different items completed by the cooperative under the following headings ?

Sl. No.	Particular	Labour	Manual	Establishment charges (Direct)	O&M charges	Total

27. Please state the basis of prorata distribution of Administration and General expenses between Capital and Revenue and percentage thereof.
28. Is interest or portion thereof is being added to the cost of works? If so, the basis on which it is capitalised.

O&M Expenses :

29. What is the basis on which provision is made for O&M expenses? Is it kept within 3% of the capital cost as provided for in the scheme report?
30. Are annual estimates prepared for O&M expenses?
31. What is the total expenditure on O&M expenses upto 31.3.1972 and from 4/71 to 31.3.1972?
32. Break up of the figures of item 31 above according to nature of expenditure ;

Particulars	Amount	% to the average capital base
(a) Direct wages and salaries:		
(b) Direct material :		
(c) Direct other expenses :		
(d) Maintenance expenses (overheads)		
Total :		

33. Break up of O & M expenditure (Sub-Head wise)

Sl. No.	Particulars	Amount	Average capital value of assets
	Distribution (H.V.):		
	Distribution (M&LV):		
	Consumers services :		
	Administration and General administration expenses ;		
	Total :		

34. Analysis of Operating Expenses :

Sl. No.	Particulars	Amount	Rate per unit
1.	Cost of power :		
2.	Distribution system maintenance :		
3.	Consumers servicing :		
4.	Management expenses :		
5.	Depreciation :		
6.	Interest :		

35. Compare the rate per unit as above with average sales rate per unit.

Part VIII. Administration and Co-ordination :

1. Give the staffing pattern and staff position as on 31.3.1972 in Annexure 10.
2. The REC has advised that the work load norms of SEB be adopted by the Society:
 - (a) Indicate how far this suggestion has been implemented :

- (b) How does the staffing pattern of the society compare with the SEB ?
 - (c) If the staffing pattern in the society is on the high side, briefly indicate the reasons therefor ?
3. What are the powers delegated to the General Manager, Project Engineer and Accounts Officer? Enclose copies of resolutions of the Board in this regard :
 4. What is the procedure for recruitment of staff ? Have minimum qualifications been prescribed for various posts ?
 5. What are the steps taken by the Society to build up its own cadre of officers and staff?

Co-ordination :

6. Load Growth in all electric cooperative calls for Co-ordination between various developmental agencies and institutions in the area. The REC has advised that there should be a coordination committee at project level and the society's representative should be on the state level committee of the SEB :
 - (a) Is there a committee at the project level, if so, indicate the composition of such a committee?
 - (b) What is the mechanism within the society to ensure expanding service connections to ensure load growth according to project estimates ?
 - (c) How often is this committee meeting ?
 - (d) Is there a state level committee and if so, whether the society is represented on it or not ?

7. Please indicate how the State Government, State Electricity Board is associated with the cooperative administratively, financially and operationally?
8. What are the arrangements for :
 - (a) educating members, office-bearers and prospective members regarding safety measures, minimising line losses and for load growth :
 - (b) training of various categories of staff :

Part IX Legislation :

1. Do you consider whether there is any need to amend the Indian Electricity Act and Rules to facilitate the operations of the cooperatives? If so, briefly indicate the lines on which the amendments are to be made and the reasons therefor :

Part X General

1. The terms of the Committee set up by the R.E.C. is to examine all aspects of formulation, organisation and working of the rural electric cooperatives and to suggest guidelines in the future. What are your general suggestions for organising rural electric cooperatives as viable institutions responsive to the needs of the consumers :
2. What are your suggestions for improving the operational efficiency of the existing rural electric cooperatives (The suggestions on above two items *inter alia* may cover the basis for formulation of projects, criteria for viability, administrative and technical arrangements, rate structure and coordination.)

**DETAILS OF CAPITAL EXPENDITURE INCURRED
UPTO 31.3.72**

	Expen- diture upto 31.3.72	Expen- diture on works under progress
1. Construction of New Distribution lines :		
(a) 11 KV, KM (indicate total length)		
(b) L.T. Lines (")		
2. Distribution Transformers :		
No.		
Capacity (furnish details)		
3. Service connections :		
(a) Agricultural		
(b) H.T. Industrial		
(c) L.T. Industrial		
(d) Domestic & Commercial		
(e) Street lights		
4. Others, if any. (specify):		
5. Total : -----
6. Value of stock on hand		
7. Grand total : -----

PERFORMANCE IN THE FIRST YEAR

Physical Targets	Position on the date of takeover	Target envisaged in the Project Report for the 1st year	Achievement upto 31.3.72 from the date of starting	Total in service at the end of 31.3.1972
1.	No. of villages to be electrified.			
2.	11 KV lines (Kms)			
3.	L.T. lines (Kms)	(i) Three phased :		
		(ii) Single phased :		
4.	Service connections :			
	(a) Agriculture			
	No. connected load			
	(b) Industrial			
	No. connected load			
	(c) Domestic and Commercial			
	No. connected load			
	(d) Street lights			
	No. connected load			
	(e) Total service connections			
	(f) Total connected load (KW)			

MONTHLY RETURN OF LINE LOSSES

Month	Units purchased during the month	Units sold during the month (KWH)	Losses (KWH)	% of Losses
March, 1971				
April, 1971				
May, 1971				
June, 1971				
July, 1971				
August, 1971				
September, 1971				
October, 1971				
November, 1971				
December, 1971				
January, 1972				
February, 1972				
March, 1972				

APPENDIX 4

MONTHLY RETURN FOR LINE LOSSES
(Furnish information for 3 months)

Sl. No.	Name of the 33 KV/11 sub-station	Name of the 11 KV feeder	Units recorded			Units sold in the distribution under the feeder	Losses KWH	Percentage losses	REMARKS
			At the end of the month	At the beginning of the month	Sent out				
1	2	3	4	5	6	7	8	9	10

APPENDIX 5

MONTHLY RETURN OF TAIL END VOLTAGES
(for the past 3 months)

Sl. No.	Name of the sub-station 11 KV/33 KV	Name of the feeder	Load on the feeder amps. (Tong tester)	Voltage at sub-station during peak load		Voltage at tail end during peak load		REMARKS
				Day Night	Day Night	Day Night	Day Night	
1	2	3	4	5	6	7	8	9

APPENDIX 6

**STATEMENT OF MAJOR INTERRUPTIONS OF
POWER SUPPLY**

Sl. No.	Name of the Feeder	Duration of Interruption			Reasons for the interruption
		From	To	Duration	

MONTHLY RETURN OF LINE LOSSES

Month	Units purchased during the month	Units sold during the month (KWH)	Losses (KWH)	% of Losses
March, 1971				
April, 1971				
May, 1971				
June, 1971				
July, 1971				
August, 1971				
September, 1971				
October, 1971				
November, 1971				
December, 1971				
January, 1972				
February, 1972				
March, 1972				

APPENDIX 4

MONTHLY RETURN FOR LINE LOSSES
(Furnish information for 3 months)

Sl. No.	Name of the 33 KV/11 sub-station	Name of the 11 KV feeder	Units recorded			Units sold in the distribution under the feeder	Losses KWH	Percentage losses	REMARKS
			At the end of the month	At the beginning of the month	Sent out				
1	2	3	4	5	6	7	8	9	10

APPENDIX 5

MONTHLY RETURN OF TAIL END VOLTAGES
(for the past 3 months)

Sl. No.	Name of the sub-station 11 KV/33 KV	Name of the feeder	Load on the feeder amps. (Tong tester)	Voltage at sub-station during peak load		Voltage at tail end during peak load		REMARKS
				Day Night	Day Night	Day Night	Day Night	
1	2	3	4	5	6	7	8	9

APPENDIX 6

**STATEMENT OF MAJOR INTERRUPTIONS OF
POWER SUPPLY**

Sl. No.	Name of the Feeder	Duration of Interruption			Reasons for the interruption
		From	To	Duration	

**OPERATING REVENUE-DEMAND, COLLECTION AND
BALANCE STATEMENT**

(Amount in Rs.)

Particulars of con- sumers	Demand	During period from take- over to 31.3.72	Collection during the period from take-over to 31.3.1972	Balance to be recovered	
	Balance prior to take- over			Total	Overdue
1	2	3	4	5	6
1. Agricultural consumers					
2. Industrial consumers					
(a) Agro-industrial					
(b) Other L.T. Industrial					
(c) H.T. Industries					
3. Domestic consumers					
4. Commercial consumers					
5. Local Self Government organisations					
(a) For street lights					
(b) For other connections					
6. Temporary services and others					
Total :—					

**FINANCIAL RESULTS OF THE WORKING OF THE
COOPERATIVE UPTO 31.3.1972**

(Rs. in '000)

Particulars
1. Operating revenue :
(a) from sale of power
(b) Misc. revenue from consumers
(c) Revenue from trading
(d) Total operating Revenue.
2. Operating expenditure :
(a) Cost of power
(b) Operation and Maintenance
(i) Distribution high voltage
(ii) Distribution Medium low voltage
(iii) Public lighting
(iv) Consumers servicing
(c) Establishment and General Charges
(i) Pay and Allowances
(ii) Directors expenses
(iii) Travelling allowances
(iv) Vehicle Maintenance expenses
(v) Rent, rates and taxes (excluding income-tax)
(vi) Contingencies
(d) Depreciation (Proportionate)
(e) Interest (Proportionate)
(f) Total operating expenses
3. Operating surplus/deficit (+) [1 (d)-2 (f)]
4. Non-operating (other) Revenue (+) (net)
5. Balance of net surplus/deficit carried over from previous year (+)
6. Net surplus/deficit (+) (3+4+5)

APPENDIX 9

FINANCIAL STATEMENT (As at the end of the 31.3.1972)

Capital and Liabilities :	Amount in Rs
1. Share capital	
2. Patronage capital	
3. Reserve Fund	
4. Special Fund	
5. Consumers contribution for service connections (excluding share capital component)	
6. Other reserves (please specify)	
7. Borrowings	
(a) from Rural Electrification Corporation	
(b) Other sources (please specify)	
8. Consumer deposits (Security and others)	
9. Sundry creditors (please specify)	
10. Other liabilities (please specify)	
11. Surplus of assets over liabilities :	
(a) Balance of net profit of the previous year	
(b) current year's surplus.	
	Total :
Property and Assets :	
12. Utility plant in service (less depreciation)	
13. Construction work in progress.	
14. Investments :	
(a) Stocks and Share (Please specify)	
(b) Others (Please specify)	
15. Loans and Advances (specify)	
16. Sundry debtors	
17. Consumers A/cs. receiveable	
18. Materials and Supplies in hand	
19. Other current and accrued assets (please specify)	
20. Cash and bank balance	
(a) Cash in hand	
(b) Cash in bank (please specify)	
21. Net deficit :	
(a) upto previous year	
(b) current year	
	Total :

STAFF POSITION AS ON 31.3 1972

Post	Prescribed Qualification	Scale of Pay	No. of posts	No. of people on deputation
1.	General Manager			
2.	Project Engineer			
3.	Chief Accounts Officer			
4.	Managerial Staff			
	(a)			
	(b)			
	(c)			
5.	Accounts Personnel			
	(a)			
	(b)			
	(c)			
6.	Line Staff			
	(a) Operational			
	(b) Maintenance			
7.	Construction staff :			
	(a) on regular basis			
	(b) on work charge basis			
8.	Other Staff :			
<p><i>Note</i> : Are there employees who have been recruited without satisfying the criteria of minimum prescribed qualifications ? If so, give details and indicate the reasons for such appointment.</p>				

ANNEXURE IV

**STATE ELECTRICITY BOARDS AND REGISTRARS OF
COOPERATIVE SOCIETIES OF THE STATES WHERE
PILOT RURAL ELECTRIC COOPERATIVES
ARE FUNCTIONING**

Objectives of Rural Electric Cooperatives

A rural electric cooperative financed by the Rural Electrification Corporation is functioning in your State for about one year. Rural Electric Cooperative is an integral part of the overall programme of rural electrification for development of agriculture and stimulating rural economic growth. The main advantages of rural electric cooperatives are :

- (a) Being owned and controlled by the people they serve, there will be a built-in "watch-dog" effect :
 - (b) Co-operatives can supplement the efforts of the State Electricity Boards :
 - (c) Co-operatives offer great potential for economics in the design, construction and operation of the electric system :
 - (d) Co-operatives increase the responsible action of the people by giving them some degree of control of their electric supply :
 - (e) Co-operatives will utilise the area coverage concept which will help in bringing down the average cost of electric service :
- Q. 1. To what extent has the rural electric cooperative in your State achieved the above objectives ?
- Q. 2. What further measures are necessary to enable the cooperative to fulfil the above objectives more effectively ?

- Q. 3. (a) Does the experience of the functioning of the rural electric cooperative in your State indicate that cooperatives are well suited to the implementation of the programme of rural electrification ?
- (b) what are the features that mark out cooperatives as specially suited for this purpose (democratic control, responsive to the needs of and better service to the consumers, economies in operation, control over line losses, area development etc).

Project Implementation :

The Rural Electrification Corporation has been financing the cooperatives both for taking over the assets of the State Electricity Board in the area of the co-operative as also for new works undertaken according to a phased programmes. The R.E.C. is also financing directly the State Electricity Board for undertaking rural electrification programmes on a project basis.

- Q. 4. Is the construction work of the cooperative proceeding according to schedule ? If not, what are your suggestions for expediting the pace of implementation of the project ?
- Q. 5. How does the unit cost of construction of the cooperative for various items compare with the unit cost of construction of the State Electricity Board ?
- Q. 6. How does the implementation of the rural electrification programme by the cooperative generally compare with that of the State Electricity Board ? Being an organisation at the local level, do you consider that the cooperative has shown better initiative in the quick implementation of the project ?

Line Losses :

In the project report, the line loss has been assumed at 10%. A study of the working of all pilot rural electric cooperatives shows that the line losses, on an average, exceed 25%, seriously affecting the financial results of the working of the cooperatives and the economic viability of the project. System losses and inadequacies of management account for these line losses.

- Q. 7 (a) What is the percentage of total line losses in the cooperative upto 31.3.1972 ?
- (b) Is there a system of computing line losses in the rural distribution, by the State Electricity Board ?
- Q. 8. (a) What is the average percentage of line losses for the State as a whole ?
- (b) What is the average percentage of line losses in the rural distribution system ? (Indicate whether it is an estimated or has been actually worked out).
- Q. 9. (a) What are your suggestions for reducing line losses in the cooperatives ?
- (b) How could the State Electricity Board help the cooperative in reducing the line losses ?
- Q. 10. On the basis of the experience in the state, do you consider that 10% line losses assumed in the project report is realistic ? What is your suggestion, if the assumed figure of 10% is to be revised ?

Safety measures :

- Q. 11. Do you consider that the society is paying proper attention to safety measures and is adopting all the safety measures prescribed in the Indian Electricity Rules ?

Rate Structure :

The rates at which the cooperative buys and sells power are crucial to its economic viability. It has been observed that cooperatives are caught in a wedge between wholesale power cost and retail pricing over which the cooperative has no control. A suggestion has been made that tariff for bulk power should approximate to the net per unit revenue which the State Electricity Boards are earning in the area.

- Q. 12. (a) What is bulk power cost at 11 KV—assumed by the State Electricity Board for REC Schemes ?
- (b) What is the cost at which the State Electricity Board has agreed to supply electric energy to the cooperative ?
- (c) Are there private licencees in the State ? If so, what is the rate at which power is supplied to them ?
- (d) What is the estimated average revenue realised by the State Electricity Board per unit of electric energy supplied to rural areas ?
- (e) What are your views on the suggestion that the tariff for bulk supply of power to a cooperative should approximate to the net per unit revenue in the area ?
- Q. 13. (a) How does the tariff charged by the cooperative to the consumers compare with that charged by the State Electricity Board ?
- (b) Is the State Electricity Board demanding deposits etc., for service connections, which the cooperative is not collecting ?

Q. 14. Is the consumer tariff fixed by the society itself or is it determined by the State Electricity Board, State Government ?

Q. 15. In the case of two part tariff, it is observed that the average cost of power to the cooperative far exceeds the cost assumed in the project report. Do you consider that there is need for revision of tariff of bulk power supply to the cooperative in such cases ?

Administrative Arrangements :

The Rural Electrification Corporation has advised that the work-load norms of the State Electricity Board should be adopted by the rural electric cooperatives. To improve their operational efficiency, cooperatives have to adopt a proper system of delegation of powers to the general managers, project engineers etc. and they should also take effective measures to build up their own cadre of officers.

Q. 16. How does the staffing pattern of the cooperative compare with that of the State Electricity Board ?

Q. 17. Do you consider that the delegation of powers to the general manager, project engineer etc. of the rural electric cooperative is adequate ? If not, what are your suggestions ?

Q. 18. What are your suggestions to enable the cooperative to have its own cadre of officers ?

Co-ordination :

Load growth in an electric cooperative calls for coordination between the various developmental agencies and institutions in the

area. The Rural Electrification Corporation has advised that there should be a coordination committee at the project level and society's representative should be on the State Level Committee of the State Electricity Board.

- Q. 19. Is there a State Level Committee? If so, is the cooperative represented on it?
- Q. 20 What are your suggestions to promote load growth in the cooperative and to ensure that various agencies connected with the programme (credit agencies, agricultural extension agencies, small scale industries organisations, ground water organisation etc.) are fully involved and fulfil their role effectively?

Role of the State Government and State Electricity Board

The basic function of the rural electric cooperative is to assist the State Government and the State Electricity Board in the overall programme of rural electrification. As such, the State Govt. and the State Electricity Board are to be actively associated with the organisation, management and working of the cooperative.

- Q. 21. How has the State Electricity Board been associated with the organisation, management and working of the rural electric cooperative?
- Q. 22. What is the specific assistance provided by the State Electricity Board to the rural electric cooperative in regard to :
- (a) Planning of new construction programme and its execution.
 - (b) Supply of materials and inventory.
 - (c) Voltage regulation and checking of line losses.
 - (d) Ensuring adequate supply of power requirement of the cooperative.

Q. 23. What are the administrative arrangements at the State Level and at the project level for supervising the functioning of the co-operative and providing guidance to it in respect of :

(a) Management, financial, accounting and audit.

(b) Technical matters.

Q. 24. Do you consider that the State Electricity Board and the State Government should participate in the share capital of the rural electric cooperative and also extend other financial assistance to it?

Nomination of Board of Directors :

The first Conference of Rural Electric Cooperatives recommended that the period of the nominated Board should not generally exceed three years.

Q. 25. What is the policy of the Government regarding nomination of the members of the Board of Directors of the rural electric cooperative ?

Role of the Rural Electrification Corporation :

One of the objectives of the Rural Electrification Corporation is to promote and finance rural electric cooperatives. Besides financing these cooperatives, the R.E.C. has been providing technical assistance to and constructive supervision over them.

Q. 26. What, in your opinion, should be the role of the REC in promoting rural electric co-operative?

Q. 27. Do you consider any changes necessary in the working policy and procedure of the Rural Electrification Corporation?

- Q. 28. In respect of loans advanced by the Rural Electrification Corporation to the cooperatives, the Corporation has waived interest charges for the first five years, and the cooperatives are to credit this amount to a special fund. What are the items on which the Special Fund, you consider, should be utilised?
- Q. 29. What is the period for which licence has been granted to the cooperative for distribution of electricity? What is the right of the cooperative to operate after the initial period of licensing is over? What are your suggestions in this regard?
- Q. 30. Do you consider whether there is any need to amend the Indian Electricity Act and Rules to facilitate the operations of the cooperatives? If so, briefly indicate the lines on which the amendments are to be made and the reasons therefor.

General :

- Q. 31. The terms of the Committee set up by the REC is to examine all aspects of formulation, organisation and working of the rural electric cooperatives and to suggest guidelines in the future. What are your general suggestions for organising rural electric cooperatives as viable institutions responsive to the needs of the consumers.
- Q. 32. What are your suggestions for improving the operational efficiency of the existing rural electric cooperatives.

The suggestions on above two items *inter alia* may cover the basis for formulation of projects, criteria for viability, administrative and technical arrangements, rate structure and coordination.

ANNEXURE V

List of State Governments/SEBs/RCS Societies from whom replies to questionnaire have been received

I. State Governments/SEB/RCS.

1. Andhra Pradesh Government, Public Works Department, Hyderabad.
2. Gujarat Government, Industries and Power Department, Gandhinagar
3. Maharashtra Government, Agriculture and Cooperation Deptt., Bombay
4. Mysore Government, Public Works and Electricity Deptt., Bangalore.
5. U.P. State Electricity Board, Lucknow.
6. Joint Registrar of Cooperative Societies (Housing), Bangalore.

II. Societies

1. The Cooperative Electric Supply Society Ltd., SIRCILLA, Distt. Karimnagar (A.P.).
2. The Hukeri Taluka Cooperative Rural Electricity Society Ltd., Hukeri. Distt. Belgaum (Mysore State).
3. The Kodinar Rural Electricity Cooperative Society Ltd., Kodinar District Amreli (Gujarat State).
4. Mula Pravara Electric Cooperative Society Ltd., Rahuri, Post Rahuri Factory, Distt. Ahmednagar (Maharashtra)
5. The Cooperative Electric Supply Society Ltd., B-71, Niralanagar, Lucknow (U.P.)

ANNEXURE VI

No. 2,3 (17)/71-REC

RURAL ELECTRIFICATION CORPORATION

(A Government of India Undertaking)

D-5, N.D.S.E. Part II,
New Delhi-49.
July 22, 1972.

To

The Secretary,
Incharge of Power,
Government of Andhra Pradesh, Maharashtra,
Gujarat, Mysore and Uttar Pradesh.

Subject:—Committee on Rural Electric Cooperative Societies—
Study on certain aspects of functioning of cooperatives by specialised agencies—regarding.

Dear Sir,

Please refer to this Corporation's letter of even number dated the 28th April, 1972 informing you of the appointment of a Committee on Rural Electric Cooperatives under the Chairmanship of Shri S.S. Puri, Joint Secretary to the Government of India, Planning Commission. As you are aware, the Committee has already issued detailed questionnaire to the rural electric cooperatives and also to others for eliciting detailed information on various aspects of the functioning of cooperatives. The Committee has now desired that certain special aspects of the working of rural electric cooperatives may be studied by specialised agencies like the Ahmedabad Institute of Management, the Vaikunth Mehta National Institute of Cooperative Management, Poona and the Project Appraisal Coordination and Evaluation Division of the Rural Electrification Corporation. The Corporation has already entrusted these organisations with various studies and they are expected to submit their

reports within about two to three months. The Ahmedabad Institute of Management has been entrusted with study of Kodinar Rural Electric Cooperative in Gujarat and also the Hukeri Rural Electric Cooperative Society in Mysore. The Institute will study the load and revenue growth and consumer response in these societies. The Vaikunth Mehta National Institute of Cooperative Management will study the various aspects relating to management of cooperative in the Mula Pravara Rural Electric Cooperative in Maharashtra. The PACE Division of the REC will study the operational and financial management of Rural Electric Cooperatives at Lucknow in U.P. and Sircilla in Andhra Pradesh. The latter two agencies will also study the load and revenue growth and consumer response in the societies allotted to them.

2. A brief note indicating the terms of reference to the various institutions entrusted with the studies, is enclosed for information.

3. These agencies will be taking up these studies immediately and I am to request that the State Government, SEB., the Registrar, rural electric cooperatives and others may extend necessary facilities and furnish such details as required, to these agencies.

Receipt of this letter may kindly be acknowledged.

Yours faithfully,
Sd/- K. Sundararajulu,
Secretary, Committee on Rural Electric Coops.

Copy with enclosure to :

1. The Chairman, State Electricity Board, Andhra Pradesh, Hyderabad, Maharashtra, Bombay, Gujarat, Baroda, Mysore, Bangalore and Uttar Pradesh, Lucknow.
2. Registrar of Cooperatives Societies, Hyderabad, Poona, Ahmedabad, Bangalore and Lucknow.
3. Secretary Incharge of Cooperation, Government of Andhra Pradesh, Hyderabad.
 - (2) Government of Mysore, Bangalore.
 - (3) " Gujarat, Gandhinagar.
 - (4) " U.P., Lucknow.
 - (5) " Maharashtra, Bombay.

4. Chairman, Cooperative Electric Supply Society,
Hukeri, Distt. Belgaum (Mysore State).
Sircilla, Distt. Karimnagar (A.P.)
Kodinar, Distt. Amreli (Gujarat State).
Rahuri, Post Rahuri Factory, Distt. Ahmednagar
(Maharashtra).
Lucknow Rural Electric Cooprative Society, Lucknow.
5. All members of the Committee.
6. Indian Institute of Management, Ahmedabad.
7. Vaikunth Mehta National Institute of Cooperative
Management, Poona.
8. P S. to Chairman of the Committee.
Copy for information to :
 1. P.S. to Chairman, REC.
 2. Technical Director (MD), REC.
 3. Chief (Copt)
 4. FA&CAO.
 5. P.O. (IV).
 6. Secretary, REC.
 7. Management Specialist, REC.
 8. Information & Publicity Officer, REC.

RURAL ELECTRIFICATION CORPORATION

Study on specific problems of rural electric cooperatives by the Indian Institute of Management, Ahmedabad, Vaikunth Mehta National Institute of Cooperative Management, Poona and the Project Appraisal, Coordination and Evaluation Division of the Rural Electrification Corporation.

A significant feature of a cooperative—which constitutes the rationale for a cooperative form of organisation for extending electricity in rural area—, is that, being a consumers' organisation, it will be more responsive to the needs of the consumers and, thus, it would be better suited for building up load quickly. Load growth and consumers' response will, therefore, form a common field of study by all the three different agencies in respect of the coope-

five cooperatives allotted to them. The common terms of reference will be :

- (a) How far has the objective that rural electric cooperatives will utilise an area coverage concept in approaching the problem of rural electrification, has been achieved? This would mean (i) a comparative study with a neighbouring area where the SFB is implementing a rural electrification scheme financed by the REC, regarding the approach of these agencies to provide electric services to everyone in the area who wants it and can pay for it; (ii) comparative study of promotion of load growth by the cooperatives and the SEB in a REC scheme area; (iii) along with the study of the comparative load growth, the study of the rate of growth of revenue in the two areas of the cooperative and the SEB.
- (b) How far has the objective that the cooperative which is owned and controlled by the people it serves will have a 'watch-dog' effect, has been achieved? This would imply a comparative study of the consumer response in a cooperative and the SEB. The various aspects that are to be studied will be : (i) arrangements for dealing with applications for service connections; (ii) promotional efforts made for promoting load growth; (iii) arrangements for dealing with complaints; (iv) accessibility of the executives to the consumers; (v) mechanism for planning and implementation of the construction programme to suit the felt needs of consumers/prospective consumers; and (vi) special assistance provided to consumers, if any.

2. The Vaikunth Mehta National Institute of Cooperative Management will make an in-depth study of various aspects of the management of cooperatives in the Mula Pravara Rural Electric Cooperative Society, Maharashtra. This Institute's scope of enquiry will cover the items listed below. The institute will also, if necessary, visit the Sircilla Society for study particularly of the constitution of the Board of Management.

- (i) Expansion of membership and augmentation of share capital of cooperatives :
How far share capital is related to types of services rendered? Is the share capital base adequate?

(ii) Constitution of the General Body and meeting of the General Body :

How could meetings of the General Body be made more effective? Is there need for constitution of a representative general body and what amendments are necessary for this purpose to the bylaws of the society and, wherever necessary, to the cooperative law of the State?

(iii) Constitution of the Board of Management :

What is the existing procedure? Considering the nature of business of rural electric cooperatives, will a nominated Board be more desirable and, if so, what should be the composition of the Board and which organisations/interests should be represented and who should be the Chairman?

(iv) Organisational chart of the cooperative :

What is the present procedure for appointment and what are the service conditions of key-personnel? (General Manager, Project Engineer etc.) What powers have been delegated to them? How are they exercising those powers? What are the relations between the General Manager and the other key personnel and also between the Board and the paid management? What is the strength of different categories of other personnel in the cooperative, what is the procedure for their appointment? Is there any job chart for various categories of personnel? Are the arrangements for supervision over them adequate?

(v) Arrangements for constructive supervision :

What are the present administrative arrangements for constructive supervision over the rural electric cooperative? (role of SEB, Registrar, State Govt. and the REC).

vi Role of the rural electric coop. as a catalyst for the development of the area :

What steps have been taken by the society to develop its area and what are the arrangements for effective coordination with different agencies like land development bank, Industries Deptt. etc.?

(vii) Member-education and Member-service :

What are the arrangements for member education, member service and member association for promoting load growth, provision of prompt service and prevention of theft of energy?

3. The PACE Division of the REC will study the following aspects of the Lucknow society and the Sircilla Rural Electric Cooperative Society. Its study will be mainly confined to the operations and financial management of the cooperatives.

- (i) Whether a master plan of construction of LT and HT lines and location of transformers has been drawn up and whether the actual planning of the construction programme accords with the plan? How can the existing situation be improved and what arrangements are necessary?
- (ii) Comparison of cost of construction by the cooperative and the SEB.
- (iii) Do the project estimates of capital outlay need revision and if so, on what basis?
- (iv) What is the mechanism of budgetary control in respect of planning and implementation of construction programmes and operations and maintenance, and also inventory management? Some of the important aspects that would form part of the study are : (a) procedure for sanction of new lines, location of transformer etc. and whether any criteria is laid down for this purpose; (b) is the staff position according to the norms adopted by the SEB?; (c) is the staff adequate or in excess?; (d) are the operations and maintenance charges reasonable?; (e) is there proper planning of indents for material?; (f) what is the procedure for procuring materials, and issue of stocks for works; (g) are job cards maintained and closed promptly; and (h) is the system of meter reading and billing satisfactory?

(viii) Economics of the project

- (a) Is the load growth assumed in the project report realistic? How could load forecast be made more realistic?

- (b) On the basis of revised capital outlay and existing rate structure for purchase and sale of power and the present trends of load growth, will the project yield return on the investment as anticipated in the project report?
- (c) What is the present composition of the total load of the cooperative?
- (d) Is the cooperative losing on any particular type of load and if so, how much?
- (e) Given the present margins and the capital structure and assuming a line loss of 15 to 20%, at what point the cooperative will reach no-loss-no-profit position. (In other words, given the present cost per Km. what should be the number of connections per Km and realistic assumption reg: connected load per Km. and the load factor and the composition of the load to enable the society to reach the break-even point).
- (f) Instead of the present procedure of preparing the project on the basis of certain anticipated return on capital, could the project be prepared on the basis of discounted cash flow statements?

ANNEXURE VII

SUMMARY OF THE INTERIM EVALUATION REPORT ON THE HUKERI RURAL ELECTRIC COOPERATIVE

The Indian Institute of Management, Ahmedabad was entrusted with the study of the Hukeri Rural Electric Cooperative. The Institute was to study, in the main, load and revenue growth and consumer response in the cooperative. The Report compares the performance of the Hukeri society with that of the Raibag rural electrification scheme implemented by the Mysore State Electricity Board. The broad features of the cooperative scheme and the SEB's scheme are as follows :—

		Hukeri	Raibag
(a) Capital cost	(Rs. in lakhs)	173.40	72.70
(b) Loan sanctioned by the REC	(do)	173 40	72.70
(c) No. of villages		87	27
(d) No. of pumpsets		2825	2342
(e) No. of LT industries		109	56

For the purpose of studying consumer response, two villages each from the cooperative area and the SEB's area were taken up by the Institute. The main findings of the study are summarised below :

I. Service connections

(i) The Hukeri cooperative came into being in November, 1970 and Raibag scheme started functioning from May, 1971. The

following figures indicate targets and achievements in Hukeri and Raibag :

	Hukeri		Raibag	
	Target for the first year.	Achievement upto 31/3-72	Target for the first year.	Achievement upto 31/7/72.
1. Agricultural connections	425	349	1,171	164
2. Industrial connections	19	80	28	4
3. Domestic & commercial connections	1,447	1,449	2,628	69*
4. Total connections	1,913	1,899	+	281

+ Not mentioned in project report.

*Only domestic connections.

(ii) "The shortfalls of achievement in case of the Hukeri scheme have been marginal, whereas they are very substantial in Raibag."

II. Approach to extension of lines

(i) Both the SEB and the cooperative follow the same procedures for extending the lines and giving new connections as under :

- (a) Usually the villages near the existing lines get priority for electrification.
- (b) In estimating the targets for electrification and in judging the potential for load growth, some account is taken of the number of wells in the area surrounding the village and the availability of river water for irrigation purposes. There is no survey of the ground water potential or of the actual potential of existing wells. "We found that most wells run dry after a pumping of a few hours. Several hours are required for the wells to be refilled."
- (c) The estimated cost of connection for agricultural and industrial connections should not exceed Rs. 1250 per connected HP. The consumer guarantees a revenue return of 18% per annum for seven and a half years.

(ii) "There is no coordinated planning in extending electricity. While economic viability must be demonstrated, application of a rigid rate of revenue return criterion for each and every consumer is not likely to extend the scope of electrification."

(iii) "There were alleged instances of corrupt practices in case of the Raibag scheme, which, if substantiated, can be traced to (i) the organisational set up and (ii) the connection procedure."

III. Promotional and educational efforts

(i) There is no systematic or concerted efforts for education of the consumers in either of the schemes.

(ii) "Even though the Board of Directors of the Cooperative is nominated, they represent various areas within the scheme. Most consumers know the director from their area. This serves as an informal channel of communication between the management and the consumers in case of the cooperative."

IV. Cooperative and the SEB

(i) The relations between the Electricity Board and the cooperative are by and large cordial.

(ii) The Electricity Board is represented on the Cooperative Board of Directors through the nominee of Chairman, MSEB. Currently, the Superintending Engineer, Hubli Circle is the nominee.

(iii) **Tariff**—The actual average cost of power to the cooperative is 7.4 paise per KWH, as opposed to the figure of 6.9 paise per KWH used in the project report. The Electricity Board itself assumes this cost to be 5.1 paise per KWH in its calculations for the REC financed schemes under its own aegis.

V. Growth of consumption of electricity and revenue

(i) Growth of consumption and revenue in respect of both the schemes have been compared for the period from June 1971 to June 1972. The growth is as follows :

	%increase in load		%increase in revenue	
	Hukeri	Raibag	Hukeri	Raibag
Agricultural	134.09	1490.8	73.9	1811.7
Industrial	69.5	-46.2	29.0	-17.54
Domestic	51.5	-19.6	42.4	18.9

"In general, we find that the load growth remained quite ahead of the revenue growth. A possible reason for this is that there has been an intensification of use of electricity per connection, in all categories. This intensification is the minimum for domestic connections, as is to be expected."

(iii) "Summing up, we see that Hukeri has done quite well as far as growth of load and revenue is concerned. The growth rate achieved is in keeping with the targets. Raibag on the other hand by concentrating on agricultural load has not fully utilised the potential for load and revenue growth. Connections for other uses can be easily given once a village is electrified for agricultural purposes. In a power surplus state, we cannot understand the reasons for not doing so. Thus, Raibag seem to be considerably behind Hukeri in achievement of targets."

VI. Changes in agricultural operations

(i) Nearly three-fourths of the sample farmers in Hukeri and two-thirds of those in Raibag had increased their holdings since electrification.

(ii) "What is more significant is the claim made by over 70 per cent of the farmers in Hukeri that electrification has enabled them to increase their land under irrigation. Only 46 per cent of the Raibag farmers made a similar claim."

VII. Billing and collection

(i) The total demand of the cooperative from its inception upto 31/3/72 was Rs. 18.43 lakhs, collections Rs. 17.39 lakhs and the arrears only Rs. 1.40 lakhs. "Similar information in regard to the Raibag scheme was not available."

(ii) Nearly 60% of the consumers were satisfied with the billing system in Hukeri, whereas only about 25% of the Raibag consumers were so disposed.

VIII. Consumer response

(i) There were generally fewer and less frequent complaints from the cooperative consumers as compared to those from the SEB consumers. The SEB consumers also complained more about the unreliability of supply.

(ii) The cooperative consumers are generally satisfied about the orientation they receive. The Board consumers are not so disposed.

(iii) In case of Hukeri, a little over 20% of the sample farmers had diesel engines in addition to electric pumpsets. In case of Raibag, this proportion varies slightly, this was 23%.

(iv) The consumers in the cooperative area are generally favourably inclined to cooperatives, are satisfied with the electricity cooperative and want its operation continued. A majority are members of the cooperative, but only a few are actively involved in it.

(v) Consumers of the SEB are also favourably inclined to cooperatives, but would not want an electricity cooperative to function in their area.

(vi) All the respondents in Hukeri were of the opinion that the general experience of the people in their area of obtaining a connection was encouraging. As far as they themselves were concerned, they were completely satisfied with the way things were moving. In Raibag, on the other hand, this response was of a somewhat more moderate nature. In Hukeri, respondents expected to get a connection within two to three months, whereas in Raibag farmers expected that it would take more than six months to get an electric connection.

(vii) "Many consumers in both the schemes, however, reacted positively to the notion that cooperatives can exercise a better social control on thefts and pilferages of electricity."

IX. Line losses

(i) For the period from March, 1971 to March, 1972 the percentage of line losses in the Hukeri society was of the order of 34%.

(ii) "Our discussions with the technical personnel lead us to believe that even with no pilferage, there would be about 18-20% line losses. By these accounts, it appears that between a third and a half of total line losses are because of pilferage in Hukeri."

(iii) "There are substantial line losses in both the schemes. Only a part of these can be attributed to pilferage."

(iv) "No information was available on line losses within the scheme. The State Electricity Board, however, claims that for the state as a whole the line losses amount to about 16%. In rural areas, however, the board officials conceded that the losses could be as great as those incurred by the cooperative."

(v) People were generally reluctant to admit that they knew of the losses. Two-thirds of the cooperative consumers, however, felt that their organization would be better able to control the losses.

X. Management

(i) "Even though the organizational structure of the Hukeri Cooperative is fairly pragmatic and performance oriented, it must be noted that the results have been achieved primarily with deputationist personnel. Proper channels seem to be hindering the progress of the Raibag scheme. The organisational set up there is not evolved with the project concept in mind"

(ii) "Construction and connection work for the Raibag scheme is being looked after by an Assistant Engineer of MSFB at Raibag. He is further responsible for looking after similar work in the Athani Scheme and the formulation work of the Chikodi scheme, both financed by the REC. The billing chores are handled by the Chikodi Sub-Divisional Office of MSFB."

(iii) The Raibag scheme officers have to procure their materials through proper channels which becomes a time consuming process most of the time.

XI. Summing up

(i) A rate of return based criterion is not likely to discriminate in favour of the segment of the population for which new developmental programmes are being organised. Therefore, to do full justice to the area approach, the rate of return must be left at the scheme level and not at the individual consumer level.

(ii) In order to deal with the problems of a selected area, the project approach as formulated by REC seems to be the most effective one. It is not, however, always followed at the implementation level. A good example is Raibag, where at least three different offices of the SEB are looking after different aspects of electrification.

(iii) "A decentralised organisation for electricity distribution seems to us to be the best suited one."

(iv) "The organisation must to be given a sufficient amount of flexibility to implement the kind of practices we have recommended. It seems highly unlikely that a state electricity board, which looks after the needs of the entire state can do adequate justice to the specialised needs of rural electrification programmes."

(v) "It seems to us that electricity cooperatives, provided they can fulfil certain requirements, can serve as effective organisations for rural electrification programmes."

(vi) The general experience of cooperatives has not been, on the whole, too satisfactory in the country. To ensure the satisfactory operation of electricity cooperatives, some attention must be paid to future policies.

(vii) "On the whole, the performance of the Hukeri cooperative is highly satisfactory." But the performance of a new cooperative could be adversely affected by certain basic issues. They are : lack of experience in the field of rural electrification; relationship of the cooperative with the SEB with regard to tariff; inadequate availability of power; load shedding etc.; disadvantage of a small unit in procuring materials; recruitment of trained personnel; lack of training facilities; and inadequate provision of proper incentives to the executive staff.

(viii) The Report recommends that a federation of electricity cooperatives should be developed to help the individual units in various matters. The other suggestions made in the Report are : streamlining of the procedures and policies for individual units; evolving organisational structure where responsibility of the executive is made co-terminus with the jurisdiction and powers; incentive programme of member education; and improvement of the technical capability of the cooperative.

ANNEXURE VIII
SUMMARY OF THE INTERIM EVALUATION REPORT ON
KODINAR RURAL ELECTRIC COOPERATIVE SOCIETY.

The Indian Institute of Management, Ahmedabad was entrusted with the study of the Kodinar Rural Electric Cooperative. The Institute was to study, in the main, the load and revenue growth and consumer response in the cooperative. The Report compares the performance of the Kodinar Rural Electric Cooperative with that of the Una Scheme implemented by the Gujarat Electricity Board with financial assistance from the REC. For the purpose of consumer response, two villages in Kodinar and two villages in Una area were taken up by the Institute. The main findings of the study are summarised below :

I. Service connections

(i) The growth of service connections in both the schemes is as follows:—

	Kodinar				Una			
	Position in Jan. 1971	Target envisaged in the Project Report for the 1st year	No. of connections released between Jan. 71 & Jan. 1972	% increase between 1971-72	Position in Jan. 1971	Target envisaged in the Project Report for the 1st year	No. of connections released between Jan. 71 & Jan. 1972	% increase between 1971-72
Agricultural connections	379	1,000	89	23	3	1,200	75	2500
Industrial connections	104	50	23	22	1	7	3	300
Domestic & commercial connections	3046	2,000	574	19	205	1,200	177	86
St. lighting connections.	15	24	1	7	2	—	1	50
Total	3544	3,074	687	19	211	2,407	256	121

(ii) ".....during the first year, progress was very slow in both the schemes. Between the two schemes, the Kodinar scheme recorded higher progress than the Una scheme. However, it may be noted that bulk of the difference in the total number of connections released was due to the release of about thrice as many domestic and commercial connections in Kodinar as compared to Una "

(iii) The Report has listed the following factors as inhibiting the pace of rural electrification in Kodinar :—

- (a) Against a load of 2250 KVA requested for by the society, it has obtained only 1750 KVA from the GEB. During 1972-72, the society paid Rs. 20,000 as penalty to GEB for exceeding the contracted load.
- (b) There is repeated load shedding by the GEB in the society's area. The uncertainty of power supply has led many cultivators in the area to keep diesel engines even after installing electric motors.

The Institute took a sample of 24 wells in Kodinar area, covering 114.5 hectares. "On these wells diesel pumpsets operate for 46955 hours as opposed to only 15900 hours of operation of electric motors... ..It is, therefore, obvious that only one quarter of the irrigation on these farms is done through the use of electricity. This is because of the frequent load shedding and the general lack of faith of the farmers in the reliability of electricity supply."

- (c) The tariff to the cooperative comes to about 13 paise as against 10 paise assumed in the project report.

"In absolute terms, the number of connections released in Una scheme between January 1971 and January 1972 were lower than those in the Kodinar scheme for all categories of consumers. This happened despite the fact that there was not a major handicap with respect to either the availability of power or procurement of material. Nor was there any constraint in term of 'indequacy' of margin between the cost of power purchased and the revenue from power sold."

II. Approach to extension of lines

(i) Both Kodinar and Una schemes adopt a group approach for granting new connections. The new connections are given if the total revenue for the group is equal to or more than 15% of the cost of providing connections. There are three shortcomings in the group approach :

- (a) The first group in the village may have to bear a relatively higher cost than the succeeding groups.
- (b) The group approach discriminates against weaker sections and backward areas.
- (c) The group approach often leads to wasteful efforts. For example, a group of cultivators in Una area made a deposit in 1971; but till September, 1972 no connection was given because the return was only 14.8% as against the prescribed criterion of 15%.

III. Promotional and educational efforts

In Kodinar, there was neither a promotional nor an educational effort to extend electrification. In Una, there were some promotional efforts but no educational efforts.

IV. Growth of consumption in electricity

(i) The growth of consumption in electricity in the two schemes between January, 1971 and January, 1972, is as follows :—

Month	Kodinar		Una	
	Consumption	% of growth	Consumption	% of growth
January, 1971	265323		4507	
January, 1972	445815	68%	23680	425%

(ii) "The higher percentage growth in Una was due to a lower base."

(iii) "While in Kodinar 68 per cent of the growth in load was due to industrial connections, in Una 69 per cent was due to

agricultural connections. In both the schemes the growth in electricity consumption for agricultural was almost entirely because of the growth in the number of connections rather than an increase in the consumption per connection. On the other hand, in the case of industrial connections which contributed over two-thirds of the growth of load in Kodinar, increase both in the number of connections as well as on the consumption per connection played important roles."

V. Revenue Growth

(i) The growth of revenue in both the schemes between January, 1971 and January, 1972, is as follows :—

Month	Kodinar		Una	
	Revenue (Rs.)	% of growth	Revenue (Rs.)	% of growth
January 1971	68,562		1311	
January 1972	1,04,317	52%	6011	358%

(ii) In Kodinar "while industrial connections accounted for 68% of the growth in load, they contributed only 53% to growth in revenue. On the other hand domestic and commercial connections accounted for only 7% of the growth in load, while they contributed 15 per cent to growth in revenue."

(iii) In Una, the share of different categories in load growth was 69% for agricultural connections, 15% for industrial connections and 16% for domestic and commercial connections. As regards revenue, 72% of the increase in revenue came from agriculture, 10% from industrial connections and 18% from domestic and commercial connections.

Billing and collection

(iv) The billing is done every month in both Kodinar and Una. In Kodinar, the collections were 84% of the billed amount whereas in Una it was 90%. In Kodinar, the billed amount was Rs. 12.88 lakhs as against Rs. 0.77 lakhs in Una for the period from January 1971 to March 1972.

(v) The Billing Department of the cooperative is understaffed.

VI. Comparative assessment

"In conclusion, we can see that the performance of the cooperative is better than that of the control block in absolute terms. In relative terms, however, the situation is reversed. This is so, because the two schemes were not at comparable stages of electrification when REC financed schemes were introduced. ...It appears if the objective is to reach as many rural house-holds as possible, we need not depend upon percentage increases as indication of performance."

VII. Consumer response

(i) Almost all consumers were aware of the electricity cooperative.

(ii) All but five of the consumers interviewed were in favour of the electricity cooperative. In Una 38 users out of the total of 48 were in favour of electricity cooperatives.

(iii) "Most of the farmers were again favourably inclined towards cooperatives. All the potential users interviewed in Kodinar were already members of the cooperative."

(iv) "In Una, farmers expected that it would take nearly ten months to get an electric connection, whereas in Kodinar farmers expected to get a connection in a couple of months."

(v) "The consumers in the cooperative area feel that rural electric cooperatives are able to adjust to their needs a little more quickly and easily than is the state electricity board. They therefore preferred the cooperative organisation. A large number of farmers in the control area also thought in the same direction."

(vi) "A number of respondents believed that the cooperative organisation may be better suited to reduce the extent of pilferage as compared to the state electricity board."

(vii) "Not much is done at present by either the cooperative or the electricity board to gauge the needs of consumer and cater to them. There is no significant consumer education or training

programme. Promotional activities for an intensification of use of electricity or extension of use of electricity are also non-existent."

VIII. Line losses

(i) For the period between January 1971 and March 1972, line losses in Kodinar society amounted to 25% whereas it was 39% in the Una area.

(ii) "The high line losses are mainly due to sub-standard construction by contractors, poor maintenance and lack of periodical testing of meters."

IX. Management

(i) The General Manager, the Accountant and the Chief Engineer of the cooperative have financial powers upto only Rs. 500/-. In other words, all the powers were centralised in the Board.

(ii) "The organisational structure of the Kodinar cooperative is not conducive to the efficient working of the scheme. All matters were decided by the Board of Directors and hardly any powers were delegated to the senior executives."

(iii) The maintenance and construction work has been retarded in the cooperative due to lack of staff.

(iv) The process of procurement of material is tardy and time-consuming in the cooperative.

(v) "The poor progress of the Una scheme also seemed to be due to inadequate organisation to implement the scheme in a dynamic manner...There was no distinct organisation to implement the REC scheme with exclusive attention and vigorous dynamism."

X. Summing up

(i) "The Kodinar cooperative has not achieved the objective of rural electrification in any substantial measure. What is more is that it has incurred a substantial loss in its operation."

(ii) There has not been sharing of experience between the Kodinar and the other electricity cooperatives.

(iv) "In our view a critical examination of the working of the KRECS indicates that its performance was adversely affected by

certain basic issues which may be applicable to all rural electricity cooperatives. These issues were among others : lack of experience in the field of rural electrification; relationship of the cooperative with State Electricity Board in relation to rates, inadequate availability of power, and load shedding; disadvantage of a small unit in procuring materials; recruitment of trained personnel; lack of training facilities; and inadequate provision of proper incentives to the executive staff."

(iv) The Report recommends that a federation of electricity cooperatives should be developed to help the individual units in various matters. The other suggestions made in the Report are : streamlining of the procedures and policies for individual units; evolving organisational structure where responsibility of the executive is made co-terminus with the jurisdiction and powers; incentive programme of member education; and improvement of the technical capability of the cooperative.

**SUMMARY OF THE EVALUATION REPORT ON THE
MULA PRAVARA RURAL ELECTRIC COOPERATIVE
SOCIETY**

The Vaikunth Mehta National Institute of Cooperative Management, Poona was entrusted with the study of the Mula Pravara Rural Electric Cooperative. The Institute was to study the load and revenue growths and consumer response in the cooperative and also certain aspects relating to the membership of the cooperative, accumulation of share capital, constitution of the general body and the Board of Management, administrative arrangements within the cooperative, member education and arrangements for supervision over the functioning of the cooperative. The Report compares the performance of the cooperative with that of the MSEB in the Poona area. As regards this comparison, the Report makes the following observation : "However, the two areas viz. rural areas in the Poona district and the area in the society's jurisdiction are not strictly comparable because in the Poona area, electricity started for the first time by the middle of 1971 and the number of consumers increased rapidly since power was initially available in the area during 1971-72, while in the society area the consumption pattern was more or less stabilised at the time of take-over."

The main findings of the study are summarised below :

I. Background

(i) "The electrical distributive system taken over from the Maharashtra State Electricity Board is said to be technically faulty and defective. At the time of take over from the Maharashtra State Electricity Board, the whole electrical system should have been checked up by third party technical expertise."

(ii) The performance of the society during the first year has been extremely poor.

(iii) The society incurred a loss of Rs. 18.91 lakhs upto 31/3/72. This was because the cost to the society per unit sold was 26.21 paise whereas the average realisation was only 18.04 paise. The loss is mainly due to the fact that the line losses were as heavy as 50%.

(iv) As per the project report, the society was expected to spend Rs. 73.68 lakhs on construction, but the actual expenditure was only Rs. 30.25 lakhs. The society experienced difficulties in getting construction material during the first six months. Secondly, the system it inherited from the Board requires overhauling and strengthening. Finally, the REC had also advised the society to concentrate on improving the system rather than on expansion.

II. Organisation

(i) "The society does not reflect the cooperative character as 90% of business is with the consumers who are not members of the society. The membership is very low and existing and potential consumers are reluctant to become members of the society."

Out of 173 members interviewed, only 5.78% felt that they have been benefited by becoming members, while 91.90% felt that they have not been benefited by becoming members.

(ii) The internal organisation of the society is not also cohesive. It is dislinked and disjointed. There is a clear dichotomy between the administrative department under the Manager and the technical department under the Project Engineer. Proper lines of authority and responsibility and the coordination at different levels in the organisation are lacking.

III. Load and revenue growth

(i) The amount billed by the society shows an upward trend over a period of time, while the amount actually collected shows a downward trend. This is a reflection on the poor performance of the society in collection of arrears.

(ii) In the case of Mula Pravara society, the rate of growth of load was higher upto March, 1971 but declined and stabilised after that; while in the case of the Maharashtra SEB area, the rate has increased continuously from 30th June onwards.

IV. Consumer response

(i) The analysis of consumer response in the Report is based on reactions of 345 consumers and 50 non-users of electricity in the 4 selected villages in the society area, and 155 consumers and 30 non-users in the Maharashtra SEB area in Poona district.

(ii) In the case of MSEB 64.51% of the connections were given within 3 months of application while in the case of the society, 52.02% of the connections were given within 3 months from the date of application. "The Maharashtra State Electricity Board administration is slightly more efficient in the matter of giving connections in time. The society had to face a number of difficulties such as non-availability of electric poles and other material etc. which probably caused delay in giving connections. In view of these difficulties which smaller organisations have to face, it would not be incorrect to say that the society's performance compares well with that of the Maharashtra State Electricity Board."

(iii) It would appear that the power supply is not regular at present as it was when the area was under the Maharashtra SEB.

(iv) In the society area, the break-downs are too frequent as compared to those in the MSEB area.

(v) The machinery of the society for rectifying the line faults is not as efficient as in the Maharashtra SEB area.

(vi) The consumers in the society area as well as MSEB area are not very much satisfied with the society and the Board as regards the provision of services for remedying defects in their own electrical equipment.

V. Billing

(i) The Maharashtra SEB is collecting electric bills from agriculturists half yearly. The society is now collecting the bills monthly. This billing procedure of the society has created discontent among the agriculturists.

(ii) Similarly, the practice of recovering minimum charges on monthly basis is causing considerable hardship particularly to the agriculturists.

(iii) The bills prepared by the society are found to be having too many mistakes and it takes a long time for the consumers to have them rectified. Comparatively, the billing system in the MSEB is better.

VI. Line losses

(i) Only a small percentage of the people expressed that they were aware of the theft of energy. More people became aware of this phenomenon after the society was organised. This may be considered as significant in favour of a cooperative electric supply society for distribution of electricity as it introduced an element of built-in-watch dog effect, which could result in prevention of theft of electricity.

Non-users of electricity—In the area of the Board as well as of society, it has been brought out that a large number of non-users of electricity could not take electricity because of their inability to make the initial investment. If these non-users could be helped with a loan for making the initial investment to get a connection, many of these non-consumers could be attracted to the society.

VII. Membership and share capital

(i) Out of total number of 15223 service connections as on 31-3-72, only 1596 or just over 10% are the members of the society. The society has made no efforts to enroll as members the consumers taken over from the MSEB. Further, only 164 out of 1568 new service connections given, have been admitted as members.

(ii) The society has collected only Rs. 1.55 lakhs as share capital. The present percentage of share capital to outside borrowings is 0.72%, which is far too inadequate.

VIII. Organisational chart of the cooperative

(i) The Board of Directors appointed the Manager and the Project Engineer. Manager appointed all the staff under him in the Administrative Department. The Project Engineer appointed all the staff under him in the Technical Department.

(ii) The Manager and the Project Engineer are appointed by the Board and responsible directly to the Board. "The relationship between the two is not clear. This resulted in a clear

dichotomy between the Administrative Department under the Manager and the Technical Department under the Project Engineer.”

(iii) “There are large organisational gaps. Some of the important functions are totally neglected or attended on ‘ad-hoc’ basis. Member-relation, public-relations and member-education, the functions so important to any cooperative form of organisation are completely omitted”.

(iv) “The span of control at the Project Engineer’s level is too wide. It is, at present 1:14.”

(v) There is duplication of some of the important functions, leading to controversies and illogical division of staff.

(vi) “Job descriptions and written specifications of duties was not available for any of the posts either in the Administrative Department or Technical Department. For example, Office Superintendent is working just as assistant to the Manager, doing the jobs assigned to him by the Manager from time to time mostly on ad-hoc basis. ...In the absence of written job-description and specified job-charts, the supervision is ineffective.”

(vii) “There is widespread belief amongst the public, consumers and the members that the technical staff of the society connive with the consumers in tampering with the meters and live-lines, obviously resulting in theft of the electricity supplied by the society.”

(viii) In terms of the standards prescribed by the MSEB, the society is understaffed.

IX. Supply of material by the MSEB.

The society kept Rs. 25 lakhs on deposit with MSEB for the supply of material. The Board supplied the material with 5% departmental charges. When the deposits were withdrawn by the society, the society was treated on the same footing like other contractors and departmental charges were increased to 15%.

X. Member-education

The society has not initiated any member-education programme as yet. The attitude of the officials of the society is also not encouraging in this respect.

XI. General observations and suggestions

The Report contains certain general observations which are listed below :

(i) Cooperatives will have a very limited role in the years to come and bulk of the work of the rural electrification will be done by the SEB.

(ii) "In reality, so far at least the Mula Pravara Society has not only been not able to provide additional facilities but has not in some cases been able to provide even such facilities as were provided earlier by the MSEB to the consumers in the same area."

(iii) "Buying electricity in bulk from the Maharashtra State Electricity Board and distributing it in the rural areas does not appear to be economically a very sound business proposition because of the high percentage of line-losses due to pilferage and other factors and failure of the society to collect electricity bills in time. The profitability and performance of the society has therefore to be assessed in the light of these handicaps. In view of these constraints and given the limited resources and the clientele, the Mula Pravara electric cooperative society will find it very difficult to give a better deal to its consumers as compared to the Maharashtra State Electricity Board, though the society may manage to survive somehow."

(iv) During the Maharashtra State Electricity Board administration, the consumers in the area were accustomed to certain facilities which the Board could give either by deliberate decision or the consumer got because of lapses in the Board's administration. The moment the society took over, the consumers suddenly found that they were denied these facilities which they used to enjoy in the past and also found that their energy bills had suddenly gone up substantially. A probable reason for the electricity bills suddenly going up, after the society took over, could be that the society tried to curb illegal pilferage of electricity which apparently during the Maharashtra State Electricity Board administration went unnoticed..... Apparently, during the Maharashtra State Electricity Board administration the Board could afford to ignore this phenomenon of pilferage and still continue to distribute power in the areas."

(v) "The society introduced monthly billing which again put a considerable check on pilferage of electricity. It also undertook a big programme of checking meter-speeds and replacement of faulty meters, as a result of which again the consumers found that they were required to pay much more for their electricity after the society took over. This upset the consumers considerably, so much so that now some of the consumers of the society are not only not sympathetic towards the society but are almost hostile."

(vi) The following factors have prejudiced consumers against society :

(a) In the MSEB area, the agricultural consumers are billed only twice in a year and the commercial and industrial consumers are billed only 4 times in a year, whereas in the Mula Pravara society all consumers are billed monthly.

(b) The MSEB recovers minimum charge from agricultural consumers only twice in a year and from other categories of consumers on monthly basis. The society recovers the minimum charges for agriculture also on monthly basis.

(c) The agricultural consumers in the society area are required to pay Rs. 6 per month per H.P. as the minimum charge, whereas in the MSEB area the agriculturists are required to pay the minimum charge only twice in a year. In reality in the MSEB area, the consumers are seldom required to pay any amount by way of minimum charge because over a period of six months, majority of the agriculturists invariably consume more than the minimum number of units.

**SUMMARY OF THE EVALUATION
REPORT ON LUCKNOW AND
SIRCILLA RURAL ELECTRIC
COOPERATIVES**

The PACE Division of the Rural Electrification Corporation was entrusted with the study of the Lucknow and the Sircilla Rural Electric Cooperatives. The study covers load and revenue growth and consumer response in, and operational and financial aspects, of these cooperatives. The load and revenue growth and consumer response of the Lucknow society are compared with the UPSEB's rural electrification project in the neighbouring Una district and of the Sircilla cooperative with the Andhra Pradesh SEB's project in Ibrahim Patnam in the same district of Karimnagar. The main findings of the study are summarised below :

Lucknow Rural Electric Cooperative

Load growth

- (i) In the matter of load development in all its facets, the CESS (Cooperative Electric Supply Society) emerges "as relatively more efficiently organised for project implementation than the SEB project."
- (ii) In the matter of overall achievement *vis-a-vis* the targets, while both the projects failed to achieve the targets envisaged for the first year in regard to number of consumers, the CESS project has been way ahead of the SEB project. In regard to connected load, the CESS project has, in fact, exceeded the first year's target as compared to SEB project where the gap in achievement is as high as 75.2% *vis-a-vis* the targets envisaged.
- (iii) In the matter of load development, both in respect of number of consumers as well as connected load, the

CESS project has fared much better than the SEB project. In the matter of extending new service connections, the CESS has been able to achieve 2.7 times that of the SEB project. Similarly, in regard to connected load, the CESS achievement is 4.5 times as that of the SEB project.

- (iv) The CESS has been able to achieve twice the number of connections and twice the connected load for an investment of every one lakh rupees as compared to the SEB project.

Revenue Growth

- (v) The HT industrial load, which is the lowest revenue earning load per unit accounted for as much as 53.0% of total units sold in CESS project whereas this is totally absent in the SEB project. The revenue realised per Rs. one lakh of investment is much higher in the CESS project than the SEB project when HT loads are ignored.
- (vi) Under comparable circumstances, there is a discernible growth trend in revenue per KW of connected load in the CESS project as compared to the SEB project.

Consumer response

- (vii) In the CESS project area, consumers normally entertain higher expectations about more prompt and more efficient services than those in the SEB area.
- (viii) The average waiting period was generally longer in the SEB area as compared to the CESS area.
- (ix) The CESS tendered some degree of advice to its consumers in the matter of use and benefits of electricity, selection of equipment, wiring and installation, operation and maintenance etc., whereas this was totally absent in the SEB area.
- (x) A larger percentage of consumers in the CESS area as compared to the SEB area, reported that they were given prior notice about scheduled break-downs, and that the project authorities explained to them the reasons for fuse blow-outs and how to prevent recurrence of this.

Management

- (xi) The actual unit cost of construction has, however, far exceeded the assumptions made in the project report, resulting in an escalation of the cost of the project. The CESS does not have proper material management and cost control systems that would have otherwise kept these costs in check. "It is thus doubtful whether the CESS will be able either to complete electrification of all the villages within the time and the cost originally envisaged or obtain the revenues as anticipated"
- (xii) The CESS does not seem to have an overall time-bound programme for phasing of construction and cost to suit the phasing envisaged in the project report.
- (xiii) The feed-back of information does not help identify or exercise control of the Key Result Areas (KRAS).
- (xiv) The responsibilities entrusted to the chief executive officers of the CESS seem to be higher than the decision making powers vested in them.

Sircilla Rural Electric Cooperative Society

Load growth

- (i) In the matter of overall achievement *vis-a-vis* the targets, while both the projects failed to achieve in the first 20 months, the targets envisaged for the first two years, the CESS (Cooperative Electricity Supply Society) project has been way ahead of the SEB project. In regard to the number of consumers, CESS has achieved 45 per cent and in regard to connected load 32.5 per cent whereas the comparable figures for SEB are only 25.9 per cent and 32.7 per cent. In the matter of load development, CESS has fared better than SEB both in the number of services given and load connected. However, if the size of the project is taken into account, SEB has done marginally better in the matter of load connected.
- (ii) The potential for load development in the newly electrified villages has been exploited relatively better in SEB area than in CESS area.

- (iii) From the point of view of load development and terms of cost, CESS has achieved three times the number of connections, as compared to SEB though the achievement in terms of loads connected is only marginally better. This is attributable to a large number of domestic connections as compared to the SEB.

Growth of Revenue

- (iv) Taking the overall position, the CESS project, on balance, has fared better than the SEB project. In terms of sales, the CESS project has achieved 72.9% of the targets as against 4.1% for the SEB project. In terms of revenue realised, the CESS project has achieved 69.8% whereas SEB project's achievement is only 4.36%
- (v) The revenue realised per Rs. 1 lakh of investment is much higher in the CESS project than the SEB project.
- (vi) Under comparable circumstances, there is a discernible growth trend in revenue per KW of connected load in the CESS project as compared to the SEB project.

Consumer response

- (vii) Every person who had become member of the cooperative and taken service connection, after the society was established, was aware of his membership in this society.
- (viii) Larger percentage of consumers in the project area reported that they were given a prior notice of scheduled breakdowns.
- (ix) The average waiting period for service connection was slightly more in the CESS area as compared to the SEB area.
- (x) The CESS tendered some degree of advice to the consumers in the matter of use and benefits of electricity, selection of equipment, wiring and installation, operation and maintenance etc., whereas this was totally absent in the SEB area.

Management

- (xi) No year-wise phasing has been estimated and the new villages to be taken for immediate electrification are determined by the extent of participation forthcoming from the villagers in the construction programme by way of Shram Dan.
- (xii) The unit costs of construction have been less than those assumed in the project report. One major reason for this is the Shram Dan by the members.
- (xiii) The CESS does not seem to have an overall planned development or a time bound programme for construction conforming to the cost estimates and construction phasing envisaged in the project report.

ANNEXURE XI

No. 2/3(18)/71-REC

RURAL ELECTRIFICATION CORPORATION LTD.

D-5, N.D.S.E., Part II,
New Delhi-49.
Dt. 7-8-72

To

The Chairman,
Pilot Rural Electric Cooperative Society,
Hukeri/Sircilla/Kodinar/Mula-Pravara/Lucknow.

Subject :—Constitution and administration of Special Fund
created out of the interest remission granted by
the R.E.C.

Sir,

In this Corporation's letter No. 2/1/69-REC, dated-8th/9th May, 1970 communicating the terms and conditions of loans to cooperative pilot projects, it was indicated that the REC would be prepared to forego the interest on project loans sanctioned to them, for the first five years, provided the societies credit the interest so waived to a special fund to be constituted and administered in accordance with the rules to be framed with the approval of the Corporation.

2. All the five rural electric cooperatives have since created a special fund and contributed amounts representing the interest remission given by the REC to this special fund. They had also made suggestions about the various practical purposes for which the special fund could be utilised. The Corporation have after careful consideration of these suggestions, approved the following purposes

for which the special fund could be utilised by the pilot rural electric cooperative societies :—

- (i) Opening of a retail store supplying electric goods like cables, bulbs, switches, starters and other electrical equipments and also for setting up of a demonstration centre for various electrical gadgets, which could be used by member consumers in their farms and houses. (This would include training of members in the use and maintenance of gadgets).
- (ii) Advancing small loans, say to the extent of Rs. 250/- per consumer, for internal wiring and fittings of the residential houses of consumer members and also for purchase of electrical equipments. This amount will be given mainly in kind.
- (iii) Encouraging un-employed engineers to take up internal wiring on the consumers' premises on the basis of approved estimates and, for this purpose, supplying them certain electrical goods and equipments on credit basis.
- (iv) Constructing office buildings, workshop and godown, and staff quarters.
- (v) Taking up Member Education Programmes and Service activities for members within the Society's own organisation.
- (vi) Improving the system by using voltage regulators, capacitors etc. for reducing line losses.
- (vii) Setting up of a workshop for manufacturing materials and equipments and for providing repair and service facilities to consumers.

3. The utilisation of the special fund should be governed by the rules as per appendix.

4. In the light of the above rules and guide lines, you may frame detailed schemes for incurring expenditure from out of the Special Fund and submit the same to the Corporation for its prior

approval. The amount earmarked for reserves as per rule 1 for your society is Rs.

The receipt of this letter may kindly be acknowledged.

Yours faithfully,
Sd/- N. S. Mathur,
Chief (COPT)
5.8.72

Copy to :—

1. General Manager, Cooperative Rural Electric Supply Society, Kodinar, Mula-Pravara, Sircilla, Hukeri and Lucknow.
2. Registrar of Cooperative Societies, Andhra Pradesh, U.P., Maharashtra, Gujarat and Mysore.

Copy to :

1. Technical Division.
2. Finance Division.

RULES FOR THE UTILISATION OF THE SPECIAL FUND BY THE COOPERATIVES.

1. A suitable amount not exceeding 60% of the funds available at any time shall be ear-marked as reserves by the REC. The exact amount shall be determined in the light of the financial position of the society—the greater the loss the more substantial should be the reserves. This amount should be kept in 39 months fixed deposit in a cooperative bank which is expected to yield $\frac{1}{4}$ % higher interest. It shall be used on the express written instructions of the REC and the first charge on it shall be the outstanding loan on the society.

Out of the balance

2. (a) Not less than 7.5% or Rs. 30,000 per year of working whichever is less may be spent on member-education-cum-member-service programme.
- (b) A sum not exceeding Rs. 20,000 may be spent for opening a retail store for supplying electrical goods like cables, bulbs, starters, etc. and other equipment and for demonstration centre. Detailed scheme has to be made out and submitted to REC.

- (c) A sum not exceeding Rs. 30,000/- may be spent on setting up of a small workshop for undertaking the manufacture of cross bars and other such minor items required in a transmission system and for undertaking repairs of pump-sets, tractors, etc. This amount shall be spent largely on the purchase of machinery required. Detailed scheme has to be worked out and submitted to REC
- (d) Where line losses have been heavy and the system can be improved by a small investment the same may be undertaken out of this fund on the basis of worthwhile scheme. However, only schemes below Rs. 1 lakh would qualify for this assistance. (Bigger schemes will have to be referred to the REC for loan)
- (e) For construction of office buildings, workshops, godowns, staff quarters, etc. it should first be ascertained whether any amounts have been provided in the project. After making due allowance for funds thus made available in the project, any residual requirement not exceeding 30% of the available fund or a total of Rs. 2 lacs whichever is less may be spent on this item.
- (f) Small loans to the extent of Rs. 250/- *per consumer for domestic electrification etc. may be made from the special fund. A sum of Rs. 25,000 be earmarked for it initially.
- (g) For assistance to unemployed qualified engineers, no separate expenditure need be made. For availing the services of such engineers in the matter of running the repair workshop or the demonstration unit of the stores or for wiring of houses for domestic connections etc., the stores and workshop may give them special facilities where required. However, specific rules should be framed for this and a detailed scheme submitted to REC for approval.
3. The balance amount if any shall be kept in 1 year fixed deposit in a cooperative bank which is expected to fetch $\frac{1}{4}$ % higher return than other schedule banks.

Note : No amount out of the special fund may be spent on recurring expenditure on staff except that the Deputy Manager for member-education-cum-member-service may be paid out of this fund.

*Repayable in month'y instalments in about one year.

No. 2/3 (18)/71-REC
RURAL ELECTRIFICATION CORPORATION LTD.
(Government of India Undertaking)

D-5, NDSE, Part II,
New Delhi-49.
November 13, 1972.

To

The Chairman,
Pilot Rural Electric Cooperative Society,
Hukeri/Sircilla/Kodinar/Mula-Pravara/Lucknow.

Subject :—Constitution and administration of Special Fund
created out of the interest remission granted by the
Rural Electrification Corpn.—regarding.

Sir,

Please refer to this Corporation's letter of even number dated 7th August, 1972 communicating the purposes for which the special fund could be utilised by the pilot rural electric cooperatives together with the rules for the utilisation of the Fund. It was indicated under Rule 2 (f) that small loans to the extent of Rs. 250/- per consumer for domestic electrification etc. repayable in monthly instalments in about one year, may be made from the special fund.

The cooperative electric supply society Ltd., Lucknow has suggested that such loans may be given for a longer period as repayment in one year will not be possible in all cases. The Corporation, after careful consideration has decided that the repayment period in the case of Harijan members only may be extended to three years. In other cases, the repayment period shall remain at one year.

Yours faithfully,
Sd/- B. K. Varma
Joint Director

Copy to :

The Registrar of Cooperative Societies, Andhra Pradesh,
Gujarat, Mysore, Maharashtra & Uttar Pradesh.

Copy to :

Technical Division, REC.
Finance Division, REC.

ANNEXURE XII

REPORT OF THE INFORMAL GROUP SET UP BY THE RURAL ELECTRIFICATION CORPORATION TO PREPARE THE OUTLINE OF A MEMBER EDUCATION PRO- GRAMME TO BE INTRODUCED IN THE PILOT RURAL ELECTRIC COOPERATIVES.

During the year 1969-70, the Government of India, Ministry of Irrigation and Power, sponsored the organisation of 5 Pilot Rural Electric Cooperatives, on an experimental basis, in the States of Mysore (Hukeri Taluka, Belgaum District), Andhra Pradesh (Sircilla taluka, Karimnagar District), Gujarat (Kodinar taluka and adjoining areas, Amreli District), Maharashtra (Rahuri and Srirampur Talukas, Ahmednagar District), and Uttar Pradesh (5 blocks in Lucknow District). The Rural Electrification Corporation, which was set up by the Government of India, as a public sector undertaking for financing economically viable rural electrification schemes, approved the project reports of these cooperatives and agreed to finance these cooperative projects, involving a total financial outlay of about Rs. 12.80 crores. The Corporation also set up an Advisory Committee on Pilot Rural Electric Cooperatives, to advise it on matters relating to these cooperatives.

2. The Advisory Committee, in its third meeting held on 27th April, 71, considered the question of introducing member education programme in the pilot rural electric cooperatives and felt that the programme of member education and member information in a rural electric cooperative should provide to its members a full understanding of the purposes and achievements of the cooperatives, thereby securing member support, developing a community relationship and an understanding of the social and economic benefits, which the cooperative could bring to the community, and at the same time promoting power sales, thereby raising revenue to offset every increase in operating costs and assisting members to make the most advantageous use of electricity. Considering that such a programme was likely to be highly specialised, the Advisory Committee recommended that the Cooperation should

set up an informal group, representing various organisations interested in the cooperative education programme to prepare an outline of a member education programme, which could be introduced in the pilot rural electric cooperatives keeping in view the above objectives.

3. Accordingly, in May 1971, the Rural Electrification Corporation set up an informal group to prepare the outline of a member education programme for the rural electric cooperatives, consisting of the following :—

1. Shri B K. Sinha, Director, Cooperative Training, Union Department of Cooperation*.
2. A representative of the National Cooperative Union of India.
3. A representative of the International Cooperative Alliance, New Delhi.
4. Mr. W.J. Maddock, Representative in India of the Cooperative League of USA, New Delhi;
5. Mr. Jay D. Lasater, NRECA Team Advisor;
6. Shri Daljit Singh, Joint Secretary, REC;
7. Shri M.D. Joshi Joint Director, REC : Convenor

Shri K.C. Jain, Joint Director (ME) and Shri J.M. Rana, Director, Education Centre (ICA) represented the National Cooperative Union of India and the International Cooperative Alliance (Regional Office) New Delhi, respectively, during the meetings of the Informal Group. Shri B K. Sinha, Director, Cooperative Training, Union Department of Cooperation presided over the deliberations of the group, in its first two meetings.

4. The group held three meetings, in all. In its first meeting held on 20th May 1971, the group discussed a note prepared by the Convenor, giving a brief background of the organisation of the pilot rural electric cooperatives and their projects and making certain suggestions for its consideration and decided that the note should be circulated to the General Managers and Project Engineers of the five pilot rural electric cooperatives and their comments obtained. Certain general discussions were also held

*Deputy Chief Director since 1.2.1972

in this meeting and Mr. Jay. D. Lasater was requested to prepare and circulate to the members a paper incorporating his suggestions for a model education programme for the pilot rural electric cooperatives in India, in the light of such programmes undertaken in the rural electric cooperatives in the United States and also keeping in view the Indian conditions. A suggestion was made by Shri Jain in the first meeting that the services of the Educational Instructors who were employed for implementing the member education scheme of the National Cooperative Union of India, could be utilised for the member education programme of rural electric cooperatives. The note furnished by Shri Jain on this subject was circulated in the 2nd meeting and was also taken into consideration.

5. Mr. Lasater's paper on the subject of "Member Service Programme in rural electric cooperative societies" detailed the functions of a Member Service Department as also the comments received from the General Managers and the Project Engineers of the pilot cooperatives were considered in the 2nd meeting of the Group held on 25th January 1972. In this meeting, the group discussed the broad outlines of a member education and service programme, which in its opinion could be introduced in the pilot rural electric cooperatives, and left certain drafting details to a small team consisting of Mr. Lasater, Mr. Maddock and the Convenor.

6. The third meeting of the group was held on 9th March 1972, to consider and approve the draft outlines of the programme and the draft report. The report was signed in a brief meeting held on 10th March, 1972.

7. We enclose with this report an outline of the scheme of "Member education and Service Programme" formulated by us for implementation in the rural electric cooperatives. The programme of member education and member services in Rural Electric Cooperatives is a highly specialised activity and needs special arrangements. Rural Electric Cooperatives are large business undertakings which, in due course, should be able to support their activities for educating members and providing member service, on a continuing basis, and eventually meet the entire cost of this programme.

8. We have also suggested in the scheme, prepared by us, the constitution of a central committee on "Member education and Service Programme" at the national level and also the setting up of a cell specialising in member education and member services, for the purposes of directing and coordinating the programme, at the national level. It will be appropriate that the Rural Electrification Corporation should associate itself closely with this programme, in consultation and collaboration with the National Cooperative Union of India, and also provide the necessary financial support.

New Delhi, the 10th March, 1972.

Sd/—B.K. Sinha

Sd/—J.D. Lasater

11.3.1972

Sd/—J.M. Rana

Sd/—Daljit Singh

Sd/—K.C. Jain

Sd/—M.D. Joshi : Convenor

Sd/—W.J. Maddock

Outlines of the Member education Programme to be introduced in the Pilot Rural Electric Cooperatives

I. Name of the Scheme :

The Scheme may be entitled as "Member Education and Service Programme in the Pilot Rural Electric Cooperatives".

II. Objectives of the Programme :

The objectives of the "Member Education and Service Programme" may be as follows :

- (i) to better inform the members of cooperative principles, practices and management, with special reference to the operations of the Rural Electric Cooperatives;
- (ii) to assist membership in obtaining full understanding of the purpose and achievements of the Rural Electric Co-operative, thereby meriting membership support;
- (iii) to acquaint the members with power use and safety programmes, with a view to enable them to derive full benefits from electricity development, on their farms as well as in the homes; and

- (iv) to develop a community and cooperative relationship that would foster goodwill and provide understanding of the social and economic benefits, which the Cooperative brings to the community, as a whole;

III. Goals of the Programme :

The goals of the Programme, which may be divided into (a) short term goals, and (b) long term goals, may be as under :

- (a) Short term goals :
 - (i) to develop member interest and member involvement in the programme of the Rural Electric Cooperative;
 - (ii) to facilitate member support in improving the efficiency of the Cooperative;
 - (iii) to assess the service needs of the members, within the frame-work of the cooperative, with a view to helping the Board of Directors to devise suitable ways and means for meeting them;
 - (iv) to provide useful information to the members and the public, regarding the form, organisation and management of the cooperative, its achievement and problems and its role in the total development of the area in collaboration with other cooperatives and agencies;
 - (v) to organise neighbourhood groups which will function as discussion forums and advisory bodies, to produce popular literature and discussion sheets, mainly for use by them and to promote special get-togethers for different interest and age-groups, e.g. user groups, home makers' (women's) groups, youth groups, etc : and
 - (vi) to work out measures for deriving full benefits of the mass communication media, e.g. newspapers, radio, T.V., etc. in the Member Education & Service Programme and to correlate education programme with demonstrations and other visual techniques.

(b) Long term goals :

- (i) to adopt the working of the Cooperative to the developments in the field of agriculture and industry, and uses of electricity in these industries, beyond a period of 5 to 10 years;
- (ii) to motivate and assist the members in the procurement and installation of a variety of electrical appliances and gadgets, both on the farm as well as in the home, as a measure to improve the efficiency and the standard of living of the people, in the area;
- (iii) to educate the members and power users on the quality of the various electrical appliances and gadgets, preferably through the results of the society's own laboratory tests;
- (iv) to advise the Board of Directors in devising ways and means of providing quality appliances;
- (v) to establish working relationship with educational institutions, community centres, hospitals, municipal and civic bodies and industrial undertakings operating in the Society's area or in the neighbourhood, with a view to ensure increased amenities and opportunities to the membership;
- (vi) to review the impact of the programme and the services of the Cooperative.

IV. Types of personnel to be covered :

The Programme will primarily serve the following categories of persons :

- (i) Office bearers, Directors and members of the Cooperative, on a priority basis, with reference to their member education and service needs;
- (ii) Employees of the Cooperative;
- (iii) Potential members and the public, in general, in the context of dissemination of information relating to the working of the Cooperative and the services rendered by

it, maintenance of good public relations and projecting a favourable image for the cooperative,

- (iv) Leaders in the electricity cooperative movement and the cooperative movement, in general, for enabling them to have a better appreciation of the role, management and working, and the achievements of the Cooperative.

V. Programme contents and activities :

While the "Member Education & Service Programme" proposed to be introduced in the rural electric cooperatives is, by its very nature, primarily directed to educating and servicing the members and prospective members and creating a favourable image of the Cooperative among the members, the general public and the leaders of the cooperative movement and the Government/State Electricity Board, it has to provide a systematic feedback to the Board of Directors and the management in regard to the needs and aspirations of its beneficiaries for enabling them to formulate and constantly review the policies, programmes and management practices of the Cooperative. In this context, the programme also aims at educating the office bearers and members of the Board of Directors and advising and orienting them in the adoption of correct policies, programmes and management practices. Further, the programme of member education and member services undertaken by a cooperative business organisation cannot be an isolated activity to the exclusion of the developmental or business activity and unless all the employees of the organisation are involved in the programme, the objectives of the programme cannot be successfully accomplished. Keeping this in view, the contents and activities to be undertaken under the Member Education and Services Programme in the rural electric cooperatives may have to be designed to serve the different types of personnel and needs. In the following paragraphs, an attempt has been made to describe the various functions that the Member Education and Services Cell in the rural electric cooperatives may have to perform and the activities it may have to organise. This is in the nature of guide lines which covers a wide field of activity and the Programme has to be formulated by each cooperative taking into account its special needs.

(A) Functions in relation to members and prospective members :

(1) Education in cooperation : This would include acquainting the members with the principles and philosophy of Cooperation, benefits and advantages of the cooperative form of organisation to the individual as well as to the community, the role of the cooperative in rural development, rights, responsibilities and duties of cooperative membership and the why and how of their participation in the working, management and meetings of the cooperative to which they belong. This should lead to the developing of cooperative attitudes and faith in the joint cooperative action for the solution of their mutual problems.

(2) Information relating to the cooperative : The rural electric cooperatives being public utilities, the members and prospective members have a right to receive electric connections and a smooth and uninterrupted supply of electricity. At the same time, they have certain responsibilities as members of the rural electric cooperative and consumers of a utility in regard to drawal of correct supply of energy, timely payment of bills, maintenance of their electric appliances in proper order and following of safe practices and safety rules. The members will have to be informed of the special features of working, organisational and business structure and the management policies and practices of their rural electric cooperative as well as their special responsibilities as members and consumers. Similarly, the programme and achievements as well as working results need to be reported to them from time to time, to develop their interest and involvement in the affairs of the Society, without which it would be difficult to ensure loyalty and membership support from them.

(3) Electricity and power use : Members and prospective members may have to be educated in the comparative economics of the use of electricity with reference to the use of other forms of energy, as also the benefits of various electrical appliances and gadgets, both on the farm as well as in the homes, with a view to encouraging them to use more and more electricity for bringing them the comforts of electric development for increasing their capacity to produce more on the farms and in the workshops and to open up new avenues of employment opportunities in the rural areas. In this context, the use of electricity for different farm operations like

sugarcane crushing, threshing, winnowing, chaff-cutting and even for storage of grains and for poultry farming, could be brought home to them. The variety of uses for which the electricity could be put to use in the homes, such as heating, cooling, cooking, etc. could be explained to them. The members and consumers should be taught to undertake simple and ordinary repairs of the various gadgets and implements used both at the farm as well as in the houses and also replacement of burnt-out fuses in their installations. Electricity brings with it hazards to the users. The consumer should be informed about the proper utilisation of power including the do's and don'ts in the use of electricity and minimum safety rules to avoid damage to life and property. The consequences of misuse of electric energy including theft of energy, tampering of meters, etc. which are offences under the Indian Electricity Act and Rules, may be explained to them. Advice should also be rendered in connection with the quality and the prices of the various electrical appliances and gadgets.

(4) Member Services : The Member Education and Services Department of a rural electric cooperative may have to arrange for the following services for the benefit of their members and consumers and also to promote proper development of electrification programmes in the area of operation of the Society :

- (i) In order that the members reap the full benefits of electrification of their farms, the farmers may have to be educated in the use of improved seeds, fertilizers pesticides etc. side by side with the availability of irrigated water supply and also in diversified cropping patterns. With assured supply of water, it would be possible for the farmers to change to double or triple cropping for which purposes, they will need the requisite agricultural advice.
- (ii) It would be necessary to maintain liaison with other cooperative societies in the area, so that the members of the rural electric cooperative could utilise services of the cooperative structure in their area for securing short, medium and long-term credit and for marketing of their produce after processing, wherever possible. They may have to coordinate their programmes, with the credit, marketing and processing societies to ensure that the

members of the rural electric cooperatives, in particular, are in a position to utilise their services. In cases, where the members are not in a position to utilise the services of these societies, rural electric cooperatives would have to coordinate with alternative agencies in the field.

- (iii) In most cases, the members and prospective members of the rural electric cooperative would have to secure loans from the cooperative land development banks or nationalised or joint stock banks in their area of operations for purchase of agricultural pumpsets and other electrical appliances required for their farm operations. Liaison will have to be maintained with these organisations, so that their loaning programme and the programme of electrification is simultaneous.
 - (iv) The members may need work-shop facilities for repair of their irrigation pumpsets and other agricultural and domestic appliances. This may have to be arranged either by way of setting up such facilities under the auspices of the rural electric cooperative itself or by encouraging unemployed engineers in the area to set up such facilities in such a way that the members are in a position to obtain repair facilities at reasonable cost.
 - (v) Members may have to be assisted in procuring quality farm and domestic electric appliances at reasonable prices. For this purpose, liaison will have to be maintained with the manufacturers and local dealers of such electrical appliances.
 - (vi) Periodical member surveys may have to be organised to ascertain the needs and aspirations of the members in order that the rural electric cooperative gears its policies and programmes to fulfil such needs and aspirations.
- (B) Functions in relation to the office bearers, members of the Board of Directors and the management :

The Member Education and Services Department in a rural electric cooperative will have to provide a systematic feedback to

the office bearers, Board of Directors and the management in regard to the various activities undertaken by it in relation to the Member Education and Service Programme and also needs and aspirations of its beneficiaries for enabling them to formulate and constantly review the policies, programmes and management practices. This will include focussing the attention of the management in relation to the programmes and policies of the Cooperative with reference to the needs and responses of the members and prospective members, changing farm practices and new electric farm equipment, new promotional ideas, new power use and development proposals, and prospects of new small scale industries, which could be developed in the area.

(C) Functions in relation to the employees :

The rural electric cooperative being a service organisation, it is necessary that all the employees develop a team spirit and enthusiasm for attaining the objectives and goals of the Cooperative and adopt appropriate attitudes towards their jobs and also the consumer owners, whom they serve. For this purpose they are not only required to be proficient in their respective trade but also need to know the organisational structure and working policies of their society leading to prompt, efficient and reliable membership service and understanding, at all times.

(D) Public in general and leaders in the cooperative movement and the rural electric programme.

The prime responsibility for a public relations programme rests with the Board of Directors. It is they who define the purpose, make the policies and establish a programme for public relations, with a view to better inform the public and the leaders in the Government as well as outside, for enabling them to have a better appreciation of the management and working and the achievement of the Cooperative, so that a better image of the Cooperative is projected. However, the Member Education and Services Department could assist the management in the promotion of good public relations programme, by undertaking the following functions :—

- (i) Preparation of news/stories for truthful and accurate communication to the public, through publication of news

bulletins and by using other mass-communication media such as newspapers, radio, etc.

- (ii) Preparation of pamphlets, leaflets, graphs, charts, etc. which will give information about the cooperative, its purpose, its operations, its programme and achievements and its place in the community.
- (iii) Participating and addressing the community meetings, functions and celebrations.
- (iv) Convening and conducting tours of the cooperative's facilities, organising exhibitions and similar events, to better acquaint the general public with the work of the Cooperative.

VI. Activities and Media for the implementation of the Programme :

For implementing the Member Education and Service Programme, the following activities may be usefully organised :

(1) Membership meeting :

(a) The annual general meetings of the Society should be utilised for member education purposes, when the cooperative principles and operations, the advantages of cooperative endeavour, the importance of the cooperative to the community, the benefits to and obligations and responsibilities of members and the bye-laws and policies of the Cooperative could be discussed, besides the regular business on the agenda. Talks and lectures of cooperative leaders and panel discussions on these and related subject could be arranged. At such meetings, the programme and achievement of the Cooperative should be brought to the notice of the members, through charts and graphs.

(b) In cases, where the annual general meeting consists of the representatives of members, the formal general meeting should be invariably supported by area meetings of general membership, which should discuss the problems, the progress and achievements and the financial results of the Cooperative, as they create member interest and ensure member involvement and participation in the Society's working.

(c) Apart from utilising annual general meetings and area meetings for member education, local meetings may be organised in individual communities, from time to time, for undertaking member education activities. Occasions, such as, community functions, inauguration ceremonies should also be taken advantage of for the purpose.

(2) Membership contacts :

Education in agricultural and cooperative extension and power use may have to be undertaken through membership or group contact programmes and the needs of individual members/groups may have to be ascertained/taken care of by developing such programmes.

(3) Participation in local organisations :

Advantages should be taken for publicising the activities, programmes and achievements of the cooperative by participating in the meetings of local organisations, such as youth clubs, mahila mandals, local cooperatives and other organisations undertaking social activities.

(4) Programmes with youth groups :

In order to ensure that the young people are informed of the purpose and objectives of the Cooperative and its importance to the welfare of their families and the community, at large, special programmes e.g. essay or debating competitions on cooperative subjects, week-end camps and excursions, tours to the cooperative's facility etc. may be organised in the schools and colleges in the Society's area.

(5) Sponsoring other development projects :

The rural electric cooperative should, where possible, take a leadership role in organising and setting up other development projects useful to the community, e.g. cooperative lift irrigation projects, rural housing projects, community entertainment projects, etc.

(6) News Bulletin :

A rural electric cooperative "newsletter" may be periodically brought out, through which the members may be regularly

informed of the operations and achievements of the cooperative. Through this "newsletter", the member could be furnished current news regarding the cooperative's policies, goals, and achievements. The members can also be informed of local, state and national developments in the field of rural electrification, sales promotion and incentives, agriculture, agricultural marketing and price trends, prices of agricultural and electrical appliances, new appliance development, as well as, unusual accomplishments or activities of individual members, that would be of special interest to all the members.

(7) Use of mass communication media :

Local newspaper and radio stations should be provided with news/articles, pictures and advertisements, which are of particular interest to the members and to the general public.

(8) Publication of pamphlets, folders, etc.

Pamphlets and folders covering the various aspects of the working of the cooperative and its achievements may be brought out for distribution among members and the public, with a view to publicise its activities and project a better image of the Cooperative. Literature already published by national and state coop. organisations may also be assembled and mailed to the members.

(9) Demonstrations and Exhibitions :

Demonstrations and exhibitions could be usefully organised in collaboration with the manufacturers and dealers for the use of various electrical appliances and gadgets, both at the farms and in the homes, as well as educating the members in undertaking small repairs etc.

(10) Films and other audio-visual aids:

This media could be usefully employed in member education and member information programme. Films, filmstrips, slides, songs, etc. depicting the success of rural electric cooperatives, in particular, and cooperative form of organisation, in general, both in India and as well as abroad, would be very effective in the education programme. Films on other aspects, including appliance promotion, agricultural development and extension, safety pro-

grammes, etc. could also be very useful. The manufacturers of agricultural/electrical equipments could help in producing/supplying documentary films for the purpose.

VIII. Administrative arrangements necessary for the implementation of the programme:

For effective implementation of the programme, adequate administrative arrangements will have to be made both, at the (a) project level and (b) national level. For this purpose, the following suggestions are made:

(A) At the project level:

(1) Each rural electric cooperative society should set up a "Member Education and Services Cell" by appointing a full time person to be the Manager/Deputy Manager (Member Education and Services), who will be responsible for implementing the member education and service programme. He should have a status, next only to the General Manager and Project Engineer and should report to the General Manager and the Board of Directors.

(2) The Manager/Deputy Manager (ME&S) to be appointed in a rural electric cooperative should have an aptitude for field work. His desirable qualifications would be a degree in Agriculture or Agricultural/Electrical Engineering and training in public relations/communication techniques. It would greatly help if he has previous experience of extension work in the field of agricultural/cooperative development. In any case, it would be useful if, upon his selection/appointment, he undergoes an orientation course in the techniques of member education and public relations, to be organised specially for the purpose.

(3) To increase his effectiveness in the programme, he should be provided with the required stenographic assistance, transport, equipment and literature, needed for the programme.

(4) In course of time, the "Member Education and Service Cell" in the rural electric cooperative should develop into a full-fledged division, by appointing persons to assist the Manager/Deputy Manager (ME&S) in the programme, on the basis of the impact and the coverage of the programme.

(5) Each rural electric cooperative should immediately constitute a sub-committee to be called "Member Education & Service Committee" which should consist of two or three members of the Board, a representative of the State Cooperative Union, the General Manager and the Manager (ME&S) who will be the Convenor. This sub-committee should formulate the policies and the programmes relating to the member education and member services activities, to be undertaken by the society and should assist in the implementation of the programme, in the field.

(B) At the National level :

(1) For providing central guidance and direction and for coordinating the programme as a whole, it is considered necessary that there should be a central Member Education and Services Programme committee, on which should be represented the Rural Electrification Corporation, the National Cooperative Union of India, the Committee for Cooperative Training and the All India Institute of Mass Communication. This central committee will also from time to time review the implementation of the Member Education and Services Programme in Rural Electric Cooperatives and provide necessary guidance and assistance to the programme. In this connection, a point has been raised as to whether this central committee should be constituted by the Rural Electrification Corporation or the National Cooperative Union of India. This matter appropriately belongs to the realm of general policy and, therefore, is beyond the terms of reference of the Group. It is, therefore, suggested that the question of constitution of the committee either by the Rural Electrification Corporation or the National Cooperative Union of India may be determined through mutual consultations between the Rural Electrification Corporation and National Cooperative Union of India.

(2) This central committee may be serviced by the following specialists :

- (i) A programme Specialist to guide and supervise the programme personnel at the project level.
- (ii) A Communication Specialist, who will also be in charge of production of publications, visual aids and literature to be used in the programme.

- (iii) An artist, who will help the communication Specialist in production of visual aids.
- (iv) A Coordinator or Engineering Liaison Officer, who will maintain coordination and liaison with the manufacturers and dealers of farm and home electrical appliances, including pumpsets, motors, and small and big electrical gadgets and disseminate product and sales information to the rural electric cooperatives.

VIII. Financial Support to the Programme :

The Member Education and Services Programme, by its very nature, is a slow process in the beginning but is bound to ensure lasting benefits, in terms of enlightened membership and community-social development. While in the long run, it will yield economic benefits to the rural electric cooperative by increasing power use, it should not be considered as a revenue yielding programme, from the initial stages of its introduction. Nevertheless, the rural electric cooperatives should consider that the expenditure incurred on the member education and services programme is a regular charge to its budget. However, in the initial period of their working, they may not be able to bear the full expenditure over the programme from their own resources. Keeping this in view, the following suggestions are made :

- (1) In the initial period of about 3-4 years of their working the rural electric cooperatives may meet only a part of the expenditure incurred on the programme, from out of their annual expenditure budget. The share of the Cooperatives should progressively increase during this period, and at the end of 3-4 years period, the entire expenditure on the programme may be met by them from their annual budget.
- (2) It is understood that the pilot rural electric cooperatives have created a special fund out of the interest remission allowed by the Rural Electrification Corporation, during the first five years of the loan. This special fund is to be utilised for certain promotional and developmental purposes to be approved by the REC. One of the

approved purposes for which this special fund may be used should be the activities under the Member Education and Service Programme to be undertaken by these co-operatives. It is suggested that an amount equivalent to at least 5% of the total contributions to this fund, made during the 5 year interest remission period, should be earmarked for utilisation for this purpose.

- (3) It is suggested that the REC might consider providing necessary financial support to the various aspects of the programme including the establishment and functioning of the central committee and preparation of publicity and educational material and equipment.

ANNEXURE XIII

Note circulated by the Ministry of Irrigation & Power with its letter No. E.L. II-24 (44)/70/PE dated 11.11.1970

RURAL ELECTRIC COOPERATIVES IN INDIA

Pilot Rural Electric Co-operatives :

In 1965, the Government of India in the Ministry of Irrigation & Power sponsored an investigation to be carried out by U.S. Experts from the National Rural Electric Cooperative Association (NRECA) regarding establishment of Rural Electric Co-operatives in India.

2. The objectives of the proposed Co-operatives were as follows :—

- (a) to furnish electricity to the rural people at the lowest possible cost in order to increase agricultural production; stimulate small agro-industry; and improve the standard of living of the rural population;
- (b) to increase the responsible action of the people by giving them some degree of control of their electricity supply;
- (c) to establish local organisations for the financing, procurement, installation, repair and proper use of electrical appliances and equipments such as pump-sets;
- (d) to provide the basis for a rapid and standardised pattern of construction and operation for rural electric systems in all States of the Union; and
- (e) to provide meaningful training experience for Indian personnel involved in rural electric co-operative activities so that they can help other such co-operatives.

3. The investigations by NRECA Experts were divided into three phases.

Phase I was in respect of the identification of areas suitable for location of pilot rural electric co-operatives. After preliminary investigations by the NRECA, five areas, one each in the States of Andhra Pradesh, Gujarat, Maharashtra, Mysore and Uttar Pradesh, were identified as suitable for establishing rural electric co-operatives on a pilot basis, with the objective, that, depending upon the experience gained, more such co-operatives could be set up subsequently. The Government of India accepted the recommendations of the NRECA Experts and further studies were carried out by them in respect of the engineering and economic feasibility of establishing five pilot rural electric co-operatives.

4. The NRECA Experts in their Phase I Report have indicated that the following advantages would accrue through rural electric cooperatives :

- (a) Being owned and controlled by the people they serve there would be a built-in "Watch-dog" effect.
- (b) Co-operative undertaking of distribution can supplement the efforts of the State Electricity Boards.
- (c) Co-operatives will operate as private licensees, injecting private initiative into what is now basically an autonomous Governmental undertaking.
- (d) Co-operatives offer great potential for economies in the design, construction and operation of the electric system.
- (e) Rural Electric Cooperatives will utilise the "area coverage" concept in approaching the problem. This simply implies that electric service will be made available to everyone in an assigned area who wants it and can pay for it. This concept will be highly instrumental in bringing down the average cost of electric service.

5. On the basis of Phase I studies, the Government of India accepted the location of five pilot rural electric co-operatives in the States of Andhra Pradesh (Karimnagar District, Sircila Taulka), Gujarat (Amreli District, Kodinar Taluka), Maharashtra (Ahmednagar Distt., Rahuri and Shrirampur Talukas), Mysore (Belgaum District, Hukeri Taluka) and Uttar Pradesh (a part of Lucknow District). Further investigations were conducted by

NRECA Experts in regard to Phases II and III relating to organisational, technical and economic aspects of the projects.

6. The criteria for selection of the location of the five pilot co-operatives was as follows :—

1. Co-operative attitude of the people in the villages;
2. the extent to which agricultural production could be increased;
3. availability of "bulk power";
4. attitude of the State Electricity Boards;
5. size of area and proximity to communication facilities;
6. between 10,000 and 20,000 connections in the ultimate project area;
7. financial ability of the villagers and farmers;
8. presence of other co-operatives to furnish capital, fertilizers, seeds etc. for a well balanced agricultural programme.

7. On the basis of Phase II and III studies conducted by NRECA Experts, the Government of India considered that the projects were economically viable and approved the taking up of Phase IV relating to the construction aspect of the project. This is now in progress.

8. A brief resume of the economic and engineering feasibility studies carried out by the U.S. Experts in respect of each project is given at Annexures I to V (not enclosed—)

Rural Electrification Corporation :

9. In July 1969, the Rural Electrification Corporation was established as a public sector undertaking under the administrative control of the Ministry of Irrigation and Power for the purpose of financing and developing rural electrification schemes in the country. The conduct of business of the Corporation is governed by the directives issued to it by the Government of India. The

Government of India have issued the following directives to the Corporation in respect of rural electric co-operatives :—

1. The Corporation may use its finances to make loans to Rural Electric Cooperatives for construction costs plus operation and maintenance costs until the schemes become self-supporting. Five Pilot Co-operatives are now being developed and it is expected that others will be organised on similar lines. The Corporation will consider providing loans on suitable terms to these cooperative type of organisation for distribution of electricity in rural areas.
 2. The Corporation will help State Electricity Boards and Co-operatives in identifying likely areas for projects, in preparing project proposals and in improving the quality of their project appraisal and presentation.
10. The policy for financing the capital requirement of the pilot projects was considered by the Corporation and it was decided that the loan assistance would be available from the Corporation on the following basis :—
- (a) the total capital outlay involved in the project would be made available by the Corporation after satisfying itself about the soundness of the project estimate.
 - (b) the total project loan would be repayable over a period of 35 years provided, however, that there shall be a moratorium in the repayment of principal for the first five years;
 - (c) the rate of interest on the loan would be as follows :—
 - 4½% for the first 10 years;
 - 5½% for 5 years thereafter;
 - 5½% for 5 years thereafter; and
 - 6½% for 15 years thereafter.
- provided that there shall be a rebate of ½% throughout in case of punctual payment; and provided further that the Rural Electrification Corporation would be willing to forego the interest for the first five years if the society

agrees to credit an amount equivalent to the interest at 4% during these 5 years to a special fund to be created and administered by it in accordance with rules to be framed with the approval of the Corporation.

- (d) The loan would be secured by the Corporation against the guarantee of the State Government.
- (e) In addition to the loan for capital outlay, loan for working capital would also be available from the Corporation if a pilot society needs it. Such a request from a pilot society would be considered by the Corporation on merits and appropriate rate of interest and terms and conditions would be decided.
- (f) The terms and conditions outlined above are applicable only in respect of the work comprised in the Pilot Project and will not necessarily be applicable to any other additional work or scheme which may be undertaken by any of the pilot project societies in future not forming part of the Pilot Project; nor will these terms and conditions necessarily be applicable to any new society which may be formed for rural electrification work in any other place.

11. The five pilot co-operatives were registered under the respective State Co-operative Societies Act between July-October, 1969. A Board of Directors has been constituted in each of the five co-operatives in accordance with the provisions of their respective bye-laws and the project managers and project engineers, who have received training in the United States in the operation and management of rural electric co-operatives, have been appointed to work in these societies. The Corporation has already sanctioned pre-construction loan of Rs. 1 lakh to each of the pilot co-operatives to enable them to carry out preliminary activities for the planning and implementation of the project.

12. The project reports which were drawn up by the U.S. Experts earlier required substantial modifications in view of the several developments which had taken place in the project areas, such as, construction of additional work by the State Electricity Board, increase in the demand for energisation of agricultural pumps

and other types of demand for power. The five pilot projects were required to prepare revised project reports taking into account all the above developments. Based on the revised project reports received in the Corporation, the Corporation has sanctioned the capital requirements of these five projects. Funds have already (as on 31.10.1970) been released to the pilot Co-operative Rural Electric Societies in the States of Mysore and Andhra Pradesh. The Society in Mysore State has started functioning with effect from 12th October, 1970, and the society in Andhra Pradesh is expected to commence its working with effect from 1st November, 1970. The other three societies are also expected to complete the required formalities shortly and to commence their operations in the months of November-December, 1970. The five rural electric co-operatives set up in the country have been organised, at the instance of the Government of India, as pilot projects and their working results will have to be watched for at least two or three years. Normally, therefore, no new rural electric cooperatives should be organised for the next 2 or 3 years, by which time, the success or otherwise of the co-operative pilot projects could be properly assessed. On the basis of such assessment, a suitable programme for organising more rural electric cooperatives could be incorporated in the Fifth Five Year Plan.

13. Formation of rural electric cooperatives will have to follow a detailed techno-economic survey of the area proposed to be covered by the co-operative, as also a feasibility study of the project. In the case of the 5 pilot projects, this process, followed by organisation and project formulation, took considerable time (about 2 years), as the different stages required careful planning and fresh decisions at various levels. In the case of new rural electric co-operatives that may be set up in the Fifth Five Year Plan, this process could be completed in a shorter period, of say about a year. It is, therefore, felt that the States might start considering proposals for organisation of rural electric co-operatives, sometime during 1973-74, so that a beginning could be made in organising rural electric co-operatives during the first year of the Fifth Five Year Plan, by which time the assessment of the working of the five pilot projects could be available.

14. The essential pre-requisites for the organisation of a

rural electric co-operative are that it should be able to secure a licence to exclusively operate in a particular area, from the State Government, under the Indian Electricity Act, 1910, and that the State Electricity Board should agree to transfer the existing assets and installations for distribution of electricity in the area, to the Co-operative Society. Since generation of small power by the co-operative itself would be costly, it should be in a position to enter into an agreement with the State Electricity Board for purchase of bulk supply of power. It would thus be clear that any proposal for formation of a rural electric cooperative in a particular area would have to secure the full support of the State Government as well as the State Electricity Board, right from the earliest stage of the proposal. Once the full support from the State Government and the State Electricity Board is secured, the sponsors or the promoters of a rural electric co-operative will have to define the objectives for their cooperative, and in the light of these objectives, to undertake a techno-economic survey of the area proposed to be covered by it and also the feasibility study of the Project. The following factors will have to be kept in view while undertaking the techno-economic survey and the feasibility studies in respect of rural electric co-operative projects :—

- (i) The economics of size and compactness of the area proposed to be covered by the co-operative;
- (ii) Communication facilities available in the area, including roads, telephone services, etc,
- (iii) Existing facilities for supply of electricity in the area;
- (iv) Availability of bulk power from the State Electricity Board for distribution in the Co-operative area;
- (v) Existing irrigation facilities and the cropping pattern, as also existence of adequate ground water resources in the cooperative area;
- (vi) The likely change in the cropping pattern with the installation of more tubewells and pumpsets and the economic benefit that would accrue to the farmers on account of the rapid and intensified electrification of the area;

- (vii) Potential for the development of agro-industries and small scale industries in the co-operative area;
- (viii) The type of residential/commercial structures used in the Villages in the area and the prospects of electrifying a large number of houses and other commercial establishments;
- (ix) Use of electricity in the sphere of health, education and welfare of the community and the likely social benefits that would accrue to the area;
- (x) The existing co-operative structure operating in the area and the responsiveness of the people in the area for the co-operative form of organisation.

In this connection, it may be emphasised that there should be some successful cooperative undertakings already existing in the area and they should have brought apparent benefits to their members, as the faith of the members in the cooperative form of organisation and the belief that it would ultimately bring benefits to the members would be an important factor in determining whether a rural electric cooperative should or should not be organised in a particular area;

- (xi) Financial assistance, technical guidance and input material available in the area for development of agriculture, industry, etc. from Governmental, co-operative and other public and private sector agencies;
- (xii) Technical and engineering studies including construction and distribution lines, drawing up of circuit diagram, transformer capacity, estimates of consumer projections and KWH forecast and voltage drop calculation;
- (xiii) Estimates of construction cost, total requirement of funds, availability of funds and terms and conditions of loans proposed to be secured;
- (xiv) Financial forecast based on cost of bulk power, proposed retail rates, revenue forecast and estimates of net returns after meeting revenue expenditure, interest on capital and depreciation ;

- (xv) Staffing pattern and availability of personnel to be in charge of the project.

15. For organising a new rural electric co-operative in an area, the promoters should form themselves into a committee. The committee should in the first instance ascertain whether the area in which the cooperative is proposed to be established is suitable. Once this is ascertained, it would be necessary to find out the following:—

- (a) Objectives of the Co-op (e.g. to furnish electricity to the members of co-op at lowest possible cost consistent with sound business and engineering practices; to provide technical and financial assistance to members for utilisation of electricity in the farm, house and industries, provide technical guidance and educate the members in the proper use of electricity; to provide facilities for installations of electrical appliances, pumpsets; to provide repair facilities for the installations of members);
- (b) Area proposed to be covered;
- (c) Existing facilities in the area for supply of electricity;
- (d) Availability of bulk power from the State Electricity Board for distribution in Co-op area;
- (e) Potential for use of electricity for irrigation, industry, etc;
- (f) Co-operative organisations operating in the area;
- (g) Financial assistance and technical guidance available for agriculture, industry etc.;
- (h) Requirements of funds by way of fixed capital and working capital; and
- (i) Economical and technical viability of the scheme.

16. For the purpose of carrying out the preliminary survey to establish in broad detail the economic viability and engineering feasibility assistance available from Rural Electrification Corporation, State Electricity Board and State Registrar of Co-operative Societies could be made use of.

17. Rural Electrification Corporation can provide the expert advice and guidelines regarding the setting up of the Co-operatives. The State Electricity Board can provide the necessary technical assistance. The State Registrar of Co-operative Societies can furnish the necessary guidance for the organisation of the Co-op, framing bye-laws, etc. A copy of the bye-laws adopted by the Rural Electric Cooperative in Andhra Pradesh may be seen at Annexure VI. (not enclosed) Assistance from other Govt. agencies can be availed of to determine the other facilities available and assess the potential for irrigation, development of industries, etc.

18. While planning to set up a rural electric cooperative it is essential to frame the proposals for the intergrated development of the area. This is a very important as the success of the co-operative depends on adequate usage of electricity which in turn requires the necessary matching inputs by way of installation of pumping sets, establishment of industries, wiring of houses, etc.

19. Once the economic and technical feasibility of the project are established and approved by the concerned authorities the Co-operative may be registered under the respective State law. It would then be necessary to obtain a licence from the State Government for distribution of electricity in the Co-operative area.

20. Once the steps regarding formulation of bye-laws, registration of the co-operative, acquisition of licence for distribution of electricity, election of Board of Directors, etc. are taken, the Co-operative can acquire the services of a good manager and competent engineer.

21. The Co-operative can then apply for financial assistance from Rural Electrification Corporation based on a detailed project report. After the Rural Electrification Corporation has agreed to sanction a loan for the capital cost of the project and indicated the terms and conditions thereof, the society can draw up its final programme of taking up the existing assets in the area from the State Electricity Board and commence further operations.

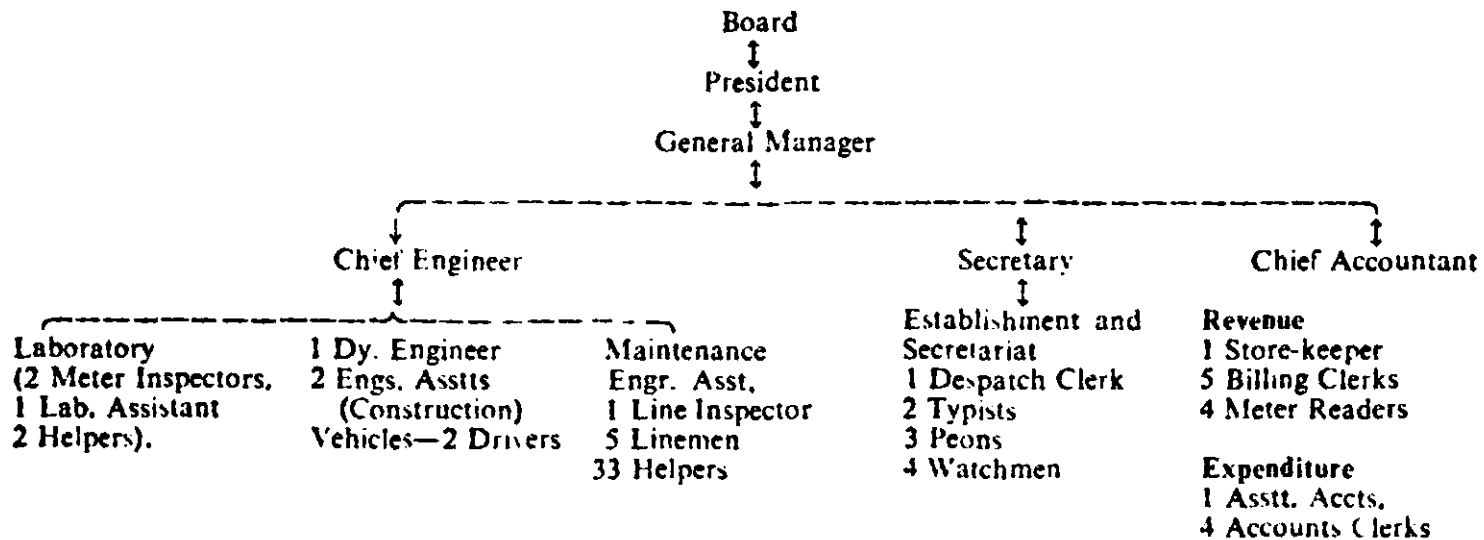
TERMS AND CONDITIONS OF REC LOANS

At its meeting held on 26th August, 1971 the Corporation reviewed its financing policy in the light of the experience gained over the last 18 months. As a result of this review, certain modifications in the terms and conditions have been effected which are to be applied with regards to loans to be sanctioned hereafter for schemes sponsored by state electricity boards. The details of revised terms and conditions are given below :—

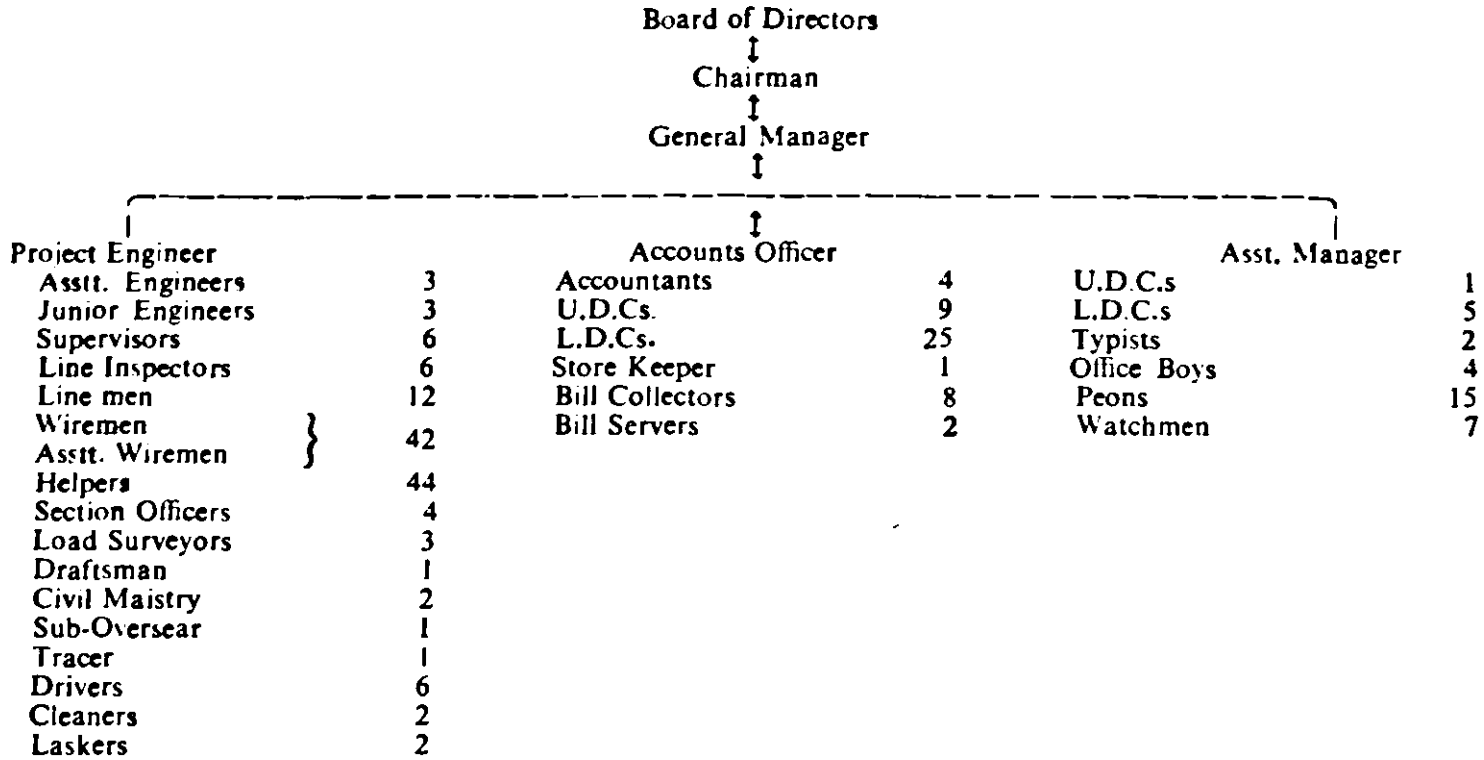
<i>Category & Area/Type</i>	<i>Code</i>	<i>Interest rates</i>	<i>Period of loan</i>	<i>Norms of viability</i>	
(1)	(2)	(3)	(4)	(5)	
Ordinary- Advanced	OA	For first 10 years 11th to 15 year 16th to 20th year Provided that if the total loan is repaid by the 15th year, the interest from 11th year will be 6½% (rebate of ½% at all stages for prompt payment).	6½% 7½% 8½%	20 years (No repayment of principal for first 5 years)	2% net return by the end of 5th year. 3½% net return by the end of 10th year.
Ordinary- Backward	OB	For first 10 years 11th to 15th year 16th to 20th year 21st to 25th year Provided that if full repayment is made by 20th year interest from 16th to 20th year will be only 6½% (½% rebate at all stages for prompt payment).	5½% 5½% 7½% 8½%	25 years (No repayment of principal for first five years)	0.5% net return by the end of the 5th year. 2% net return by the end of 10th year. 3½% net return by the end of 15th year.

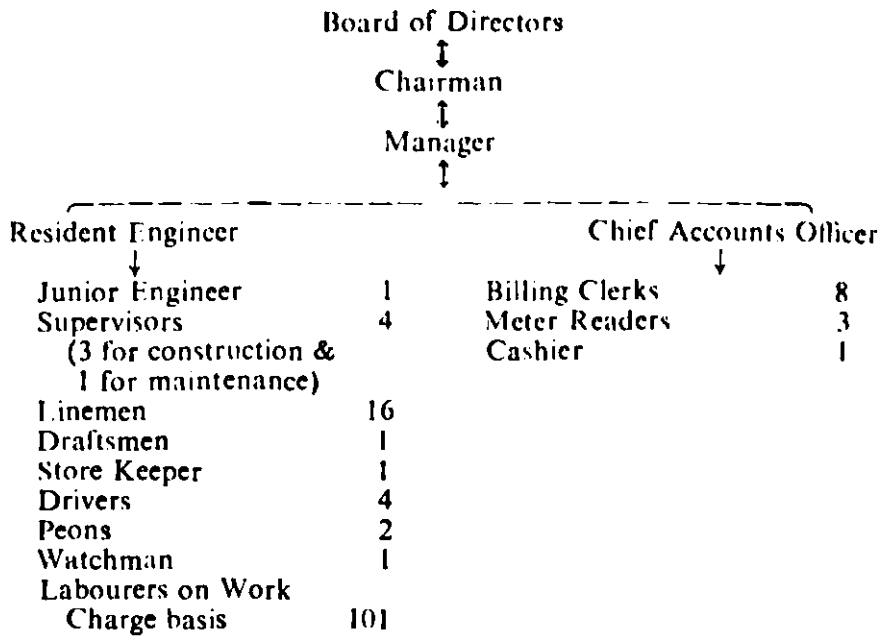
Ordinary- Co-operatives	OC	First 10 years 11th to 15th year 16th to 20th year 21st to 25th year 26th to 30th year ($\frac{1}{4}$ % rebate at all stages for prompt payment)	4 $\frac{1}{4}$ % 5 $\frac{1}{4}$ % 5 $\frac{3}{4}$ % 7 $\frac{1}{4}$ % 8 $\frac{1}{4}$ %	30 years (No repayment of principal for first five years)	No specific norms. But norms for O.B. are kept in view.
Special- Transmission	ST	For the entire period of loan ($\frac{1}{4}$ % rebate for prompt payment)	7 $\frac{3}{4}$ %	12 years (No repayment of principal for first 2 years).	$\frac{1}{2}$ % net return at the end of 5 years or development of viable rural elec- trification projects involving invest- ment of twice the amount, within 5 years.
Specially under-developed hill areas	SU	First 10 years 11th to 15th year 16th to 20th year 21st to 25th year 26th to 30th year ($\frac{1}{4}$ % rebate at all stages for prompt payment).	4 $\frac{1}{4}$ % 5 $\frac{1}{4}$ % 5 $\frac{3}{4}$ % 7 $\frac{1}{4}$ % 8 $\frac{1}{4}$ %	30 years (No repayment of principal for first 5 years)	$\frac{1}{2}$ % at the end of 10th year. 2% at the end of 15th year. 3 $\frac{1}{2}$ % net return at the end of 20th year.

ADMINISTRATIVE CHARTS OF PILOT RURAL ELECTRIC COOPERATIVE SOCIETIES

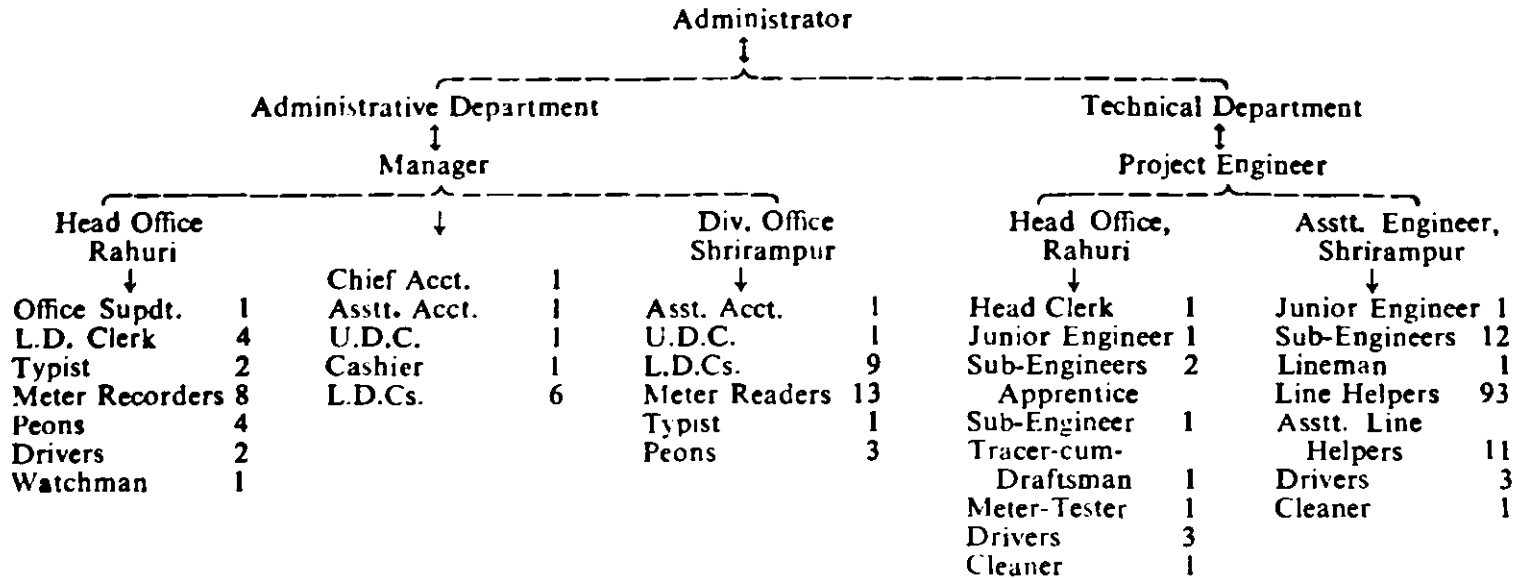
Kodinar

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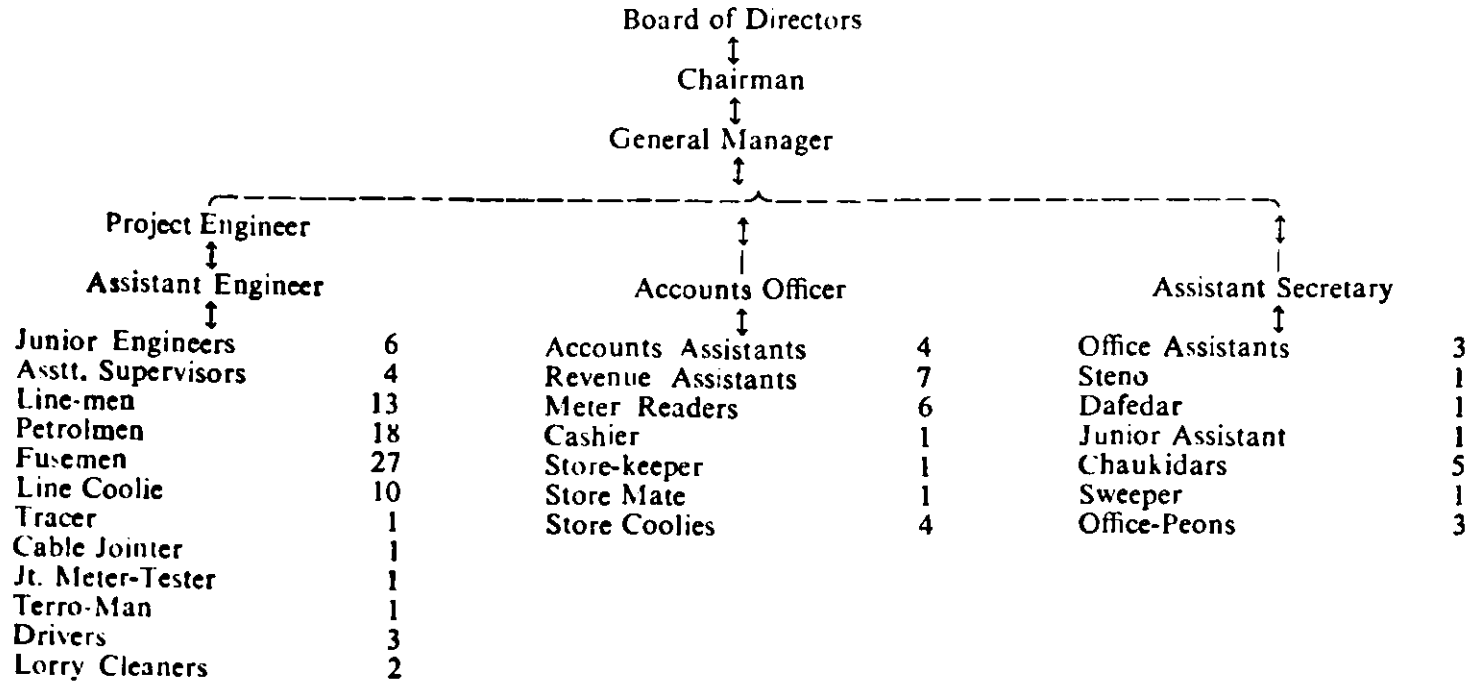


Hukeri

Mula-Pravara



Lucknow



ANNEXURE XVI

CONSUMER TARIFF IN SOCIETIES

1. Hukeri Society :

	<i>Rate per Unit</i>	<i>Monthly minimum charges</i>
1. Irrigation pump-sets	11 paise	Rs. 3 per H.P.
2. Domestic	30 paise	Rs. 2 per H.P.
3. Commercial	40 paise for the 1st 120 units and 35 paise for the rest	Rs. 3 for every 250 W
4. L.T. Industrial	12 paise	Rs. 12 per NHP
5. H.T. Industrial	*Two part tariff.	

*Rate Schedule (Demand charges)

- Rs. 10 per KVA per month for the first 500 KVA of billing demand.
- Rs. 8.5 per KVA per month for the next 500 KVA of billing demand.
- Rs. 7.5 per KVA per month for the next 2000 KVA of billing demand.
- Rs. 6 per KVA per month for the next 3000 KVA of billing demand.
- Rs. 5 per KVA per month in excess of above.

Plus (Energy charges)

At 5.5 paise per unit for the first 100 units per KVA of max. demand recorded in the month.

At 4.0 paise per unit for the next 100 units per KVA of max. demand recorded in the month.

At 4.0 paise per unit for the next 100 units per KVA of max. demand recorded in the month.

At 3.0 paise per unit in excess of above.

Meter Hire

Rs. 5 per installation per month.

General Conditions

Applicable to Tariff Schedules HT-1A, HT-1B, HT-1C, HT-1D, HT-1E and HT-1F, except where otherwise provided under each Schedule.

1. The billing demand shall be

(a) The maximum demand in KVA recorded in the month,

or

(b) 75% of the contracted demand for the year, whichever is higher

2 Monthly Charges

Monthly charges shall be the demand charge on the billing demand plus energy charges and meter hire.

If the line minimum charges calculated at one-twelfth of prescribed percentage of the cost of arranging power supply to the consumer is in excess of the monthly charges as indicated above, the consumer shall pay the line minimum charges except where otherwise specified.

2. Sirsilla Society :

	<i>Rate per Unit</i>	<i>Minimum charges</i>
1. Irrigation pumpsets	First 600 KWH/HP/annum } 12 paise	Rs. 50/- Annual minimum charges.
	Above 600 KWH/HP/annum } 8 paise	-do-
2. Domestic	First 50 Units	35 paise
	Next 50 Units	27 „
	Balance above 100 units	22 „
3. Commercial (Non-Domestic)	First 500 units	45 paise*
	Next 500 „	40 paise
	Balance above 1000 „	30 paise
4. LT Industrial	First 500 units	22 paise
	Next 500 units	20 paise
	Balance above 1000 units	18 paise
		Monthly Minimum charges Rs. 7/- per KW of contracted load Rs. 7.50 for rice mills per H.P.
Connected load of $\frac{1}{2}$ KW and below Rs 5	Above $\frac{1}{2}$ KW and not exceeding 1 KW Rs. 25	Above 1 KW Rs. 25 for every KW or fraction thereof.

3. Mula-Pravara Society

L : 1 Lighting and fans, Residential, Commercial & business premises.

(a) First-30 Units 31 Paise/unit.

(b) All additional Units "25 p. unit. 10% surcharge on Minimum Bill including meter Rent/Minimum Bill.....
Rs. 2/- per month.

D : 1 Heat and small power Residential commercial.

(a) All units consumed during the month 12 paise/unit and 10% surcharge on all bills.

Minimum Bill in single phase supply Rs. 5/-, Rs. 10/-

C : 1 Combined lighting and power service cinema Theatres etc.

(a) First 750 Units 10 p/unit.

(b) Additional ,, 15 p/unit. Minimum bill Rs. 60,-
per month. Surcharge _____

LTP-G General Motive power including Non Agricultural pumps 18 p/unit. (b) Minimum Bill for Non Seasonal-consumers without adjustment of energy charges Rs. 4.95 per BHP per month.

(c) For seasonal consumers Rs. 99-00 per BHP per year. Surcharge.

LTP/AG : Agricultural Pumping Load 18 paise/Unit.

(b) Minimum Bill _____ Rs. 40/- per
BHP per annum

Misc. Charges :

Delayed payment charges (DPC)
for L : 1, D : 1, C : 1 = 3 paise/unit.

(b) For LTPG, LTP/AG = 2 paise/unit.

(c) For minimum Bills 10 paise/rupee.

(d) Meter rent. single phase Rs. 0.50 &
Three phase Rs. 1.00

- (e) Re-connection charges, at extent Rs. 3/- @ overhead invarious Rs. 5/-
- (f) Fuse replacement Re. 1/-
Meter Testing single phase Rs. 5/-
Three ,, Rs. 10/-
- (g) (a) Service connection charges Rs. 50/- for single phase & Rs 3-28 per meter upto 30 meter beyond 30 meters.
- (b) Rs. 150/- upto 5 HP, Rs. 200/- beyond 5 HP upto 30 meters beyond 30 meters Rs. 6-56 per meter (Three phase)

Particulars of Electricity Duty.

Part A :—For Residential, Hospital, Dispensaries, Education institutions etc. for private concern.

- | | |
|--------------------------|--------|
| (a) For 1st 30 U. | 5 p/u. |
| (b) next 20 units. | 8 p/u. |
| (c) For all addl. units. | 8 p/u. |

Part B :—In respect of premises business Trade commercial etc. 10 p/u. For exceptions : 1. Automobile service station 2. Bakeries, Confectionaries. Icecream, ice candy factories, Battery charging stations. 3. Flour Mills. 4. Soda water factories 5. Gadi Kurkhan. 6. Masala-Mills. 7. Mech. repairing-workshops 8. power foundry 9. Tailoring 10. Tools & razor sharpning works. 11. Cream separators. 12 Machine for decoration and ground nut etc. 13. Sugar cane crusher for sale in public 3 p/u. 14. Printing Press 1 p/u.

Part C :—Air Conditioned Cinema & theatre 3 p/u.

*Part D** :—Display in public places. Rs. 5/- per month per 100 W. of minimum Rs. 10/- per installation per month. (*Advertisement)

Part E :—Tem. supply : 10 p/per day or part thereof per 100 watt of connected supply.

Part F :—Industrial undertaking : 1 p/u. *Part G* :—(1). Agr. consumption for load above 10 BHP 4 P/u. (2). No Elec. duty upto 10 BHP.

4. Lucknow Society

ELECTRICITY RATES APPLICABLE PRIOR TO JAN. 1, 1972

Sl. No.	Rate Schedule	Category	Rate of charge P/KWH	Rebate P/KWH	ED per/ KWH	Meter rent Rs.	Minimum Charge Rs.
1.	LMV-1	L/F	38	3	2	.50	3/- p.m.
2.	LMV-2	Domestic power	25	2	25%	.50	3/- p.m.
3.	LMV-4	Street light	38	3	2	.50	0.75 per lamp for town area & 0.50 per lamp for gramsabha.
4.	LMV-5A	PTW/PS	15	—	—	1.50	120/- per BHP/ Yr.
5.	LMV-5B	Industrial (Small & Medium Power)					
		First 110 KWH/BHP p.m.	18	—	1	1.50	120/- per BHP/ Yr.
		Next 110 KWH/BHP p.m.	12				
		Remaining KWH	8				

Sl. No.	Rate Schedule	Category	Rate of charge P/KWH	Rebate P/KWH	ED per KWH	Meter Rent Rs.	Minimum charge Rs.	
6.	LMV—5D	STW/Lift	Rs. 318/- per BHP per year					
7.	LMV—6	Mixed load (above 5 KW and upto 100 KW)					15/- per KW based on 6 of contracted load.	
		All consumption in a month.						
		First 10,000 KWH	25	2	—	1.50		
		next 20,000 KWH	22					
		All in excess of 30,000 KWH	19					
8.	HV—1	Mixed load (above 100 KW)						
		All consumption in a month						
		First 10,000 KWH	21	—	—	—	— Do —	
		next 20,000 KWH	18					
		All in excess of 30,000 KWH	15					

9. HV – 2

Large & heavy power

- (a) Demand Charges : All KVA of billable demand for the month
excess demand charges Rs. 10/- per KVA plus,
Rs. 5/- per KVA plus
- (b) Energy charges : First 170 KWH per KVA of billable demand 8 p. per KWH
Next 170 KWH per KVA of billable demand 6.5 p. per KWH
All in excess of 340 KWH 5.5 p. per KWH
- (c) Extra charge : 7.5% of amount assessed shall be charged if the
supply is given at 400 volts.
- (d) Rebate : A rebate of 15% of the amount assessed is allowed to a
new industry for 3 years only.

10 HV – 2B

Large power (Above 75 KW & upto 200 KW)

- (a) demand charges : All KW of billable demand for the month @ Rs. 12/- per KW plus :
- (b) Energy charges : First 200 KWH per KW of billable demand 8 p. per KWH
Next 200 KWH per KW of billable demand 6.5 p. per KWH
All in excess of 400 KWH per KW of billable demand 5.5 p. per KWH
Billable demand shall be actual maximum demand or 60%
of contracted load, whichever is higher, plus
- (c) Extra charge : 7.5% of amount assessed shall be charged if
the supply is given at 400 volts.
- (d) Rebate : A rebate of 15% of amount assessed is allowed to
a new industry for 3 years only.

Lucknow

REVISED ELECTRICITY RATES EFFECTIVE FROM 1.1.1972

S. No.	Rate Schedule	Category	Rate of charge P.KWH	Rebate P.KWH	Elec. duty P.KWH	Meter rent Rs.	Minimum charge Rs.
1	2	3	4	5	6	7	8
1.	LMV-1	L/F	41	3	2	.75	3.00
2.	LMV-2	Domestic power	28	2	25%	.75	3.00
3.	LMV-4	Street light	41	3	2	.75	0.75 per lamp for town area 0.50 per lamp for Gaonsabha.
4.	LMV-5	PTW/PS : 1. BPH Charges : Rs. 3/- per BHP per month plus 2. Energy Charges	20	2	—	2.00	—
5.	LMV-6A	Industrial power (upto 27 BHP)	20	2	1	2.00	120/- per BHP/ Year.
6.	LMV-7A	Industrial power (above 27 BHP & upto 100 BHP) All consumption in a month					

1	2	3	4	5	6	7	8	
		1st 110 KWH/BHP	20	2	1	2.00	120.- per BHP/ year.	
		next 110 KWH/BHP	17					
		Remaining KWH	12					
7.	LMV-8	State Tubewell/ Lift Irrigation	Rs. 358'- per BHP per year					
8.	LMV-10	Mixed loads (Above 5 KW upto 100 KW) All consumption in a month						Rs. 9/- per KW of connected load.
		First 10,000 KWH	28	2				
		next 20,000 KWH	25					
		All in excess of 30,000 KWH	22					
9.	HV-1	Mixed load (Above 100 KW) (All consumption in a month)						
		First 10,000 KWH	23.5 paise per KWH					
		next 20,000 KWH	20.5 paise/KWH					
		All in excess of 30,000 KWH	17.5 paise KWH					
			Plus 7.5% of the amount assessed shall be charged if the supply is at 400 volts.					

1	2	3	4	5	6	7	8	
10.	HV-2A	Large Power : (Above 75 KW & upto 200 KW)						
	(a)	Demand charges all KW of billable demand for the month <i>plus</i>					12 00 per KW	
	(b)	Energy charge						
		First 200 KWH per KW of billable demand					9.25 per KWH	
		Next 200 KWH per KW of billable demand					7 75/KWH	
		All in excess of 400 KWH per KW of billable demand					6.75	
		Billable demand shall be actual maximum demand on 60% of contracted load, whichever is higher.						
		<i>Plus</i>						
	(c)	Extra charge 7.5% of amount assessed shall be charged if the supply is at 400 volts.						
	(d)	Rebate	A rebate of 15% of the amount assessed is allowed to a new industry for 3 years only.					

1	2	3	4	5	6	7	8	
11.	HV-2B	Heavy Power : (Above 200 KW)						
		(a)	Demand Charge					
			All KVA of billable demand for the month				Rs 10/- per KVA	
			Charges for demand in excess of contracted load				Rs 5/-	
		(b)	Energy Charge				Paisee per KWH	
			KWH consumed in a month :					
			First 170 KWH per KVA of billable demand				9.25	
			Next 170 KWH per KVA of billable demand				7.75	
			All in excess of 340 KWH per KVA of billable demand				6.75	
		(c)	Extra Charges					
			7.5% of the amount assessed shall be charged if the supply is given at 400 volts.					
		(d)	Rebate of 15% of the amount assessed is given to a new industry for 3 years only.					

5. Kodinar Society

Rate per Fixed charges/month
Unit paise

1. Agriculture

- | | | |
|----|---|---------------------------|
| 16 | (i) For the first 5 BHP of connected load or contracted load whichever is higher | Rs. 2.25
BHP/month |
| | (ii) For the next 5 BHP of connected load or contracted load whichever is higher | Rs. 4/-per
BHP/month |
| | (iii) For the next 5 BHP of connected load or contracted load whichever is higher | Rs. 9.50 per
BHP/month |
| | (iv) For the remaining in excess of 15 BHP of connected load or contracted load whichever is higher | Rs. 13/-per
BHP/month |

Energy charges

- | | | |
|-------|--|----------------|
| (i) | For the first 50 (fifty) units consumed/month/BHP/of connected-load or contracted load whichever is higher | 12 paise/unit |
| (ii) | For the next 80 (eighty) units consumed/month/BHP/of connected load or contracted load whichever is higher | 10 paise/unit |
| (iii) | For additional units consumed during the month. | 7.5 paise/unit |

Note : Subject to realisation by the Board, during the calendar year, of an amount equivalent to the fixed charges as per the tariff in force or the annual minimum guarantee per BHP according to the respective contracts/undertakings, whichever is higher, the overall rate of energy supplied to the agricultural consumer, excluding the meter rent, electricity duty, taxes and discount as billed, shall not exceed 16 paise per unit and the excess amount recovered, if any, will be carried forward to the credit of the consumer for adjustment against his bills for the ensuing year.

2. LT Industrial

For the first 100 (hundred) units consumed/month/BHP of connected load or contracted load whichever higher. 17.5 paise/unit

For the next 150 (hundred and fifty) units consumed/month/BHP of connected load or contracted load whichever is higher. 16 paise/unit

For all additional units consumed during the month. 13 paise/unit

Minimum bill per installation

For consumers other than seasonal consumers payment of Rs. 6/- month/BHP of contracted load whichever is higher during the month whether energy to that extent is consumed or not.

3. H.T. Industrial Demand Charges

(a) For billing demand upto the contract demand.

Rs. 12/- per month per KVA of the first 500 KVA of billing demand.

Rs. 11/- per month per KVA of the next 500 KVA of billing demand.

Rs. 10/- per month per KVA of the next 4,000 KVA of billing demand.

Rs. 8.50 per month per KVA in excess of 5,000 KVA of billing demand.

(b) For billing demand in excess of the contract demand.

Rs. 20/- per month per KVA of the billing demand in excess of the contract demand.

PLUS

Energy charges :

8 paise per unit for the first 200 units per month per KVA of the billing demand.

7.5 paise per unit for the next 150 units per month per KVA of the billing demand.

6 paise per unit for the next 150 units per month for KVA of the billing demand.

5 paise per unit for all additional units consumed during the month.

Billing Demand

The billing demand shall be the highest of the following:—

- (i) Actual maximum demand established during the month.
- (ii) 75 per cent of the contract demand.
- (iii) 100 KVA
- (iv) The highest demand registered during the three months proceeding the billing month.

Note : The fraction below 0.5 KVA of billing demand shall be ignored and fraction of 0.5 KVA and above shall be rounded to next integer.

Minimum Bill

Payment of the demand charges based on the KVA of billing demand.

4. Domestic

31

Minimum bill/month/installation (exclusive of meter rent)
—Rs. 1.50

5. Commercial

31 For lights fans, Minimum bill/month/installation (exclusive of meter rent)—Rs. 1.50

5 (a) For Industrial load for domestic appliances

15 For all units Minimum bill/
consumed during month/ instal- Rs. 4/- for single phase
the month lation/(exclusive Rs. 10/ for 3 phase
of meter rent)

6 Street Light Fixed charges

20 Re. 1 per lamp per month

Minimum charges

The minimum energy consumption shall not be less than
2,200 units per annum per KW connected load.

ANNEXURE XVII

Subject :—Discussion at Lucknow on 3rd May, 1972 with the Chairman of the State Electricity Board etc.

The Chairman and members of the Committee on Rural Electric Cooperatives had meeting with the Chairman and other officers of the U.P. State Electricity Board, representatives of the State Government, the Registrar of Cooperative Societies, Ground Water Organisation, Small Scale Industries Organisation, Land Development Bank etc. Following is the summary record of discussions of the meeting held at Lucknow on 3rd May, 1972.

General approach to electric cooperatives

2. Initiating the discussions, Shri Puri enquired whether the functions of generation and distribution of electricity undertaken at present by the SEB could be separated and the Board made responsible only for generation and transmission, while distribution be entrusted to another agency. The Chairman of the U.P. State Electricity Board observed that this would be a general issue on which, in the first instance, a policy decision might have to be taken by the Central and the State Governments.

3. Shri Puri suggested that the State Electricity Board might consider floating a holding company for distribution of electricity and the consumers also be encouraged to participate in the equity capital of this organisation so that, over a period of time, the company could be owned by the consumers themselves. The Chairman of the U.P. State Electricity Board expressed the view that while commercially such a proposition might be desirable, it was doubtful whether a holding company could provide better service to the consumers than the State Electricity Board itself. In this connection, Shri Puri enquired about the nature of the organisational structure of the Lucknow Electric Supply undertaking, and the Kanpur Electric Supply Undertaking. Shri Dhar, Joint Secretary in the Power Department of the State Government clarified

that these organisations were a relic of the past when private licensees were operating in these municipal areas. These organisations undertake both generation and distribution of electricity. They are not, however, legally separate entities, but are part of the U.P. State Electricity Board itself. Shri Dhar also referred to the existence of 17 private licensees in the State for distribution of electricity and pointed to the current demand for their nationalisation on the ground that their service was inadequate and cost high.

Performance of the Lucknow Rural Electric Cooperative and the Role of the State Electricity Board

3. As the Rural Electric Cooperative constitutes an integral part of the overall programme of rural electrification for which the State Electricity Board is responsible, Shri Puri suggested that the State Electricity Board should associate itself more actively with the Rural Electric Cooperatives. He referred to the present procedure followed by the Rural Electrification Corporation whereby, for the assets taken over by the cooperative from the State Electricity Board, the State Electricity Board is reimbursed to the full extent of the value of such assets transferred to the cooperative. Shri Puri suggested that inasmuch as the loan of about Rs. 240 lakhs sanctioned by the Rural Electrification Corporation practically bore no relation to the share capital of Rs. 12 lakhs of the cooperative, the State Electricity Board could consider converting part of the amount covered by reimbursement as equity capital in the cooperative. The Chairman, U.P., State Electricity Board observed that as the State Electricity Board itself had no equity capital, it would be rather difficult for it to agree to contribute substantial amounts to the share capital of the cooperative. He also enquired whether, based on its experience, the Committee could suggest positive measures for a closer association of the State Electricity Board with the Rural Electric Cooperatives. Shri Puri indicated that as the Lucknow Cooperative was the first to be taken up for study by the Committee, it would certainly bear in mind the suggestion.

4. Shri N.S. Mathur pointed out that, at present, there was only one rural electric cooperative in U.P. and observed that perhaps more number of such cooperatives could evoke larger

attention of the State Electricity Board to the cooperative activity in this sector. The Chairman of the U.P., State Electricity Board expressed that as the pilot rural electric cooperative at Lucknow was on the ground for hardly one year, it was too early to assess its performance and decide on the expansion of this programme of rural electric cooperatives.

Some specific problems of the Lucknow Cooperative

5. Shri Puri referred to some of the issues/problems of the Lucknow Rural Electric Cooperative vis-a-vis State Electricity Board. During the discussions, the Chairman of the State Electricity Board agreed to the following :—

- (a) The U.P. State Electricity Board had, in principle, agreed nearly a year ago to contribute Rs. 1 lakh to the share capital of the cooperatives. The Chairman agreed that this amount would be invested without further delay.
- (b) The SEB will not have any objection to depute its officers to work in the cooperative on deputation terms for more than one year and so long as the cooperative wanted to retain them.
- (c) At present, for the supply of materials and equipments to the cooperative, the SEB is charging 10% over its normal issue rates. On a reference made by Shri Laxmipathy to the procedure in vogue in Andhra Pradesh, the Chairman of the U.P., SEB agreed to consider using the good offices of the SEB with the manufacturers and suppliers to supply direct to the cooperative at the rates at which they supply to the SEB. If this procedure is followed, the Chairman of the U.P., SEB observed that the Board might considerably reduce its service charges.

Load growth

6. Shri N.S. Mathur pointed out that there was a large potential for load growth in the area of the cooperative if service connections could be given to mud houses also. It was

noted that, at present, there was a general impression in the rural areas that electric connections would not be available to mud houses. It was also noted that subject to certain safety measures being taken, there is no legal bar to provide connections to mud houses. Shri J.D. Lassater referred to the practice of giving electric connections to the Red Indian Houses in America. The Chairman of U.P., SEB agreed to set up a Committee with an Electrical Inspector, an Engineer of the SEB and the General Manager of the Society as members to examine this question.

7. It was noted that a large number of operational holdings of land in the area of the society was below 2.5 acres each and it would not be economical to have independent tube-well irrigation for such small holdings. Shri Puri suggested that the State Land Development Bank and the State Government might consider organising irrigation cooperatives for groups of such small holders. The Chairman of the State Land Development Bank explained that, to meet the requirements of such small holders, the State Cooperative Land Development Bank was providing joint loans for groups of such small farmers for minor irrigation purposes. In one year alone, he indicated that, nearly 8000 such joint loans were given by the bank.

8. The Chairman of the U.P., SEB observed that load growth in an electric cooperative would, to a very large extent, depend on the coordination of the activities of various developmental agencies and financing institutions. He suggested that as such coordination is being effectively attempted at the district level by an Additional District Magistrate, it might be useful if a district is made the unit of operation of the rural electric cooperative. This would also help the cooperative to have a more diversified load growth and thus improve its viability.

Defective meters of the SEB at the point of supply to the Cooperative

9. S/s. Puri and Laxmipathy referred to the defective meters installed by the SEB at its sub-stations where cooperative is drawing its supplies from the SEB. Firstly, at each of the points

of supply, three meters are installed. Shri Laxmipathy drew attention to the provisions of the Indian Electricity Act, which requires only one meter at each point of supply. Secondly, for the purpose of billing the cooperative, the SEB was taking the average of any two meters whose readings are in close proximity. It was noted that, of the three meters, the readings of one meter vastly differed from the other two. Further, the two meters whose readings were in close proximity, in some cases, differed from month to month, which pointed to the possibility of all the three meters being defective. Thirdly, it was observed that at the Amousi sub-station, there is an outgoing line, which is feeding the Lucknow Electric Supply Undertaking, which is a part of the U.P. SEB. For the purpose of billing the cooperative at this sub-station, the amount of energy consumed through this outgoing feeder line was deducted from the total supply made at the sub-station. It was observed that on this feeder line, there were two meters and the SEB was taking the average of these two meters; but, difference between these two meters, was over 25%. Finally, the SEB had not installed meters on the outgoing feeder lines at the sub stations. This is necessary to enable the cooperative to reconcile the number of incoming units with the number of outgoing units on various feeders and also to determine the line losses on each feeder line with a view to focussing attention on those feeder lines which tend to show disproportionately large line losses. The Chairman of the SEB agreed that it was the responsibility of the SEB to provide correct meters, and for this purpose, he would direct his engineering staff to look into the matter and set right the meters and also instal correct meters on outgoing feeder lines also early.

Line losses

10. Shri Puri referred to the assumption made in the project report of the cooperative that line losses would be only 10%. This assumption, he pointed out, continued to be made in the revised project report also. As the line losses for the society for the first year of its working amounted to nearly 26.25%, Shri Puri observed that such heavy losses will jeopardise the economic viability of the cooperative. Shri Laxmipathy pointed out that the line losses of the SEB on its rural distribution system might also be of the same order for the reason that the overall line losses

of the SEB for the year 1970-71, as worked out by Technical Committee on line losses appointed by the U.P., SEB, was 22.5% for the State as a whole and that the losses on rural distribution might be high. The Chairman of the U.P., SEB suggested that cooperative might insist on the consumers installing capacitors to reduce line losses.

Tariff

11. Shri Puri pointed out that diversification of load growth in the cooperative by providing service connections for H.T. industries also seem to lead to heavy losses on account of the preferential tariffs for such industries. The cooperative is to follow the same tariff applicable to the State Electricity Board. The SEB is following, on the directions given by the State Government, a sliding scale of tariff for each industrial consumer with 15% rebate for the first three years; the rates are as low as 6.75 Paise per unit after a particular level. The cooperative, however, is paying to the SEB a flat rate of 10 Paise per unit of energy, but the society is following the same subsidised tariff of the SEB. As an industrial estate is fast coming within the area of the cooperative, Shri Puri pointed out that this industrial estate area might land the society in large losses. The Chairman of the U.P. SEB suggested that the society should think of giving up this industrial estate area and take over the Bakshi Ka Talab area in Lucknow district which, incidentally, is agriculturally a more progressive area as compared to the other areas within the jurisdiction of the cooperative.

Administration and Coordination

12. The Chairman of the SEB suggested that the primary responsibility for the rural electric cooperative might vest in the SEB, which should have adequate powers for this purpose. He also suggested that for an effective coordination between the land development bank and the rural electric cooperative, a representative of the land development bank might be nominated on the Board of Management of the Rural Electric Cooperative.

ANNEXURE XVIII

Subject:— Discussion at Hyderabad on the 8th August, 1972 with officers of the SEB etc.

The Chairman and members of the Committee on Rural Electric Cooperatives had a meeting with the officers of the APSEB., representatives of the State Government, Joint Registrar of Cooperative Societies, representative of the state cooperative land development bank etc. on the 8th August, 1972 at Hyderabad. The salient points emerging from the discussion are listed below.

General approach to rural electric cooperatives

2. Shri Puri enquired whether, in the long run, the functions of generation and distribution of electricity undertaken at present by the SEB could be separated, and the Board made responsible only for generation and transmission while distribution could be entrusted to an agency like cooperatives. In the light of such long term perspective, he added, conscious development of cooperatives would be undertaken.

3. Shri Venu Gopal Reddy, Deputy Secretary, Planning Department, observed that the Planning Department is conducting a study of the functioning of the rural electrification programme in the State and that a report on the quantitative performance by the SEB and the rural electric cooperatives would be available shortly.

4. The Collector, Karim Nagar and the Chairman of the Sircilla Rural Electric Cooperative observed that the nominated board with Collector as Chairman of the Sircilla cooperative has substantially helped in placing the cooperative on sound footing and suggested that this arrangement might be thought of for future cooperatives in other areas also. It was, however, noted that this system had proved useful in the case of Sircilla because in Andhra Pradesh, the Collector has a special role as head of

the Cooperative Department in the district. It was felt that in the absence of such arrangements in other States, nomination of Collector as Chairman of rural electric cooperative may not always yield the desired results.

Advantages of rural electric cooperatives

5. Shri Puri enquired whether, on the basis of the functioning of the Sircilla Rural Electric Cooperative, the main advantages and the disadvantages of the rural electric cooperative could be highlighted. The main advantages of the rural electric cooperative are :

- (a) There has been a better consumer response in the area of the cooperative. As the area of the cooperative is small, the officers of the cooperative are in constant contact with the members and there is greater consumer satisfaction.

(Secretary of APSEB and Collector, Karimnagar)

- (b) The Sircilla society has been able to ensure quicker implementation of rural electrification project in its area and has gained the confidence of the consumers. It has also entrusted the prospective members in the area, who have contributed large amounts as share capital in the society.

(Collector, Karim Nagar)

- (c) Member involvement in the cooperative has been very appreciable as is evident from the Shram Dhan made by the members and prospective members of the Society.

(Shri Trubal Husain, Jt. Registrar)

- (d) The cooperative has been in a better position to collect revenue than the SEB, as pointed out by the Chairman of the APSEB during his discussion with the Chairman of the Committee earlier.

- (e) The unit cost of work in the cooperative has been lower, particularly due to Shram Dhan.

(Collector)

(Shri Mohan Rao, Superintending Engineer pointed out that Shram Dhan may not be a common feature in all

the areas of the State and the SEB which started this programme, had to give up the programme.)

- (f) The society has been able to adopt a project approach in the sense that it has undertaken electrification of villages in remote areas without insisting on certain minimum returns for such extensions. These extensions have made on the basis of the overall economics of the programme. Some of the villages in the interior, which have been electrified by the cooperative, would not have received electricity for decades but for the cooperative.
- (g) A cooperative could give loans to members for internal wiring and purchase of small gadgets, can undertake supply of electrical goods and also servicing of the electrical machinery. This could contribute to load growth in a cooperative.

(Joint Registrar)

Areas of weakness

6. The main areas of weakness of a cooperative, it was noted, were :

- (i) As there would be only few cooperatives, they might not be able to attract qualified and competent key personnel.

(Sh. Mohan Rao, Superintending Engr.)

The Secretary of the APSEB, however, felt that in as much as a cooperative would be taking over a defined area from the SEB, there should not be any difficulty for the SEB to lend the services of personnel earmarked for that area, to the cooperative. Further, as the number of rural electric cooperatives, for some time to come, would be small, the problem of finding competent and adequate key personnel for these cooperatives should be manageable.

- (ii) If Taluka is made the unit for a cooperative, it might present some technical problems.

(Sh. Mohan Rao, Suptdg. Engineer)

Shri Puri pointed out that the area of a cooperative need not necessarily be a block or a taluk, but it should be based on technical feasibility.

- (iii) In a rural electric cooperative, it is possible that the members of the Board of Management may persuade the officers of the cooperative to give connections to villages and persons although such extensions might not be remunerative.

Collector, Karim Nagar, pointed out that as he was the head of the cooperative and it was a nominated Board with Government officials, this problem was not acute.

- (iv) Shri Laxmipathy observed that certain norms relating to number of connections and connected load per Km. could be evolved to obviate this problem of unremunerative services.

Area of operations

7. Shri Laxmipathy suggested that perhaps the area of a cooperative could be co-terminus with that of a district to facilitate coordination between various agencies and departments. Collector, Karim Nagar, observed that the success of a cooperative could be mainly attributed to the close contact between the management of the cooperative and the members and the consequent member involvement in the development of the cooperative. He was, therefore, of the view that the area of a cooperative should be compact and manageable and should not be extended to the whole district.

Debt-equity ratio

8. Shri Puri observed that the risk capital base of the existing pilot rural electric cooperatives in the country was too inadequate and that there should be a proper co-relation between debt and equity. In this connection, he suggested that the future cooperatives should have a larger share capital base and the following could be the additional source of share capital :

- (a) Conversion of security deposit of members as share capital;
- (b) State Governments' participation in the share capital of the cooperative; and
- (c) SEB's participation in the share capital of the cooperative by conversion of part of the value of assets transferred to a cooperative by the SEB as share capital of the society.

Shri Parthasarthy, Chief Accounts Officer of the APSEB, agreed that there should be a co-relation between debt and equity in a cooperative. Regarding conversion of security deposit into share capital, he mentioned that the objective of security deposit was to ensure collection of power dues from the members and this purpose might be defeated if security deposit was converted into share capital. Shri Puri explained that in terms of cooperative law and procedure, share capital is essentially a risk capital, which would cover not only overdues of members to the cooperative in respect of power bills but also provide a margin to the creditors. In other words, share capital has a wider coverage than security deposit.

9. Regarding SEB's participation in the share capital, Shri Parthasarthy was of the view that the SEB could participate in the share capital of a cooperative if finance is made available to it by the REC on easy terms as in the case of assistance from LTO funds by the Reserve Bank to the State Governments.

10. Shri Husain suggested that debt-equity ratio in a cooperative may be fixed at 1:4 and that funds for State participation in the share capital of a rural electric cooperative might be found out of the cooperation budget.

11. Regarding conversion of security deposit into share capital, Shri Husain suggested that only a part of the security deposit might be converted into share capital and that a cooperative should continue to collect additional share capital as in the case of the Sircilla society.

Assets transferred by SEB to a cooperative

12. Shri Puri mentioned that besides investing a part of the value of assets transferred by the SEB to a cooperative in the share capital of the cooperative, the SEB should also earmark part of the amount for improving the rural distribution system in the cooperative area. He cited the instance of Sircilla society where, as against 6 substations to be constructed by the SEB, only two are in position and that the SEB could not make further investment in the area due to paucity of resources

Working capital

13. Shri Puri observed that, the Sircilla cooperative has not so far felt the need for making permanent arrangements for its working capital with banks because of its comfortable liquidity position arising out of REC's assistance for block investment. After a particular stage, the Sircilla cooperative would also need to make adequate arrangements for its working capital. It was, however, noted that as the margin available to a cooperative was very meagre, any additional interest burden might upset the economic viability of the cooperative. It was, therefore, considered that the requirements of working capital of a rural electric cooperative should also be included in the block capital requirements of the cooperative. In other words, the society might be permitted to use part of its share capital as working capital and the REC might provide the entire balance of requirement for block investment.

Line Losses

14. Shri Noor Singh, Chief Engineer, explained that the phenomenon of line losses could be tackled by installing LT capacitors, more substations and building capacitors in electric motors etc.

Coordination between rural electric cooperative and land dev. bank

15. Shri N.S. Mathur referred to the need for forging a more effective coordination between the rural electric cooperative and the land development bank. In this connection, he suggested that a representative of the land development bank should be on the Board of Management of the rural electric cooperative.

Audit

16. It was noted that the audit of Sircilla Rural Electric Cooperative was in arrears. Shri Husain, Joint Registrar promised to look into the matter and have the audit expedited.

Discussions with Chairman of the Andhra Pradesh State Electricity Board on the 8th August, 1972.

The Chairman of the Committee on Rural Electric Cooperatives discussed with Shri Srinivas Rao, Chairman of the APSEB on the 8th August, 1972 at Hyderabad, the broad

approach and some of the basic aspects of the development of rural electric cooperatives. The Secretary of the Committee was also present at the meeting. Following is the summary record of discussions of the meeting :

Approach to rural electric cooperatives

2. Shri Puri enquired whether, on the basis of the experience of the Sircilla Rural Electric Cooperative, the APSEB would like to go in for more rural electric cooperatives. Shri Rao welcomed the idea of more rural electric cooperatives. He, however, added that the experience gained so far was confined to only one cooperative and that, to have a wider base of experience, one society in the Andhra region and one in the Rayalseema of Andhra Pradesh may be organised in the Fourth Plan. This would mean that there would be three cooperative societies in the three regions of the State—Talengana, coastal Andhra and Rayalseema—with different agricultural and groundwater conditions. In the 5th Plan, he added, 5 more cooperatives could be organised in the State.

3. Shri Rao expressed the view that the revenue collection is better in a cooperative area than in the SEB area where it is difficult to forge an effective coordination between the engineering and the revenue branches. This, he mentioned, gave added justification for a rural electric cooperative.

4. Shri Rao pointed out that the association of the Collector of the district and other concerned officials with the cooperative had yielded rich dividend and ensured the growth of the cooperative on sound and healthy lines. Such association, he emphasised, should be ensured in future cooperatives also.

Debt-equity ratio

5. Shri Puri observed that the risk capital base of the existing cooperative was too meagre to attract institutional finance for block investment as also for working capital. He suggested that the future cooperative should have a larger share capital base

and the following could be the additional sources of share capital :

- (a) conversion of security deposit of members as share capital;
- (b) State Governments' participation in the share capital of the cooperative; and
- (c) SEB's participation in the share capital of the cooperative by conversion of part of value of assets transferred to a cooperative by the SEB as share capital in the society.

Shri Rao was of the view that perhaps 10% of the assets transferred to cooperative could be invested by the SEB as share capital in the cooperative. He also suggested that it might be examined whether a part of the power bill paid by the cooperative to the SEB could be converted into share capital of the SEB in the cooperative.

SEB's association with cooperatives

6. Shri Puri underlined the need for closer association of SEB with the rural electric cooperatives. Besides utilising part of the value of assets transferred to a cooperative as share capital of the cooperative, the SEB should also earmark a part of it for making improvements in the distribution system in the area. Shri Puri illustrated this point by referring to the construction of substations in the existing area of Sircilla Rural Electric Co-operative Society. Secondly, the SEB should also be more closely associated with the management of the cooperative so that continuous constructive supervision is provided to it in the initial stages. Finally, it might also be considered whether some of the powers of the Registrar could be conferred on the Chairman of the SEB in respect of rural electric cooperatives.

7. Shri Rao observed that the SEB could help a cooperative by providing technical scrutiny of the estimates of work prepared by the officers of the cooperative in respect of those works whose cost exceeded particular limit.

Tariff

8. Rural electrification, Shri Puri pointed out, is not generally a paying proposition. The pilot rural electric cooperatives, he added, have helped to focus attention on the important aspects of the economics of the rural electrification viz. line losses, inadequacy of margins etc. Referring to the case of Sircilla Society, Shri Puri observed that in spite of its operating at a satisfactory level of efficiency, the society has run into losses. Practically, the cooperative has no control over the tariff to the consumers. The rate at which SEB supplies power, needs therefore to be so designed that : (a) SEB loses no more than what it is losing in rural electrification, and (b) there is a reasonable chance for the cooperative to function as a viable unit. In this connection, it was noted that the agricultural tariff in Andhra Pradesh has been raised from 12 Paise to 16 Paise per unit since 1st August, 1972, and this might substantially help the society to reach a break-even point. Shri Rao confirmed that consequent on the increase in the tariff to the consumer for motive power for agriculture, the SEB would not raise the present rate of 8 Paise per unit charged to Sircilla cooperative society.

ANNEXURE XIX

Committee on Rural Electric Cooperatives—visit to Maharashtra from 4th to 6th September, 1972—salient features emerging from discussions at Rahuri and Bombay.

The Committee on Rural Electric Cooperatives visited the Mula Pravara Rural Electric Cooperative Society on the 5th September, 1972 and had detailed discussions at Bombay on 6th September, 1972 with Secretary, Industries and Labour, Government of Maharashtra, Secretary (Cooperation), Government of Maharashtra, representatives of the Maharashtra State Electricity Board, Maharashtra State cooperative department, Industries Department etc. The salient points that emerged during the discussions are as follows :

Liquid resources

(1) The heavy line losses which were of the order of 48% upto 31/3/72 has led to a total loss of 18.91 lakhs as on 31/3/72. The average revenue per unit sold is 18.04 paise whereas the cost per unit (including line losses) is 26 21 paise. The society has now a cash balance of hardly Rs. 0.60 lakhs. The monthly wages and maintenance charges are of the order of Rs. 0.60 to 0.70 lakhs per month. The society has therefore reached a stage when it has no liquid funds for its maintenance, leave alone for new construction programmes. In this connection, it was noted that, the Chairman of the REC had already written to the Chief Minister of Maharashtra suggesting a Government share capital contribution of Rs. 5 lakhs to this society. It was agreed during the discussions that :

- (a) The State Government would immediately consider contributing Rs. 5 lakhs towards the share capital of this cooperative.
- (b) The MSEB has yet to transfer security deposits of consumers, service connection charges etc. to the cooperative.

The amount involved in this is reported to be of the order of Rs. 15-19 lakhs. Precise figures are not yet available. The MSEB is to settle this in consultation with the society. Pending finalisation of these accounts, the MSEB may make available Rs. 10 lakhs to the cooperative. This would enable the society to have necessary capital not only for its operation and maintenance but also for carrying out certain minimum improvements to the system which are absolutely necessary from the point of view of safety.

- (c) The society has a special fund of Rs. 8.07 lakhs created from out of the interest remission granted by the REC. A part of this amount not exceeding Rs. 1 lakh could be utilised for system improvement with the prior permission of the REC. The society should immediately send a proposal to the REC in this regard.

Revised project report

(2) The society has prepared a revised project report for revamping the existing system and also for new construction programme. It was agreed that the society should ensure that the entire programme of rectification of the existing system should be taken up and implemented on a priority basis so that the line loss could be brought down substantially. The expenditure on rectification of the existing system should not be spread over the entire 5 years as contemplated by the society in its revised project report but should be taken up and completed within a period of about 6 months. Further, the revamping programme should take into account the projected load in future. In this connection, it was understood that the Tata Consultants have already agreed to make an appraisal of the existing system and advise the society, and that they would be taking up this study shortly. It was considered desirable that the revised project report should be amended in the light of the recommendations of the Tata Consultants. Meanwhile, the society could proceed with certain minimum improvements to the system which are needed particularly from the point of view of safety.

Drought condition and energy bills

(3) The entire Ahmednagar district is now a drought affected area and relief works have begun in many places. The MSEB has announced stay of recovery of electricity charges from agriculturists upto 30th September, 1972. It is understood that the MSEB proposes to waive the annual minimum guarantee charges also for agriculture and proposes to charge only the actual energy charges. But the position obtaining in the society's area has been disadvantageous to the farmers. Since July 1972, the society had disconnected nearly 1500 services, most of which are agricultural connections. This has rendered the society unpopular among the farmers and members in the area. The present Administrator of the society, who took charge on 7/8/72, has however since announced that further disconnections will be stopped and reconnections will also be given to those who agree to pay reconnection charges. This latest move of the Administrator is expected to improve the image of the society with the farmers. In this connection, it was noted that the total amount of energy bills due to the society from its members is of the order of Rs. 17 lakhs, of which over Rs. 12 lakhs are overdue for over 3 months. The society owes to the MSEB also energy bills to the extent of about Rs. 16-17 lakhs. It was agreed during the meeting that :

- (a) As the society has agreed to postpone recovery of dues from the agricultural consumers, the MSEB would also consider postponing recovery of amounts involved in the energy bills from the society.
- (b) The MSEB is collecting energy charges from agriculturists once in 6 months. A similar procedure may have to be introduced by the cooperative also and for this purpose, the society, in consultation with the Registrar of Cooperative Societies and the State/Central Cooperative Banks, should consider whether the primary agricultural credit societies in the area could be pressed into service for collection of energy bills; the credit societies can sanction, under the crop loan system, loans to the members for payment of electricity bills, as part of 'B' component of the loan, and that part of the 'B' component could be paid by the society direct to the electric cooperative.

- (c) There are three cooperative sugar factories in the area of operations of the rural electric cooperative. The society should explore the possibility of recovery of energy bills from the cane price paid by these cooperative sugar factories to their members, who are also members/consumers of the rural electric cooperatives.

Line losses

(4) Line losses constitute the major problem of this society. Upto 31/3/72, the line losses were of the order of 48.29%. The cost of unaccounted units at 9 paise per unit (the rate at which MSEB sells power to the cooperative), is of the order of Rs 26.64 lakhs. In other words, the society has been losing a little over Rs. 2 lakhs per month on account of line losses. This huge line loss has completely upset all financial forecasts about this society. The factors that have contributed to this are :

- (a) According to the report of the Superintending Engineer of the MSEB, the system losses itself in the society is of the order of 22% against 10% of total line losses assumed in the project report.
- (b) Defective meters have also contributed substantially to the line losses. The society has since got a test bench. The results of the testing of the meters from January 1972 to August 1972 are as follows :

(i) Total meters tested	2916
(ii) Meters that have stopped	733
(iii) Meters that were running slow	1076
(iv) Damaged meters	25
(v) Total defective meters	1834

In other words, over 60% of the meters installed were defective.

- (c) The problem of defective meters and defective system has further been compounded by the theft of energy in the area. Incidentally, the line losses in this society are a legacy from the MSEB. It was reported that in Kopergoan area adjacent to the cooperative, the line losses in

rural areas were of the order of 45%. But the impact of rural line losses on MSEB will not be much as agriculture accounts for only 5.8% of the total energy sold by the MSEB. During 1970-71, the MSEB sold nearly 5361 million units, of which agriculture accounted for only about 352 million units. Over 80% of the power was sold by the MSEB to HT consumers and licensees. The line losses in Maharashtra are reported to be of the order of about 12% in spite of the fact that over 80% of the supply was made in bulk in respect of which line loss should not exceed 4-5%. Viewed in this context, the line losses of the society are comparable to the line losses in the MSEB.

(5) It was agreed that the following action should be taken by the society for reducing line losses in the society :

- (a) The MSEB should consider opening more substations and making further investments to bring down the line losses in the area of the society. For this purpose it might prepare a scheme and avail of the system improvement loan from the REC.
- (b) Now that the society has a test bench, it should accelerate the programme for testing of all meters. If necessary, a three shift operation for meter testing should be done. Priority should be given to testing of agricultural service connections.
- (c) In its revamping programme, the society should consider installing more transformers rather than going in for doubling of the feeder lines.
- (d) The Administrator should review the line losses feeder-wise and make the maintenance staff accountable for it. It may be necessary to re-allocate personnel for this purpose. The staff should be made responsible for patrolling, testing and checking of meters, meter reading, review of consumption, promotional work and also review of pending applications.
- (e) The MSEB is metering the units sold to the cooperative on 33 KV lines and allows deduction of 1% for transformer losses. The MSEB will consider, in the light of

the procedure followed in its purchase/sale of power, increasing the deduction to be allowed to the cooperative. It was also understood that the MSEB has fixed meters on various outgoing feeders. The society should make a cross check of the energy bought from the MSEB with the total of the meter reading on the feeders.

Power factor

(6) Since March 1972, the MSEB has begun to levy penalty charges for low power factor. It was agreed that, as the society is practically operating the system it has inherited from the MSEB and as it is taking measures to revamp the existing system, the MSEB may waive the penalty for low power factor. The penalty charges now amount to about Rs. 30-35 thousands per month. In this connection, it was noted that the low power factor was also due to the supply to the cooperative at lower voltage by the MSEB and also due to some of the feeder line going beyond the society and connecting large agricultural loads in the MSEB area. Considering all this, as already mentioned, it was agreed that the MSEB should consider waiving the penalty charges for power factor for some more time to come.

Tariff to the cooperative

- (7) (a) It was pointed out that, while the MSEB is assuming a rate of 6.61 paise per unit for its REC schemes, it is actually charging 9 paise per unit to the cooperative. It was also pointed out that in Andhra Pradesh and U. P., the SEBs were supplying power to the cooperative at a rate lower than the one assumed for their own REC schemes. Secretary, Industries and Labour, pointed out that the need for reducing the tariff for the cooperative could be examined if all other measures to help the society did not yield the desired results.
- (b) The State Government, it is understood, is providing subsidy to the MSEB at the rate of about Rs. 26 per HP per agricultural connection. A similar subsidy should be extended to the cooperative also.

Advisory Committee and review of society's working

(8) The present Administrator, who is an officer of the IAS cadre of Maharashtra, has joined this society on 7th August, 1972. It was considered that a Committee of officials should be appointed to advise him. This Committee might consist of representative of the MSEB (local Superintending Engineer), representative of the Registrar and a representative of the land development bank. Secretary (Cooperation) agreed to constitute this Committee early.

(9) To review the working of the society, it was agreed that there might be an informal Review Committee consisting of Secretary, Industries; Secretary (Cooperation); representative of MSEB and Registrar of Cooperative Societies. It was agreed that a representative of the REC would also be invited to these meetings.

Division of the existing societies

(10) It was considered whether, in the context of the political situation obtaining in the area, it might be desirable to split the society into two—one for Rahuri and other for Shrirampur Taluk. Secretary (Cooperation), Maharashtra Government indicated that they would like the society to be one unit, as at present, and if it is not possible to run it, the Government would consider handing over the area back to the MSEB.

Representative general body

(11) There is no provision in the Maharashtra Act for constituting a representative general body. However it was agreed that the possibility of amending the byelaws to provide for a representative general body will be considered by the state cooperative department.

Accounts

(12) It was noted that the maintenance of accounts of the society left much to be desired. The MSEB agreed to consider favourably any request from the society for deputing one of its officers to work as accountant in the cooperative.

ANNEXURE XX

Discussion at Bangalore on 1/12/72 with officers of the Mysore State Government State Electricity Board etc.

The Chairman and members of the Committee on Rural Electric Cooperatives and also the Managing Director of REC had a meeting with the representatives of the Mysore State Government, State Electricity Board, Registrar of Cooperative Societies, representatives of the land development bank and of the Hukeri Rural Electric Cooperative on the 1st December, 1972 at Bangalore.

Following is the summary record of discussions :

General approach to rural electric cooperatives

2. Shri Puri enquired whether, as a long term measure, the State Government have any plan for inducting organisations like cooperative in a big way for distribution of electricity in rural areas. In the light of such long term perspective, he added, conscious development of cooperatives could be undertaken.

3. Shri Dubhashi, Secretary, PWD & Power, Mysore Government, observed that the question of large scale distribution of electricity in rural areas by cooperatives has not so far been considered by the State Government. He added that the cooperative experiment in this particular field has been very limited, and that according to him, the experience of only one cooperative (at Hukeri) cannot be taken to demonstrate, in a decisive manner, the possibility of large scale expansion of cooperative sector in the field of distribution of electricity.

4. Shri M.A. Shariff, Chief Engineer, MSEB observed that, in Mysore State, 99% of distribution of electricity is with the Board and that there are very few licensees. Shri Puri pointed out that there are no licensees anywhere in the country for more rural electrification. The Chief Engineer agreed that SEB should welcome cooperatives for distribution of electricity in rural areas for the reason that the rural areas in course of time would be too unweildy for a State Electricity Board. Shri Laxmipathy

added that better consumer response in a cooperative makes it a more suitable organisation for distribution of electricity in rural areas.

5. Shri Dubhashi enquired whether any appraisal has been made of the working of the rural electric cooperatives in the country. Shri Puri referred to the evaluation recently made by the Indian Institute of Management of the working of the Hukeri rural electric cooperative society. According to the Report of the IIM, Shri Puri pointed out that the performance of the Hukeri cooperative compares very favourably with that of the SEB in a neighbouring area. Comparing the performance of the Hukeri cooperative with that of the REC scheme in Raibag implemented by the SEB, the IIM Report has observed that the Raibag scheme "seems considerably behind Hukeri in achievement of targets". Referring to better consumer response in the cooperative, Shri Puri referred to the following observations made by the IIM : "All the respondents in Hukeri were of the opinion that the general experience of the people in their area of obtaining a connection was encouraging. As far as they themselves were concerned, they were completely satisfied with the way things were moving. In Raibag, on the other hand, this response was of a somewhat more moderate nature. In Hukeri, respondents expected to get a connection within two to three months, whereas in Raibag farmers expected that it would take more than six months to get an electric connection." The Chief Electrical Inspector, Mysore State observed that according to a study made by him, the performance of the rural electric cooperative is just as good as the performance of the SEB.

6. Shri Puri expressed that the present scale of cooperative experiment in the field of distribution of electricity was rather limited for drawing firm conclusions regarding the future pattern of development of cooperatives. He suggested that, in Mysore, a few more rural electric cooperatives may be organised in different areas in the V Plan. Shri Maharudriah, Registrar of Cooperative Societies, pointed to the possibility of organisation of such cooperatives in districts like Belgaum, Bijapur and Mandya where the cooperative movement, in general, is fairly well developed.

7. Shri Puri added that, besides more responsive to the needs of rural consumers, a rural electric cooperative could also

be a focal point for planning the economic development of the whole area. In other words, a rural electric cooperative could act as a catalyst, triggering off a series of economic developments in its area. Shri Dubhashi agreed that the expansion of the cooperative sector in the field of distribution of electricity in rural areas should be a welcome measure. According to him, 4 or 5 more rural electric cooperatives could be organised in the immediate future in areas where, as indicated by the Registrar, the cooperative movement, in general, was fairly well developed.

Concept of viability

8. Shri Dubhashi was of the view that the jurisdiction of a rural electric cooperative should not be made co-terminus with an administrative area like a taluka, but should be related to natural potential for development. He referred to a proposal that HT lines should be drawn along a river where availability of underground water could be assured. When such HT lines are drawn along a river, a cooperative could take up a suitable area for development consistent with its economic viability. Shri Wali, Managing Director, REC clarified that the concept of viability of a rural electric cooperative would also have to be related to various factors like physical jurisdiction, technical feasibility, standards of man-power requirements and their workload, capital cost, tariff and return.

Debt-equity ratio in cooperatives

9. Shri Puri pointed out that the risk capital base of the existing pilot rural electric cooperatives in the country was too inadequate and that there should be a proper co-relation between debt and equity. For example, the total share capital collected by the Hukeri society from its members was hardly Rs. 0.75 lakhs whereas the REC has sanctioned a loan of Rs. 183 lakhs. In this connection, he suggested that the future cooperatives should have a large share capital base and the following could be the additional sources of share capital :

- (a) State Government's participation in the share capital of the cooperative; and

- (b) SEB's participation in the share capital of the cooperative by conversion of part of value of assets transferred to a cooperative by the SEB as share capital in the society.

Shri Puri added that a State Electricity Board should utilise part of the value of assets it receives, in the share capital of the society, part of it in making improvements to the system covered by the cooperative area and the rest for its own rural electrification schemes. Shri Dubhashi urged that there should be no rigid debt-equity ratio. Shri Puri pointed out that a proper debt-equity ratio increases the viability of a cooperative and reduces its vulnerability.

10. (i) **Tariff**—While organising a cooperative, Shri Puri observed, it should be ensured that safeguards are built into it to enable it to have a reasonable chance of success. A cooperative will have no control over the tariff to the consumers, for, it has to fall in line with the tariff of SEB. The purchase rate will, therefore, have to be determined carefully after taking into account the existing line losses and the net realisation of the SEB per unit of energy sent out to the area of the cooperative. Shri Puri outlined the following broad approach to fixation of bulk power rate of SEBs to cooperatives :

- (a) The emergence of a cooperative should not be an occasion for the SEB to transmit its losses in the area to the cooperative. In other words, the SEB should be prepared to lose not less than what it is losing now. At the same time the cooperative should not expect the SEB to lose more.
- (b) On the above basis, the bulk rate to the cooperative should not exceed the cost of energy to the SEB at 11 KV bus, and the actual tariff to be charged by a SEB should take into account its net realisation per unit in the area.

Problem of Hukeri society

11. Shri Puri mentioned that the performance of the Hukeri society has been satisfactory. Even so, he added, its major problem related to SEB's tariff for power. On the basis of two-part tariff, the Hukeri society is paying to the Mysore SEB an average rate of

7.4 paise per unit. The project report assumed a rate of only 6.9 paise per unit. For its own RE schemes, the SEB has been assuming a rate of 5.1 paise per unit, which has since been reduced to 4 paise per unit. Shri Puri suggested that the SEB should reconsider its tariff to the cooperative in the interest of the economic viability of the society. As the rural electric cooperative, Shri Puri added, forms an integral part of the overall programme of rural electrification in the State, there was no justification for the SEB to charge to the cooperative a rate which is more than the rate which the SEB assumes for its own scheme financed by the REC.

12. Shri Wali mentioned that the REC had also considered this question of tariff to the cooperative and added that it would be embarrassing for the RLC, as a financing institution, to accept two separate rates for rural electrification schemes in the same State—a lower rate for SEB schemes and a higher rate for cooperative schemes. He added that the thinking in the REC is that, in principle, there should not be two different rates applicable to RE schemes in the same State; if the SEB continues to charge a higher rate to the cooperative, the RLC would adopt that higher rate itself for the SEB schemes presented to REC for finance.

13. Shri Dubhashi pointed out that a Tariff Committee has been appointed in the State and this question would also be considered by that Committee. Shri Wali emphasised that the revision of tariff to the cooperative needed to be considered on a priority basis and that, on the basis of general principle mentioned by him, the SEB might take a decision early.

Power cut

14. During the current year, due to power shortage, the society had received a notice from SEB imposing a cut of 25% on its monthly consumption based on the average consumption from February, 1972 to July, 1972. In fixing the limit initially, the MSEB did not take into account the agricultural load which is exempted from power cut. When this was pointed out, the Chief Engineer, MSEB clarified that the power cut will not be applicable to agricultural connections and also to flour mills and assured that there would be no discrimination between consumers in the cooperative area and the consumers directly served by the Board. The representatives of society felt that this should give relief to the society.

Line losses

15. Shri Shariff, Chief Engineer, MSFB observed that line loss of 34% for the year 1971-72 in the Hukeri society was very high. Although the society had brought it down to 26.69% from the period April, 1972 to July, 1972, there is still considerable scope for reducing it further. In this connection, Shri Puri referred to the observations made by the Evaluation Report of the IIM that in the MSFB's area the line losses were as high as 34%, but added that the society should make determined efforts to bring down the line losses.

Power factor

16. Shri Shariff pointed to the need for the society to improve its power factor. He thought that by improving the power factor, the society could reduce the average cost of power to it. The General Manager of the society pointed out that the society had already a power factor of 0.75.

Membership and share capital

17. Shri Puri drew attention to the fact that, of the 76000 service connections in the society, nearly 5300 are yet to become members of the society. The following suggestions were made for expanding the membership and increasing the share capital :

- (a) The value of a share in the society is Rs. 25,-. A person wanting domestic connection for 1 or 2 points cannot be expected to contribute Rs. 25 to the share capital of the society. The value of share should, therefore, be reduced to enable weaker sections requiring domestic connections to contribute to the share capital.
- (b) Part of the security deposit of members could be converted into share capital. The share capital has a wider coverage than a security deposit, for, it is essentially a risk capital which would not only cover overdues of members to the cooperative in respect of bills but also provide a margin to creditors.

7.4 paise per unit. The project report assumed a rate of only 6.9 paise per unit. For its own RE schemes, the SEB has been assuming a rate of 5.1 paise per unit, which has since been reduced to 4 paise per unit. Shri Puri suggested that the SEB should reconsider its tariff to the cooperative in the interest of the economic viability of the society. As the rural electric cooperative, Shri Puri added, forms an integral part of the overall programme of rural electrification in the State, there was no justification for the SEB to charge to the cooperative a rate which is more than the rate which the SEB assumes for its own scheme financed by the REC.

12. Shri Wali mentioned that the REC had also considered this question of tariff to the cooperative and added that it would be embarrassing for the REC, as a financing institution, to accept two separate rates for rural electrification schemes in the same State—a lower rate for SEB schemes and a higher rate for cooperative schemes. He added that the thinking in the REC is that, in principle, there should not be two different rates applicable to RE schemes in the same State; if the SEB continues to charge a higher rate to the cooperative, the REC would adopt that higher rate itself for the SEB schemes presented to REC for finance.

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- (b) Part of the security deposit of members could be converted into share capital. The share capital has a wider coverage than a security deposit, for, it is essentially a risk capital which would not only cover overdues of members to the cooperative in respect of bills but also provide a margin to creditors.

Coordination

18. Shri Mathur referred to the need for closer and effective coordination between the cooperative on the one hand and the land development bank and small scale industries department on the other. He pointed out that although a Coordinatton Committee has been formed at the society level, it is yet to meet.

Special fund

19. Shri Mathur observed that from out of the interest remission granted by the REC, the Hukeri society had created a special fund of Rs. 3.96 lakhs, which could be utilised for promotional and developmental activities. He suggested that the society should draw up concrete proposals for utilising the special fund with the prior permission of the REC.

Summary record of discussions at Gandhinagar on 6th February, 1973

The Chairman and members of the Committee on Rural Electric Cooperatives had a meeting at Gandhinagar on the afternoon of 6th February, 1973 with Secretaries to Government of Gujarat in Power and Cooperation Departments, Member (Accounts), Gujarat Electricity Board, Chairman and other representatives of the Kodinar Rural Electric Cooperative, representatives of the Registrar of Cooperative Societies, Gujarat etc.

General approach to rural electric cooperatives

2. Initiating the discussions, the chairman enquired whether the State Government have worked out any strategy for the V Plan and also a long term strategy for distribution of electricity in rural areas, and the role assigned to cooperatives in the new strategy. The problems of efficient and economic distribution of power, the Chairman added, might differ for different categories of consumers/ areas. For example, the problem of distribution of power in metropolitan areas differs from those in the distribution of power for rural areas or for bulk consumers. Different technologies and procedures to suit the special requirements of different distribution systems may, therefore, have to be evolved and different administrative structure like metropolitan boards, area boards etc. may have to be thought of in the long run to impart efficiency and economy to the distribution system. The problems and procedures of cooperatives could be better tailored to the needs of local situation and the cooperatives could also offer the possibility of building into them a self-policing system to cut down line losses. In this context, the Chairman explained, it might be useful to utilise the services of cooperatives for rural distribution. The present experience, he added, was confined to five cooperatives in the country over a period of one or two years only, and it would be desirable to organise 50-100 cooperatives in the V Plan to gain adequate experience before considering any large scale expansion of rural electrification in the long run.

3. Shri Prem Kumar, Member (Accounts), Gujarat Electricity Board, felt that cooperatives could be useful for extending electricity to rural areas provided they function as genuine and democratic organisations, and vested interests are kept out of them, Shri Sivagnanam, Secretary, Power, Government of Gujarat, felt that, in principle, decentralisation of power distribution should be welcome. The experience of cooperatives, in general, he added, suggests that a cooperative is successful where there is a strong economic motive for members, that is, where cooperatives could confer economic benefits on their members by eliminating middleman's profit and thus offer a desirable alternative to a middleman. A rural electric cooperative, according to him, was only a substitute for a public sector organisation for retailing power without any inherent capacity, in the light of the current tariff structure, to reduce tariff to the individual consumers. He, however, agreed that in the context of the need for evolving a long term strategy, it might be useful to have, say, five more rural electric cooperatives in Gujarat State in the V Five Year Plan.

Financial viability

the GEB to the Kodinar Rural Electric Cooperative. Regarding the tariff charged to cooperatives by SEBs, the Chairman observed that some Electricity Boards are charging to cooperatives a rate less than that assumed by them for their own rural electrification schemes; some are charging rates assumed in the project reports of these cooperatives and some are agreeing to charge the rate they assume for their own RE schemes, which are lower than the rates assumed in the project reports of the cooperatives. But the GEB is charging to the Kodinar cooperative a rate which is substantially higher than the rate assumed in the project report as also the rate assumed by the GEB for its own RE schemes financed by the REC.

7. The Chairman mentioned that, for its own RE schemes presented to the REC, the GEB is assuming a rate of 9.52 paise per unit whereas the average rate charged to the cooperative is around 14 paise per unit for the period from April to September, 1972. Shri Prem Kumar pointed out that the principle of 'accounting price' is recognised in commercial undertakings, allowing for one department of a firm to debit to another department the amount for goods supplied calculated at a rate higher than the actual cost. In the case of Kodinar cooperative, the needed relief, he added, should be provided by way of subsidy and should be shared by the SEB and the State Government.

8. The Chairman observed that the society is now losing at a rate of Rs. 50,000 per month and by the end of the current financial year, the society's cumulative loss might go up to Rs. 10 lakhs. This situation, he emphasised, calls for immediate action, if the financial position of the society were not to deteriorate beyond redemption. He added that there is no moral justification for the GEB to charge a rate higher than the one assumed for its own RE schemes. In fact, based on the net return to the GEB from rural electrification, there seems to be justification for the society being charged a rate even less than the rate of 9.52 paise per unit assumed by the GEB for its own REC schemes. Secretary, Power, Government of Gujarat, indicated that he was trying to persuade the GEB to charge 9.52 paise per unit to the cooperative, and the matter would be brought before the Board of Directors of the GEB early for a final decision.

Other specific problems of the Kodinar cooperative

9. The Chairman urged that the following aspects of the functioning of the cooperative needed special attention on priority basis :

- (i) The society has no General Manager at present. It was noted that no officer of the State Cooperative Department was willing to go on deputation to this society. The Chairman observed that, as the capital investment in the society would be of the order of about Rs. 2 crores, the society should appoint a sufficiently senior officer as its General Manager. In the past, the grade of a project engineer/General Manager of a cooperative seem to have been decided on the basis of the yardstick prescribed for a corresponding area of the SEB. As a General Manager/Project Engineer of a cooperative has a greater responsibility and as they are not supported by superior technical guidance available to SEB officers, the cooperative has necessarily to employ sufficiently senior officers.
- (ii) The Chairman referred to the observations of the Indian Institute of Management that adequate powers were not delegated to the Chief executives of the Kodinar Cooperative to match their responsibilities. He suggested that the General Manager of a society should derive his powers from the constitution of the society itself, and for this purpose, the byelaws of the society should be amended.
- (iii) The Chairman pointed out that in September, 1972, nearly 1500 applications for new connections were pending with the society. The Project Engineer of the society explained that this has since been brought down to 1000.
- (iv) On 30th June, 1972, arrears of revenue in the society exceeded Rs. 3 lakhs as against a monthly billing of about Rs. 1 lakh. The Project Engineer of the society explained that the arrears have since been brought down to Rs. 1 lakh.
- (v) The Inventory control, the Chairman observed, seems to be lax in the society and emphasised the need for proper and balanced inventory, and periodical physical verification of such inventory.