

**COMMITTEE ON PUBLIC
UNDERTAKINGS
(1974-75)**

(FIFTH LOK SABHA)

SIXTY-SECOND REPORT

**RURAL ELECTRIFICATION CORPORATION
LIMITED**

**MINISTRY OF ENERGY
(DEPARTMENT OF POWER)**



**LOK SABHA SECRETARIAT
NEW DELHI**

April, 1975/Vaisakha, 1897 (S)

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C O R R I G E N D A

SIXTY-SECOND REPORT OF THE COMMITTEE ON PUBLIC UNDERTAKINGS (5TH LOK SABHA) ON RURAL ELECTRIFICATION CORPORATION LIMITED.

Page No.	Para No.	Line	For	Read
(iii) Put astrik mark against Member's name at Serial No.16				
8	2.13	7	under-	under
			development	developed
10	2.19	3	'be'	'the'
10	2.19	8	After the word	"constraints"
			Read	"of physical resources and capabilities for execution"
10	2.19	11-12	Put full stop after the word "faster" and delete "of physical resources and capabilities for execution"	
10	2.19	25	"relevation"	"relaxation"
12	3.2	17	'potential'	'notential'
18	3.18	2	'developed'	'evolved'
23	3.33	10	'increas'	'increase'
23	3.34	14	'love'	'low'
24	3.36	2	'tht'	'the'
		7	'tht'	'the'
25	3.38	4	'Bank'	'Banks'
25	3.39	22	For existing line read	"part of the programme of rural electrification should be"
27	3.41	2	'measurts'	'measures'
28		9	'filled'	'field'
30	3.45	8	'nroducedure'	'procedure'

<u>Page No.</u>	<u>Para No.</u>	<u>Line</u>	<u>For</u>	<u>Read</u>
31	3.48	7	'undertaking'	'undertaken'
32	3.49	7	'are a'	'area'
		8	put comma after the word	
			'facilities'	
		9	'requiries'	'requires'
33	3.50	14	'devetained'	'doventailed'
37	3.63	21	'Governments'	'Government'
38		6	'provide'	'provision'
38	In Heading 'I' for Fifth Plant		'Fifth Plan'	
	4.12		'connection'	'connections'
53		15-16	'machinvery'	'machinery'
58	4.43	7	'Board'	'Boards'
72	Sub-para(4) line 10 for 'Appropriated'		read 'Appropriate'	
73	6.4	2	'Bhooal'	'Bhopal'
			(at two places in the	
			same line)	
73	6.6	Last but	'decids'	'decides'
		one		
77	6.16	3	'evelved'	'evolved'
80	6.23	Last but		
		one	'date'	'data'
81	6.25	5	delete comma	
89-90	8.13		should have been in bold	
			letters	
89	8.13	5-6	'unwidely'	'undieldy'
90	8.14	6	'complicd'	'compiled'
107 S.No.6		10	'recommend-	'recomm-
			ed	end'
123 S.No.26		1	'Hhe'	'The'
124 S.No.29		3	'lisses'	'losses'
127 S.No.34		13	'Of'	'or'
129 S.No.37			Last line insert	'of'
			after the word 'problems'	

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COMMITTEE ON PUBLIC UNDERTAKINGS (1974-75)

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Shri M. A. Soundararajan—*Chief Financial Committee Officer*

Shri K. S. Bhalla—*Senior Financial Committee Officer.*

*Elected w.e.f. 28-11-74 in the vacancy caused by appointment of Shri H.M. Trivedi as Minister.

COMPOSITION OF STUDY GROUP ON STEEL AND RURAL ELECTRIFICATION

1. Shrimati Purabi Mukhopadhyay—Convener
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6. Pandit Bhawani Prasad Tiwary
7. Shri S. S. Mariswamy
8. Shri Natwarlal Patel
9. Shri C. K. Jaffer Sharief

INTRODUCTION

I, the Chairman, Committee on Public Undertakings having been authorised by the Committee to present the Report on their behalf, present this sixty-second Report on the Rural Electrification Corporation Ltd., New Delhi.

2. This Report is based on the examination of the working of the Rural Electrification Corporation Ltd., upto the year ending 31st March, 1974.

3. The Committee took evidence of the representatives of the Rural Electrification Corporation Ltd. on the 21st and 22nd August, 1974, and those of the Ministry of Energy on the 16th September, 1974.

4. The Committee on Public Undertakings considered the Report at their sitting held on the 15th April, 1975 and adopted the same.

5. The Committee wish to express their thanks to the Ministry of Energy and the Rural Electrification Corporation for placing before them the material and information they wanted in connection with the examination of the working of the Rural Electrification Corporation Limited. The Committee wish to thank in particular the representatives of the Ministry and the undertaking who gave evidence and placed their considered views before the Committee.

NEW DELHI;

April 21, 1975.

Vaisakha 1, 1897 (S).

NAWAL KISHORE SHARMA

Chairman,

Committee on Public Undertakings.

INTRODUCTORY

A. Background

1.1. The era of electricity in India began in 1897 when the first ever electric station in the country was set up in Darjeeling. For many years, however, the availability of electric power remained confined to a few urban and industrial pockets and as the generation, transmission and distribution was mostly controlled by private companies and as the returns on investments on rural electrification were low, little attention was paid to take electricity to the villages where 80 per cent of India's population lived. The result was that in the year 1947 out of 5,60,000 villages in the country, hardly 1500 villages|towns of less than 10,000 population had the benefit of electric supply.

1.2. It was only after independence when the responsibility for power generation, transmission and distribution was taken over by the Government and State Electricity Boards were formed with the enactment of the Electricity Supply Act, 1948, that rural electrification began receiving some degree of attention. Even so, the progress remained tardy for many years on account of paucity of resources and a relatively low priority for rural electrification. Thus until the close of the Second Plan, only a little over 25,000, out of a total of 5,60,000 villages could be electrified. The need for stepping up the pace of these programmes was recognised only during the Third Plan. Even though the emphasis was then more on village electrification rather than stimulating rural production, the Third Plan paid special attention to the establishment of basic framework for the development of more comprehensive rural electrification programme. It was, however, only in the latter half of the Sixties when successive droughts and consequent food shortage brought home the need for massive exploitation of ground water resources for increasing agricultural production that the urgency for an accelerated programme of rural electrification came to be more widely recognised.

1.3. The question of an accelerated programme of rural electrification was considered by the All India Rural Credit Review Committee (1966—69), set up by the Reserve Bank of India in the context of planned programmes for increased agricultural production. The Committee came to the conclusion that a massive programme of rural electrification was essential for the further development of agriculture in India because the "new strategy" based on high yields and

multi-cropping implied year round irrigation of which a large part would have to come from ground water, lifted by electrical power. That Committee recognised the fact that a major hurdle in the implementation of an accelerated programme for rural electrification was the paucity of resources with the State Electricity Boards. Moreover, on account of the scattered consumption centres and poor load factor, rural electrification being by its very nature not adequately remunerative, it felt that it was necessary that the additional funds should be given in such a manner that the schemes implemented with them did not further weaken the financial position of the State Electricity Boards. That Committee therefore proposed financing of rural electrification with the help of grants from USAID funds and matching contribution from the Central Government so that concessional terms of finance may be available to Electricity Boards. For maintaining and operating this special fund that Committee recommended the creation of an autonomous body under the Ministry of Irrigation and Power.

The Government accepted the recommendation of the Rural Credit Review Committee and set up the Rural Electrification Corporation as a Government company under the Companies Act, 1956 and was registered on July 25, 1969.

B. Objectives

1.4. The main objects of the Corporation as laid down under its Memorandum of Association are as follows:—

- (i) to finance rural electrification schemes in the country;
- (ii) to subscribe to special rural electrification bonds that may be issued by the State Electricity Boards on conditions to be stipulated from time to time;
- (iii) to promote and finance rural electricity cooperatives in the country;
- (iv) to administer the moneys received from time to time from the Government of India and other sources as grants or otherwise for the purpose of financing rural electrification in the country in general.

1.5. The Corporation's charter provides that the Central Government may issue such directives as it considers necessary to the Rural Electrification Corporation (REC) in regard to the conduct of its

affairs. Under these powers the Government of India have issued a set of directives requiring REC to:—

- (1) establish sound policies and procedures for consideration, approval and implementation of rural electrification schemes to be financed by it;
- (2) develop and apply criteria for establishing priorities as regards the choice of schemes and the basis of economic viability; and
- (3) adopt a project approach so that extension of electricity along with other investments results in increased agricultural production in the area.

II

INTER-STATE/REGIONAL IMBALANCES

2.1. Based on the physical, progress made in regard to the villages electrified upto the end of 1973-74, all the States in the country have been classified broadly into six groups. Accordingly, the State-wise percentage of villages electrified as on 31st March, 1969, and as on 31st March, 1974, have been reported to be as below:—

Category	State	Percentage of villages electrified	
		As on 31-3-74	As on 31-3-69
I. States which have achieved 100% rural electrification	1. Haryana	100.00	21.8
II. 75 to 100%	1. Tamil Nadu	97.6	67.1
	2. Kerala	87.3	72.2
III. 50 to 75%	1. Punjab	58.0	42.0
IV. 25 to 50%	1. Karnataka	48.0	27.5
	2. Maharashtra	47.2	26.3
	3. Andhra Pradesh	37.8	20.0
	4. Himachal Pradesh	26.6	..
	5. Gujarat	30.5	15.4
	6. Uttar Pradesh	26.1	11.6
V. 6 to 25%	1. Jammu and Kashmir	21.2	9.3
	2. West Bengal	22.6	6.4
	3. Orissa	18.5	1.7
	4. Rajasthan	17.9	6.4
	5. Nagaland	16.7	5.0
	6. Madhya Pradesh	14.8	3.8
	7. Bihar	14.4	9.3
	8. Manipur	11.5	..
VI. Below 6%	1. Assam	5.2	1.4
	2. Meghalaya	3.1	..
	3. Tripura	2.1	..
	Union Territories	22.9	16.0

2.2. The All-India average of villages electrified was 27.3 per cent in 1973-74 as against 13 per cent in 1968-69.

Region-wise progress of villages electrified as at the end of the Fourth Plan is indicated in Appendix—I.

2.3. From the table above it will be seen that against the all-India average of 27.3 per cent, the States of Assam Meghalaya and Tripura have even less than 5 per cent of the villages electrified. There are 9 other States where the number of villages electrified is below the national average. Nine States are above the national average. Out of these, three States namely, Haryana, Kerala and Tamil Nadu have either 100 per cent rural electrification or are poised to attain the goal soon.

2.4. A Committee of Members of Parliament on Rural Electrification was set up in pursuance of the recommendation of the informal Consultative Committee of Members of Parliament for the Ministry of Irrigation and Power at its meeting held on 5th March, 1968. That Committee submitted their Report in July, 1972. In regard to regional imbalances the Committee *inter alia* observed as follows:

“While intensive efforts have been made in some of the backward States during the last few years, the backward States as a whole continue to remain backward since progress of rural electrification has also been accelerated in the advanced States. The all India average percentage of villages electrified increased by 9.05 during the period 1966—71 but in backward States, except for Uttar Pradesh, the percentage increase has been below this figure.”

2.5. During evidence, the Managing Director of the Corporation conceded that there was considerable disparity in the present level of electrification in various States, because in the earlier years investments were not made in rural electrification by certain States.

2.6. The Committee enquired whether the recommendations of the Committee of Members of Parliament had been implemented. The Secretary of the Ministry stated that the recommendations of this Committee had been very carefully considered and accepted and that action had also been taken for their compliance.

2.7. The Committee desired to know as to why the economically backward States still continued to remain backward in electrification, and whether the REC had drawn up any special schemes to see that those areas were electrified.

In a written note the Committee were informed that the lack of desired levels of investment on rural electrification programmes, lack of adequate investment in the backward regions on electrification in the earlier years and consequently, inadequacy of the transmission and sub-transmission lines in those areas were the main contributory factors responsible for the economically backward States lagging behind in electrification. The network to the extent it had been laid was mainly for supplying industrial load in areas or parts of States where industries happened to get concentrated and for urban metropolitan areas in the States. In the States where industries and consequently urbanisation were more evenly spread rural electrification facilities were also extended to that extent. Another factor was stated to be the unattractive financial returns on investments in rural electrification owing to low consumer density and poor load factor of rural loads. Constraints on the availability of ground water as well as on other physical resource base for economic development in certain regions were also stated to have contributed to the regional imbalances.

2.8. The Committee enquired as to what action was being taken by the REC to ensure that financial considerations do not stand in the way of large scale rural electrification specially in backward States. It was stated that the loan policies of the Corporation had been attuned to help reduce the imbalances within the constraints of their own resources. The salient features of the loan policies designed to encourage electrification of backward areas are stated to be as follows:—

- “(i) In order to qualify for loan assistance from REC, the Schemes are required to achieve certain net minimum return on investment at the end of a specified period. But in the case of rural electrification projects located in areas which are backward in rural electrification the return on investment at the end of a specified period. Thus in these cases the stipulated minimum return on investment is required to be achieved only at the end of 20 years as compared with 15 years prescribed for projects relating to advanced areas. Again a further relaxation of another 5 years is allowed in case of projects relating to specially under-developed areas. Thus in such cases, the minimum return is required to be achieved only at the end of the 25th year.

Besides, the Corporation has also extended softer terms and conditions for the loans in respect of projects in back-

ward and specially underdeveloped hill, tribal, desert and such other areas in the matter of rates of interest and period of repayment.

- (ii) Secondly with a view to enabling more rapid electrification of the areas where the existing network of transmission lines is not sufficiently large, the Corporation has been extending, in suitable cases, special loans for transmission lines and connected sub-stations. While sanctioning loans under this category the Corporation has been ensuring that these primarily cater to rural loads.
- (iii) The Corporation has created a Special Development Reserve, one of the objects of which is to provide loan assistance to the State Government for providing capital subsidy to the State Electricity Boards for the schemes of rural electrification in such areas where the schemes do not measure up to the prescribed criteria of viability for attracting loan assistance from the Corporation. With the corresponding reduction in the debt servicing burden, as a result of the subsidy, these schemes would yield the stipulated return and become eligible for loan assistance from the Corporation.
- (iv) In August, 1973, a Regional Office of the Corporation has been opened at Calcutta which renders necessary assistance and guidance to the State Electricity Boards in the Eastern Region in formulation of projects. Such assistance would considerably minimise the need for returning the schemes to the State Electricity Boards for revision etc. and thus speed up the sanction of loans by REC. More regional offices are proposed to be established shortly."

2.9. The Corporation had been disbursing the first instalment of loans in advance to help the State Electricity Boards to mobilise the construction equipments, materials etc. for implementing the projects sanctioned by the Rural Electrification Corporation.

2.10. Asked whether the criteria for sanctioning the schemes on the basis of their economic viability had in any way hindered the process of rural electrification it was stated as follows:

"The norms of viability required to be satisfied by the schemes, have been prescribed by the Corporation.

Keeping in view the conditions obtaining in different areas, suitable relaxations have been allowed in respect of the areas where the schemes are not expected to measure upto the normal criteria of viability. With the relaxations in the norms of viability and the liberalised terms and conditions of loan, it is expected that financial considerations of viability will not stand in the way of large scale rural electrification in backward States which possess potential for increased production."

2.11. In a written note the Ministry informed the Committee that the Rural Electrification was being taken up as an essential component of the Minimum Needs Programme in the Fifth Plan in order to supplement the resources of the backward States and to ensure that during this period at least 30 to 40 per cent of the rural population in these States would be covered by this facility.

2.12. It was further stated that most of the States which were backward in the matter of rural electrification were in the Eastern Region. The Government constituted a Committee in January, 1974 to examine in detail the reasons for slow progress of rural electrification in this region. The Government assured that more efforts would be made to reduce the regional imbalances in accordance with the recommendations of this Committee contained in their report, when received.

2.13. The Committee were also informed that of the 618 rural electrification projects sanctioned by the REC upto 31-3-1974, 18 were for special transmission lines and sub-stations and 22 for system improvement. Of the remaining 578 projects which were for electrification of selected areas, 278 were for ordinary advanced areas (OA category), 211 for ordinary backward areas (OB category), 56 for specially under-development areas (SU category), 5 for cooperative projects (OC category) and 28 for mini projects for growth centres etc. When pointed out that there were only 267 schemes for backward areas, ie. only about 50 per cent, the Secretary of the Ministry of Irrigation and Power stated that the schemes for backward areas were 295 which was more than 50 per cent and that number of 267 did not include the mini project schemes. He added that the amount sanctioned for these 295 projects was Rs. 138.70 crores out of total sanction of Rs. 271 crores.

2.14. When asked whether Government could not change the pattern and divert more money to the backward areas, the Secretary of the Ministry stated that the trend in the 5th Plan would be predominantly in the backward areas. Under the minimum needs programmes generally, the States which were above the all India average level, would not get anything. In the 5th Plan efforts would be made for allocating funds and removing inequalities in the development of backward areas.

2.15. It was further stated that for the period of the 5th Five Year Plan a sum of Rs. 1098 crores was proposed to be spent for rural electrification in the country. Out of this Rs. 672.33 crores would be routed through the REC including Rs. 272.33 crores to be utilised under the MNP for sanctioning schemes in backward States. The balance of Rs. 400 crores would be utilised for normal schemes of the Corporation which would also provide for rural electrification partly in backward areas under their OB and SU Categories. It was expected that such specific substantial provision would accelerate the rural electrification work specially in backward States.

2.16. Regarding the construction of transmission lines required in the backward States, the Ministry stated that special efforts were being made by the Centre to assist the States in the procurement of the line materials like steel, cement, insulators and aluminium which were in short supply in the country. Besides, the Corporation also sanctioned loans for transmission lines generally in backward areas.

2.17. In their Report on Rural Electrification submitted as early as July, 1972 the Committee of Members of Parliament cautioned that 'even though good progress had been maintained in rural electrification during the Fourth Plan period, the level of achievement among the backward States would be less than that of other States'. The Committee regret to note that in spite of this observation, the backward States as a whole still continue to remain as such. As many as 9 States which were below All India average in 1969 continued to remain below the All India average at the end of 1973-74. The North-Eastern Region, particularly the States of Assam, Meghalaya and Tripura have remained most backward in the matter of rural electrification, the lowest being Tripura with only 2.1 per cent of villages electrified against the All India average of 27.31 per cent.

2.18. The Committee are informed that out of a total number of 578 projects sanctioned, 295 projects pertain to backward States. Out of the total sanctioned amount of Rs. 271 crores, the amount sanctioned for backward States is only Rs. 138.78 crores.

2.19. The Committee apprehend that if the present pattern of allocating a little more than 50 per cent of the funds at the disposal of the Corporation to be backward States be continued, there is every likelihood of the backward States continuing to lag behind in the matter of rural electrification.

The Committee feel that there should be judicious apportionment of the investments between the developed and the under-developed areas keeping in view the constraints. The Committee further recommend that a comprehensive time-bound programme laying down definite annual targets should be worked out by the Corporation to ensure that the backward areas progress faster of physical resources and capabilities for execution.

The Committee were informed that in the Fifth Plan, rural Electrification was being taken up as an essential component of the minimum needs programme and the target of covering at least 30 to 40 per cent of the rural population in the backward states would be covered with this facility. The Committee also note that in order to accelerate the pace of progress in rural electrification in backward areas, the Corporation has taken a number of steps namely—sanction of loans on softer terms and conditions payable in longer period, grant of special loans for transmission lines in such areas, creation of special Development Reserve for providing capital subsidy to the State Electricity Boards, opening of regional office of the Corporation in Calcutta to help the Eastern States in the formulation of projects and relevation in the standard of economic viability for schemes in these areas.

The Committee hope that with these steps the position with regard to rural electrification in backward areas would improve. The Committee would however, like to stress that Government|Corporation should ensure that there is no slippage in the targets laid down for the Fifth Five Year Plan.

2.20. The Committee urge that financial, physical and technical resources should be made available on priority basis for execution of the electrification programmes in backward areas/States.

2.21. The Committee also recommend that the Corporation should ensure that the resources placed at their disposal are pro-

perly utilised and the targets set for rural electrification are achieved. Government should ensure that the detailed targets and achievements in this behalf are also specifically brought to the notice of Parliament through Annual Plans and Reports of the Ministry/Undertaking.

III

FINANCING AND EVALUATION OF PROJECTS

A. Procedure and criteria for sanction of loans.

3.1. The principal function of the Corporation is to extend financial assistance to the State Electricity Boards and rural electric cooperatives for the implementation of the approved rural electrification schemes and for subscription to rural electrification bonds floated by the State Electricity Boards in respect of the projects sanctioned by the Corporation.

3.2. In the directives issued by the Government under Article 126 of the Articles of Association of the Rural Electrification it has *inter alia* been stated that the Board of Directors of the Corporation will establish sound policies and procedures for consideration, approval and implementation of Rural Electrification Schemes based on the criteria of economic viability. For providing financial assistance, appropriate stipulations will be laid down by the Corporation in regard to the technical, economic, financial and managerial soundness of each scheme.

It has also been laid down in the directives that while selecting the projects submitted by the State Electricity Boards a "project approach" will be generally adopted so that extension of electricity along with other inputs etc., results in increased agricultural production. Economic viability of a scheme will mean prospects of sufficient revenue from sale of electricity to rural users to cover operating costs and an appropriate return on investments, provided that in economically backward areas with future agricultural potential, this requirement may be waived for a short initial period not exceeding 5 years. The willingness of the farmers to invest their own resources in rural electrification is also one of the factors for consideration of schemes to be financed.

It has been further stated that the Corporation should support the efforts of the SEBs to raise resources in the form of debentures from the rural areas. The Corporation may also use its finances to advance loans to Rural Electric Cooperatives for construction costs

plus operation and maintenance costs until the schemes become self-supporting. The Corporation may also consider providing loans on suitable terms to the Cooperatives with a view to encouraging the co-operative type of organisation for distribution of electricity in rural areas.

With regard to the question of security for the loans, the Government's directives require that in seeking appropriate security for its loans, the Corporation should ensure that the ability of the SEBs to raise loans from the State Governments, the L.I.C. of India and other sources is not jeopardised thereby. It has been stipulated that the loans given by the Corporation to the State Electricity Boards should be guaranteed fully by the concerned State Governments

3.3. In pursuance of the directives, the Corporation has developed in January, 1970, certain norms of viability and terms and conditions of loans and also laid down the criteria for classification of areas, after discussion with the State Governments and State Electricity Boards. Accordingly the areas were initially categorised as "backward areas" and "other areas" for purposes of formulation of schemes. Preferential terms and conditions were stipulated for backward areas compared with those for other areas.

3.4. The various State Electricity Boards formulate schemes for the consideration and approval of R.E.C. keeping in view the criteria issued by the R.E.C. in this regard. The schemes designed to promote agricultural production are given primary importance. It is, however, recognised that all areas do not have the same agricultural potential, for example, hill areas, or remote areas. In such areas the criterion adopted is the combination of agriculture, forestry, and rural industries. In all such cases, the primary objective is the productive character of the schemes and secondly, the economic viability of the schemes.

3.5. The schemes received from the SEBs are scrutinised and appraised through field visits by the technical staff of the Corporation before the finances are made available.

B. Categories of Loans

3.6. The Corporation has categorised the loans according to the rural electrification schemes depending on the areas proposed to be

developed. The various types of schemes and loans therefor are indicated below:

Sl. No.	Category of scheme and loan therefor	Code No.
1.	Ordinary Advanced Areas	(OA)
2.	Ordinary Backward Areas	(OB)
3.	Ordinary Cooperatives	(O)
4.	Special Under Developed Areas (Hill, Tribal, desert, etc.) .	(SU)
5.	Special Transmission	(ST)
6.	Special : System Improvement	(SS)
7.	Mini: Growth Centre	(MG)
8.	Mini : Health Centre	(MH)

The Corporation has also introduced another category of loan to cater to the needs of the under-developed areas where special terms, conditions and criteria are applied. The loan is named as Minimum Needs Programme (MNP).

Yet another category recently added to the list of loans by REC has been termed as 'potential Project Area Loan'. This loan can be made available for the electrification of the area without delay in case the project is adjudged potentially suitable to yield immediate or proximate production.

3.7. The Corporation has also been sanctioning special loans for the electrification of Harijan Bastis. But now electrification of such Bastis has been made an integrated part of the schemes approved by the REC for development of particular areas.

3.8. Inclusive of the five rural electric cooperative projects, but excluding the Special Harijan Basti loans, the Corporation has upto the end of 1973-74, sanctioned loans amounting to Rs. 300.65 crores for 618 rural electrification projects in 18 States. (Vide statement at Appendix II). These projects are phased over a period ranging upto 5 years. Of these 618 projects, 18 are for Special Transmission Lines and Substations (ST category) and 22 are for System Improvements resulting in reduction of line losses (SS category). Both these categories together account for total loans amounting to Rs. 15.24 crores. The remaining 578 projects which account for loans amounting to Rs 285.41 crores are for electrification of selected areas. On completion, these 578 projects envisage electrification

of 5,58,383 irrigation pumpsets, 89,436 small industries, 20,03,512 domestic and commercial connections and 3,24,950 street lights in 52,990 villages. 278 of these projects are for Ordinary Advanced Areas (OA category), 211 are for Ordinary Backward areas (OB category), 56 are for Specially Underdeveloped area (SU category), 5 are cooperative rural electrification projects (OC category) and 28 are Mini Projects for Growth Centres/Health Centres (MG/MH category).

3.9. The details of loans sanctioned against these categories as on 31.3.1974 are as under:—

Category	No. of Sectors	Total Loan sanctioned as on 31-3-1974 (Rupees in Crores)
OA	278	133.49
OB	211	114.80
OC	5	13.08
Mini Projects	28	1.50
S. U.	56	22.54
ST	18	11.24
SS	22	4.00
	<u>618</u>	<u>300.65</u>

3.10. The actual disbursements of loan instalments upto the end of 1973-74 amounted to Rs. 161.87 crores, *vide* Statement at Appendix III. The balance amount of commitment in respect of the loans sanctioned has been carried over for disbursement during the Fifth Five Year Plan period.

3.11. The details regarding physical programme envisaged in respect of the projects financed by the Corporation as on 31.3.1974 are indicated in Appendix—IV.

3.12. In addition to the above mentioned loans, the Corporation sanctioned loans amounting to Rs. 3.67 crores for financing 75 projects regarding electrification of *Harijan Bastis* in 14 States upto the end of 1973-74 under a special scheme of the Government of India. These loans were aimed at electrification of 8617 *Harijan Bastis* adjoining the already electrified villages and provision of

49523 street lights in these Bastis. The work in respect of which these loans were sanctioned were phased for completion over a period of one year from the date of commencement. The State Electricity Boards drew loans amounting to Rs. 2.51 crores upto 31st March, 1974 for these projects.

3.13. Regarding the pattern of financing the schemes, the Secretary of the Ministry of Irrigation & Power informed the Committee during evidence thus:—

“The pattern of financing has been such that the first instalment of the loan has always been given as an advance and, thereafter, before the second and third instalments the degree of progress achieved is taken into consideration (because a certain degree is anticipated for each scheme) and, depending on the stipulated phasing and progress achieved, the second and third instalments are given. That is why, while the sanction has been over Rs. 300 crores, the disbursement has been only Rs. 162 crores.

Here, I would like to mention that, taking into account the directives issued by the Government from time to time, it is not a stereo-type pattern that the REC has been following. The economic viability and productivity criteria are dependent on the areas for which the scheme has been formulated.”

3.14. Asked about the action taken by Government where a particular project of rural electrification could not be completed due to one reason or the other stating whether the matter was taken up with the State Electricity Boards and the State Government concerned to remove the bottleneck etc. the Ministry in a written reply stated:

“The Rural Electrification projects financed by the Rural Electrification Corporation Ltd. are phased for completion over a period ranging upto five years. The release of second and subsequent instalment of loan is tied up with the achievement of physical performance targets by the State Electricity Boards. Thus, there is an inbuilt safeguard in the scheme of financing itself to ensure better implementation of projects by the State Electricity Boards. The Rural Electrification Corporation Ltd. has also introduced a system of monitoring of the project works. The progress of the projects is watched by periodical inspections. Wherever the monitoring studies have revealed that the progress has not kept pace with the

schedule of implementation in respect of one or the other aspect, the Corporation has initiated suitable measures to improve the position for the achievement of the relevant targets.

The progress position of the projects in general has also been examined on occasions in the Ministry. In cases of relatively slow progress, the matter has been taken up by the Union Deputy Minister with the concerned Chief Ministers. This has helped in expediting the progress."

3.15. Out of the 80 schemes sanctioned during 1969-70 and 1970-71 for which second instalments amounting to Rs. 1248.791 lakhs only were due in 1971-72, Rs. 12.140 lakhs in respect of one scheme only has not been released as yet. Second instalments amounting to Rs. 1783.996 lakhs in respect of 100 schemes sanctioned during 1971-72 were due for payment. The amounts have been released in 71 cases leaving 29 cases for which payment to the extent of Rs. 614.602 lakhs is due. For the 194 schemes sanctioned during 1972-73, second instalments amounting to Rs. 2885.429 lakhs were due for release. Out of this, Rs. 1864.863 lakhs for 124 schemes is still to be released.

Thus in all second instalments amounting to Rs. 2491.605 lakhs for 154 schemes are yet to be released. This of course does not include Rs. 2415.924 lakhs in respect of 224 schemes sanctioned in 1973-74 for which the 2nd instalments are due in 1974-75.

3.16. Out of these 154 cases, Rs. 162.961 lakhs for 10 schemes would be released soon after the State Electricity Boards comply with certain legal formalities. It has not been possible to release the money in other cases as detailed in the statement at Appendix V, mostly because the performance of the schemes, has not been considered adequate for the purpose.

3.17. The main reasons advanced for the shortfall in the disbursement of loans are stated to be as follows:

- (i) Failure of some of the State Electricity Boards to submit the necessary loan documents in time.
- (ii) Failure to achieve the prescribed level of physical performance in case of certain projects and consequently non-drawal of second and subsequent instalments of loan.
- (iii) Lack of response from the State Electricity Boards which delayed the sanction of loans by the Corporation and consequently the disbursements, in case of *Harijan Basti Loans*.

3.18. The Committee note that in pursuance of directives of the Government, the Corporation developed in January, 1970 certain norms of viability and terms and conditions of loans and also laid down the criteria for classification of areas. Preferential terms and conditions have been stipulated for backward areas compared with those for other areas. The schemes received from the Electricity Boards are accordingly scrutinised by REC before loans for the same are sanctioned. Depending on the areas proposed to be developed, the Corporation has also categorised the loans under 8 heads.

3.19. The Committee also note that upto the end of 1973-74 the Corporation has sanctioned loans under these categories amounting to Rs. 300 crores for 618 rural electrification projects, in 18 States. These projects are phased over a period ranging upto 5 years. Against this the actual disbursement of loan instalments amounted to Rs. 162 crores. The main reasons for the shortfall in disbursement of loans are stated to be the failure of the Electricity Boards to submit the necessary documents in time and failure to achieve prescribed level of physical performance and consequent non-drawal of second and subsequent instalments of loans. The Committee find that as on 15th November, 1974 second instalments amounting to about Rs. 25 crores for 154 schemes out of 374 schemes sanctioned during 1969-70 to 1972-73 were yet to be released. Out of these 154 schemes, 16 pertain to Bihar State, 10 to Karnataka, 14 to Madhya Pradesh, 11 to Punjab, 13 to Rajasthan, 19 to Uttar Pradesh and 17 to West Bengal which together account for about Rs. 21 crores.

3.20. The Committee are informed that the pattern of financing has been such that first instalment of loan is given as an advance and thereafter before the second and third instalments are due, the degree of progress achieved is taken into consideration and depending on the stipulated phasing and progress achieved the second and third instalments are released. The release of second and subsequent instalments of loans is thus tied up with achievements of physical performance targets by the State Electricity Board.

The Committee feel that unless and until the State Electricity Boards which are to execute the programmes of rural electrification realise their responsibility for fulfilling the targets expected of them according to the terms and conditions and submit the accounts for the utilisation of the loans, it will be difficult for the Corporation to achieve the envisaged targets for rural electrification.

3.21. The Committee find that except in a very few cases where legal formalities are yet to be completed in other cases the reasons

for non-drawal of second instalments were mostly due to inadequate service connections and inadequate lines and sub-stations. The Committee recommend that the Ministry/Corporation should take up the matter regarding inadequate service connections, lines and sub-stations with the concerned State Governments/SEBs to ensure that the progress of rural electrification schemes is not held up for want of service connections and sub-stations.

3.22. The Committee are also informed that the Corporation has introduced a system of monitoring of the project works and wherever it is revealed that the progress has not kept pace with the schedule of implementation in respect of one or the other aspect, the Corporation takes suitable measures to improve the position for the achievement of the relevant targets.

3.23. The Committee recommend that the Ministry should take up the matter with the State Governments so that they may ensure that the SEB's gear up their machinery to the tasks of achieving the targets and submission of accounts in time in order to utilise the funds sanctioned for the schemes. The Committee need hardly stress that the non-drawal of second and subsequent instalments by the SEBs inevitably leads to blocking of the finances already advanced to SEBs also the projects remaining incomplete. The Committee, therefore, suggest that the Corporation should critically go into the reasons for non drawal of second and subsequent instalments and take suitable measures to assist the SEBs in overcoming their problems.

3.24. In cases where the State Electricity Boards draw the first instalment of the loan for a specified rural electrification scheme, but do not follow up with submission of the requisite information and documents for drawing subsequent instalments, the Corporation should make sure that the amounts have not been diverted by the State Electricity Boards for other purposes. The Committee would like to stress that all those schemes which are taken up for implementation and for which part monies have already been drawn should be completed as per time-bound programme so that the objectives underlying them are achieved at the earliest and resources are generated to pay back the loans.

C. Availability of Finances

3.25. The Corporation entered into an agreement dated July 26, 1969 with the U.S. Agency for International Development in regard to the constitution of the special fund that the Corporation is

to administer. Under this agreement, the U.S. AID agreed to provide during the Fourth Five Year Plan period a grant of Rs. 105 crores against a matching contribution by the Government of India as equity or loan to the extent of Rs. 45 crores in the ratio of 70 (AID); 30 (G.O.I.) The outlay was subsequently raised and the total resources available to the Corporation during the Fourth Five Year Plan period amounted to Rs. 171 crores as detailed below:—

(Rs. in crores.)

I. Contribution from the Govt. of India.		
Equity	31.00	
Loan	31.00	62.00
II. US AID		105.00
III. Internal resources		4.00
		<hr/> 171.00

Besides the Government of India also made available to the Corporation, under a special scheme funds amounting to Rs. 4.50 crores for financing the electrification of *Harijan Bastis*.

D. Constraints/Difficulties of REC

3.26. The Managing Director of REC brought to the notice of the Committee that one of the constraints which the REC is facing is about finance.

The Government (Ministry of Finance) had placed a sort of ceiling to the effect that the Corporation should not sanction schemes worth more than Rs. 300 crores during the 4th Plan. From the Annual Report of the Corporation, for 1973-74 it is seen that "with the loan sanctions in the aggregate having reached Rs. 226.45 crores as at the close of 1972-73, the sanctions during the year 1973-74 had in the circumstances to be limited to about Rs. 74 crores". The Committee were informed in this regard as follows:—

"But for that ceiling, the schemes in the Fourth Plan would have been more and, certainly, in the light of the recommendations of the various Committees, there was a case for a larger provision in the Fourth Plan, but this is a matter in which, for various considerations of finance and policy, they had decided on the restriction so as to avoid a larger spill-over in the Fifth Plan. So, you might perhaps call this one of the constraints."

3.27. The Managing Director further stated that another constraint was the change in the whole pattern of financing the Corporation in the Fifth Five Year Plan. In the Fourth Plan, the Corporation was to get an amount of Rs. 105 crores from the US AID and a counter-part amount from the Government in the form of 50 per cent equity and 50 per cent loan. That was said to be a favourable pattern of financing the Corporation as it enabled REC to give loan on a very concessional rate of interest to the backward areas, especially the under-developed areas. In the Fifth Plan, according to the Corporation, the whole pattern changed and bulk of the resources has to be raised from loans with the exception of a small part which is to come as equity from Government. Government loans carry the normal rate of interest of 6.75 to 7 per cent. Some of the resources have to be raised through debentures or bonds and they will also bear a similar rate of interest. The Managing Director stated during evidence that when the Corporation was getting money at this rate of interest, the Corporation being a lending institution will not naturally be able to extend the concessions which it was giving earlier. The Managing Director, however, assured that the differential rate of interest between the advanced areas and backward areas would still be maintained but he informed the Committee that in absolute terms the rate of interest of the Corporation had gone up from 4 per cent to 6.75 per cent.

3.28. The Committee enquired as to what extent the financial ceiling in the Fourth Plan affected the main responsibility of accelerating the rural electrification in the remote and backward areas and in the areas inhabited by weaker section of the society. The representative of the Corporation stated during evidence that "if we had more finances we should have more schemes for backward and under-developed areas... By our restricting the programme to the ceiling obviously the backward areas also suffer. By implication, it has automatically affected the weaker areas."

3.29. Asked as to what should have been the amount allotted for the Corporation and what was the assessment of the other plans & needs of the Corporation, the representative of the Corporation stated, "the needs are very much larger than the resources available and we have not made an estimate of that nature but taking the recommendations of the Prasad Committee, which they have made for the backward States, they should have allowed us to sanction schemes worth about Rs. 350 crores for our schemes... we would have sanctioned another Rs. 50 crores as well for the projects."

3.30. The Committee enquired about the programme for the Fifth Plan and whether any schemes have been drawn up for the fifth

plan. The representative of the Corporation stated that including the Minimum Needs Programme, the Task Force on rural electrification had worked out a programme of Rs, 1900 crores out of which 50 per cent should come from the REC. This programme had been linked with other programmes of agriculture like credit programme for farmers, grant of water and other facilities. The programme also includes special schemes for transmission etc.

3.31. It has been stated that funds to be made available to the REC for financing rural electrification schemes according to the draft Fifth Five Year Plan are as under:—

	(Rs. in crores)
Normal REC Programme	400.00
Minimum Needs Programme to be routed through REC	272.33
	<hr/> 672.33

The funds are to be provided to the Corporation as follows:—

1. By the Government of India:
 - (a) Partly as Equity capital.
 - (b) Partly by way of direct interest bearing loans.
2. Direct borrowing by the REC from the market.

Full amount of Rs. 272.33 crores under the Minimum Need Programme will be provided to the Corporation as direct loan.

Asked whether the Rural Electrification Corporation had brought the constraints|difficulties faced by it in finances to the notice of the Government, the Secretary of the Ministry of Irrigation and Power informed the Committee that the REC had been representing that in order to sustain a larger programme of rural electrification, they would like to be provided with larger funds. The Secretary stated that before the Fifth Five Year Plan was finalised, the question of funds was discussed both with the REC and the Finance Ministry and Rs. 400 crores had been allocated with their own criteria and norms under the general policy directive of the Government. In addition, the provision of the Minimum Needs Programme had been placed at the disposal of REC. He added that it was mainly a question of financial constraint which was tied up with the larger question of financial resources.

3.33. The Committee enquired whether in view of the fact that the allocation of Rs. 400 crores in the Fifth Five Year Plan would

in terms of physical targets would be much less than what was envisaged, the Government would take up with the Planning Commission the question of enhancing the Plan allocation for the REC. The Secretary of the Ministry stated in reply:—

“.....we are here concerned even with much larger question—
 , the entire allocation for the power sector. I had earlier mentioned the estimates in regard to our plans for generation, transmission, distribution and rural electrification schemes which were based on certain levels of prices which existed before this large-scale increase in costs. Therefore, in terms of physical targets to be achieved unless the financial resources are augmented in a significant manner there is a risk of the targets not being fulfilled. One has got to have a hard look at the Plan provisions to see how funds could be made available in certain sectors by curtailment in other sectors. We have been taking it up and it is a continuous exercise. We share the anxiety that unless the provisions are enhanced in order to neutralise the effects of price rise the achievement of physical targets will be curtailed....”

3.34. The Ministry further stated in a written reply that the REC suggested that they should be allowed a higher amount of Government contribution in the shape of equity capital.

While no decision in this regard has so far been taken in the full Fifth Plan period, their suggestion to allow them equity capital and loan amount in the ratio of 1 : 1 during 1974-75 has been accepted.

About the rate of interest the Ministry stated that normal REC programme loans would be granted to the REC at interest prescribed by Government for loans to financial institutions in the Public Sector from time to time. The present rate of interest is 8 per cent p. a.

Funds to be utilised under the Minimum Needs Programme would, however, be made available at comparatively low rate of interest. These rates would be at 5.25 per cent for the first ten years, 5.50 per cent in the next ten years and 6.25 per cent in the remaining 10 years. The market borrowings would be made by the REC at the rates of interest permitted by the Reserve Bank of India on such borrowings by public undertakings from time to time.

3.35. The Committee note that during the Fourth Plan the Government had placed a ceiling that the Corporation should not sanction schemes worth more than Rs. 300 crores.

3.36. The Committee are informed that even in the Fifth Plan against the recommendation of the task force of rural electrification which envisaged allocation of Rs. 1900 crores for rural electrification for which 50 per cent had to come from REC, only Rs. 400 crores has been allocated according to the draft Five Year Plan. The Committee are also informed that except that Government have decided to allow the Corporation equity and loan in the ratio of 1 : 1 during 1974-75, no decision in regard to either about pattern of financing or about the enhanced allocation of funds to the Corporation has been taken. The Committee recommend that on the basis of experience in the Fourth Plan and in the interest of developing rural electrification particularly in backward and under developed areas, the Corporation should draw up a comprehensive plan regarding the sanction of projects. The Committee are inclined to agree with the views of the Ministry that 'in terms of physical targets to be achieved, unless the financial resources are augmented in a significant manner, there is risk of the targets not being fulfilled.'

The Committee are informed that the Corporation had not made an estimate of their needs during the Fourth Plan although according to them they could have been allowed to sanction schemes worth Rs. 50 crores more. The Committee therefore recommend that Government should on the basis of experience gained in the fourth plan, consider the feasibility of enhancing the allocation of funds in the 5th Plan to the REC on the physical targets to be achieved by them so that inadequacy of funds could not be a plea for not taking up electrification programmes for backward and under developed areas.

3.37. The Committee recommend that the Corporation should prepare a realistic plan of their requirements in the Fifth Plan under the different programmes so as to enable the Ministry to consider their demands for an enhanced allocation. The Committee would also like Government to take an early decision in regard to the pattern of providing funds to the Corporation during the Fifth Plan.

E. Coordination amongst various Financing Institutions

3.38. At present there are the following five main agencies which are financing rural electrification programmes:—

- (i) State Governments and/or State Electricity Boards;
- (ii) Rural Electrification Corporation Ltd.;
- (iii) Agricultural Finance Corporation;
- (iv) Commercial Bank; and
- (v) Life Insurance Corporation.

3.39. The Chairman of the Rural Electrification Corporation admitted during evidence that "In regard to financial matters, there is in fact often little coordination between the different financial institutions, such as L.I.C., Banks, etc. which finance SEBs."

It was further stated that coordination between different financial agencies with a view to obtaining optimum benefit for the State Electricity Boards in regard to finances was very necessary. The Chairman, REC was of the opinion that a comprehensive plan in the sense of a comprehensive system of coordination, whereby different institutions were given particular responsibilities was certainly feasible and should be tried out. He added that in regard to projects concerning transmission lines and various other items, the LIC and Commercial Banks might be more appropriate agencies to provide loan assistance. In regard to area programmes REC was obviously a more appropriate body.

Explaining the point further the Chairman of the Corporation stated thus:—

"There is another point. In regard to rural electrification, a large proportion of the funds that are available through plan resources, is intended for a very cogent reason, to be applied to area development. While thus a large number of villages and scattered pump sets which cannot be on an area basis, we cannot ignore the needs of scattered villages, and scattered pump sets which cannot be brought under an area project. There the repayment period could be somewhat shorter because only few items of investment are involved. The commercial banks can finance this kind of investment.

Let us take the three or four components of what is rural electrification. A well has to be sunk, pump set has to be purchased, a connection has to be given and "

Electricity Board is to give the feeder line etc. Here there are four items. Rural electrification really is a part of the total process, by which all this is done.

Here again, coordination between the various financial institutions is extremely important because the well has to be financed. The land development bank or the ARC very much come there. For the service line, part of the expenditure is to be met by the cultivator. In some States, efforts are being made to finance this through the savings of cultivators. What I am trying to say is that apart from what can be technically described as electrification or rural electrification and the minimum needs programme, this process is connected with a number of other developments. These also have to be encouraged. As you have rightly suggested, Sir, a comprehensive plan should not only include electrification part, but also the things which are necessary for the beneficiary to get the real benefit."

3.40. The management of the Rural Electrification specified the role of the Corporation *vis-a-vis* other financing bodies in a note submitted to the Committee after the evidence as follows:—

"...it is necessary to ensure that investments in rural electrification as a whole are coordinated with a view not only to avoiding any duplication, but also ensuring that the investments follow an appropriate project approach to yield optimum results. The institutions, other than R.E.C., financing rural electrification are the LIC, commercial Banks etc. REC being a specialised financing institution in the field of rural electrification, is the most appropriate agency to undertake such coordinating role; and could also provide the Secretariat for such coordinating machinery as well as act as the consultant for other institutions in the planning and appraisal of schemes of REC financing."

The Management of the Corporation further stated in their note:—

"In the Fifth Plan out of a total of Rs. 1098 crores provided for rural electrification (including the provision for MNP), as much as two thirds (which includes the whole of MNP provision) are to be channelised through REC. State Plan allocations in most cases have been quite

meagre and in some there is no provision at all. Additionally substantial assistance is likely to come from commercial banks either directly through the AFC. It is thus necessary that the deployment of the available resources, is done in a planned manner. both as regards choice of areas and quantum of investments in the different states. It is in this context that in the note (above), a coordination machinery at the national level under the aegis of REC has been suggested."

3.41. The Minister of Engery informed the Committee in a note after the evidence that the REC had initiated various measurts for effective coordination between the various financing agencies as follows:—

"Mutual consultations are accordingly being held between Rural Electrification Corporation Ltd. and A.R.C. and A.F.C. as well as between R.E.C. Ltd. and the Commercial Banks with a view to establishing a proper link-up of the rural electrification schemes financed by REC Ltd. with the minor irrigation and similar other schemes financed by the other lending institutions. Efforts are being made by REC Ltd. to bring about territorial coordination between the schemes financed by R.E.C. and the Agricultural Refinance Corporation."

The Ministry further stated that it was necessary that the deployment of the resources available for rural electrification was done in a planned manner both as regards the choice of areas and the quantum of investments in the different States.

3.42. The Committee note that there are various agencies which are financing the rural electrification programmes, such as, State Government/State Electricity Boards, REC, Agriculture Refinance Corporation, Commercial Banks and Life Insurance Corporation. According to the Chairman of the Rural Electrification Corporation "there is in fact often little coordination between the different financial institutions." in the matter of financing rural electrification schemes. The Committee are informed that REC has initiated various measures for coordination between the various financing agencies, and efforts are being made by the REC to bring about territorial coordination between the schemes financed by REC and ARC. The Committee feel that coordination in respect of investments in rural electrification as a whole is necessary with a view not only to avoid

any duplication but also to ensure that the investments follow a uniform project approach to yield optimum results. The Committee agree with the Chairman, REC that there is a need for a comprehensive system of coordination whereby different financial institutions are given particular responsibilities in specific fields. The Committee recommend that Government should consider the feasibility of setting up a coordinating body comprising representatives of all the financing agencies including R.E.C. at the national level and also a similar body at the filled level for ensuring such coordination.

3.43. The Committee recommend that Government should clearly demarcate the responsibilities of financial institutions in the matter of financing various aspects of the programme of Rural Electrification so that there is no overlapping/duplication in financing by different financial institutions.

F. Evaluation of Projects

3.44. The Corporation explained the Project approach and its advantages as follows:—

“A project based developmental approach is thus inherent in the financing pattern of REC. The primary objective is larger production through larger use of power in farm and workshop. Simultaneously, but secondary the supply of power in the project area would also extend to street and homestead. Further, REC ensure—in fact, this is a responsibility enjoined on it—that the projects it helps a State Electricity Board to take up, do not result in saddling the Electricity Board with losses or otherwise weaken the financial position of the Board. It is thus necessary that the projects which REC finances generate adequate surplus to pay for the posts and give a reasonable return on the investment. This in turn is possible only if the rural users are, with the use of electricity able to earn an adequate incremental income to pay for its use. A scheme of rural electrification which REC finances is thus conceived as part of the total developmental effort in a given area.

Before the REC makes a loan for any project it, satisfies itself that the project costs are reasonable, and the most economical construction programme has been proposed. It also satisfies itself that there is enough demand from

prospective users of electricity so that the revenues, the project can earn, are enough to pay for costs as well as generate some surplus to give a return on investment over a reasonable period of time. Thus, to assess the projections regarding the demand for electricity from different categories of consumers, REC also examines the ground water availability for sustaining the operation of electrified pumpsets and the potential for growth of small industries running on electric power. The factors affecting the demand for other categories of uses such as domestic, commercial, street lighting etc., are also looked into as part of the project appraisal. Each project is examined on this basis. REC has laid down certain norms in terms of 'net return' to be achieved and the period within which this is to be achieved.

In order that a rural electrification scheme may be considered financially viable, it has to achieve certain stipulated net returns at the end of certain specified periods which are relatively shorter for favourably situated areas and suitably longer for the backward areas.

Implied in the project approach by REC is also project monitoring which would enable proper steps being taken from time to time so as to ensure that objectives envisaged in a scheme are achieved. The projects which REC finances are, as already stated development oriented and they aim at integrated development in the area in which the project is located. Thus, each of those projects envisages a time-bound programme for extension of services such as for energisation of pumpsets, service connections to LT industries, street lighting, etc. These projections which are made on the basis of the resource potential in the area are not only for the immediate future but over a long period which may extend to 20 or 25 years. As for the immediate future, specific targets for service connections under the different categories are laid down for each year. With a view to ensuring that the development programme envisaged in each of the projects is matched by actual performance, there is a regular monitoring of the projects undertaken by the REC.

The Corporation releases the second and subsequent instalments of loans only on the basis of the prescribed level of achievement as revealed in the monitoring studies.

Project monitoring which ensures a continuous watch, project implementation and task achievement is thus a distinctive characteristic of REC financed projects."

3.45. Regarding evaluation of the projects financed by the Corporation, the Managing Director REC informed the Committee during evidence that they had evolved a system under which each and every scheme was monitored every year. The Monitoring team consisting of three persons, one each from technical, economic and Finance & Accounts side, visits the scheme area and checks the records and registers. Physical check is done at random basis. The procedure is almost as detailed as an audit. It is, in fact a performance audit.

3.46. In reply to a question whether there was any scheme to conduct Performance Audit/Review/Cost Benefit Analysis to evaluate the projects the Rural Electrification Corporation stated in a written note furnished to the Committee after the evidence as follows:

"The Corporation has a system of concurrent and continuous monitoring of the projects financed by it. In monitoring the projects the technique of performance audit is used. Under the performance audit technique the objectives of a project are expressed in quantitative terms giving the periodical target figures for achievements. The actual achievements are compared at the end of the specified periods with those targetted for the respective periods. The financial expenditure is compared with the physical achievements and the reasons for variations are analysed. The scheme report for each REC project indicates in detail the phased construction programme as well as the number of connections of various categories that are expected to be achieved and the financial outlays required for each year. The monitoring team judges the performance of the projects both in financial and physical terms with reference to the targets as fixed in scheme reports. This enables the Corporation to evaluate the performance of the schemes and to examine whether the physical achievements are commensurate with the financial outlays.

The Corporation does not normally conduct any cost benefit analysis in respect of REC Schemes on a regular basis. However, a sample study of three sanctioned schemes was made some time back and it was found that the economic rate of return for the schemes financed by the

‘Corporation was quite satisfactory, being about 20 per cent.’.

3.47. In this connection the Ministry stated during evidence that no evaluation|performance review of cost benefit analysis of the schemes financed by the REC had been done. The Government however proposed to do it after the completion of the schemes. When the Committee pointed out that a number of schemes had been completed, the representative of the Ministry stated that the potential benefits had yet to come. The financing was done on a project basis and since there were very strict criteria of economic viability, the Ministry would ensure that the Corporation does the cost benefit analysis.

Asked as to whether any guidelines had been issued, the Secretary of the Ministry stated “No, we intend to do it now. Before they start evaluating this we will do this. The initiative is expected to come from the Board of Directors of REC. We shall take an active hand in this.”

3.48. The Committee note that REC is following a project based development approach in their financing pattern and the projects generate adequate surpluses and give a reasonable return on the investment. It has laid down certain norms in terms the net returns to be achieved and the periods within which this is to be done. The Committee are informed that there is a regular monitoring of the projects undertaking by the REC with a view to ensuring that the development programmes envisaged in each of the projects is matched by actual performance and only on the basis of such monitoring studies second and subsequent instalments of loans are released. The Committee note that the Corporation has a system of concurrent and continuous monitoring of the projects financed by it and the technique of performance audit was used to evaluate the performance of the schemes and to examine whether the physical achievements are Commensurate with the financial outlays. The Committee however, note the Corporation has not been conducting a cost benefit analysis of the REC schemes on a regular basis although some time back a sample study was conducted in respect of only 3 sanctioned schemes out of total of 618 schemes sanctioned upto 1973-74. The Committee are informed that the Ministry proposed to do the cost benefit study after the completion of the schemes so that the potential benefits are realised. The Committee recommend that in view of the large investments amounting to Rs. 161.87 crores which the Corporation has made in the various projects up to 1973-74, the Government|Cor-

poration should conduct a cost-benefit analysis of the schemes on a regular and systematic basis in order to ensure that the projects financed by the Corporation have been economically executed, without any undue wastage of the finances and the moneys spent are commensurate with the benefits derived.

G. Co-ordinated Development Approach

3.49. In their report Task Force on rural electrification have observed that from the point of view of economic viability of the rural electrification programme also it is important that plans for area development, at least in key related fields, are properly meshed with the rural electrification programme, so that better load factors and local concentrations are secured to improve the financial viability of rural electrification projects. Integrated are a development approach facilitates optimum utilisation of resource potential of the area and requires proper coordination between various developmental activities which provide the necessary complementary infrastructure.

Asked about the steps taken to adopt co-ordinated development approach in formulation and implementation of the various schemes of REC in order to secure maximum development at minimum cost the Corporation has stated as follow:

"The project approach is a fundamental part of the loaning policy of the Corporation. Further, the Central Government directives by which the Corporation is governed in its policies, have spelt it out that investments in rural electrification has to be such as will lead to maximisation of returns on the overall investments in the area. Thus the Corporation has always viewed a rural electrification project as it proposes to finance essentially a part of an overall area development programme. Consequently, it is ensured that the project is, as far as it is possible and necessary, dovetailed into the sectoral area development programmes implemented by the various departments of Government and other institutional agencies. As a deliberate policy, REC has therefore pursued its efforts towards effecting maximum coordination with those other rural development programmes, including those designed for the benefit of the weak and under-privileged sections of the community such as the SFDA and MFAL programmes. REC financed projects today cover practically all the districts in which SFDA and MFAL programmes are located. Apart from this, recognising the fact that a large

quantum of institutional finance is being made available for the agricultural sector as a whole by the ARC, AFC and the land development and commercial banks and that the successful implementation of each of these programmes would, to a very large extent, depend upon the coordinated and sustained efforts of all the sponsoring agencies concerned, REC has initiated various measures for effective coordination of the activities of the concerned State Electricity Board and those of the agricultural, minor irrigation and industries departments of the States both at the District and State levels. At the suggestion of the REC State and District Level Coordination Committee have been established in many States to review the progress of implementation of these schemes. Further, mutual consultations are being held between the REC and ARC and AFC as well as between REC and the Commercial Banks with a view to establishing a proper link-up of the rural electrification schemes financed by it with the minor irrigation and similar other schemes financed by the other lending institutions. Similarly, the Chairman and other senior officials of the Corporation also hold periodical consultations with the State Government Officials representing the various development departments with a view to ensuring the maximum coordination between the appropriate development agencies of the State and State Electricity Board."

3.50. The Committee have been informed that Coordination Committees have been established in many States at State and District level to review the progress of implementation of rural electrification programmes. Mutual consultation between the REC and ARC and AFC as well as between REC and the commercial banks are stated to be held with a view to establishing a proper link up of the rural electrification schemes financed by the Corporation with the minor irrigation and similar other schemes financed by other lending institutions. Efforts are also being made to ensure maximum coordination between the appropriate development agencies of the State and the State Electricity Boards. The Committee need hardly stress that rural electrification projects sanctioned by the Corporation form an integral part of the overall area development programme. The REC projects have, therefore, to be dovetailed into the sectoral area development programmes implemented by the various departments of Government and other institutional agencies in order to derive maximum benefit out of the REC schemes.

H. Loans for Electrification of Harijan Bastis

3.51. Year-wise details of the Harijan Basti loans sanctioned and disbursed are stated below:—

Year	Loan sanctioned		
	No.	Amount (Rs. in crores)	Amount (Rs. in crores)
1971-72	10	0.55	0.44
1972-73	27	1.44	1.01
1973-74	38	1.68	1.06
	75	3.67	2.51

These loans aim at electrification of 8617 Harijan Bastis adjoining the already electrified villages in 14 States and provision of 49523 street lights in the Bastis. The schemes in respect of which these loans were sanctioned were phased for completion over a period of one year from the date of commencement.

3.52. It is seen from the annual report of the Corporation for the year 1973-74 that the short fall in most cases was on account of the inability of the concerned State Electricity Boards to procure the necessary undertaking from the panchayats in regard to payments towards recurring tariff dues for the street lights envisaged in the harijan bastis under the scheme.

3.53. The Corporation has also stated that the lack of response from the State Electricity Boards regarding Harijan Bastis loans delayed the sanction of loans by the Corporation and consequently the disbursements.

3.54. The Managing Director informed the Committee that the Government of India introduced the scheme and 1971-72 was the first year of programme. The Corporation had been asked to handle the scheme on an agency basis. Explaining the difficulty of the Corporation the Managing Director stated during evidence:—

“The direction given to us in regard to the scheme is that this scheme should be sanctioned only in cases where an undertaking is available from the local bodies concerned—the Panchayats or the State Governments—that the

recurring consumption charges will be paid to the State Electricity Boards. The schemes that we have sanctioned carry this undertaking. But our main difficulty is that in many large areas the local Panchayats are not finding it possible to give us this kind of an undertaking; so the schemes cannot be entertained by us in their case."

"....It is the local body which ignores the Harijans."

3.55. In reply to a query as to why Harijan Bastis were left out in the process of electrification of certain villages the Committee were informed that "the idea of this scheme was to electrify all those Harijan Bastis which had been left out in all those villages which had already been electrified."

3.56. The Managing Director further stated that under the REC scheme villages which were not electrified were being included for financing. Every village which was covered under that scheme for street lights included the Harijan Bastis also. But Harijan Basti loans was stated to be a special programme of the Government of India intended for those villages which had been electrified earlier but the Harijan Bastis adjoining these villages had not been electrified.

3.57. The Committee pointed out that Harijan Bastis were not included in Rural Electrification Schemes because of non-availability of remunerative loads in the bastis.

3.58. The Managing Directors explaining the policy being followed by the Corporation for the last 1½ years for the REC scheme stated during evidence thus:

"We introduced this new policy that henceforth, under the Scheme of R.E.C. if any street light is to be provided in any village, Harijan Basti should also be included in that. Now, about remunerative load, the State Electricity Boards have a different concept of judging remunerative load. Our concept is totally different. Our concept is that we take the area as a whole for consideration. After taking into account the availability of infrastructure in the particular area, a review is made whether at the end of five years, the investment made on rural electrification in that scheme would bring a return. Of course, while working out this return, we are taking into account the cost of power, the operational and maintenance expenses, the interest and the depreciation value

and after that there must be enough surplus available in a scheme to give a certain return which varies for backward areas and advanced areas."

3.59. During evidence of the representatives of the Ministry of Irrigation and Power the Committee asked whether the "economic viability clause" could be dispensed with in the case of electrification of Harijan Bastis. The Secretary of the Ministry stated that the electrification of any village came as a part of an overall scheme. The primary emphasis was stated to be on the productive nature of the scheme and priority was assigned to agricultural production, energisation of pump sets etc. But whenever electrification of a village was to be a part of the scheme the Government insisted that the scheme must have as an intergral part electrification of Harijan Bastis also. There could be schemes which merely envisaged energisation of pump sets, agricultural production and things like that but there would be no scheme of village electrification sanctioned by REC which did not have as an essential component electrification of Harijan Bastis also.

3.60. The Secretary further stated that "economic viability" had to be there in backward areas but it could be relatively of a softer type. The period repayment could be made longer and the rate of interest could be smaller.

3.61. The Committee pointed out during evidence that in many cases the local panchayats, were not finding it convenient to give the undertaking that the recurring consumption charges would be paid by them to the SEBs and according to the directions of Government and therefore, the schemes, regarding electrification of Harijan Bastis could not be entertained by the REC. The Committee enquired whether Government proposed to review the entire matter in the interest of covering as many Harijan Bastis as possible in regard to electrification. The representative of the Ministry stated in reply that the Deputy Minister of Irrigation and Power had written to the Chief Ministers impressing on them the necessity of doing the survey and also suggested an alternative that if money was available in the Harijan Welfare Fund or Social Welfare Fund it should be allocated from these funds to ensure that the electricity bills were paid. He also informed the Committee that there was a real and genuine difficulty in several cases the village panchayats were unable to provide funds for this purpose.

3.62. The Committee were also informed that the total provision made for the electrification of Harijan Bastis during the Fourth

Plan was Rs. 4.5 crores of which the REC had been able to spend Rs. 3.91 crores. The coverage would be about 10,000 numbers of Harijan Bastis. The present survey was stated to have indicated that about 10,000 Harijan Bastis will remain to be electrified because the adjoining villages of those bastis had already been electrified. It was, however, stated that such cases will not arise at all because, as a part of the formulation of the scheme, every village together with the harijan basti was proposed to be electrified and the plan provision was made accordingly.

3.63. The Committee note that the Government of India introduced the scheme of electrification of Harijan Bastis and transferred the scheme to the REC to be handled on an agency basis. The Committee also note that the Corporation has sanctioned loans amounting to Rs. 3.67 crores for 75 schemes in 14 states for electrification of 8617 Harijan Bastis and provision of 49523 street lights in these Bastis. Against this only a sum of Rs. 2.51 crores has been disbursed to end of 1973-74. It was stated that the shortfall in most cases was on account of the inability of the concerned Electricity Boards to procure the necessary undertaking from the panchayats in regard to payment towards recurring tariff dues for the street lights envisaged in the scheme. Moreover lack of response from the Electricity Boards was another reason which delayed the sanction and consequently the disbursement. The Committee are informed that the Ministry have already written to the State Governments to find out ways and means of assisting the Panchayats towards payment of electricity tariff from the Harijan Welfare Fund or Social Welfare Fund. The Committee regret to note that electrification of Harijan Bastis has suffered because of the apathy of Panchayats/ S.E.Bs/State Governments in spite of the fact that Governments of India have been providing funds for the purpose. The Committee deprecate this tendency of ignoring the needs of areas inhabited by the weaker sections of the society. The Committee are inclined to agree with the suggestion of the Deputy Minister of I & P about allocation of funds from the Harijan Welfare Fund or Social Welfare Fund for the payment of electricity bills for Harijan Bastis.

3.64. The Committee recommend that the Ministry should pursue the matter with the State Governments and find out a solution to assist the Panchayats so that their financial difficulties do not come in the way of implementation of Harijan Basti Schemes.

3.65. The Committee are also informed that whenever electrification of a village is a part of the scheme it must have the elec-

trification of the Harijan Bastis also as an integral part and no scheme of village electrification is sanctioned by REC which does not have as an essential component electrification of Harijan Bastis also. The Committee hope that with the present procedure followed by REC it should be possible to implement more programmes of electrification of Harijan Bastis and provide of street lights in those Bastis.

I. Targets for the Fifth Plant

3.66. In the draft Fifth Plan a provision of Rs. 1098.24 crores has been made for rural electrification which include Rs. 400 crores for REC programme and Rs. 272.33 crores under the Minimum Needs Programme besides Rs. 425.91 crores under normal programme for States and Union territories.

The above allocation amounting to Rs. 400.00 crores made for the Corporation is intended for the energisation of 7,60,000 pump-sets and the electrification of 41,000 villages.

3.67. Rural electrification under the Minimum Needs Programme (MNP) envisages making electricity available in the backward regions in various States to provide the infrastructure for development. Other rural development programmes such as energisation of irrigation pump sets, providing drinking water facilities, construction of roads, establishment of health centres, etc. are also contemplated under the Minimum Needs Programme. The States would prepare integrated programme under the MNP for developing backward regions. Initially, the programme is aimed at providing power supply in the rural areas to growth centres such as education centres, health centres, market centres and connections for irrigation pump sets. The allocation for the rural electrification programme under MNP is expected to spread electricity in rural areas to cover 40 per cent of the rural population in States where rural electrification benefits are below this level. A project approach is proposed to be adopted and the programme will be financed and monitored through the Rural Electrification Corporation. In view of the unremunerative nature of investment, soft term loans are proposed to be made available for the programmes. It is expected that nearly 36,500 villages would benefit in the 15 States during the 5th Plan period.

3.68. According to the rural electrification programme in the draft Fifth Five Year Plan it has been envisaged that out of 566878 census villages in India only 258358 would be electrified by 31-3-1979.

The Committee pointed out during evidence of the representatives of the Corporation that presuming cent per cent achievement of the target fixed in the Plan, 308520 or 545 per cent villages would still be left uncovered by the end of the 5th Plan and enquired whether the Corporation had worked out any comprehensive plan for electrification of all the villages in the country in the minimum possible time.

The Chairman of REC stated that the number of villages to be electrified was part of the total programme in meeting the requirements under the Minimum Needs Programme on the one hand and the development schemes under normal programme on the other.

He added that by the end of the Fifth Plan 45.5 per cent villages would be electrified but the emphasis would be on agricultural production on the one side and on industrial and other production on the other. The schemes under the MNP would be largely in the hill, desert, tribal or such other disadvantaged areas especially in the States. He stated further that "in regard to REC, the financial provision is well about 4 times that of the 4th Plan. In terms of the total provision for rural electrification of the country, it covers about two-thirds during the 5th Plan, as against only less than 1/3rd in the 4th Plan."

3.69. As regards electrification of the maximum number of villages in the country, the Chairman of the Corporation stated:—

"The task, as envisaged, has been that of electrifying the maximum number of villages consistent with the development of the areas concerned. In other words, what is being done under these programmes is to take up compact areas, may be a block, a taluka or a similar unit, and then to assess the resources, e.g. water resources, industrial resources etc. therein and to have a rural electrification programme along with other inputs such as water, fertilizer, marketing etc. and to try to have an integrated development of that area as early as possible. The emphasis has been on development and through development, electrification of villages, so the question of electrification of all villages as early as possible, has not entered into this particular programme, though it would be covered as speedily as possible."

3.70. The Committee note that, assuming that the Fifth Plan targets are fully achieved, only 45.5 per cent of the villages of India would be electrified by the end of the plan period. Even though

the emphasis of the rural electrification programme is on agricultural and industrial production and not on electrification of villages as such, and even if the total electrification programme is likely to cover about two third of the country during the Fifth Plan as against only less than one third in the Fourth Plan, it is depressing to find that more than half the villages of the country would still remain unelectrified in 1979. The Committee feel that the task yet to be done in this field is gigantic and the pace of work needs to be accelerated so that light may reach all the villages in the country at the earliest.

IV

STATE ELECTRICITY BOARDS

A. Working of State Electricity Boards

5.1. The Charter of the Corporation is wide enough to take up activities beyond merely financing Rural Electrification Project REC in the main being a financing body at the national level, actual execution of projects necessarily rests in the State Electricity Boards or Rural Electric Cooperatives. Rural Electric Cooperatives, however, are still in an experimental stage. Thus the SEBs by and large are required to execute the programmes of the Rural Electrification. Several factors have impeded the effective functioning of the State Electricity Boards.

4.2. A high power Committee (1964) appointed by the Government of India under the Chairmanship of Shri R. Venkataraman, then Minister in Tamil Nadu Government, had gone into the various aspects of State Electricity Boards and suggested certain measures for improving the working of the Boards. Subsequently, in 1969, the Rural Review Credit Committee set up by the Reserve Bank of India had also dealt with this question at some length in the context of the need for accelerating the pace of rural electrification for increasing agricultural production. While endorsing the various suggestions made by the Venkataraman Committee for improving the working of State Electricity Boards this Committee felt that a number of steps including legislative and financial measures were necessary to bring about the desired level of efficiency in the working of the State Electricity Boards. They were, however, of the view that while these steps would take time there was an urgent need to accelerate the pace of rural electrification in the context of the need for increased agricultural production in the immediate future and to this end, therefore, recommended that while the long-term measures such as legislative and financial may be initiated in due course, a national level financing institution exclusively for financing rural electrification projects to provide funds in addition to those already provided for, in the State Plan Sector was necessary. The Committee was of the view that such assistance as this new Corporation would give should be, by way of projectwise financing, so that while pumping in more of resources,

the State Electricity Boards were not saddled with further losses. Rural Electrification programmes by their very nature, were such that they would not be financially remunerative in the initial stages but nevertheless they paid off over a period of time provided the programmes were undertaken in a coordinated and planned manner and other supporting activities were provided alongside.

The Sixth Finance Commission had also occasion to examine in some detail the fiscal and financial aspects of the working of the State Electricity Boards and observed that "as a Commission charged with the responsibility for looking into the quality of fiscal management of state level, we cannot but view with extreme concern some of the present trends in the functioning of State Electricity Boards." They also referred to "the corrective action that needs to be taken by the State Governments either through revision of tariff or improvement of operational efficiency of Electricity Boards or both."

4.3. The Rural Electrification Corporation classified the deficiencies and inadequacies noticed in the working of SEBs which affected the implementation of REC schemes under the following three broad heads:—

- (a) Organisational deficiencies within the SEBs;
- (b) Lack of coordination internally within the State Electricity Boards as between the various Wings such as construction and O&M etc. and externally i.e. coordination with the various other development agencies of Government and institutions involved in effective implementation of projects; and
- (c) Lack of adequate arrangements for load promotion activities with a view to optimising service connections in the shortest possible time.

4.4. The REC was stated to be in close touch with the Ministry and various steps were being taken both at the Centre and State level to make the SEBs more efficient.

4.5. In regard to the steps taken by REC in improving the working of SEBs the Corporation in a written note stated as follows:—

"(i) Organisation deficiencies in the SEBs.

From its inception, REC has endeavoured to persuade the State Electricity Boards to set up a separate cell within

the SEBs to cope with the new task arising from the project-wise financing by REC. Although, there was some initial resistance from the Boards, as they gathered experience and with more schemes sanctioned in each State, the SEBs themselves began realising the need for suitable machinery within the SEBs to cope with the REC projects. As a result all the SEBs today have carried out a certain amount of reorganisation within the Boards, so as to organise a special cell for dealing with REC projects. While in certain SEBs the special cell is headed by an officer of the level of a Chief Engineer or Additional Chief Engineer, in no case the head of the cell is below the rank of a Superintending Engineer. It is now the general experience of REC as well as the SEBs that the setting up of a separate cell has resulted in more meaningful project preparation and more effective implementation of REC financed schemes."

(ii) *Lack of Coordination*

In the earlier stages neither the engineering designs nor the projection of load estimates were related to development potential obtaining in the area. The REC had therefore emphasised the need for:—

- (a) Building up a proper data base relating to resources potential in the area;
- (b) adequate coordination between SEBs and the various other development agencies of Government and institutions so as to ensure that
 - (i) the other investments undertaken by the various agencies in the area were complementary to the investment on rural electrification;
 - (ii) along with extension of electricity there was adequate credit support to the end users of electricity for purchase of pump sets; installation of LT industrial units etc; and
 - (iii) the extension of electricity under the RE project to provide a basic infrastructure for further economic development of the area.

(iii) *Load Promotion Activities*

"A major factor contributing to load development particularly in the rural areas is the quality of awareness on the part of the prospective users of electricity about the benefits of electricity. Not only most of the Electricity Boards had no comprehension about the need or the problem related to load promotion but in a number of cases, the age old practices in regard to extension of service connections proved to be even obstructive. For instance in certain Boards they continue to insist on certain minimum number of applicants to come up before providing service connections to any prospective consumer in an area. REC has been pursuing this with the concerned State Electricity Boards and almost all the Boards have given up their separate norms and procedures for service connections in REC project areas. As a result of the persuasive efforts made by REC, the SEBs have also started taking up seriously load promotion work as well."

4.6. The Secretary of the Ministry of Irrigation and Power conceded during evidence that the reorganisation of the State Electricity Boards was a matter of primary and prior importance. It was further stated that some suggestions and guidelines were given to them to which there was a fair response but as a radical change has to be made, it would take sometime.

4.7. In a note submitted to the Committee after the evidence, the Ministry of Energy gave details of the concrete suggestions made for improving and for bringing about greater efficiency in the working of the State Electricity Boards as follows:—

"State Electricity Boards have been set up under Section 5 of the Electricity (Supply) Act, 1948, and are charged with the general duty of promoting the coordinated development of generation, supply and distribution of electricity within the State in the more efficient and economical manner. Although electricity is a concurrent subject, major role in this field is that of the States which may be seen from the fact that out of a total installed capacity of about 19 million KW at present, hardly 3.2 million KW is in the Centre and the remaining is all in the States. During the Fifth Plan also, out of a total additional capacity of 16.5 million KW which is targetted, only about 2 million KW is in the Central Sector and the

remaining 14.5 million KW is in the State Sector. It may, therefore, be seen that the State Electricity Boards would have to play a very important role in implementation of the power development programme in future. For this purpose, it has been proposed to restructure the State Electricity Boards and one of the steps which is proposed to be introduced is to functionalise and professionalise the management of these Boards. It has also been proposed to separate generation from distribution. These proposals have been approved by the Government of India and the States have been requested to implement them by the end of October, 1974.

Similarly, in order to improve the financial position of the State Electricity Boards, the LIC have made a number of suggestions including revision of tariff, maximisation of generation from existing thermal stations, proper inventory control, reducing expenditure in operation and maintenance etc. For ensuring certain amount of discipline in the execution of the power projects by the State Electricity Boards, the LIC have also proposed that loans may be advanced against specific projects. A working Group has also been constituted to review and make suggestions to improve the working of the State Electricity Boards."

4.8. The Committee regret to note that the pace of Rural Electrification had been impeded mainly due to various deficiencies and inadequacies in the working of State Electricity Boards. Rural Electrification Corporation was set up as a financing institution at the national level for financing Rural Electrification Projects to provide funds in addition to those already provided for in the State Plan Sector so that the acceleration of pace of rural electrification did not suffer on account of lack of resources with the SEBs and the SEBs were not saddled with further losses. Actual execution of projects mainly rests with the SEBs.

4.9. The Committee find that the working of the State Electricity Boards was reviewed and examined in detail by a high power Committee in 1964 and by the Sixth Finance Commission. The Commission viewed with concern some of the trends in the functioning of State Electricity Boards and referred to the corrective action needed through revision of tariff and improvement of operational efficiency of Electricity Boards. The Rural Electrification Corpora-

tion also have noticed that besides organisational deficiencies within the SEBs, there was lack of coordination internally within the SEBs and between the various agencies involved in the implementation of Rural Electrification Projects and lack of adequate arrangement for load promotion activities with a view to optimising service connections. The Committee are informed that the Corporation is in close touch with the Ministry and various steps have been taken both at the Centre and State level to make the SEB's more efficient. At the instance of the Corporation, State Electricity Boards have carried out a certain amount of reorganisation within the Boards and a special cell has been created by all the SEBs for dealing with REC projects. REC have suggested a number of steps to bring about adequate coordination between SEBs and the various other development agencies and Government institutions engaged in the task of Rural Electrification. As a result of persuasive efforts made by the Corporation SEBs have also started taking up load promotion work.

4.10. The Ministry have also admitted that reorganisation of State Electricity Boards is of primary and prior importance. They have therefore issued some guidelines and given some suggestions like restructuring of SEBs, separation of generation from distribution, functionalisation etc. A Working Group has also been constituted by the Ministry to review and make suggestions to improve the working of State Electricity Boards. The Committee hope that the Working Group would soon go into all aspects of the working of SEBs and make concrete suggestions for their reorganisation and improving operational efficiency in the context of rural electrification. The Committee feel that the present functioning of SEBs leaves much to be desired. The Committee therefore recommend that in order to streamline and strengthen the management of State Electricity Boards and in order to have greater degree of functionalisation and professionalisation in their set up the Ministry should follow up the matter with the State Governments and ensure that the guidelines and suggestions given by them are actually implemented in letter and spirit by the SEBs.

B. Shortage of Material

4.11. In the Memorandum submitted to the Committee by the Punjab State Electricity Board it has been *inter alia* state that:—

“The drawal of subsequent instalments are delayed because of non-achievement of targets for that particular year/years for which the instalment/instalments have been

drawn. The main reasons for slow progress in regard to physical achievement is because of non-availability of material required for rural electrification which is in short supply because with the establishment of Rural Electrification Corporation various schemes of other States are also sanctioned for which the same type of material is required and naturally the indigenous manufacturers are not in a position to meet the requirement of all the State Electricity Boards. This point also came up for serious discussions during fifth standardisation conference held by Rural Electrification Corporation.

In this connection the Punjab SEB has suggested that special quota of scarce raw material/essential commodities such as aluminium/steel, cement etc. required for items necessary for rural electrification be allocated to concerned State Electricity Board/Manufacturers.

4.12. During evidence, the Managing Director of the REC stated that in some States aluminium conductors were also not available. He explained that:

“The situation is so bad in some cases that they do not have conductors even for 200 connections, not to speak of 2000 connecton.”

4.13. In this connection the REC has stated in a written note that where it was a question of augmenting production, the issues have been taken up by REC with some of the major manufacturers. Further the standardisation effected by REC has also considerably helped ease the situation since manufacturers are now in a position to take up production on the basis of these standard specifications for all the Boards.

4.14. The Secretary of the Ministry of Irrigation and Power stated in this connection during evidence as follows:—

“After having set up the organisation, it should be seen that the construction material and equipment are made available. We want very close coordination with the equipment manufacturers.... We go to the extent of allocating the equipment in terms of different projects.... We not only monitor the progress of the projects

but also keep ourselves informed of the progress in manufacture."

4.15. In a written note submitted after evidence, the Ministry also admitted:

"Some State Electricity Boards have pointed out difficulties in getting the necessary construction materials such as steel, aluminium, zinc, etc. There is a general shortage of these material and the Government have within the framework of the priorities drawn up, endeavoured to assist the States in meeting their requirements of these scarce materials. Specific allocation of certain scarce raw materials is being made for rural electrification in general."

4.16. The Committee note that one of the constraints faced by the State Electricity Boards in implementing the projects sanctioned by the Corporation was the non-availability and shortage of certain materials including cement, steel, aluminium, zinc etc. with the result that some of the State Electricity Boards were not in a position to achieve the physical targets envisaged in the schemes. The position with regard to aluminium conductors was stated to be so bad that in some cases the SEBs did not have conductors even for 200 connections.

4.17. The Committee are informed that the question of augmenting production of materials required for implementation of schemes regarding rural electrification has been taken up by the Corporation with some major manufacturers. It has been stated by the Ministry that specific allocation of certain scarce raw materials is being made for rural electrification in general. The standardisation effected by REC has also helped ease the situation since manufacturers are now in a position to take up production on the basis of these standard specifications. The Committee hope that it should be possible for the State Electricity Boards to implement the schemes without being hampered by shortage of materials in case these measures are vigorously and earnestly pursued. The Committee recommend that at the time of sanction of schemes the Corporation should draw a comprehensive plan regarding the implementation of the projects indicating the annual financial and material requirements with priorities for execution. The Corporation should also keep in constant touch with the SEBs in order to assist them in the task of procurement of scarce materials and equipment so that the

implementation of the schemes is not delayed or interrupted on account on non-availability of any of materials.

4.18. The Committee suggest that the Government should consider setting up a high powered coordination group to periodically review the progress of implementation of the different projects of the REC to assess their difficulties/requirements so that all possible assistance may be rendered for removing the constraints including shortage of materials and ensuring that the programmes of rural electrification, on which depends the progress of agricultural development, do not suffer a set back.

C. Shortage of Power

4.19. During the past 24 years of planned development, there has been phenomenal progress in the field of power. Whereas the total installed capacity in the country was only 2.3 million KW in 1950 it now stands at about 19 million KW indicating an annual growth rate of 9.5 per cent. The growth of load demand during the recent past has even been higher at the rate of 12 per cent resulting in serious power shortages in various parts of the country.

4.20. The Committee pointed out that there was a big gap between the loans granted by REC for the sanctioned schemes and their utilization, and the schemes sanctioned all over India would require supply of more and more power if this gap were to be got over. The Committee enquired whether Government had any suggestion to solve the problem of power shortage. The representative of the Ministry stated:—

“The present shortage is due to the non-commissioning of certain projects on time. There are several reasons for it. We have gone into great details while restructuring the proposals of the Electricity generation etc. In every manner, we want to tackle this question of Commissioning the projects on time. We have established a nuclear monitoring organisation at the central level and our Minister has written to the State Chief Ministers to establish similar monitoring organisations at the State levels and SEBs etc. so that we know in advance how the works are progressing and what difficulties are likely to be their and timely action is taken to avoid them. Wherever delays have taken pace, we try to accelerate the pace of development, so that the projects are commissioned on

time. We have been pursuing this question very much. Our Minister himself takes note of the progress every week. I am happy to say that the progress has been very good and we are quite hopeful that we should be able to achieve the targets by and large for the current year. We could not achieve target of 4th Plan by 50 per cent but so far as this year is concerned, we are making all out efforts to see that power generation schemes are brought to fruition on time. Some of the schemes which are planned to be commissioned next year, we are trying to accelerate them also.

We have got to go by experience of the past. If we had been able to fulfil the targets of the 4th Plan, I make bold to say, there would have been no shortage. Our starting point is to see that the same reasons for which these shortfalls have taken place in the 4th Plan, do not recur in the 5th Plan. We are engaged in a task which means bringing into being capacity of 16.55 m.kw. over a five year period as against what existed at the end of the 4th plan. Having said this I do not wish to leave the Committee with the impression that all is well and, therefore, at the end of the 5th Plan, we will have no shortage."

4.21. The Estimates Committee in paragraph 3.3. of their 39th Report on 'Power' have pointed out that there have been shortfalls in physical targets in respect of power generation during the Five Year Plans as under:—

	Planned additional MKW	Achievement MKW	Short-fall percentage
First Plan (1951—56)	1.40	1.12	20
Second Plan (1956—61)	3.48	2.73	36
Third Plan (1961—66)	7.04	4.52	35
Three Annual Plan (1966—69)	6.68	4.12	38
Fourth Plan (1969-72—1st three years)	4.13	2.60	37

4.22. The Secretary of the Ministry informed the Committee during evidence that due to financial crisis in the country power generation plans both in the central sector and state sectors were affected. With regard to central sector ongoing plans, the question has

been discussed with the Ministry of Finance who have provided necessary funds which would enable those plants going through without any slippage. But with regard to new projects in the Central or State sector which have to come to fruition at the end of fifth Plan, financial constraints had been one of very serious bottlenecks. The problem was stated to be even more serious so far as States were concerned.

4.23. In a number of States the funds provided in the plan for fulfilment of targets were inadequate. The State Govts. had been advised that by reallocation of resources between the various sectors, they should see that maximum requirements of power sectors are met.

4.24. Asked whether the REC looked into the question of availability of sufficient power before sanctioning a scheme. The Secretary of the Ministry stated that "before any scheme is taken up the REC, with the assistance of its technical staff, tries to reassure itself by assurances from the State Electricity Boards that power will become available for projects which the REC finances.

* * * *

So there have been cases where the calculation in regard to availability of power have been upset by lesser generation in a particular year."

4.25. The Secretary of the Ministry further stated that when the REC sanctioned the schemes in 1969-70 the power shortage of the magnitude being faced now could not have been fully anticipated. Similarly even today, anticipating that everything would be all right by the end of Fifth Five Year Plan. If all our efforts were made to accelerate the pace of rural electrification, there could be a contingency of some of the schemes not getting adequate power.

4.26. In regard to shortage of power the Corporation stated that it has been suggesting measures towards proper rostering and load staggering. This has also been adopted by the SEBs where the problem exists.

4.27. The Committee enquired whether the Corporation had financed any scheme for generation of power with a view to accelerating the pace of rural electrification particularly in the areas where there was shortage of power supply. The Rural Electrification Corporation in a written reply after evidence stated that the generation programme in the States had been drawn up taking into account among others, the power requirements of rural areas also.

With the advent of Minimum Needs Programme in the Fifth Plan, however, the corporation on its own had agreed in principle to finance small units for generation of electricity in the remote areas where extension of transmission from the main grid was likely to be costlier than the local generation. There was, however, no proposal for financing the generation schemes in general to meet the shortage of power supply so far as the Corporation was concerned.

4.28. The Committee pointed out that there was lack of coordination at the State level due to which many difficulties were encountered and asked as to what concrete steps had been taken by the Government to bring about proper coordination between different agencies at the State level for the better utilisation of power which was available.

4.29. The Secretary stated in reply to a question that lack of coordination at State level had got to be made good by action at the State level. Whenever lack of Coordination affecting the economic activity, particularly in the agricultural sector, came to notice, the Central Government addressed letters to the Chief Ministers of the States concerned drawing their attention to it and asking them to take corrective measures. Similarly, where the distribution lines had been laid under REC schemes and they were suffering for want of power the facts were brought to the notice of the State authorities asking them to take effective action.

4.30. The Committee enquired whether any legislative action at the Central level had been considered to bring about coordination between the States in this regard. The Committee were informed that the Centre had power to legislate since 'power' was a concurrent subject. It was further stated that 'electricity' was a subject planned and implemented by the State Governments. There was a considerable opposition from the States and they were not willing to subject themselves to any control from the Centre even in regard to matters such as inter-state transfers. It was further explained:

"supposing, one State is short of power and an adjoining State has got surplus power, the centre cannot give directives according to the present legislations.

The Secretary of the Ministry added:—

"Power being a concurrent subject, it is necessary that it carries the acceptance of the States. There were two as-

pects in regard to which we did not get the expected response from the States. While in regard to planning, technical scrutiny of and supervision over schemes as also monitoring and maximization of generation, there was a general area of agreement between the State Govts. and the Centre, there were different approaches in regard to two functions. Some areas in the country are surplus in power and some are temporarily short of it. We had suggested that on occasions when there is shortage the Central Electricity Authority should have power to advise or direct the flow or transfer of power from surplus to deficit areas. Secondly, some of the State govts. get locked up in disputes over a long time, about the rate at which power ought to be paid for, for such transfers. Since these disputes drag on, we wanted to have a machinery which will arbitrate when it happens and when the disputes cannot be settled by bilateral negotiations. Almost all the States did not agree to these powers being given to CEA.

Some of the provisions require amendment of the Act. Our Ministry is discussing the draft amendment with the Ministry of Law. No doubt in the new generating stations, generation of power has got to be maximised, at the same time transmission and distribution are becoming important and complex. We have asked the States whether they would like to separate the bulk generation from distribution so that the latter may get sufficient attention. We have found that there is need for greater degree of functionalisation and professionalisation in the set up of SEBs. A suggestion was put forward that the functions should be listed out. For instance, apart from generation and distribution, the economics of tariff are also very important at present."

4.31. The Committee note that one of the main reasons for the big gap between the loans sanctioned by the Corporation and the utilisation of funds by the State Electricity Boards is the power shortage in the country. The Committee are informed that power generation plans both in the Central sector and State sector are affected by the financial crisis and the present power shortage is due to non-commissioning of certain projects in time. The Committee are also informed that less than 50 per cent of the targets for the generation of power could be achieved during the Fourth Five

Year Plan. In order to step up power generation, a nucleus monitoring organisation has been set up at the central level and the States are being persuaded to set up such monitoring organisations at the State levels. The State Governments have also been advised that by reallocation of resources between the various sectors they should see that maximum requirements of power sector are met. The Committee need hardly stress that availability of power being the pre-requisite condition for Electrification, Government should take steps to identify the causes for shortage of power in details so that they may take suitable remedial action for stepping up generation of power. The Committee agree with the view of the Ministry that the "reasons for which these shortfalls have taken place in the 4th Plan, should not recur in the Fifth Plan."

4.32. The Estimates Committee (1972-73) in their Thirty-ninth Report on 'Power' have observed that 'power is a basic infrastructure for building up the country's economic growth and development, and that shortfall in power impedes growth in the industrial and agricultural sectors.' That Committee have therefore felt that "there is a need of a well coordinated programme for power development correlated with the growth of industry, agriculture and other sectors which consume it. The Committee reiterate the recommendation of the Estimates Committee that "having regard to the serious power shortage in the country, power should be given the highest priority next only to operational needs of defence in the matter of allocation of funds and essential raw materials like steel, cement, coal etc., in the interest of economic development of the nation.

4.33. The Committee are informed that on the suggestion made by the Corporation, the State Electricity Boards have adopted rostering and load staggering in order to overcome the problem of power shortage in so far as implementation of Rural Electrification Schemes are concerned. In the opinion of the Committee these are only temporary and short-term measures and the real solution lies in increasing the generation of power in the country.

The Committee note that the Corporation have agreed in principle to finance small units for generation of electricity in the remote areas where extension of transmission from the main grid was likely to be costlier than the local generation. The Committee hope that the State Government/State Electricity Boards would profit by the financial and technical Assistance rendered by the Corpora-

tion in order to overcome the constraints regarding power shortage particularly in remote rural areas.

4.34. The Committee regret to note that there is lack of coordination between the States due to which many difficulties were being encountered. The Committee are informed that if "one State is short of power and an adjoining State has got surplus power, the centre cannot give directives according to the present legislation. The Committee are informed that the Ministry have suggested that on occasions when there is shortage, the Central Electricity Authority should have power to advise or direct the flow or transfer of power from surplus to deficit areas. It has also been suggested that Government should have the power to arbitrate when the disputes between States regarding tariff etc. cannot be settled by bilateral negotiations. The Committee recommend that Government should examine these aspects in detail and finalise the measures without any delay so as to deal effectively with the situation created by power shortage at the national level. The Committee also recommend that Government should consider ways and means of restricting the ostentatious consumption of electricity, particularly in metropolitan cities in order to conserve the much needed power for productive purposes.

D. Line Losses

4.35. With the emphasis so far being on quantitative extension of electrification into the rural & urban areas the quality of supply of power has suffered considerably as from the excessive line losses experienced for a long time by the SEBs. The line losses experienced in low tension distribution like rural distribution exceed 30 per cent in the case of 8 major Boards. As a result of these high line losses themselves the Boards suffer from a combination of increased cost of power supplied to the consumer and reduced availability of power itself in the State.

4.36. The Task Force carried out a study of the extent of line losses in different States for the year 1969-70 on the basis of data of units generated and sold in various States. The All India average percentage line losses for the year 1969-70 as assessed by the Task Force is 18 per cent. The State figures varied from 7.7 per cent in Orissa to 33.4 per cent in Punjab. Assuming 5 per cent losses on High Tension the percentage loss allocable to Low Tension Sales is 35 per cent in 1969-70. In the year 1971-72 the overall average line-

loss remained at 18.75 per cent varying from 4.75 per cent in Orissa to 28.52 in Haryana. Assuming 5 per cent losses on High Tension the percentage loss allocable to sales is 31.95 per cent in 1971-72.

4.37. The Committee enquired as to how the line losses in India compared with some of the advanced countries. The REC have furnished a statement showing the percentage of transmission and distribution losses in various countries. (Appendix VI)

It would be seen from the statement that the lines losses in foreign countries in 1971 varied from 5.38 per cent in Belgium to 12 per cent in Sweden whereas the line losses in India are of the order of 18.75 per cent.

4.38. When the Committee pointed out that the percentage of energy losses in India was the highest, the Corporation stated that on account of the rapid expansion of net work in recent years, the distribution system developed in lop sided manner resulting in considerable loss in the system and affecting the quality and efficiency of power supply.

4.39. Asked about the steps taken in minimising the line losses the Corporation stated that they have devised a special category of loan for the specific purposes of improving the system conditions in the rural areas. This is particularly significant in the present context of general power shortage. The Corporation added that so far 32 system improvement schemes involving loan assistance of more than Rs. 5 crores have been sanctioned by the Corporation which would result in saving of 79 m. units per annum. The saving of energy in each scheme would generally be 10 per cent or more. However, the Corporation stated that as the schemes had been sanctioned only recently, the first one being only in the February, 1973, and are still under execution, the actual results would be assessed when these schemes are completed. Constant guidance is also being given to the rural electric cooperatives in regard to analysis of feeder wise losses installation of LT capacitors, testings of meters etc. This has resulted in significant reduction of losses.

4.40. Asked whether the Corporation proposed to evolve some uniform policy in this regard for the whole country. It was stated in the written reply:—

“The various State Electricity Boards have been requested to modify the conditions of service to motive power consumers so as to make it compulsory for them to instal

L.T. capacitors on the motors to improve power factor and thereby reduce the line losses. In pursuance of this recommendation seven States viz., Haryana, Punjab, Uttar Pradesh, Gujarat, Tamil Nadu, Andhra Pradesh and Karnataka have revised the conditions of supply making the provision of capacitors by power consumers compulsory. Power factor losses on induction motors used in pumpsets and L.T. industries constitute a major cause of energy losses in so far as avoidable losses due to technical reasons are concerned. Provision of L.T. capacitors on these motors is expected to minimise power factor losses. Losses due to other technical reasons have to be tackled in each individual system through appropriate system on permanent measures."

4.41. In this connection the Ministry of Energy stated in a written reply:

"Admittedly there is scope for reduction in losses which also include a proportion of pilferages. In view of the power shortages prevailing in the country at present the need for reduction of power losses in transmission, distribution, and transformation is both urgent and important. The Ministry have suggested various measures in this regard to the State Electricity Boards."

4.42. The representative of the Ministry during evidence stated that:

"We have made a detailed study of the causes for the high transmission losses in this country. Now, our findings are that because of the extensive transmission net work and low load densities in rural electrification, losses in those States where these conditions are prevailing are rather high. They are of the order of 20 to 30 per cent. One of the reasons identified by us, is the low power factor operation of the large number of agricultural pump sets. They number about 25 lakhs at present. These pumpsets operate at a power factor of about 5 instead of the normal power factor of .85. The pump sets are taking twice the normal current for delivering the same output. so, we have suggested to all the State Electricity Boards, the installation of an equipment called capacitors at the consumer terminals. Many of the State Electricity

Boards have made this installation of capacitors as a condition for giving power supply to future consumers and so far as existing consumers are concerned, they are being persuaded to instal these capacitors and wherever it is possible for them, the Boards are installing these capacitors and recovering the cost in easy monthly instalments."

The representative of the Ministry further stated as follows:

"Extent of line losses in India today is of high order and on average it comes to as much as 18 per cent to 19 per cent some of the loss is also attributed to pilferage and theft but apart from the need to curtail pilferage by installing a device which would make the system fool proof against theft etc. It is necessary to improve the distribution system..... I, for one would certainly regard as an important part of the general measures that ought to be taken, not only to increase generation but also to maximise power availability by doing everything possible to reduce the losses..... The point you have raised is certainly of paramount importance because what is the use of the schemes if the energy that is generated is lost. We will definitely consider this."

4.43. The Committee regret to note that the line losses in India are highest as compared to some of the advanced countries. The line losses in India are of the order of 18.75 per cent, whereas in foreign countries the line losses in 1971 varied from 5.38 in Belgium to 12 per cent in Sweden. The line losses experienced in Low Tension distribution like rural area distribution exceed 30 per cent in the case of 8 major State Electricity Board. As a result of these high line losses, the Boards suffered from a combination of increased cost of power supplied to the consumers and reduced availability of power in the States. It has been stated that on account of the rapid expansion of net work in recent years the distribution system developed in a lop sided manner resulting in considerable loss in the system affecting the quality and efficiency of power supply. It has been stated that about 25 lakh irrigation pump sets installed in the rural areas are taking twice the normal current for delivering the same output. The Ministry have admitted that there was scope for reduction in losses which have also been attributed to pilferages and thefts.

4.44. The Committee note that with a view to minimising the line losses the Corporation has devised a special category of loans for the specific purpose of improving the system conditions in the

rural areas. The Corporation has sanctioned 32 system improvement schemes involving a loan assistance of more than Rs. 5 crores. The saving of energy in each scheme is expected to be generally 10 per cent or more. The State Electricity Boards have also been asked to instal LT capacitors on the motors to improve power factor and thereby reduce the line losses. The Committee agree with the Ministry that apart from the need to curtail pilferage by installing a device which would make the system fool proof against theft etc., it is necessary to improve the distribution system.

4.45. The Committee would also like that Corporation should review the adequacy of the measures so far taken to reduce line losses by installation of suitable devices etc., and assess as to how far such measures have helped in eliminating pilferages and theft. The Committee would like to be informed of the results.

4.46. The Committee also recommend that Ministry/Corporation should examine the question of line losses in the country in depth in order to identify the causes and suggest to the State Governments/State Electricity Boards suitable remedial measures. The Ministry/Corporation should keep a continuous watch to see that their suggestions are implemented so as to ensure that the energy generated in the country which is so pressingly required for agricultural, industrial and developmental purposes is not lost unduly in transmission.

RURAL ELECTRIC CO-OPERATIVES

A. Pilot Projects and their Economic Viability

5.1. The Conference of Chairmen of State Electricity Boards, held in November, 1965 had recommended that one rural electricity co-operative should be set up in the area of each State Electricity Board as a pilot project, after holding discussions on the subject with the experts from USAID, and if the experiment was found to be successful, the scheme would be extended further. The programme of rural electricity co-operatives was to be complementary to the activities of the State Electricity Boards in the field of rural electrification.

5.2. In pursuance of this recommendation the Ministry of Irrigation & Power sponsored an investigation to be carried out by U.S. experts from National Rural Electric Co-operative Association regarding establishment of Rural Electric Co-operatives. The report of NRECA related to location of five pilot Rural Electric Co-operatives in the country and dealt with the organisational, technical and economic aspects of those projects. On the basis of those reports the Government of India accepted the location of 5 rural electric Cooperatives in Andhra Pradesh, Gujarat, Maharashtra, Karnataka and Uttar Pradesh which were registered between July, 1969 and October, 1969 in the following States:

- | | | | | |
|--------------------|---|---|---|--|
| (i) Andhra Pradesh | . | . | . | (Karim Nagar District Sircilla Taluk) |
| (ii) Gujarat | . | . | . | (Amreli District Kodinar Taluk) |
| (iii) Maharashtra | . | . | . | (Ahmednagar District Rahuri and Shrirampur Taluks) |
| (iv) Karnataka | . | . | . | (Belgaum District Hukeri Taluk) |
| (v) Uttar Pradesh | . | . | . | (a part of Lucknow District) |

5.3. In accordance with its charter and the policy directives of the Government the Rural Electrification Corporation which was also established in July, 1969 took over the responsibility for further financing the five pilot rural electric co-operatives.

5.4. The National Rural Electric Co-operative Association experts had formulated detailed project reports for each of the Co-operatives. These Reports were subsequently revised in the light of further developments in the project areas. The Corporation considered the revised project reports and then sanctioned loans to the five co-operatives to the extent of Rs. 1281 lakhs, being 100 per cent of the block cost of the projects including amounts required for taking over the existing assets of the SEBs in the project areas as also the amount needed for further investment in the project areas. The State Governments concerned guaranteed the repayment of principal of loans and payment of interest thereon.

5.5. These co-operatives began their operation between October, 1970 and March, 1971. The projects were based on project approach which implied that the extension of electricity would form part of a wider programme of development in the area for increasing agricultural production and stimulating the growth of rural industries in a manner taking the entire area as a unit for development. These co-operatives were based on 'area coverage' concept which implied:—

- (a) Building up of a net-work of distribution system, adequate for providing service to every one in the area who wants it; and
- (b) determining feasibility on the basis of total cost and total revenues of the entire system rather than on the basis of particular line extension.

5.6. The implementation of the Co-operative projects was phased over a period of 4 to 5 years. The anticipated achievements at the

end of this period and the capital outlay envisaged in respect of each of the five co-operative projects were as follows:—

Society	No. of villages to be covered	Kms. of HT. and Lt. lines	No. of Pump-sets	No. of Lt. Industries	No. of dcm. & commercial connections	Capital outlay (Rs. in lakhs)
1. Sircilla (A.P.) .	173	2435	10299	405	13772	295·94
2. Hukeri (Mysore)	107	1387	3665	309	14293	173·403
3. Kodinar (Gujarat) .	107	1445	5422	323	13422	183·12
4. Mula-Pravara (Maharashtra) .	167	4192	15509	743	13081	385·60
5. Lucknow (U.P.)	241	2270	4117	718	8793	242·65
TOTAL : . . .	795	11729	38912	2498	63361	1280·713

5.7. As against the total outlay of the schemes, the loans sanctioned by the REC and the amounts to be given to SEBs for assets transferred by them to the Co-operatives according to the project reports were as follows:—

Name of the Co-operative	Total outlay	Sanctioned loans by REC	Amount to be given to SEB	Value of new construction	Amount drawn from REC up to 31-3-74 (Rs. in lakhs)
1. Sircilla	295·94	295·94	49	246·94	279·08
2. Hukeri	173·40	173·40	48	125·40	125·398
3. Kodinar	183·12	183·12	22·80	160·32	93·780
4. Mula Pravara . .	385·60	385·60	140	245·60	292·730
5. Lucknow	242·65	242·65	60	182·65	209·036

5.8. The following table indicates the percentage of first, second and proportionate third years' targets (as envisaged in the project report) achieved by the societies upto 31st December, 1973:—

	II KV Lines	LT Lines	Service connec- tions	Connected Load	Village electri- fication
1. Sircilla	100	98	69	59	82
2. Hukeri	43	55	61	74	68
3. Kodinar	47	31	43	54	34
4. Mula Pravara	28	27	45	31	28
5. Lucknow	77	71	46	79	63

B. Performance of Co-operatives

5.9. The Rural Electrification Corporation appointed a Committee (hereafter referred to as Puri Committee) in February, 1972 to evaluate the performance of the pilot co-operative projects and to suggest guidelines for the future in regard to the existing co-operatives, as well as all those which might thereafter be promoted with assistance from the Corporation. The Committee submitted its report on 2nd May, 1973.

Giving an overall assessment of the five electric co-operative the Puri Committee stated that the experience of the co-operatives extended only to five societies spread over about two years and that it was too early to come to any final conclusion about their performance or promise. It was, however, added that the record of performance of Sircilla and Hukeri societies was very encouraging. The Lucknow society had given a fairly good account of itself. The Mula Pravara and the Kodinar Societies, for certain reasons; could not make much headway.

The Puri Committee made the following basic recommendations:

- (a) A large programme of rural electric co-operative should be **taken up in the 5th Plan** and action should be initiated to **organise some societies** in the last year of the 4th Plan itself, that is, during 1973-74;
- (b) A co-operative should be financially viable and capable of servicing the loans, which should be ensured through an adequate equity base; appropriate tariff for purchase of power and a built-in system of subsidy to off-set losses inherent in rural distribution;

- (c) there should be an organic link between the co-operative on the one hand and the SEB and State Government on the other, and this should be reflected in their participation in the equity capital of the co-operative;
- (d) The SEBs should charge a realistic tariff to the co-operatives for energy sold which would render the societies assuming a reasonable degree of efficiency-financially viable; and
- (e) the management should be professionalised and made more modern so as to exercise better control on inventory and have clear-cut-demarcation of functions and responsibilities.

5.10. The Corporation consider the recommendations of the Puri Committee and accepted the same with certain minor modifications. The Corporation had also issued guidelines to the State regarding organisation of Rural Electric Co-operatives and action had been initiated to organise new co-operatives.

5.11. The Puri Committee stated in terms of the Project Reports all the Co-operative except Hukeri were to earn profit in the first year of their operation; but only Hukeri society had earned profit. The two major factors which contributed to the loss of these societies were stated to be line losses and inadequate margin between tariff for bulk power and tariff to the consumers.

5.12. The Puri Committee concluded that given the present tariff structure and the trends in growth of load and energy sale, the working results of all the societies even in the 6th Year may not yield adequate surplus to enable them to meet their commitment to REC. The working results in the 10th year of many of the societies may not, according to that Committee's assessment, yield adequate surplus to enable them to service REC loans.

5.13. The margin available to the Co-operative between the purchase rate and the rate of realisation from the consumer was crucial to its financial viability. The following data compiled by the Puri

Committee revealed that the Co-operatives were operating on slender margins:—

	(Paise per unit)				
	Sircilla	Hukeri	Kodinar	Mula Pravara	Lucknow
1. Rate of Supply of power by SEB to the co-operative assumed in the Project Report	8	6.9	10	9	10
2. The actual rate at which the co-operative purchased power from SEB . . .	8	7.4	13.4	9	10
3. Realisation by the society from consumers per unit of energy bought from the SEB	12.6	14	15.07	9.02	15.2
4. Margin available to the co-operative	4.6	6.6	1.67	0.02	5.2

The figures in the above table show that the Kodinar society is paying to the SEB substantially higher than the rate assumed in the project report whereas in the case of Hukeri, the tariff paid to the SEB is a little higher than the assumed rate.

In this connection the representative of the Ministry of Irrigation and Power stated during evidence:

“Based on the Committee’s findings Government has arrived at the conclusion that the margin between the rate of power sold to these electric Co-operatives by the State Electricity Boards and the power sold to the consumer is much smaller and this is the principal reason as to why the co-operatives are not able to make both ends meet. So, it is a question of increasing this margin and the matter has been taken up by the SEBs and REC carried out a study that shows that SEBs are losing much more on their rural electrification programmes rather than if it is channelised through the co-operatives. Then the losses would be much less. Some State Governments have agreed to give power to electric co-operatives at the lower rate which should enable the co-operatives to make both ends meet.”

5.14. When asked whether the Corporation had considered the recommendations of the Puri Committee and had any suggestions for

improving the operational efficiency of the co-operatives the Managing Director stated during evidence:

"if you look at the financial side, with the exception of one, all have been losing. The co-operative is an entity which has no resources other than what has been given to it by way of loan etc. Here it is very important that the co-operatives must have the barest minimum essential margin, which would at least enable it to meet its operational cost, other liabilities, like interest, depreciation etc.

There are two things. One is the rate at which a society sells electricity to the consumers and the other is the rate at which it buys from the SEB. The consumer tariff is fixed; it varies from State to State. Generally, the agriculture rates are lower than the cost. Those rates being fixed, we have to work backward to give that margin to the co-operatives. If the SEBs are supplying them the power at a higher rate, that will reduce the margin of the co-operatives. They will not be able to operate even at the break-even point. The first five co-operatives were set up as a result of the examination of the USA team. They were there earlier. Those assumptions, according to us, as we look back, were somewhat unrealistic. And what has happened is that the tariff which the SEBs fixed for the co-operatives were comparatively high. The co-operatives did not have the barest essential margin."

5.15. In a note furnished subsequently by the Corporation it was stated that with a view to improving the financial position of the Societies there was a need for providing adequate margin to the co-operatives between purchase rate and rate of realisation per unit of power sold by suitable realignment of tariff scheme. As a result of efforts made by REC in this regard, the State Electricity Boards of Karnataka, Maharashtra and Gujarat had already brought about suitable changes which would benefit the Mukeri Mul Pravara and Kodinar societies. The matter is being pursued with U.P. SEB in regard to the Lucknow society.

5.16. Commenting on the managerial deficiency, the Managing Director of the Corporation also stated during evidence that there had been some management failure in a few areas.

5.17. The Secretary of the Ministry stated that there was deficiency of managerial skill in the electric co-operatives. The res-

possibility of running a co-operative were such that a fairly high powered officer should be put in charge of it. It had been suggested to the State Chief Ministers to consider these officers being of the status of Chief Engineers.

5.18. In a note submitted to the Committee after evidence, the Rural Electrification Corporation stated that there was a need for streamlining the administrative arrangements existing in the societies with a view to bringing about improvement in the functioning of rural electric co-operatives. The areas which needed adequate attention to improve the electric co-operatives were:

"Proper delegation of powers to the Chief Executives; effective control over the line losses; power system management; formulation and implementation of member education and member services programme; proper budgetary and inventory control and proper maintenance of accounts."

5.19. Explaining the measures taken for the improvement of the Co-operatives it was stated that:

- (i) **The Corporation had already advised the societies as well as the concerned State Electricity Boards and State Governments to initiate necessary action on these points. Details about delegation of powers were also worked out by the Corporation and sent to all the societies for adoption.**
- (ii) **For effective control on line losses and for proper system of management the societies had been advised by the REC to determine the feeder-wise line losses, introduce patrolling of the distribution system, undertake a vigorous programme of meter testing, and take up surprise checking of services and also to bring about improvement in the distribution system by fixing LT capacitors.**
- (iii) **Details of the member education and services programme had been formulated and sent to the societies for implementation.**
- (iv) **Regular monitoring of the accounts was undertaken by the REC with a view to evaluating the performance of the societies and also to suggest measures for improvement. The Corporation had also brought out a comprehensive Guide Book covering all these aspects for the guidance of the co-operatives.**

It was added that another method of improving the financial position of the co-operatives could be strengthening the Share Capital base of these societies so that their debt and interest burden could be reduced. The Corporation had taken up the question of augmenting the share capital base of the societies with the concerned State Governments and the State Electricity Boards.

C. New Rural Electric Co-operatives

5.20. Regarding setting up of new co-operatives during Fifth Plan, the Management state:

"It is expected that 25 new rural electric co-operatives might come up during the 5th Plan. Two new rural electric co-operatives have already been registered in Andhra Pradesh viz. the Rayachoti Rural Electric Co-operative Society in Cuddapah district and Anakapalli Rural Electric Co-operative Society in Vishakhapatnam District. The Corporation has already conveyed sanction of pre-construction loan of Rs. 1 lakh each to the new societies and loan assistance to the Government of Andhra Pradesh of Rs. 20 lakhs for share capital participation in the two co-operatives at the rate of Rs. 10 lakhs each.

One Society each in the States of Bihar (Fatwa-Phulwari-Sharif Rural Electric Co-operative Society) and Orissa (Athagarh Rural Electric Co-operative Society in Cuttack District) have already been registered. Their Project Reports however, have yet to be finalised.

The Governments of Madhya Pradesh, Rajasthan and Karnataka have intimated their acceptance in principle to organise new rural electric co-operative in their States. Except in Karnataka, the areas have been identified and further steps initiated for the registration etc., of the societies."

5.21. The Committee note that the Rural Electrification Corporation took over the responsibility for financing the five pilot rural electric co-operatives set up by Government in July, 1969 in the States of Andhra Pradesh, Gujarat, Maharashtra, Karnataka and Uttar Pradesh. The Corporation sanctioned loans to the five Corporatives to the extent of Rs. 12.81 crores. The Committee were informed that with the exception of one, all the Co-operatives have been losing. One of the main reasons as to why the Co-operatives have not been able to operate even at break-even point is that the margin between the rates

of power sold to the Cooperatives by the State Electricity Boards and the power sold to the consumers by these cooperatives is very small. The margin in the case of Mula Pravera and Kodinar was only 0.02 and 1.67 paise per unit respectively. The Committee are informed that as a result of efforts made by REC in this regard, the State Electricity Boards of Karnataka, Maharashtra and Gujarat have now brought about suitable changes in the tariff which would benefit the Hukeri, Mula Pravera and Kodinar Societies. The Committee hope that the State Electricity Boards in the other two States will also be persuaded to bring about necessary changes in the rates so as to improve the economic viability of the respective Co-operatives.

5.22. The Committee recommend that Government/Corporation should work out a minimum margin between the purchase rate of power per unit and the rate of realisation from the consumers keeping in view the economic viability and profitability of the Cooperatives and then take up this question with the State Governments/State Electricity Boards concerned and persuade them to agree to supply power to the Rural Electric Cooperatives in their region at such rates as may give them adequate margin to meet their operational cost and for making provision to enable them to discharge their development programmes.

5.23. The Committee are also informed that the other major factor which contributed to the loss of these Societies was deficiency of managerial skill in the Cooperatives. It has been felt by the REC that there was a need for streamlining the administrative arrangements existing in the societies with a view to bring about improvement in the functioning of these Cooperatives. The Committee would like the Government/Corporation to pursue this matter with the State Governments/State Electricity Boards/Cooperatives concerned so that fairly high powered and well qualified officers who have already been trained by the Corporation are put incharge of these co-operatives, as this will help in creating an impact on the functioning of the Cooperatives. The Committee stress that without effective management and adequate qualified staff it would hardly be possible for the Co-operatives to make headway.

5.24. The other areas which need adequate attention to improve the functioning of co-operatives are line losses, power system management, formulation and implementation of member's education and Member's services programmes; proper budgetary and inventory control proper maintenance of accounts etc. The Committee are informed that the Corporation had already advised the Societies as

well as the concerned State Electricity Boards and State Governments to initiate necessary action on these points.

5.25. The Committee hope that with the implementation of the various schemes suggested by REC the working of these Cooperative would substantially improve. The Committee also find that Corporation had taken up the question of augmenting the share capital base of the societies with the concerned State Governments and State Electricity Boards. The Committee would like to be informed about the concrete action taken by the State Governments/State Electricity Boards and the progress made in this regard.

5.26. The Committee are informed that according to a study carried out by REC the State Electricity Boards were losing much more on the rural electrification programme than when it came to be channalised through the Cooperatives. In view of this the Committee recommend that the REC should make concerted efforts not only to improve the functioning of the existing Cooperatives but also encourage the growth of such Co-operatives in other States.

5.27. The Committee were informed that 25 new Rural Co-operatives are proposed to be set up in the 5th Five Year Plan. The Committee would like that a phased time bound programme should be drawn up for the implementation of this proposal and the Committee informed of the details. The Committee also recommend that the experience gained in the functioning of the Cooperatives already set up should be effectively utilised in setting up new cooperatives so that these are free from the difficulties and handicaps which have hampered their working.

VI

RESEARCH AND DEVELOPMENT

A. Survey and Development Activities

6.1. It has been stated in the Report of Task Force on Rural Electrification that, to keep abreast of the times and to utilise the fruits of development elsewhere, it is necessary to have an organisation solely devoted to research and development work.

6.2. The Committee asked as to the steps taken by Corporation for organising the Research and Development programme on the lines suggested by the Task Force. The Corporation in a written reply stated that Research on the following items had already been taken up and the position was as indicated below:—

“(1) *Optimum Design of PCC/RCC poles*: An applied research programme for evolving optimum and economic designs of PCC and RCC poles has been sponsored at the Cement Research Institute of India. CRI have carried out 36 designs and arrived at a design suitable under declared parameters. Based on current international practices these changes were agreed to, and the designs of poles based on these revised parameters have been requested to be taken up. CRI has been requested to address ISI to agree to the change in practice.

(2) *Reduction in losses*: As a part of the programme initiated by the Corporation for reduction of line losses in rural systems, the Corporation entrusted the Indian Institute of Technology a study for determining experimentally the power factor at which the general purpose induction motors, commonly used for agricultural purposes, operated under varying conditions of load and voltage and determining the extent to which the power factor can be improved with the help of L.T. capacitors. The results of this study and allied investigation carried out by the Corporation was subsequently discussed by a Committee comprising the representatives of REC, some of Electricity Boards, that Central Board of Irrigation and Power and decision was taken to recommend to the State Electricity Boards, wide use of LT capacitors at the terminal

of the consumer's motors. In pursuance of the recommendations of the Committee, a number of State Electricity Boards namely, Haryana, Punjab, Uttar Pradesh, Gujarat, Tamil Nadu, Andhra Pradesh and Karnataka have revised the conditions of supply making the provision of capacitors by the power consumers compulsory. This is likely to appreciably bring down the losses in the rural electrification system.

- (3) *Crimping Tools*:—The Corporation is making efforts to develop a cheap and manually operated crimping tool which is widely used in other countries. This tool is used for making quick and strong joints in high tension and low tension lines, thereby improving continuity of supply and reducing the line losses. The work is presently going on.

The prototypes when ready, would be distributed to the Electricity Boards for being used on experimental basis in the field so that these could be later ordered by them for regular use in their systems.

- (4) *Research Seminar*:—A Seminar on Research problem relating to rural electrification was organised in May, 1974 in which a large number of papers covering a wide range of topics were discussed. As a result of the discussion at the Seminar the problems which could be taken up immediately for research were identified. These subjects include (i) development of motors with high power factor at partial loads; (ii) design of special type or cross arms for use on rural lines and (iii) use of aluminium alloy conductors in coastal areas. Appropriated action in this regard has already been initiated.

- (5) *Import Substitution*:—At present some of the components used in the manufacture of LT capacitors are imported, viz insulating oil Chlorinated Diphenyl and Tissue Paper. Efforts are being made to study these components in detail and in this connection discussions are being held with the manufacturers and the Indian Manufacturers' Association to find out the possibility of using certain indigenous materials in place of imported components. The indigenous substitutes for the Chlorinated Diphenyl Oil are Aroclor fluid and for Tissue Paper is Plastic Insulated paper to some percentage. This will reduce the need for foreign exchange and will also boost the indigenous production of capacitors which will now be used in large quantities."

6.3. The Corporation added that Committee consisting of representatives of Gujarat, Karnataka, West Bengal, Punjab and Uttar Pradesh State Electricity Boards and officers of Rural Electrification Corporation had been set up to advise the REC on specified research problems.

6.4. The CRI is stated to have been addressed to indicate the terms and conditions for development of PCC crossarms.

The following firms have also been addressed to indicate their terms and conditions for development of motors with high power factors at partial loads.

1. M/s. Bharat Bijli
2. M/s. N.G.E.F.
3. M/s. Crompton Greaves
4. M/s. BHEL

It has also been stated that replies are being received from the various firms.

6.5. Following institutions abroad have been addressed to furnish the details on the manufacture of insulated crossarms:--

1. Rural Electrification Administration, Deptt. of Agriculture, U.S.A.
2. Transmission & Distribution Engineer, Ontario Hydro, Canada.
3. Electricity Council Overseas Communication Service, London.
4. Swedish State Power Board, Sweden.
5. Electricity Supply Association of Australia, Melbourne, Victoria.
6. Electricite de France, Paris
7. Bertungas-Steillis Fur, Dusseldorf.
8. Ente Nazionale Per L'EMERGOA ELECTROCA, Italy.
9. Ministry of International Trade and Industry, Japan.

Replies are being received.

6.6. A meeting was held on 19th August, 1974 with the representatives of BHEL, Bhooal and M/s. Permal Wallage, Bhooal to decide further action to be taken on insulated cross arms.

M/s. Permal Wallce have been requested to furnish information on the cost of "Parasulator" for use with wood crossarms, steel crossarms and with their own make insulated crossarms and also the cost of their insulated crossarms suitable for the line construction standards of the R.E.C.

Letters have been issued to various State Electricity Boards to instal short length of aluminium alloy conductors in polluted areas to study their performance.

The Corporation further stated:—

"No specific provision has so far been earmarked for Research and Development. Expenditure on various research problems is met from the existing budget. However, now the expenditure will be met from the Special Development Reserve which has recently been created to finance among others, research activities."

6.7. In this connection the Ministry of Irrigation & Power informed the Committee in a written note after the evidence that no separate funds had been provided in the draft Fifth Five Year Plan for organising the research and development programme as such for rural electrification. The research and development programme in the field of rural electrification was to be undertaken by the State Electricity Boards from the funds earmarked for the rural electrification programme. It was further stated that the Corporation had set up a Research Committee to identify the technological problems having direct bearing on rural electrification and those of immediate interest. The Committee would also work out further such specific programmes of research that may be undertaken.

6.8. The Committee enquired during evidence of the representatives of the Ministry of Irrigation and Power whether Government had thought of any totally radical methods like tidal power, wind power, gobar gas based on animal waste and methane gas generated from human waste, for providing electricity in localised areas or to a group of villages not dependent on large financial resources.

The representative of the Ministry replied as follows:—

"About the tidal power possibilities, some possibilities exist. At Sunderban, preliminary studies have been made of the possible scheme that could be formulated for generation of power. The La Rame project in France has been the model for our scheme. The Government of India has consti-

tuted a Study Group for tidal power possibilities in the gulf of centres. They will collect data regarding nautical tides etc. from the available data. Some survey data will also be required. This Study Group will prepare some sort of a preliminary reconnaissance report. Therefore this project will be considered. The tidal power cost is much high. The alternative sources are much cheaper. The tidal power would not be quite desirable at the present state of our economy. In France, they have developed only one project. They are not now developing further. Tides go on shifting and that creates lot of problems. Some study is on hand. The problem mentioned by the hon. Member relate to research and development on non-conventional sources of energy like solar energy, tidal power and wind power. For this purpose, a sum of rupees four crores has been provided to the Department of Science and Technology for funding projects in this regard during the 5th Plan. With regard to wind power, the National Aeronautical Laboratory has already developed a suitable design. Several of such mills have been in use in the State of Karnataka for pumping water. We have recently installed one such mill in our Research Institute, Bangalore and are making studies for the effective use of the power that would be generated from such a wind mill. There are some problems.

First of all, the wind mill is connected to a DC generator and because of the variable speed of wind, the voltage of the DC generator would be varying, our object is to have a constant DC voltage, and for this purpose, we are developing a suitable electronic device. We are working on that. We are also developing a suitable induction generator which can be connected to the general AC net work. This would be very useful and you will get alternative source of energy instead of DC which has certain limitations."

6.9. Regarding Gobar gas plants the Committee were informed that the Ministry of Irrigation and Power had not done anything because that was being dealt in other Ministries. The Science and Technology Department was stated to be doing considerable work on the gobar plants and also on plants based on human waste.

6.10. The Committee note that the Corporation has taken up research on items like optimum design of PCC/RCC poles, reduction in line losses, crimping tools, import substitution, the development of motors of high powered factor at partial loads, design of special

types of crossarms for use on rural lines and use of aluminium alloy conductors in coastal areas etc.

6.11. The Committee were informed that no specific provision has so far been earmarked for research & development work and the expenditure on research problems was met from the existing budget and in future it was proposed to be met from the Special Development Reserve created by the Corporation. No separate funds had been provided even in the draft Fifth Five Year Plan for organising research & development programmes as such for rural electrification and the research & development work programmes in rural electrification in the fields are undertaken by the State Electricity Boards from the funds earmarked for the rural electrification programmes. The Corporation had set up a research committee to identify the technological problems having a direct bearing on rural electrification and those of immediate interest. That Committee would work out further specific programmes that may be undertaken for research.

6.12. The Committee hope that the research committee set up by REC would soon identify the areas on which the research could be undertaken so that the Corporation may be in a position to utilise the results for achieving import substitution and effecting technological improvements and economies in Rural Electrification.

6.13. The Committee also recommend that the Corporation should keep a close liaison with other research institutes already engaged in investigation and research in various problems associated with the generation, transmission and distribution of electrical energy in India in a rational and economical manner like the 'The Central Power Research Institute', Bangalore and Bhopal units, 'Research and Development Organisation for Electrical Industries', Bhopal, 'the Indian Institute of Technology,' etc. so as to avoid duplication of efforts. The Committee would like the Corporation to sponsor/undertake research only on such aspects as were of urgent practical interests of rural electrification and concentrate only on priority areas in order to achieve early break through in rural electrification.

6.14. The Committee would also like REC to keep in close touch with the Department of Science and Technology regarding the developments on non-conventional sources of energy for which a sum of Rs. 4 crores is stated to have been provided for projects during the 5th Plan, so that the results of the experiments could be gainfully utilised by REC in their schemes of rural electrification.

B. Standardisation

6.15. The Management of the Corporation have stated that there was considerable disparity in the specifications as well as in the cost of materials used by various States Electricity Boards for rural electrification. It not only involved increased cost in manufacture but also caused delay in the execution of the orders. The Committee were informed that if the materials and equipment used for rural electrification could be standardised, it could reduce costs by at least 10 to 15 per cent and that besides, it would be possible for the manufacturers to supply the standardized equipment from their ready stock. With the twin objectives of ensuring maximum economy and quickening the pace of rural electrification schemes a separate standardisation Cell was set up in REC in November, 1970.

6.16. In pursuance of the above objectives, certain specifications and construction standards have been evolved by REC in consultation with the Central Water & Power Commission, Indian Standards Institute, Central Board of Irrigation and Power and the various State Electricity Boards. A Technical Committee comprising the representatives of the REC, State Electricity Boards and ISI etc. also go into the details and approve the issue of the specifications and standards. The REC has already evolved certain specifications and construction standards as mentioned below:--

Specifications

1. Hard drawn standard Aluminium and Steel Cored Aluminium Conductors for Overhead Power Transmission Lines.
2. Outdoor type Three-Phase II KV/433-250 V Distribution Transformers up to and including 100 KVA.
3. Porcelain Insulators and Insulator Fittings for 11 KV Overhead Power Lines.
4. Porcelain Insulators and Insulator Fitting for 415/240 V Overhead Power Lines.
5. Single-phase and Three-phase Whole-Current A.C. Meters.

Construction Standards

	<i>No. of Standards.</i>
A. 11 KV lines	9
B. 415/240 V lines	9
C. 11 KV Insulators & Fittings	2

D. 415/20 V Insulators and Fittings	5
E. Conductors & Accessories	18
F. 11 KV/433-250 V Distribution Sub-stations	5
G. Guying Details	3
H. Service Connections	9
I. Earthing Practice, Safety Devices	3
J. Miscellaneous	3
K. 33/11 KV Sub-stations	1

A number of specifications/construction standards are still stated to be under preparation.

6.17. To an enquiry as to how far in the opinion of Government the standardisation has helped in effecting economy in cost and accelerating electrification the Ministry have stated that:

"The Rural Electrification Corporation Ltd. have been doing pioneering work in regard to standardisation of practices and materials for use in rural electrification. Government expect standardisation result in economy in the cost of materials and to speed up construction work. However, no quantitative assessment has been made by Government of the savings effected as a result of the standards prescribed so far by the Rural Electrification Corporation Ltd."

A number of specifications/construction standards in regard to 33/11 KV transformers, L.T. capacitors, Design of supports for angle and dead-end locations, Guy tables, AB switches, H.G. fuses, Manual for maintenance and operation of pumpsets, safety Code, etc. were also stated to be under preparation.

6.18. The Committee note the efforts made by the REC to standardise the specifications of the material used in rural electrification and also the construction practices with a view to effecting maximum economy and accelerating the pace of rural electrification. The Committee were informed that the standardisation of specifications and construction practices could reduce cost by at least 10 to 15 per cent. The Committee would like that the schemes for standardisation in respect of various items which were stated to be under preparation should be finalised as early as possible and introduced in the actual execution of the rural electrification schemes. The Committee would also like the REC to continue their

efforts and progressively identify more and more items in which there was scope for standardisation and economy in construction practices with the ultimate objective of covering the entire field of activity systematically and achieving economy in construction consistent with efficiency.

6.19. The Committee recommend that Government should contemporaneously make a critical assessment of the economies effected as a result of the standards provided by REC and arrange to issue suitable guidelines for adoption of these standards by the State Electricity Boards. The Committee would like that the Corporation should mention the details concerning the items standardised and adopted in actual execution in their Annual Reports for the information of the Parliament.

C. Ground Water Potential

6.20. In the rural areas, power is mainly used for lifting ground water for irrigation purposes. As utilisation of power for pumping ground water depends on adequate availability of water a proper survey of the ground water research is essential if the investments are not to become infructuous. It is also essential that investment on energisation of pumpsets is related to potentialities for ground water development in a region.

6.21. While explaining the position to the Committee about the constraints/difficulties faced by the Rural Electrification Corporation, the Managing Director of the Corporation stated during evidence that the available ground water potential went waste due to inadequacy of organisations at State level. He further stated that almost all the States had some cells or wings to look after this work and the Corporation was trying to strengthen those cells in many States. These cells took some time before they started working efficiently.

6.22. The Committee pointed out that the ground water survey had not been properly done and it was this difficulty which was coming in the way of REC for rural electrification programme and enquired as to what steps were taken by the Ministry during the last five years to obviate these difficulties. In reply, the representative of the Ministry stated:—

“There has been a lot of development in the field of ground water survey during the last eight years. Upto the year

1965 the order of development was 3 per cent but with the appearance of high yielding varieties and realisation of the significance of ground water as an assured source of irrigation and with the availability of cooperative credit there was great spurt in the demand of ground water since 1965 onwards. Upto 1965 only Geological Survey of India had a few directorates in the States which were carrying out some geological reconnaissance and there was Exploratory Tubewells Organisation which used to do drilling in the prospective areas. Since 1965 we felt merely a Central agency will not be able to perform this gigantic task and that the State Ground water organisations were a must. Now, more or less every State has a fairly good ground water organisation.

As far as the programme is concerned we are adding 4 million acre feet of water every year."

6.23. To an enquiry whether the Government proposed to conduct an all India survey regarding the availability of ground water in different regions, the representative of the Ministry stated:—

"the Government of India as well as the State Governments are busily engaged in conducting surveys of the ground-water potential. In fact, I should say the Government of India Ground Water Board as well as the State Governments' agencies are already working on a survey of the ground water potential. It has been done for the past several years, particularly, after 1948, when many villages had come within the groundwater scheme. And ground-water has assumed a great importance because water is required in right time and in right quantity. "...." Of course with more surveys and with higher technological applications, the potential may go up somewhat in the years to come. A rough picture is already available."

Further clarifying the position the representative of the Ministry stated that survey in ground water was a continuous process. The Government had two-fold approach. On the one hand they were trying to apply all the available knowledge and intensify ground water in as fast a manner as possible. Secondly, a lot of information in ground water investigation was thrown up by production programme itself, and this way every year they were getting more and more knowledge. The representative of the Ministry added that groundwater knowledge and availability of data was not a bottle neck in ground water planning now.

6.24. Asked how Government were helping REC in formulating their schemes, the representative of the Ministry stated that: "we are associated with REC and a very good guideline was mutually formed. There was a conference attended by experts all over the country and it formulated a guideline for the preparation of the REC schemes. Now schemes are being prepared according to this guideline. At the State level REC schemes are required to be prepared by the State Electricity Boards in active collaboration with the State Government organisations."

6.25 The Committee are concerned to note that the available ground water potential went waste though almost all the States have some cells or wings to look after the work regarding ground water survey because of the inadequacy of the organisation of ground water and survey, could not be properly done. This difficulty is coming in the way of Rural Electrification Corporation for rural electrification. The Committee are informed that Government of India Ground Water Board as well as State Government agencies are already working on a survey of ground water potential and with more surveys and with higher technological applications, the potential may go up somewhat in the years to come and that ground water knowledge and availability of data was not a bottleneck in ground water planning.

6.26. The Committee need hardly stress that all efforts to supply power in the rural areas for energisation of pumpsets would prove futile and all investments made for rural electrification would be infructuous if there is lack or inadequacy of ground water in those areas.

6.27. The Committee recommend that Government should ensure that the State ground water organisations are involved in a greater measure in planning and in locating ground water potential areas and before the Corporation sanctions any rural electrification scheme, it should make sure of the availability of ground water in the area for which the electrification scheme is intended.

VII

FINANCIAL MATTERS

A. Idling of Funds

7.1. A statement showing the receipts and disbursement of funds by R. E. C. during 1969-70 to 1973-74 is given below:

				(Rs. in crores)			
	Opening balance	Receipts	Internal resources	Total	Disburse- ment	Closing Balance	
1969-70 . . .	..	10.00	0.03	10.03		9.95	
1970-71 . . .	9.95	22.00	0.17	32.13	26.09	6.04	
1971-72 . . .	6.04	39.00	0.62	45.83	35.67	10.16	
1972-73 . . .	10.16	57.34	1.46	68.85	48.91	19.94	
1973-74 . . .	19.94	38.66	2.18	60.78	51.20	9.23	
						0.36 T.B.	
		167.00	4.46	171.46	161.87	9.59	

7.2. The Committee pointed out that while there has been idling of funds in REC by investment for securities, the programme of Rural Electrification in States are suffering due to lack of funds. The Corporation stated in a written reply that the balances carried forward represented money committed to be disbursed to SEBs in respect of schemes already sanctioned but not drawn by SEBs for various reasons more particularly because of their failure to show the prescribed level of performance. In all cases where the performance of SEBs relating to Projects was not satisfactory, it was brought to their notice for remedial action. It was added that SEBs were never short of funds as far as execution of schemes was concerned, as the funds provided by REC to SEBs are in the nature of advance payment and not by way of reimbursement of expenditure incurred. In this connection, the Ministry stated that the carry-forward was not on account of investment in securities. On the other hand, because of the carry forward they had to be invested in securities according to the directive of the Government of India.

7.3. The Committee pointed out that unsecured loans from Government of India to Rural Electrification Corporation carried rates of interest of 6 per cent to 6.25 per cent while investments in Government securities carried interest at 4 per cent only and enquired about the loss incurred by REC due to difference in interest. The Corporation, in a written reply, stated that the investments were as per Government directive to the Corporation. The Corporation, however, ensured that the loss on account of the difference in interest rates on the unsecured loans from Government of India and investment in Government securities is reduced to the minimum by drawing loans from Government as late as possible in the financial year concerned. Thus loans from Government of India were generally drawn by the Corporation during March each year and the Corporation made disbursements to the full extent of loans to SEBs etc. ensuring that the loan funds remained with the Corporation for not more than about 2 weeks in any case. The Corporation had requested Government of India to increase the rate of interest on special securities to further reduce the marginal loss on this account and their reaction is awaited. In this connection, the Ministry in a written reply stated that, "the Corporation has also sent a proposal to allow them to invest the money in scheduled banks. These proposals are under consideration."

7.4. The Committee note that while on the one hand the Corporation is complaining of lack of adequate funds for financing the rural electrification programmes, funds to the extent of Rs. 6 crores to Rs. 20 crores were laying unutilised. The Committee are informed that these represented undisbursed amounts relating to State Electricity Boards because of various reasons and particularly because the performance of some projects of SEBs did not come up to the required level to enable disbursement of subsequent instalments. The Committee note that Government of India directed the Corporation to invest such carry-forward amounts in Government securities, and such investments carry interest rates much lower than the rates of interest at which unsecured loans are obtained by REC with the result that the Corporation is put to a financial loss on account of such investments. The Committee are informed that the Corporation had already approached the Government of India for an increase in the rate of interest on special securities and to allow them to invest the money in scheduled banks and the Government of India is yet to take a decision.

7.5. While the Committee agree that it would be in the interest of the Corporation to retain the unutilised funds with it for meeting

its needs, the Committee recommend that the Corporation should undertake a detailed review of those projects which have not come up to the required level so as to analyse the causes/difficulties with a view to rendering constructive assistance/guidance in removing these constraints to enable the State Electricity Boards to draw the subsequent instalments of loans.

7.6. The Committee desire that a suitable working arrangement should be evolved for the investment of the unutilised amount so that the Corporation is not a loser in complying with Government directions.

B. Working Results

7.7. The Working results of the Corporation for 1970-71 to 1973-74 are tabulated below:

	(Rs. in lakhs)			
	1970-71	1971-72	1972-73	1973-74
Income	67.27	186.89	471.74	736.91
<i>Expenditure</i>				
Salaries and other expenses	14.24	27.14	55.74	72.27
Interest on loans		8.87	69.15	128.35
Profit before tax	53.04	150.88	346.85	536.29
Tax provision		77.40	180.00	282.00
Profit after tax		73.48	166.85	254.29
% of profit to equity capital		6.12	8.34	8.20
% of administrative expenses to interest and other receipts.		14.52	11.82	9.81

7.8. The Committee pointed out that the expenses on salaries and other expenses have increased from Rs. 14.24 lakhs in 1970-71 to Rs. 72.27 lakhs in 1973-74 and enquired whether the Corporation had fixed any norms for the staff pattern.

7.9. The Managing Director of the Corporation informed the Committee during evidence thus:

"No norms as such have been set, because norms are not really for senior staff;"

7.10. The Secretary of the Ministry stated that the Corporation had been managing with the administrative expenses of near by

9.8 per cent of the income but he could not say whether it was reasonable and to what extent this was justified. He added that:

“the Board of Directors are expected to review the matter from time to time. I am informed by my representative on the Board of Directors that no particular norms had been fixed but I will certainly take up this question for consideration.”

He added that:

“Wherever feasible it ought to be fixed otherwise administrative expenses will go up.”

7.11. The Committee are glad to note that the percentage of profit to equity capital has risen from 6.12 per cent in 1971-72 to 8.2 per cent in 1973-74. The Committee expect that the Corporation would continue to maintain the tempo of the working of the Corporation at a reasonable level so as to ensure generation of surpluses for further development of REC.

The Committee note that the administrative expenses of the Corporation has increased five fold from Rs. 14.24 lakhs in 1970-71 to 72.27 lakhs in 1973-74, though the percentage of administrative expenses to income has been decreased from 14.52 to 9.81 per cent. The Committee are informed by the representative of the Ministry during evidence that though the Corporation is managing with the administrative expenses of 9.8 per cent of income, he is not in a position to say whether it is reasonable and to what extent the increase is justified. The Committee also note that no norms for staffing pattern have so far been fixed.

Recommendation regarding staffing pattern and administrative expenses has been recorded in this Report vide para 8.13.

VIII

ORGANISATION

A. Board of Directors

8.1. The present composition of the Board of Directors of the Rural Electrification Corporation is given below:—

<i>Chairman</i>		1
<i>Managing Directors</i>		1
<i>Members</i>		
Representatives of Government of India	Ministry of Agriculture	1
	Ministry of Finance	1
	Planning Commission	1
	Central Water and Power Commission	1
	Ministry of Irrigation & Power	1
	Retired Chief Engineer Andhra Pradesh State Electricity Board	1
Representatives of Public Sector		2
Representatives of Private Sector		2

8.2. The Committee enquired whether State Electricity Boards should not be given adequate representation on the Board of Directors. The Ministry in a written reply stated that:

“The State Electricity Boards are not represented on the Board of Directors. The main function of the Rural Electrification Corporation Ltd. is to finance the programme of the rural electrification in the country. The schemes are drawn up by the State Electricity Boards and sponsored by them to the Rural Electrification Corporation Ltd. for necessary financial assistance. The Boards, are, therefore, borrowers of finance from the Rural Electrification Corporation Ltd. While it is not considered incumbent to include representatives of the borrowers in the Board of Directors of the Corporation, Government have not so far examined the pros and cons of such representation in depth and taken any firm view in the matter.

The expertise and experience of the State Electricity Boards is however, availed of by the Rural Electrification Corporation Ltd. by drawing officers of the Boards on deputation from time to time."

8.3. The Committee find that at present the Board of Directors is headed by a Part-Time Chairman assisted by the Managing Director of the Corporation, 5 Government Officials, a retired Chief Engineer from Andhra Pradesh State Electricity Board, Managing Director of ARC and 2 Directors from private sector and there is no representative of the State Electricity Board on the Board. The Committee are informed that since the State Electricity Boards are borrowers of finance from the REC, it is not considered incumbent to include representative of the borrowers in the Board of Directors. The Government have not also examined in depth the pros and cons of such an inclusion. The Committee would like the Ministry to evolve a system by which one representative from each Zonal/regional grid should by rotation serve on the Board of Directors of the Rural Electrification Corporation to enable the Corporation to appreciate the problems of State Electricity Boards in a better perspective and take suitable remedial action to solve these problems in the interest of implementation of the rural electrification programmes.

B. Staff Strength vis-a-vis work done in REC

8.4. The Corporation is headed by an honorary part-time Chairman who is the principal co-ordinating authority in the Corporation. The wholetime Chief Executive of the Corporation is its Managing Director who is in overall charge of all Divisions other than the Technical Division. He reports to the Chairman and the Board of Directors. There is one Technical Director in charge of the Technical Division. On all technical matters concerning the working of the Corporation the Technical Director reports to the Chairman and the Board.

8.5. Keeping in view the promotional as well as the Operational work devolving on the Corporation an organisational set up has been evolved consisting of, besides a Secretariat which served the Board, four principal divisions viz:—

- (i) Technical Division;
- (ii) The Project Appraisal Coordination and Evaluation Division (PACE);
- (iii) Finance and Accounts Division;
- (iv) The Cooperative Organisation, Planning and Training Division;

In addition there are three cells one each for (a) personnel Administration; (b) Information and Public Relations; and (c) Standardisation.

8.6. The Corporation has paid special attention not only to evolving an appropriate organisation scheme so as to cope with its expanding operations but also to reviewing its adequacy from time to time. In the light of such a review the Corporation opened its first Regional Office at Calcutta covering Assam, Meghalaya, Orissa, besides West Bengal headed by a Chief Project Engineer. The Corporation expects that the Regional Office would help speed up both project formulation and project implementation in these States. In the context of the large tasks of the Fifth Five Year Plan including the greater complexities of Minimum Needs Programme the Corporation will be handling a total programme which is almost three times that was entrusted to it in the 4th Plan. A new Division has been added termed as Planning Evaluation, Research and Training Division (PERT). With this new division the project has now five principal Divisions and three Cells.

8.7. The Management stated in a note furnished to the Committee after the evidence that the staff strength of the Corporation had been augmented from time to time on account of the increase in the activities of the Corporation.

The Category-wise total staff strength at the end of each of the financial years from 1969-70 to 1973-74 and the increase over the previous year are as follows:—

Year	Class I & II		Class III		Class IV		Total	
	At the end of the yr.	Increase over the prev. year	At the end of the yr.	Increase over the prev. year	At the end of the yr.	Increase over the prev. year	At the end of the yr.	Increase over the prev. year
1	2	3	4	5	6	7	8	9
1969-70	8		8		8		24	
1970-71	28	20	48	40	31	28	107	83
1971-72	38	10	60	12	34	3	132	25
1972-73	86	48	168	108	70	36	324	192
1973-74	104	18	223	55	114	44	441	117

8.9. In regard to clerical staff (including stenographers) and Class IV, the Corporation has adopted the same norms as obtaining in the Government of India.

8.10. The Corporation sanctioned 11 loans amounting to a total of Rs. 5.89 crores upto the end of 1969-70 whereas at the end of 1973-74 the number of loans sanctioned stood at 693 amounting to Rs. 304.32 crores. The number of projects appraised and monitored during these five years was 40,79, 164, 373 and 438 respectively.

The expenditure on administration increased from Rs. 27.14 lakhs in 1971-72 to Rs. 55.74 lakhs in 1972-73 and to Rs. 72.27 lakhs in 1973-74 though the percentage of administrative expenditure to the income decreased from 14.52 in 1971-72 to 11.82 in 1972-73 and to 9.81 in 1973-74.

8.11. The Committee enquired during evidence of the representatives of the Ministry of Irrigation and Power whether any study had been made to find out whether the increase in staff strength was proportionate to the rate of growth of the work in the Corporation and whether any norms had been fixed for staff. The Secretary of the Ministry informed the Committee that the public sector undertakings were expected to function in an autonomous way and the Government did not have any direct hand in regard to the staff pattern. He further stated that the REC was managing with the administrative expenditure of nearly 9.8 per cent of the income.

8.12. Asked whether it was not desirable to fix norms from the Ministry side, the Secretary of the Ministry stated that:

"I am informed by my representative on the Board of Directors that no particular norms had been fixed but I will certainly take up this question for consideration."

The Secretary conceded that wherever feasible the norms ought to be fixed otherwise the administrative expenditure would go up.

8.13. The Committee are greatly perturbed at the marked increase in expenditure on administration from Rs. 27.14 lakhs in 1971-72 to Rs. 72.27 lakhs in 1973-74. It would not be out of place to mention that one of the reasons why some State Electricity Boards have come in for criticism in recent months is because of their unwidely size. This underlines the imperative necessity of keeping the Corporation compact and result-oriented right from the beginning.

The Committee recommend that no further time should be lost in carrying out a critical review of the administrative set-up of the Corporation so as to effect maximum economy consistent with efficiency. The Committee would like to be informed of the concrete action taken in pursuance of this recommendation including the economy effect and the norms laid down to ensure that there is no unjustified expansion of staff, particularly those belonging to non-technical categories.

C. Conferences/Seminars

8.14. The Committee were informed by the Management in a written reply furnished after the evidence that the Corporation had organised eight conferences/seminars during the period 1969-70 to 1973-74 but the account of the expenditure incurred in general or on hospitality in connection with even the first of these conferences/seminars held in November 1970 had not been separately complied.

8.15. The Committee are unhappy to note that no separate account of expenditure incurred on seminars etc., has been maintained by the Corporation. The Committee would like the Corporation to compile expenditure incurred on this account expeditiously and to ensure that separate account of such expenditure is regularly maintained in future to enable the management to exercise a check against extravagance on such occasions.

8.16. The Committee would like Government/Corporation to undertake evaluation of the seminars/conferences held so far to verify as to how far the time and money expended in this connection are related to their utility and the benefits derived should be explicitly mentioned in the Annual Report of the Corporation for the year concerned.

8.17. The Committee also recommend that the Corporation should adopt a system of taking follow up action in respect of the reviews made and the decisions arrived at each seminar/conference in the interest of bringing about improvements in the performance of the Rural Electrification Corporation.

IX

CONCLUSION

9.1. The Rural Electrification Corporation was set up as a Government Company in July, 1969 with a view to finance rural electrification schemes in the country, to subscribe to special rural electrification bonds that may be issued by the State Electricity Boards, to promote and finance rural electricity cooperatives in the country and to administer the moneys received from time to time from the Government of India and other sources as grants or otherwise for the purpose of financing rural electrification in the country in general.

9.2. Government of India have also issued a set of directives requiring REC to establish sound policies and procedures for consideration, approval and implementation of rural electrification schemes to be financed by it, to develop and apply criteria for establishing priorities as regards the choice of schemes and the basis of economic viability and to adopt a project approach so that extension of electricity along with other investments results in increased agricultural production in the area.

9.3. During the course of examination of the working of the REC the Committee find that:—

- (i) The main task of the Corporation is that of assisting State Electricity Boards to transmit power to rural areas and through power to achieve overall development in villages.
- (ii) the percentage of profit to equity capital has risen from 6.12 per cent in 1971-72 to 8.2 per cent in 1973-74 for purpose of sanction of loans. The Corporation has categorised the loans under 8 heads depending on the areas proposed to be developed and sanctioned loans amounting to Rs. 300 crores upto the end of 1973-74 for 618 rural electrification projects in 18 States. Out of 618 rural electrification projects sanctioned upto 31st March, 1974, 18 were for Special Transmission Lines and Sub-stations, 22 for System Improvements, 278 for Ordinary Advanced Areas, 211 for Ordinary Backward Areas, 56 for Special Under-developed Areas,

5 for cooperative projects and 28 for Mini Projects for Growth Centres etc. The schemes for backward areas were 295 for which loans to the extent of Rs. 138.78 crores were sanctioned.

- (iii) the Corporation is following a project based development approach and has a system of concurrent and continuous monitoring of the projects financed by it.
- (iv) The scheme of electrification of Harijan Bastis was transferred to the Corporation by the Government of India to be handled on an agency basis. The Corporation sanctioned loans amounting to Rs. 3.67 crores for 75 projects in 14 States for electrification of 8617 Harijan Bastis and 49523 street lights in these bastis. The amount disbursed to end of 1973-74 was Rs. 2.51 crores.
- (v) The Corporation took over the responsibility for financing 5 rural electric cooperatives set up by Government in July, 1969 in the States of Andhra Pradesh, Gujarat, Maharashtra, Karnataka and Uttar Pradesh and sanctioned loans to the extent of Rs. 12.31 crores.
- (vi) The Corporation took up research on items like optimum design of PCC/RCC Poles, reduction in line losses, Crimping Tools, import substitution, development of motors of high powered factor at partial loads, design of special types of cross-arms for use on rural lines and use of aluminium alloy conductors in coastal areas.

9.4. The Committee, however, find that:—

- (i) as many as nine States namely, Bihar, Jammu & Kashmir, Madhya Pradesh, Assam; Nagaland; Rajasthan, Uttar Pradesh, Orissa and West Bengal which were below the all India average of 13 per cent in 1968-69 in the matter of rural electrification continued to remain below the all India average of 27.3 per cent at the end of 1973-74. The States of Assam, Meghalaya and Tripura have remained most backward with less than 6 per cent villages electrified, the lowest being Tripura with 2.1 per cent;
- (ii) against the loans sanctioned amounting to Rs. 300 crores upto the end of 1973-74 in 18 States the actual disbursement of loans instalments was Rs. 162 crores only. As on

15th November, 1974 second instalment in respect of 154 schemes amounting to about Rs. 25 crores have not been drawn upto 1972-73 due to failure of some SEBs to submit loan documents in time, failure to achieve the prescribed level of physical performance;

- (iii) during the Fourth Plan the Government had placed a ceiling that the Corporation should not sanction schemes worth more than Rs. 300 crores whereas according to the Corporation they could have sanctioned schemes worth Rs. 50 crores more but for this ceiling during that period; the Corporation however, had not made an estimate of their needs during the Fourth Plan. Against the assessment of over Rs. 900 crores made by Task Force on rural electrification, according to the draft Fifth Plan, only Rs. 400 crores for normal programme and Rs. 272.3 crores for Minimum Needs Programme has been provided for REC;
- (iv) there is often little coordination between the different financial institutions which are financing the rural electrification programmes such as State Governments, State Electricity Boards, Rural Electrification Corporation, Agricultural Refinance Corporation, Commercial Banks and Life Insurance Corporation;
- (v) electrification of Harijan Bastis has suffered because of the apathy of Panchayats/State Electricity Boards/State Governments in spite of the fact that Government of India have been providing funds for the purpose. There is tendency of ignoring the needs of areas inhabited by the weaker sections of the society;
- (vi) assuming that the Fifth Plan targets are fully achieved, only 45.5 per cent of the villages of India would be electrified by the end of the plan period. In other words more than half the villages of the country would still remain un-electrified in 1979;
- (vii) the pace of rural electrification has been impeded mainly due to various deficiencies and inadequacies in the working of State Electricity Boards. The reorganisation of State Electricity Boards is of primary and prior importance as the present functioning of State Electricity Boards leaves much to be desired;

- (viii) one of the constraints faced by the State Electricity Boards in implementing the Projects sanctioned by the Corporation is the non-availability/shortage of certain matters including cement, steel, aluminium, zinc etc.;
- (ix) one of the main reasons for the big gap between the loans sanctioned by the Corporation and the utilisation of funds by the State Electricity Boards is the power shortage in the country. Power generation plans both in the Central sector and State sector are affected by the financial crisis. The present power shortage is due to non-commis-sioning of certain projects in time. According to the present legislation the Central Government cannot give directive to direct the flow or transfer of power from surplus to deficit areas;
- (x) the line losses in India are highest as compared to some of the advanced countries. In India the line losses are of the order of 18.75 per cent whereas in foreign countries in 1971 it varied from 5.38 per cent in Belgium to 12 per cent in Sweden. The line losses experienced in Low Tension distribution like rural areas distribution exceed 30 per cent in the case of 8 major State Electricity Boards;
- (xi) out of five Rural Electric Cooperative set up in five States four have been losing. The margin between the rates of power sold to the Cooperatives by the SEBs and the power sold to the consumers by these Cooperatives is very small. There is deficiency of managerial skill in the Cooperatives;
- (xii) no specific provision has so far been earmarked for research and development work and the expenditure on research problems was met from the existing budget and in future it is proposed to be met from the Special Development Reserve created by the Corporation;
- (xiii) the available ground water potential went waste due to inadequacy of the organisation of ground water and survey could not be done properly thus affecting work on rural electrification;
- (xiv) funds to the extent of Rs. 6 crores to Rs. 20 crores were carried forward and invested in Government securities with lesser rates of interest. These represented undisbursed amounts which could not be drawn by SEBs because

the performance of some projects of SEBs did not come up to the required level to enable disbursement of subsequent instalments.

9.5. To sum up, the Committee feel that while Rural Electrification as a financing institution has been able to give a boost to the rural electrification by sanction of loans under several schemes to the SEBs which are to execute them, what is required, in order to achieve optimum level of rural electrification in the country in the minimum possible time and to enable Rural Electrification Corporation to play the pivotal role in the planning and execution of the programme, is larger allocation of financial resources under an assured arrangement, coordination at the national level of all investments in rural electrification including those provided by various other financing institutions and study of the problems relating to the working of SEBs to identify areas requiring improvement and rendering necessary assistance to them for overcoming the constraints in the way of achieving rural electrification.

NEW DELHI;

. NAWAL KISHORE SHARMA,

April 21, 1975.

Chairman,

Vaisakha 1, 1897 (Saka) .

Committee on Public Undertakings.

APPENDIX I

(Vide Para 2.2)

Statement showing Region-wise progress of villages electrified
as at the end of the 4th Five Year Plan

Name of the State	Percentage of villages electrified as on 31-3-1974
<i>Northern Region</i>	
Haryana	100.0
Himachal Pradesh	26.6
Jammu & Kashmir	21.2
Punjab	58.0
Rajasthan	17.9
Utt ar Pradesh	26.1
<i>Southern Region</i>	
Andhra Pradesh	37.8
Kerala	87.3
Karnataka	48.0
Tamil Nadu	97.6
<i>Eastern Region</i>	
Bihar	14.4
Orissa	18.5
West Bengal	22.6
<i>Western Region</i>	
Gujarat	30.5
Madhya Pradesh	15.2
Maharashtra	47.2
<i>North Eastern Region</i>	
Assam	5.2
Manipur	11.5
Meghalaya	3.1
Nagaland	16.7
Tripura	2.3

APPENDIX II

(Vide Para 3.8)

Schemes approved for Financial Assistance and Loan Sanctions

	1971-72		1972-73		1973-74	
	During the year	Total at the end of the year	During the year	Total at the end of the year	During the year	Total at the end of the year
<i>(a) No. of Schemes approved :</i>						
R. E. Schemes of State Electricity Boards	100	205	200	405	208	613
Rural Electric Co-operatives	5	5	..	5	..	5
Harijan Basti Loans	10	10	27	37	38	75
<i>(b) Loan Sanctions</i>						
Ordinary : Advanced Area (OA)	31·08	63·62	44·77	108·39	(Rs. in 25·10	crores) 133·49
Ordinary : Backward Areas (OB)	30·46	53·71	35·73	89·44	25·36	114·80
Ordinary Co-operatives (OC)		12·86		12·86	00·22*	13·08
Special : Under-developed areas (hill tribal, desert, etc.) (SU)	0·81	0·81	7·09	7·90	14·64	22·54
Special : Transmission (ST)	2·24	2·24	5·48	7·72	3·52	11·24
Special : System Improvement (SS)			0·14	0·14	3·86	4·00
Mini : Growth Centre (MG)						
Mini : Health Centre (MH)					0·78	0·78
Mini : Health Centre (MH)	..	..	..	..	0·72	0·72
<i>(c) Special Loans to Electricity Boards under Harijan Bastis Scheme</i>						
	64·59	133·24	93·21	226·45	74·20	300·65
	0·55	0·55	1·44	1·99	1·68	3·67
	65·14	133·79	94·65	228·44	75·88	304·32

*Represents Rs. 2 lakhs per construction loan to two new Rural Electric Co-operatives and Rs. 20 lakhs to State Government of Andhra Pradesh towards participation in Share Capital of these Societies.

APPENDIX III

(Vide Para 3.10)

Disbursements

(Rs. in crores)

	1971-72		1972-73		1973-74	
	During the year	Total at the end of the year	During the year	Total at the end of the year	During the year	Total at the end of the year
Ordinary : Advance areas (OA)	19.29	32.81	23.68	56.49	18.89	75.38
Ordinary : Backward areas (OB)	14.51	22.47	19.22	41.69	18.43	60.12
Ordinary : Cooperatives (OC)	1.32	5.93	1.45	7.38	2.67	10.05
Special : Under developed areas (hill, tribal, desert etc.) (SU)	0.26	2.26	2.56	2.82	5.93	8.75
Special : Transmission (ST)	0.29	0.29	1.90	2.19	1.97	4.16
Special : System Improvement (SS)			0.10	0.10	2.31	2.41
Mini : Growth Centre (MG)					0.42	0.42
Mini : Health Centre (MH)	..	..	..	..	0.58	0.58
	35.67	61.76	48.91	110.67	51.20	161.87
Harijan Bastis Loans :	0.44	0.44	1.01	1.45	1.06	2.51
	36.11	62.20	49.92	112.12	52.26	164.38

APPENDIX IV

(Vide Para 3.11)

Details of the Physical Programme envisaged under REC Schemes (sanctioned as on 31-3-74)

Sl. No.	Item	1969-70 & 1970-71	1971-72	1972-73	1973-74	Total
1	No. of schemes sanctioned	105	105	200	208	618
2	No. of villages covered	9078	10535	17820	15557	52990
3	Agricultural pumpsets	171571	129194	156810	100808	558383
4	LT/Agro Industries	26054	19440	27303	16639	89436
5	Dom./Com. connections	388746	482689	639583	492494	2003512
6	Street Lights	70910	61244	101282	91514	324950
7	HT/LT Lines (Kms.)	53589	50697	72200	57700	234186
8	Distribution transformers (capacity—KVA)	942465	823886	885000	628200	3279551

APPENDIX V

(Vide Para 3.16)

Statement showing R. E. G. Schemes for which first Instalments were paid but subsequent Instalments withheld

(Position as on 15-11-1974)

Name of the State	Schemes sanctioned in 1970-71			Schemes sanctioned in 1971-72		
	No. due for release	No. with-held	Amount withheld (Rs. in lakhs)	No. due for release	No. with-held	Amount withheld (Rs. in lakhs)
1. Andhra Pradesh	6			5	1	13.450
2. Assam	1		..	2	..	..
3. Bihar	6		..	10	6	150.050
4. Gujarat	9	..		4	1	21.430
5. Haryana	6			1		..
6. Himachal Pradesh				3	..	
7. Jammu & Kashmir	..		..	..	..	..
8. Karnataka	2		..	5	1	12.260
9. Kerala	3			4	1	10.884
10. Madhya Pradesh	5			9	2	18.670
11. Maharashtra	11	..	..	5		
12. Meghalaya	..			1	..	..
13. Orissa	4		..	6	3	70.415
14. Punjab	5	..		7	6	78.736
15. Rajasthan	3		..	10		
16. Tamil Nadu	7	1	12.140	3	..	..
17. Uttar Pradesh	8		..	17	4	120.405
18. West Bengal	4	..	..	8	4	118.302
TOTAL	80	1	12.140	100	29	614.602
Amount	1248.791		12.140	1783.996	..	614.602

Name of the State	Schemes sanctioned in 1972-73			Total of Scheme sanctioned upto 1972-73		Remarks
	No. for release	No. withheld	Amount withheld (Rs. in lakhs)	No. due for release	No. withheld	
1. Andhra Pradesh	12	5	82.570	23	6	96.020
2. Assam	4	4	64.841	7	4	64.841
3. Bihar	12	10	189.000	28	16	339.050
4. Gujarat	7	3	44.972	17	4	66.402
5. Haryana	9	7	39.132	19	7	39.132
6. Himachal Pradesh	6	3	44.019	9	3	44.019
7. Jammu & Kashmir	6	5	51.412	6	5	51.412
8. Karnataka	13	9	99.068	20	10	111.328
9. Kerala	5	4	73.524	12	5	84.408
10. Madhya Pradesh	24	12	106.010	38	14	124.680
11. Maharashtra	14	1	6.316	30	1	6.316
12. Meghalaya	..	..	..	1	..	..
13. Orissa	15	11	235.880	25	14	306.295
14. Punjab	7	5	76.753	19	11	155.489
15. Rajasthan	15	13	219.491	28	13	219.491
16. Tamil Nadu	9	4	43.452	19	5	55.592
17. Uttar Pradesh	18	15	214.919	43	19	335.324
18. West Bengal	18	13	273.504	30	17	391.806
TOTAL	194	124	1864.864	374	154	2491.605
Amount	2885.429		1864.863	5918.216		2491.605

APPENDIX VI

(Vide Para 4.37)

Percentage of Transmission and Distribution Losses in various countries

Sl. No.	Country	Transmission and Distribution Energy Losses (percentage)			
		1968	1969	1970	1971
1.	Belgium	5.5	6.25	5.55	5.38
2.	Czechoslovakia	7.72	7.1	7.0	7.40
3.	Federal Republic of Germany	5.25	5.7	5.9	5.67
4.	France	7.75	7.0	7.1	7.02
5.	Hungary	8.85	8.95	9.05	8.34
6.	Italy	8.9	8.6	8.5	8.32
7.	Norway	10.2	12.05	9.55	9.60
8.	Poland	7.9	8.0	8.25	7.33
9.	Sweden	12.5	11.4	12.35	12.00
10.	Switzerland	10.0	10.1	10.1	9.55
11.	U. S. S. R.	7.6	7.8	7.95	7.97
12.	U. K.	7.9	7.9	7.75	7.89
13.	Yugoslavia	10.9	11.4	12.0	11.55
14.	United States	8.1	8.1	7.85	7.87
15.	Canada	11.3	11.25	11.3	N. A.
16.	Japan	6.53	6.45	6.36	N. A.
17.	India	17.40	16.80	17.30	18.75

- Sources :
1. Annual Bulletin of Electric Energy Statistics for Europe 1970 & 1971—UN Publication.
 2. The Electricity Supply Industry, published by Organisation of Economic Cooperation and Development, Paris.
 3. Commercial Directorate, CW & PC (P. W.)

APPENDIX VII

Summary of Conclusions/Recommendations

Sl. No.	Reference to Para No. in Report	Summary of Conclusions/Recommendations.
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1	2.17 to 2.19	<p>In their Report on Rural Electrification submitted as early as July, 1972 the Committee of Members of Parliament cautioned that even though good progress had been maintained in rural electrification during the Fourth Plan period, the level of achievement among the backward States would be less than that of other States'. The Committee regret to note that in spite of this observation, the backward States as a whole still continue to remain as such. As many as 9 States which were below All India average in 1969 continued to remain below the All India average at the end of 1973-74. The North-Eastern Region, particularly the States of Assam, Meghalaya and Tripura have remained most backward in the matter of rural electrification, the lowest being Tripura with only 2.1 per cent of villages electrified against the All India average of 27.31 per cent</p> <p>The Committee are informed that out of a total number of 578 projects sanctioned, 295 projects pertain to backward States. Out of the total sanctioned amount of Rs. 271 crores, the amount sanctioned for backward States is only Rs. 138.78 crores.</p> <p>The Committee apprehend that if the present pattern of allocating a little more than 50 per cent of the funds at the disposal of the Corporation to the backward states be continued, there is every likelihood of the backward</p>

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states continuing to lag behind in the matter of rural electrification.

The Committee feel that there should be judicious apportionment of the investments between the developed and the under-developed areas keeping in view the constraints of physical resources and capabilities for execution. The Committee further recommend that a comprehensive time bound programme laying down definite annual targets should be worked out by the Corporation to ensure that the backward areas progress faster.

The Committee were informed that in the Fifth Plan, rural Electrification was being taken up as an essential component of the minimum needs programme and the target of covering at least 30 to 40 per cent of the rural population in the backward states would be covered with this facility. The Committee also note that in order to accelerate the pace of progress in rural electrification in backward areas, the Corporation has taken a number of steps namely-sanction of loans on softer terms and conditions payable in longer period, grant of special loans for transmission lines in such areas, creation of special Development Reserve for providing capital subsidy to the State Electricity Boards, opening of regional office of the Corporation in Calcutta to help the Eastern States in the formulation of projects and relaxation in the standard of economic viability for schemes in these areas.

The Committee hope that with these steps the position with regard to rural electrification in backward areas would improve. The Committee would however, like to stress that Government/Corporation should ensure that there is no slippage in the targets laid down for the Fifth Five Year Plan.

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2	2.20	The Committee urge that financial, physical and technical resources should be made available on priority basis for execution of the electrification programmes in backward areas/States.
3	2.231	The Committee also recommend that the Corporation should ensure that the resources placed at their disposal are properly utilised and the targets set for rural electrification are achieved. Government should ensure that the detailed targets and achievements in this behalf are also specifically brought to the notice of Parliament through Annual Plans and Reports of the Ministry/Undertaking.
4	3.18 to 3.20	<p>The Committee note that in pursuance of directives of the Government, the Corporation developed in January, 1970 certain norms of viability and terms and conditions of loans and also laid down the criteria for classification of areas Preferential terms and conditions have been stipulated for backward areas compared with those for other areas. The schemes received from the Electricity Boards are accordingly scrutinised by REC before loans for the same are sanctioned. Depending on the areas proposed to be developed, the Corporation has also categorised the loans under 8 heads.</p> <p>The Committee also note that upto the end of 1973-74 the Corporation has sanctioned loans under these categories amounting to Rs. 300 crores for 618 rural electrification projects, in 18 States. These projects are phased over a period ranging upto 5 years. Against this the actual disbursement of loan instalments amounted to Rs. 162 crores. The main reasons for the shortfall in disbursement of loans are stated to be the failure of the Electricity Boards to submit the necessary documents in time and failure to achieve prescribed level of physical performance</p>

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and consequent non-drawal of second and subsequent instalments of loans. The Committee find that as on 15th November, 1974 second instalments amounting to about Rs. 25 crores for 154 schemes out of 374 schemes sanctioned during 1969-70 to 1972-73 were yet to be released. Out of these 154 schemes, 16 pertain to Bihar State, 10 to Karnataka, 14 to Madhya Pradesh, 11 to Punjab, 13 to Rajasthan, 19 to Uttar Pradesh and 17 to West Bengal which together account for about Rs. 21 crores.

The Committee are informed that the pattern of financing has been such that first instalment of loan is given as an advance and thereafter before the second and third instalments are due, the degree of progress achieved is taken into consideration and depending on the stipulated phasing and progress achieved the second and third instalments are released. The release of second and subsequent instalments of loans is thus tied up with achievements of physical performance targets by the State Electricity Boards.

The Committee feel that unless and until the State Electricity Boards which are to execute the programmes of rural electrification realise their responsibility for fulfilling the targets expected of them according to the terms and conditions and submit the accounts for the utilisation of the loans, it will be difficult for the Corporation to achieve the envisaged targets for rural electrification.

- 5 3.21 The Committee find that except in a very few cases where legal formalities are yet to be completed in order cases the reasons for non-drawal of second instalments were mostly due to inadequate service connections and inadequate lines and sub-stations. The Committee recommend that the Ministry/Corporation should take up the matter regarding
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		inadequate service connections, lines and sub-stations with the concerned State Governments/ SEBs to ensure that the progress of rural electrification schemes is not held up for want of service connections and sub-stations.
6	3.22 & 3.23	The Committee are also informed that the Corporation has introduced a system of monitoring of the project works and wherever it is revealed that the progress has not kept pace with the schedule of implementation in respect of one or the other aspect, the Corporation takes suitable measures to improve the position for the achievement of the relevant targets.
		The Committee recommended that the Ministry should take up the matter with the State Governments so that they may ensure that the SEB's gear up their machinery to the tasks of achieving the targets and submission of accounts in time in order to utilise the funds sanctioned for the schemes. The Committee need hardly stress that the non-drawal of second and subsequent instalments by the SEBs inevitably leads to blocking of the finances already advanced to SEBs also the projects remaining incomplete. The Committee, therefore, suggest that the Corporation should critically go into the reasons for non drawal of second and subsequent instalments and take suitable measures to assist the SEBs in overcoming their problems.
7	3.24	In cases where the State Electricity Boards draw the first instalment of the loan for a specified rural electrification schemes but do not follow up with submission of the requisite information and documents for drawing subsequent instalments, the Corporation should make sure that the amounts have not been diverted by the State Electricity Boards for other purposes. The

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Committee would like to stress that all those schemes which are taken up for implementation and for which part monies have already been drawn should be completed as per time-bound programme so that the objectives underlying them are achieved at the earliest and resources are generated to pay back the loans. -

- 8 3.35 The Committee note that during the Fourth
 & Plan the Government had placed a ceiling that
 3.36 the Corporation should not sanction schemes
 worth more than Rs. 300 crores.

The Committee are informed that even in the Fifth Plan against the recommendation of the task force of rural electrification which envisaged allocation of Rs. 1900 crores for rural electrification for which 50 per cent had to come from REC, only Rs. 400 crores has been allocated according to the draft Five Year Plan. The Committee are also informed that except that Government have decided to allow the Corporation equity and loan in the ratio of 1:1 during 1974-75, no decision in regard to either about pattern of financing or about the enhanced allocation of funds to the Corporation has been taken. The Committee recommend that on the basis of experience in the Fourth Plan and in the interest of developing rural electrification particularly in backward and under developed areas, the Corporation should draw up a comprehensive plan regarding the sanction of projects. The Committee are inclined to agree with the views of the Ministry that 'in terms of physical targets to be achieved, unless the financial resources are augmented in a significant manner, there is risk of the targets not being fulfilled.'

The Committee are informed that the Corporation had not made an estimate of their needs during the Fourth Plan although according to

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them they could have been allowed to sanction schemes worth Rs. 50 crores more. The Committee therefore recommend that Government should on the basis of experience gained in the fourth plan, consider the feasibility of enhancing the allocation of funds in the 5th Plan to the REC on the physical targets to be achieved by them so that inadequacy of funds could not be a plea for not taking up electrification programmes for backward and under developed areas.

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The Committee recommend that the Corporation should prepare a realistic plan of their requirements in the Fifth Plan under the different programmes so as to enable the Ministry to consider their demands for an enhanced allocation. The Committee would also like Government to take an early decision in regard to the pattern of providing funds to the Corporation during the Fifth Plan.

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The Committee note that there are various agencies which are financing the rural electrification programmes, such as, State Governments, State Electricity Boards, REC. Agriculture Refinance Corporation, Commercial Banks and Life Insurance Corporation. According to the Chairman of the Rural Electrification Corporation "there is in fact often little coordination between the different financial institutions." In the matter of financing rural electrification schemes. The Committee are informed that REC has initiated various measures for coordination between the various financing agencies, and efforts are being made by the REC to bring about territorial coordination between the schemes financed by REC and ARC. The Committee feel that coordination in respect of investments in rural electrification as a whole is necessary with a view not only to avoid any

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duplication but also to ensure that the investments follow a uniform project approach to yield optimum results. The Committee agree with the Chairman, REC that there is a need for a comprehensive system of coordination whereby different financial institutions are given particular responsibilities in specific fields. The Committee recommend that Government should consider the feasibility of setting up a coordinating body comprising representatives of all the financing agencies including R.E.C. at the national level and also a similar body at the field level for ensuring such coordination.

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The Committee recommend that Government should clearly demarcate the responsibilities of financial institutions in the matter of financing various aspects of the programme of Rural Electrification so that there is no overlapping/duplication in financing by different financial institutions.

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The Committee note that REC is following a project based development approach in their financing pattern and the projects generate adequate surpluses and give a reasonable return on the investment. It had laid down certain norms in terms the net returns to be achieved and the periods within which this is to be done. The Committee are informed that there is a regular monitoring of the projects undertaken by the REC with a view to ensuring that the development programmes envisaged in each of the projects is matched by actual performance and only on the basis of such monitoring studies second and subsequent instalments of loans are released. The Committee note that the Corporation has a system of concurrent and continuous monitoring of the projects financed by it and the technique of performance audit was used to evaluate the performance of the schemes

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		<p>and to examine whether the physical achievements are commensurate with the financial outlays. The Committee however, note that the Corporation has not been conducting a cost benefit analysis of the REC schemes on a regular basis although some time back a sample study was conducted in respect of only 3 sanctioned schemes out of total of 618 schemes sanctioned upto 1973-74. The Committee are informed that the Ministry propose to do the cost benefit study after the completion of the schemes so that the potential benefits are realised. The Committee recommend that in view of the large investments amounting to Rs. 161.87 crores which the Corporation has made in the various projects up to 1973-74, the Government/Corporation should conduct a cost-benefit analysis of the schemes on a regular and systematic basis in order to ensure that the projects financed by the Corporation have been economically executed without any undue wastage of the finances and the moneys spent are commensurate with the benefits derived.</p>
13	3.50	<p>The Committee have been informed that Coordination Committees have been established in many States at State and District level to review the progress of implementation of rural electrification programmes. Mutual consultations between the REC and ARC and AFC as well as between REC and the commercial banks are stated to be held with a view to establishing a proper link up of the rural electrification schemes financed by the Corporation with the minor irrigation and similar other schemes financed by other lending institutions. Efforts are also being made to ensure maximum coordination between the appropriate development agencies of the State and the State Electricity Boards. The Committee need hardly stress that</p>

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rural electrification projects sanctioned by the Corporation form an integral part of the overall area development programme. The REC projects have, therefore, to be dovetailed into the sectoral area development programmes implemented by the various departments of Government and other institutional agencies in order to derive maximum benefit out of the REC schemes.

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The Committee note that the Government of India introduced the scheme of electrification of Harijan Bastis and transferred the scheme to the REC to be handled on an agency basis. The Committee also note that the Corporation has sanctioned loans amounting to Rs. 3.67 crores for 75 schemes in 14 states for electrification of 8617 Harijan Bastis and provision of 49523 street lights in these Bastis. Against this only a sum of Rs. 2.51 crores has been disbursed to end of 1973-74. It was stated that the shortfall in most cases was on account of the inability of the concerned Electricity Boards to procure the necessary undertaking from the panchayats in regard to payment towards recurring tariff dues for the street lights envisaged in the scheme. Moreover lack of response from the Electricity Boards was another reason which delayed the sanction and consequently the disbursement. The Committee are informed that the Ministry have already written to the State Governments to find out ways and means of assisting the Panchayats towards payment of electricity tariff from the Harijan Welfare Fund or Social Welfare Fund. The Committee regret to note that electrification of Harijan Bastis has suffered because of the apathy of Panchayats|E. E. Bs| State Governments in spite of the fact that Government of India have been providing funds for the purpose. The Committee deprecate this tendency of ignoring the needs of areas inhabited by the weaker sections of the society The

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Committee are inclined to agree with the suggestion of the Deputy Minister of I & P about allocation of funds from the Harijan Welfare Fund or Social Welfare Fund for the payment of electricity bills for Harijan *Bastis*.

The Committee recommend that the Ministry should pursue the matter with the State Governments and find out a solution to assist the Panchayats so that their financial difficulties do not come in the way of implementation of Harijan *Basti* Schemes.

15 3.65 The Committee are also informed that whenever electrification of a village is a part of the scheme it must have the electrification of the Harijan *Bastis* also as an integral part and no scheme of village electrification is sanctioned by REC which does not have as an essential component electrification of Harijan *Bastis* also. The Committee hope that with the present procedure followed by REC it should be possible to implement more programmes of electrification of Harijan *Bastis* and provide street lights in those *Bastis*.

16 3.70 The Committee note that, assuming that the Fifth Plan targets are fully achieved, only 45.5 per cent of the villages of India would be electrified by the end of the Plan period. Even though the emphasis of the rural electrification programme is on agricultural and industrial production and not on electrification of villages as such, and even if the total electrification programme is likely to cover about two third of the country during the Fifth Plan as against only less than one third in the Fourth Plan, it is depressing to find that more than half the villages of the country would still remain unelectrified in 1979. The Committee feel that the task yet to be done in this field is gigantic and the pace of

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		work needs to be accelerated so that light may reach all the villages in the country at the earliest.
17	4.8 to 4.10	<p>The Committee regret to note that the pace of Rural Electrification had been impeded mainly due to various deficiencies and inadequacies in the working of State Electricity Boards. Rural Electrification Corporation was set up as a financing institution at the national level for financing Rural Electrification Projects to provide funds in addition to those already provided for in the State Plan Sector so that the acceleration of pace of rural electrification did not suffer on account of lack of resources with the SEBs and the SEBs were not saddled with further losses. Actual execution of projects mainly rests with the SEBs.</p> <p>The Committee find that the working of the State Electricity Boards was reviewed and examined in detail by a high power Committee in 1964 and by the Sixth Finance Commission. The Commission viewed with concern some of the trends in the functioning of State Electricity Boards and referred to the corrective action needed through revision of tariff and improvement of operational efficiency of Electricity Boards. The Rural Electrification Corporation also have noticed that besides organisational deficiencies within the SEBs, there was lack of coordination internally within the SEBs and between the various agencies involved in the implementation of Rural Electrification Projects and lack of adequate arrangement for load promotion activities with a view to optimising service connections. The Committee are informed that the Corporation is in close touch with the Ministry and various steps have been taken both at the Centre and State level to make the SEB's more efficient. At the instance of the Corporation, State Electricity</p>

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Boards have carried out a certain amount of re-organisation within the Boards and a special cell has been created by all the SEBs for dealing with REC projects. REC have suggested a number of steps to bring about adequate coordination between SEBs and the various other development agencies and Government institutions engaged in the task of Rural Electrification. As a result of persuasive efforts made by the Corporation SEBs have also started taking up load promotion work.

The Ministry have also admitted that reorganisation of State Electricity Boards is of primary and prior importance. They have therefore issued some guidelines and given some suggestions like restructuring of SEBs, separation of generation from distribution, functionalisation etc. A Working Group has also been constituted by the Ministry to review and make suggestions to improve the working of State Electricity Boards.

The Committee hope that the Working Group would soon go into all aspects of the working of SEBs and make concrete suggestions for their reorganisation and improving operational efficiency in the context of rural electrification. The Committee feel that the present functioning of SEBs leaves much to be desired. The Committee therefore recommend that in order to streamline and strengthen the management of State Electricity Boards and in order to have greater degree of functionalisation and professionalisation in their set up the Ministry should follow up the matter with the State Governments and ensure that the guidelines and suggestions given by them are actually implemented in letter and spirit by the SEBs.

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18	4.16 & 4.17	<p>The Committee note that one of the constraints faced by the State Electricity Boards in implementing the projects sanctioned by the Corporation was the non-availability and shortage of certain materials including cement, steel, aluminium, zinc etc., with the result that some of the State Electricity Boards were not in a position to achieve the physical targets envisaged in the schemes. The position with regard to aluminium conductors was stated to be so bad that in some cases the SEBs did not have conductors even for 200 connections.</p>
		<p>The Committee are informed that the question of augmenting production of materials required for implementation of schemes regarding rural electrification has been taken up by the Corporation with some major manufacturers. It has been stated by the Ministry that specific allocation of certain scarce raw materials is being made for rural electrification in general. The standardisation effected by REC has also helped ease the situation since manufacturers are now in a position to take up production on the basis of these standard specifications. The Committee hope that it should be possible for the State Electricity Boards to implement the schemes without being hampered by shortage of materials in case these measures are vigorously and earnestly pursued. The Committee recommend that at the time of sanction of schemes the Corporation should draw a comprehensive plan regarding the implementation of the projects indicating the annual financial and material requirements with priorities for execution. The Corporation should also keep in constant touch with the SEBs in order to assist them in the task of procurement of scarce materials and equipment so that the implementation of the schemes is not delayed or interrupted on account of non-availability of any of materials.</p>

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19	4.18	<p>The Committee suggest that the Government should consider setting up a high powered coordination group to periodically review the progress of implementation of the different projects of the REC to assess their difficulties/requirements so that all possible assistance may be rendered for removing the constraints including shortage of materials and ensuring that the programmes of rural electrification, on which depends the progress of agricultural development, do not suffer a set back.</p>
20	4.31 & 4.32	<p>The Committee note that one of the main reasons for the big gap between the loans sanctioned by the Corporation and the utilisation of funds by the State Electricity Boards is the power shortage in the country. The Committee are informed that power generation plans both in the Central sector and State sector are affected by the financial crisis and the present power shortage is due to non-commissioning of certain projects in time. The Committee are also informed that less than 50 per cent of the targets for the generation of power could be achieved during the Fourth Five Year Plan. In order to step up power generation, a nucleus monitoring organisation has been set up at the central level and the States are being persuaded to set up such monitoring organisations at the State levels. The State Governments have also been advised that by reallocation of resources between the various sectors they should see that maximum requirements of power sector are met. The Committee need hardly stress that availability of power being the pre-requisite condition for Electrification, Government should take steps to identify the causes for shortage of power in detail so that they may take suitable remedial action for stepping up generation of power. The Committee agree with the view of the Ministry that the "reasons for which these</p>

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shortfalls have taken taking place in the 4th Plan, should not recur in the Fifth Plan."

The Estimates Committee (1972-73) in their Thirty-ninth Report on 'Power' have observed that "power is a basic infrastructure for building up the country's economic growth and development, and that shortfall in power impedes growth in the industrial and agricultural sectors." That Committee have therefore felt that "there is a need of a well coordinated programme for power development correlated with the growth of industry, agriculture and other sectors which consume it. The Committee reiterate the recommendation of the Estimates Committee that "having regard to the serious power shortage in the country, power should be given the highest priority next only to operational needs of defence in the matter of allocation of funds and essential raw materials like steel, cement, coal etc., in the interest of economic development of the nation."

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The Committee are informed that on the suggestion made by the Corporation, the State Electricity Boards have adopted rostering and load staggering in order to overcome the problem of power shortage in so far as implementation of Rural Electrification Schemes are concerned. In the opinion of the Committee these are only temporary and short-term measures and the real solution lies in increasing the generation of power in the country.

The Committee note that the Corporation have agreed in principle to finance small units for generation of electricity in the remote areas where extension of transmission from the main grid was likely to be costlier than the local generation. The Committee hope that the State

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		<p>Government State Electricity Boards would profit by the financial and technical Assistance rendered by the Corporation in order to overcome the constraints regarding power shortage particularly in remote rural areas.</p>
		<p>The Committee regret to note that there is lack of coordination between the States due to which many difficulties were being encountered. The Committee are informed that if "one State is short of power and an adjoining State has got surplus power, the centre cannot give directives according to the present legislation. The Committee are informed that the Ministry have suggested that on occasions when there is shortage, the Central Electricity Authority should have power to advise or direct the flow or transfer of power from surplus to deficit areas. It has also been suggested that Government should have the power to arbitrate when the disputes between States regarding tariff etc., cannot be settled by bilateral negotiations. The Committee recommend that Government should examine these aspects in detail and finalise the measures without any delay so as to deal effectively with the situation created by power shortage at the national level. The Committee also recommend that Government should consider ways and means of restricting the ostentatious consumption of electricity, particularly in metropolitan cities in order to conserve the much needed power for productive purposes.</p>
22	<p>4.43 to 4.45</p>	<p>The Committee regret to note that the line losses in India are highest as compared to some of the advanced countries. The line losses in India are of the order of 18.75 per cent, whereas in foreign countries the line losses in 1971 varied from 5.38 per cent in Belgium to 12 per cent in Sweden. The line losses experienced in</p>

Low Tension distribution like rural area distribution exceed 30 per cent in the case of 8 major State Electricity Boards. As a result of these high line losses, the Boards suffered from a combination of increased cost of power supplied to the consumers and reduced availability of power in the States. It has been stated that on account of the rapid expansion of net work in recent years the distribution system developed in a lop sided manner resulting in considerable loss in the system affecting the quality and efficiency of power supply. It has been stated that about 25 lakh irrigation pump sets installed in the rural areas are taking twice the normal current for delivering the same output. The Ministry have admitted that there was scope for reduction in losses which have also been attributed to pilferages and thefts.

The Committee note that with a view to minimising the line losses the Corporation has devised a special category of loans for the specific purpose of improving the system conditions in the rural areas. The Corporation has sanctioned 32 system improvement schemes involving a loan assistance of more than Rs. 5 crores. The saving of energy in each scheme is expected to be generally 10 per cent or more. The State Electricity Boards have also been asked to install LT capacitors on the motors to improve power factor and thereby reduce the line losses. The Committee agree with the Ministry that apart from the need to curtail pilferage by installing a device which would make the system fool proof against theft etc., it is necessary to improve the distribution system.

The Committee would also like that Corporation should review the adequacy of the measures so far taken to reduce line losses by installation of suitable devices etc., and assess as

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		to how far such measures have helped in eliminating pilferages and thefts. The Committee would like to be informed of the results.
23	4.46	The Committee also recommend that Ministry/Corporation should examine the question of line losses in the country in depth in order to identify the causes and suggest to the State Governments/State Electricity Boards suitable remedial measures. The Ministry/Corporation should keep a continuous watch to see that their suggestions are implemented so as to ensure that the energy generated in the country which is so pressinglly required for agricultural, industrial and developmental purposes is not lost unduly in transmission.
24	5.21 & 5.22	The Committee note that the Rural Electrification Corporation took over the responsibility for financing the five pilot rural electric cooperatives set up by Government in July, 1969 in the States of Andhra Pradesh, Gujarat, Maharashtra; Karnataka and Uttar Pradesh. The Corporation sanctioned loans to the five Cooperatives to the extent of Rs. 12.81 crores. The Committee were informed that with the exception of one, all the Cooperatives have been losing. One of the main reasons as to why the Cooperatives have not been able to operate even at break-even point is that the margin between the rates of power sold to the Cooperatives by the State Electricity Boards and the power sold to the consumers by these cooperatives is very small. The margin in the case of Mula Pravera and Kodinar was only 0.02 and 1.67 paise per unit respectively. The Committee are informed that as a result of efforts made by REC in this regard, the State Electricity Boards of Karnataka, Maharashtra and Gujarat have now brought about suitable changes in the tariff

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which would benefit the Hukeri, Mula Pravera and Kodinar Societies. The Committee hope that the State Electricity Boards in the other two States will also be persuaded to bring about necessary changes in the rates so as to improve the economic viability of the respective Cooperatives.

The Committee recommend that Government/Corporation should work out a minimum margin between the purchase rate of power per unit and the rate of realisation from the consumers keeping in view the economic viability and profitability of the Cooperatives and then take up this question with the State Governments/State Electricity Boards concerned and persuade them to agree to supply power to the Rural Electric Cooperatives in their region at such rates as may give them adequate margin to meet their operational cost and for making provision to enable them to discharge their development programmes.

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The Committee were also informed that the other major factor which contributed to the loss of these Societies was deficiency of managerial skill in the Cooperatives. It has been felt by the REC that there was a need for streamlining the administrative arrangements existing in the societies with a view to bring about improvement in the functioning of these Cooperatives. The Committee would like the Government/Corporation to pursue this matter with the State Governments|State Electricity Boards|Cooperatives concerned so that fairly high powered and well qualified officers who have already been trained by the Corporation are put in charge of these Cooperatives, as this will help in creating an impact on the functioning of the Cooperatives. The Committee stress that without effective management and adequate qualified staff it

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		would hardly be possible for the Cooperatives to make headway.
26	5.24 & 5.25	<p>The other areas which need adequate attention to improve the functioning of cooperatives are line losses, power system management; formulation and implementation of member's education and Members' services programmes; proper budgetary and inventory control, proper maintenance of accounts etc. The Committee are informed that the Corporation had already advised the Societies as well as the concerned State Electricity Boards and State Governments to initiate necessary action on these points.</p> <p>The Committee hope that with the implementation of the various schemes suggested by REC the working of these Cooperatives would substantially improve. The Committee also find that Corporation had taken up the question of augmenting the share capital base of the societies with the concerned State Governments and State Electricity Boards. The Committee would like to be informed about the concrete action taken by the the State Governments/State Electricity Boards and the progress made in this regard.</p>
27	5.26	<p>The Committee are informed that according to a study carried out by REC the State Electricity Boards were losing much more on the rural electrification programme than when it came to be channelised through the Cooperatives. In view of this the Committee recommend that the REC should make concerted efforts not only to improve the functioning of the existing Cooperatives but also encourage the growth of such Cooperatives in other States.</p>
28	5.27	<p>The Committee were informed that 25 new Rural Cooperatives are proposed to be set up in the 5th Five Year Plan. The Committee would</p>

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		<p>like that a phased time bound programme should be drawn up for the implementation of this proposal and the Committee informed of the details.</p> <p>The Committee also recommend that the experience gained in the functioning of the Cooperatives already set up should be effectively utilised in setting up new cooperatives so that these are free from the difficulties and handicaps which have hampered their working.</p>
29	6.10 & 6.12	<p>The Committee note that the Corporation has taken up research on items like optimum design of PCC/RCC poles, reduction in line losses; crimping tools, import substitution, the development of motors of high powered factor at partial loads, design of special types of cross-arms for use on rural lines and use of aluminium alloy conductors in coastal areas etc.</p> <p>The Committee were informed that no specific provision has so far been earmarked for research and development work and the expenditure on research problems was met from the existing budget and in future it was proposed to be met from the Special Development Reserve created by the Corporation. No separate funds had been provided even in the draft Fifth Five Year Plan for organising research and development programmes as such for rural electrification and the research and development work programmes in rural electrification in the fields are undertaken by the State Electricity Boards from the funds earmarked for the rural electrification programmes. The Corporation had set up a research committee to identify the technological problems having a direct bearing on rural electrification and those of immediate interest. That Committee would work out further specific programmes that may be undertaken for research.</p>

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		<p>The Committee hope that the research committee set up by REC would soon identify the areas on which the research could be undertaken so that the Corporation may be in a position to utilise the results for achieving import substitution and effecting technological improvements and economies in Rural Electrification.</p>
30	6.13	<p>The Committee also recommend that the Corporation should keep a close liaison with other research institutes already engaged in investigation and research in various problems associated with the generation, transmission and distribution of electrical energy in India in a rational and economical manner like the 'The Central Power Research Institute', Bangalore and Bhopal units, 'Research and Development Organisation for Electrical Industries', Bhopal, 'the Indian Institute of Technology,' etc. so as to avoid duplication of efforts. The Committee would like the Corporation to sponsor/undertake research only on such aspects as were of urgent practical interests of rural electrification and concentrate only on priority areas in order to achieve early breakthrough in rural electrification.</p>
31	6.14	<p>The Committee would also like REC to keep in close touch with the Department of Science and Technology regarding the developments on non-conventional sources of energy for which a sum of Rs. 4 crores is stated to have been provided for projects during the 5th Plan, so that the results of the experiments could be gainfully utilised by REC in their schemes of rural electrification.</p>
32	6.18	<p>The Committee note the efforts made by the REC to standardise the specifications of the</p>

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material used in rural electrification and also the construction practices with a view to effecting maximum economy and accelerating the pace of rural electrification. The Committee were informed that the standardisation of specifications and construction practices could reduce cost by at least 10 to 15 per cent. The Committee would like that the schemes for standardisation in respect of various items which were stated to be under preparation should be finalised as early as possible and introduced in the actual execution of the rural electrification schemes. The Committee would also like the REC to continue their efforts and progressively identify more and more items in which there was scope for standardisation and economy in construction practices with the ultimate objective of covering the entire field of activity systematically and achieving economy in construction consistent with efficiency.

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6.19

The Committee recommend that Government should contemporaneously make a critical assessment of the economies effected as a result of the standards provided by REC and arrange to issue suitable guidelines for adoption of these standards by the State Electricity Boards. The Committee would like that the Corporation should mention the details concerning the items standardised and adopted in actual execution in their Annual Reports for the information of the Parliament.

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6.27

The Committee are concerned to note that the available ground water potential went waste though almost all the States have some cells or wings to look after the work regarding ground water survey because of the inadequacy of the organisation of ground water and survey, could not be properly done. This difficulty is coming in the way of Rural Electrification Corporation for rural electrification. The Committee are informed that Government of India

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		<p>Ground Water Board as well as State Government agencies are already working on a survey of ground water potential and with more surveys and with higher technological applications, the potential may go up somewhat in the years to come and that ground water knowledge and availability of data was not a bottleneck in ground water planning.</p>
		<p>The Committee need hardly stress that all efforts to supply power in the rural areas for energisation of pumpsets would prove futile and all investments made for rural electrification would be infructuous if there is lack of inadequacy of ground water in those areas.</p>
		<p>The Committee recommend that Government should ensure that the State ground water organisations are involved in a greater measure in planning and in locating ground water potential areas and before the Corporation sanctions any rural electrification scheme, it should make sure of the availability of ground water in the area for which the electrification scheme is intended.</p>
35	<p>7.4 to 7.6</p>	<p>The Committee note that while on the one hand the Corporation is complaining of lack of adequate funds for financing the rural electrification programmes, funds to the extent of Rs. 6 crores to Rs. 20 crores were lying unutilised. The Committee are informed that these represented undisbursed amounts relating to State Electricity Boards because of various reasons and particularly because the performance of some projects of SEBs did not come up to the required level to enable disbursement of subsequent instalments. The Committee note that Government of India directed the Corporation to invest such carry-forward amounts in Government securities, and such investments carry interest</p>

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rates much lower than the rates of interest at which unsecured loans are obtained by REC with the result that the Corporation is put to a financial loss on account of such investments. The Committee are informed that the Corporation had already approached the Government of India for an increase in the rate of interest on special securities and to allow them to invest the money in scheduled banks and the Government of India is yet to take a decision.

While the Committee agree that it would be in the interest of the Corporation to retain the unutilised funds with it for meeting its needs, the Committee recommend that the Corporation should undertake a detailed review of those projects which have not come up to the required level so as to analyse the causes/difficulties with a view to rendering constructive assistance/guidance in removing these constraints to enable the State Electricity Boards to draw the subsequent instalments of loans.

The Committee desire that a suitable working arrangement should be evolved for the investment of the unutilised amount so that the Corporation is not a loser in complying with Government directions.

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7.11

The Committee are glad to note that the percentage of profit to equity capital has risen from 6.12 per cent in 1971-72 to 8.2 per cent in 1973-74. The Committee expect that the Corporation would continue to maintain the tempo of the working of the Corporation at a reasonable level so as to ensure generation of surplus for further development of REC.

The Committee note that the administrative expenses of the Corporation has increased five

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fold from Rs. 14.24 lakhs in 1970-71 to 72.27 lakhs in 1973-74, though the percentage of administrative expenses to income has been decreased for 14.52 to 9.81 per cent. The Committee are informed by the representative of the Ministry during evidence that though the Corporation is managing with the administrative expenses of 9.8 percent of income, he is not in a position to say whether it is reasonable and to what extent the increase is justified. The Committee also note that no norms for staffing pattern have so far been fixed.

Recommendation regarding staffing pattern and administrative expenses has been recorded in this Report vide para 8.13.

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8.3

The Committee find that at present the Board of Directors is headed by a Part-time Chairman assisted by the Managing Director of the Corporation 5 Government Officials, a retired Chief Engineer from Andhra Pradesh State Electricity Board, Managing Director of ARC and 2 Directors from private sector and there is no representative of the State Electricity Board on the Board. The Committee are informed that since the State Electricity Boards are borrowers of finance from the REC, it is not considered incumbent to include representative of the borrowers in the Board of Directors. The Government have not also examined in depth the pros and cons of such an inclusion. The Committee would like the Ministry to evolve a system by which one representative from each Zonal/regional grid should by rotation serve on the Board of Directors of the Rural Electrification Corporation to enable the Corporation to appreciate the problems State Electricity Boards in a better pers-

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		pective and take suitable remedial action to solve these problems in the interest of implementation of the rural electrification programmes.
38	8.15	The Committee are unhappy to note that no separate account of expenditure incurred on seminars etc., has been maintained by the Corporation. The Committee would like the Corporation to compile expenditure incurred on this account expeditiously and to ensure that separate account of such expenditure is regularly maintained in future to enable the management to exercise a check against extravagance on such occasions.
39	8.16	The Committee would like Government/Corporation to undertake evaluation of the seminars/conferences held so far to verify as to how far the time and money expended in this connection are related to their utility and the benefits derived should be explicitly mentioned in the Annual Report of the Corporation for the year concerned.
40	8.17	The Committee also recommend that the Corporation should adopt a system of taking follow up action in respect of the reviews made and the decisions arrived at each seminar/conference in the interest of bringing about improvements in the performance of the Rural Electrification Corporation.