CHAPTER - II

PROGRESS OF RURAL ELECTRIFICATION.

2.1 Introduction: Rural electrification in developing nations plays a crucial role in economic development of the agricultural sector. The impact of rural electrification is multifaceted. But, primarily it leads to improvement in agricultural output, through energizing of pumps. Secondly, it may lead to industrialization of the rural sector by facilitating establishment of small rural industries as well as large scale agro-based processing units like sugar factories, oil mills and ginning and spinning mill etc. Finally, rural electrification has a big social impact, which of course, is not quantifiable. Therefore, in this chapter we shall make a brief review of the progress of rural electrification in India, Maharashtra and in Marathwada Region of Maharashtra State.

2.2 Rural Electrification in India: Before the beginning of the economic planning in India (1950), there were only 3,100 or (0.55%) electrified villages and 21,000 energised pumpsets. In all our Five Year Plans, we have a special provision for rural electrification and the policy objectives of these plans indicated an emphasis on rural electrification. These objectives, no doubt, showed some
shift from plan to plan. In the First and Second Plans, the extent of coverage under Rural Electrification was rather insignificant; and emphasis was given on covering growing small and medium towns and the neighbouring rural areas from the point of development industries and generating employment. In the Third Plan, reservation of a certain quota of power for rural electrification was recommended. And a total outlay of Rs. 105 Crores was provided for rural electrification. The target of electrification of all towns and villages with a population of 5000 or more and nearly 50% of villages in the population range of 2000 to 5000, was set in this plan. The other important objectives of rural electrification were, diversification and balanced development of rural economy by improving agricultural and revitalising the traditional industries and use of power in a coordinated manner through carefully formulated development programmes in advance. From the year 1964-65, the emphasis shifted to energisation of irrigation pumpsets and the tube wells for increasing agricultural production. In the Fifth Plan, besides the emphasis on energisation of pumpsets, the importance of rural electrification as an essential infrastructure for rural development was stressed. Particularly, the rural electrification of backward areas was given priority and was given an additional stimulus by its inclusion as an essential component in the Minimum Need Programme (MNP).

2. Ibid: p.7
3. Ibid: p.8
4. Ibid: p.9
The concept followed in the implementation of the MNP was that all the States and Union territories cover 40% of rural population by the end of Fifth Plan. The scheme under MNP was sanctioned and monitored by Rural Electrification Corporation and was made production and development oriented.

In the Sixth Plan document (1980-85), the concept of MNP was modified. It was decided that the criterion of population coverage should be shifted to the coverage of villages electrification and to ensure that at least 60% of the villages in each State and Union territories should be electrified by the end of 1990. Of the total number of villages to be electrified during the decade (1980-90), 40% of the target should be achieved during the Sixth Five Year Plan period (1980-85).

2.3 **Relative Position of Rural Electrification in India, Maharashtra and Marathwada Region (1951-1983):**

(A) **Village Electrification:** Let us now analyse the relative position of rural electrification at the All India, Maharashtra and Marathwada levels, during the period 1951-1983. Table No. 2.1 shows the progress of village electrification. During the initial period of economic planning (1951-56) the rural electrification was almost negligible or non-existent in the Marathwada Region; while at the all India level also only 3100 villages were electrified (or 0.55% of total villages). At the Maharashtra level also, the proportion of total villages electrified, was only 0.90%, which was well below the All India level.
RELATIVE PROGRESS OF RURAL ELECTRIFICATION IN INDIA, MAHARASHTRA AND MARATHWADA REGION (1961-1983)

GRAPH - 2.1

% OF VILLAGES ELECTRIFIED

YEAR

1961 66 69 74 78 80 83
At the end of the Second Plan, in 1961, the proportion of villages electrified increased to 3.84% in India, but at the State level, the progress appears to be slow as only 2.13% of total villages were electrified. In the Marathwada Region, the progress was still lagging at only 0.11% of total villages electrified.

At the end of the Third Plan, in 1966, the proportion of villages electrified increased to 7.95% but at the state level, the progress of village electrification was higher at 11.94% of total villages in the State. In the Marathwada Region, the progress was relatively slow as 7.46% of total villages were electrified.

At the end of annual plans (i.e. 1966 to 1969), the proportion of villages electrified increased upto 12.99% at the all India level; but at the same time in Maharashtra proportion of villages electrified was almost double that of all India level (25.41%). In Marathwada Region, the progress of electrification was above the all India level but below the state level; it was at 22.9% to total villages in the Region.

At the end of Fourth Plan, in 1974, the progress of villages electrified in India was at 27.21% while in Maharashtra 47.33% of villages were electrified. In Marathwada Region, however, 43.8% of the villages were electrified at the end of 1974, indicating that progress of rural electrification was very close to the state level. When compared to All India average the progress made in Marathwada Region appears to be quite faster.
At the end of Fifth Plan in 1978, the proportion of villages electrified increased up to 37.66% of the total villages in India; but at the state level the progress was faster than the all India level. Upto the end of 1978; 62.6% of villages were electrified in Maharashtra. In Marathwada Region, the progress of electrification achieved was 58.44% of total villages in the Region.

At the end of 1983 which is part of Sixth Plan period, little more than half of total villages in India have electrified (52.54%); but in Maharashtra State the achievements of villages electrified was much higher at 86.27% to total number of villages. During the same period the Marathwada Region made rapid progress and even surpassed the state average, as 94.56% of total villages in the region were electrified.

Therefore we may conclude from the above discussion that during the initial period (1951-1961), the progress of village electrification in Maharashtra as well as in Marathwada was far below the all India average. But during the subsequent Five Year Plan periods, the State as well as Marathwada Region have made very rapid progress in their rural electrification programme and have surpassed the all India achievement. Infact in 1983 the Marathwada Region could surpass the State average in rural electrification. Graph No. 2.1 shows the relative position of India, Maharashtra and Marathwada region in the field of village electrification during the period 1951 to 1983.
(B) Energization of Pumpsets: Let us now discuss the progress of rural electrification in the field of energization of pumpsets at the All India, Maharashtra and Marathwada levels. As has been noted earlier, that energization of pumpsets was given importance during Third Plan period, the impact of this shift is obvious from the figures shown in table 2.2.

During the initial period of economic planning (1951-56), energisation of pumpsets was non-existent in the Marathwada Region; while at the all India level also only 56100 pumpsets were energized. At the Maharashtra level, the numbrder of pumpsets energized was only 2166.

At the end of Second Plan in 1961, the percentage of pumpsets energized in India increased by 254.54% over earlier plan period; but at the state level, the percentage of pumpsets energized appears to be below all India level (233.15%). In the Marathwada Region, however, the progress of energization of pumpsets was still negligible as only 14 pumpsets were energized, as it was just a beginning.

At the end of Third Plan, in 1966, the percentage of pumpsets energized at all India level increased to 157.81% over earlier plan period; but at the State level, the progress of energization was higher at 525.31%. In the Marathwada Region, the progress was relatively very high at 8528.57%, during the same period.

At the end of Annual Plans (i.e. 1966-69), the energization of pumpsets increased by 112.3% or (1088.3 thousand pumps) at all India level; but at the same time
in the Maharashtra state it increased by 177.8% over the earlier plan period. In Marathwada Region the progress of pumpset energization was faster than Maharashtra as well as of All India level, at the same time it increased by 1678.48% over the Third Plan period.

As the Rural Electrification Corporation of India was established in 1969, the rural electrification programme got vigorous impetus. Therefore, at the end of Fourth Plan, the total number of pumps energized at the all India level went upto 24,161 thousand or an increase of 122.8% over the earlier plan period. While, in Maharashtra it increased by 204.75% over the Third Plan period which is higher than the all India average. In Marathwada Region the progress of energization of pumps was still faster than that achieved at all India level. It increased by 216.38% over the earlier plan period.

Again during the Fifth Plan period the emphasis under the MNRE was given to cover at least 40% of rural population through rural electrification programme. Therefore, the number of pumps energized in country increased to 3299.1 thousand or a rise of 36% over earlier plan period. At the same time, at state level the increase in pumps was little less than all India level or (28.31%) over the earlier plan period. In Marathwada Region, the progress of energization of pumps was below the all India level, but above the State level; it increased by 32.08% over the earlier plan period.
At the end of March, 1983 which is a part of Sixth Plan period, the total number of pumps energized in India was about 4787.8 thousand pumps. This indicates a rise of about 21.26% over the period 1979-80; but in Maharashtra, the achievement of pumpsets energization was much higher at 32.33% over the same period. In Marathwada Region the number of energized increased by 46.59% over the period 1979-80; which is higher than the state average.

Therefore, we may conclude from the above discussion, that during the initial period 1951-1961 the progress of pumpsets energization in Maharashtra as well as in Marathwada Region was far below the all India average. But during the subsequent Five Year Plan periods, the State as well as the Marathwada Region have made rapid progress in their pumpsets energization programme.

Energization of Pumpsets per 1000 hectares: Table No. 2.3 and graph No. 2.2 reveal the progress of pumpsets and pumpsets per thousand hectares of Gross cropped area in India, Maharashtra and Marathwada Region. At the end of First Plan (1956) there was only 0.38 pumpsets per 1000 hectares of gross cropped area in India. But at the state level the number of pumpsets per 1000 hectares of gross cropped area was only (0.12). In Marathwada region there were no pumpsets at all.

At the end of Second Plan in 1961 number of pumpsets per 1000 hectares of gross cropped area increased to 1.30 at all India level; but at the state level the number of
RELATIVE PROGRESS OF ENERGIZATION OF PUMPSETs IN
INDIA, MAHARASHTRA AND MARATHWADA REGION (1951-83)

- - - - MARATHWADA
- - - - MAHARASHTRA
- - - - INDIA

PUMPS PER 1000 OF GROSS CROPPED AREA

YEAR

GRAPH - 2.2
pumps sets energised appears to be slow as only 0.38 pumps sets per 1000 hectares of gross cropped area were available. In Marathwada Region the progress of pumpset energization was almost negligible. There were (0.003) pumps per 1000 hectares of gross cropped area.

At the end of the Third Plan, in 1966, the number of pumpsets energized increased to 3.30 pumps (per 1000 hectares) at all India level, at the same time in Maharashtra State there were 2.37 pumps per 1000 hectares of gross cropped area. During the same period there were only 0.24 pumps per 1000 hectares of gross cropped area in Marathwada Region. It indicates that the Marathwada was far below the All India as well as the State average till at the end of 1966.

At the end of Annual Plans of the Number of pumps sets increased to 6.82 per 1000 hectares of gross cropped area at all India level; but at state level, the progress made was little less than that of all India level (6.45 pumps sets per 1000 hectares of gross cropped area). At the same time the number of pumps sets in Marathwada Region increased only upto 4.24 pumps sets per 1000 hectares of gross cropped area, at the end of 1969.

At the end of Fourth Plan the number of pumps sets increased to 14.31 pumps sets (per 1000 hectares of gross cropped area), but at State level it increased to 17.56 pumps sets per 1000 hectares of gross cropped area. During the same period number of pumps sets in Marathwadawas still little less than all India and State averages (12.92pumps sets per 1000 hectares of gross cropped area).
At the end of Fifth Plan, the number of pumpsets energized increased to 19.46 at all India level; at the State level it was 24.64 pumpsets per 1000 hectares of gross cropped area, which is higher than all India level. During the same period in Marathwada Region number of pumpsets energized increased to 16.81 pumpsets per 1000 hectares of gross cropped area, showing that the region was still lagging behind.

At the end of 1983 which is a part of Sixth Plan period, the number of pumpsets increased to 28.25 pumpsets per 1000 hectares of gross cropped area at all India level; but at the state level it was 39.87 pumpsets, which was higher than all India level. In this respect the Marathwada Region also surpassed the all India average. There were 32.11 pumpsets per 1000 hectares of gross cropped area in the Region.

From the above analysis we may conclude that during initial period the number of pumpsets in Maharashtra and Marathwada were far below the all India averages. But during subsequent Five Year Plan periods the State as well as the Marathwada Region have made very rapid progress in energization, and have surpassed the all India level averages.

2.4 **Rural Electrification Corporation (REC) 1969:**

The All India Rural Credit Review Committee setup by the Reserve Bank of India (1966-69) under the Chairmanship of Shri Venkatappiah, recommended the creation of an autonomous body named Rural Electrification Corporation of India.
In pursuance of the Committee's recommendation, the Rural Electrification Corporation ('REC') was established in July, 1969. The REC was entrusted with the responsibility to administer the Central Government's Plan outlay and provide loans to State Electricity Boards and to Rural Electric Co-operatives for implementing its schemes of rural electrification, in addition to that of proposed State Plan outlays.

The main objectives with which the REC has been set up are:-

(i) To finance rural electrification schemes in the country.

(ii) To subscribe to the special rural electrification bonds that may be issued by the State Electricity Boards on condition to be stipulated from time to time.

(iii) To promote and finance rural electric cooperatives in the country and,

(iv) To administer the money 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.

The directives of the Central Government require the Rural Electrification Corporation 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 criterion 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 alongwith other investment result in increased agricultural production in the area.

5. REC, Rural Electrification of India, Economic and Commercial News (India), 24th August, 1974 - p. 7-8.
(4) coordination in rural electrification programmes in rural area with the various other development programmes in order to help increase agricultural production. The functions of the Rural Electrification Corporation extend beyond mere financing of schemes. It has a special responsibility to ensure that the schemes are properly formulated in accordance with the prescribed norms of economic viability and technical soundness; and that these are coordinated with other development programmes in rural areas and help to increase agricultural production. It has also certain special responsibilities as regards the promotion and development of rural electric co-operatives. Its role is that of a development financing organization.

2.5 Rural Electric Co-operatives: With the increase in the tempo of rural electrification programme over the last few years and the heavy responsibility evolving on the State Electricity Boards on this account, it was felt that the co-operative system of electricity distribution in rural areas could be promoted in an experimental way. The reason is that it might supplement the efforts of the State Electricity Boards and, at the same time encourage direct participation and involvement of the rural people in the rural electrification programme. On the basis of a study, conducted by the REC, five areas, one each in five states, were selected for pilot experiment during the year 1969-1970. These cooperatives have taken over the distribution of power in their respective areas of operation from the State Electricity Boards since 1970. These five pilot projects are located in Andhra Pradesh (Sircilla Taluka, District Karimnagar), Gujrat (Kodinar Taluka, District Amrely),

6. Ibid, p. 6,7
Maharashtra (Rahuri and Mula Pravara Taluka, District Ahmednagar), Mysore (Hukkeri Taluka, District Belgum) and Uttar Pradesh (five blocks in Lucknow District).

The objectives of the pilot rural electric co-operatives are as follows:
(a) To furnish electricity to rural people at the lowest possible cost in order to increase agricultural production; stimulate small agro-industries and improve the standards of living of the rural population.
(b) To increase the responsible action of the people by giving them some degree of control of their electricity.
(c) To establish local organization for the financing procurement, installation, repair and proper use of electric appliances and equipments, such as pumpsets.
(d) To provide the basis for a rapid and standardized pattern of construction and basis for rural electric systems in all states of the union.
(e) To provide meaningful training experience for Indian personnel involved in rural electric co-operatives, so that they could help other such co-operatives to be organised subsequently.

2.6 Progress of Electric Co-operatives: In keeping with the objectives to promote decentralised distribution of power in rural areas on cooperative basis, the REC approved project reports of another five rural electric cooperatives with a loan assistance of about Rs. 8.3 Crores, during 1980-81. These include two cooperatives in Madhya Pradesh and three in Andhra Pradesh. By the end of 1981, the total number of electric cooperatives in India increased to 21.
With this the Corporation has sanctioned a loan assistance of Rs. 38 Crores to 21 rural electric cooperatives spread over twelve States, upto end of 1981.

The 21 Rural Electric Cooperatives financed by the REC have enrolled 1,41,786 members upto 31st March, 1981, collecting a share capital of Rs. 1.5 Crores from their consumer members. The performance of these societies in terms of village electrification and service connection has been very encouraging.\(^7\)

In December, 1980, the Corporation organised a conference of Chairmen of the Rural Electrification Cooperatives at Hyderabad which made a number of useful recommendations on the working of the cooperatives and establishment of more such cooperatives in the country.

In pursuance of one of the recommendations of the conference, the Corporation has since constituted a high-level committee to examine various aspects of the working of the rural electric cooperatives and to recommend administrative, financial and other measures to further expand and strengthen the programme.

2.7 Achievements of the Rural Electrification Corporation

Table No. 2.4 shows the targets and achievements of the REC, during the period between 1973-74 and 1980-81. Upto the end of 1974, the REC had a target of electrifying 18267 villages in the country, but the REC could electrify a total number of 12465 villages, indicating a shortfall of about 32% below the target. The table clearly shows that during

\(^7\) Rural Electrification Corporation Limited, 12th Annual Report, 1980-81, table IX p. 38
<table>
<thead>
<tr>
<th>Upto the end</th>
<th>Villages electrified (number)</th>
<th>% achievement</th>
<th>Pumps energised (number)</th>
<th>% achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>of the Year</td>
<td>Target</td>
<td>Achievement</td>
<td>Target</td>
<td>Achievement</td>
</tr>
<tr>
<td>1973-74</td>
<td>18267</td>
<td>12465</td>
<td>68.2</td>
<td>189403</td>
</tr>
<tr>
<td>1974-75</td>
<td>21207</td>
<td>17884</td>
<td>65.7</td>
<td>247569</td>
</tr>
<tr>
<td>1975-76</td>
<td>39943</td>
<td>21066</td>
<td>65.3</td>
<td>331288</td>
</tr>
<tr>
<td>1976-77</td>
<td>50390</td>
<td>38998</td>
<td>77.2</td>
<td>399151</td>
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<td>1979-80</td>
<td>95208</td>
<td>71794</td>
<td>58.2</td>
<td>719724</td>
</tr>
<tr>
<td>1980-81</td>
<td>117526</td>
<td>91037</td>
<td>77.5</td>
<td>889161</td>
</tr>
</tbody>
</table>

the period stated above the REC has never been able to achieve the target set for it. The minimum shortfall in its achievement was observed to be 22% during the year 1978; and the maximum shortfall of 35% during 1976. However, during this period, the REC, could electrify about 91000 villages in the country, a rise of about 6 times over the year 1973-74.

The 12th Annual Report (1980-81) of the REC shows the state-wise position of achievement of rural electrification in India. The achievement exceeded the targets in 9 states viz. Andhra Pradesh, Assam, Gujrat, Himachal Pradesh, Meghalaya, Madhya Pradesh, Maharashtra, Nagaland and Uttar Pradesh. But in the State of Karnataka, Tamilnadu and Manipur the achievement was below 50%, while in the remaining states, it was little above 60% of the target, during 1980-81.

Energization of pumpsets plays a crucial role in bringing larger area under irrigation and consequently rising the farm incomes. Therefore, the programme of energization of pumpsets, to raise food and agricultural production was emphasised during the Third Plan. Table No. 2.4 shows the achievement made by the REC, in the field of energization of pumpsets in the country during the period 1973-74 to 1980-81. One fact is obvious from the table that, like villages electrification programme, the REC has failed to achieve the target of energization of pumps in all these years. For example, in 1973-74, it had set a target of energizing 189403 pumpsets, but it could supply power only to 60198 pumps, indicating an achievement of only 32%, but

over the years, the REC has been able to improve its targeted achievement, i.e. 41% in 1974-75, 42% in 1975-76 and a maximum of achievement of 84.3% in 1980-81. Upto 1973-74 the REC had energized a total no. of 60198 pumpsets in the country, by the end of 1980-81, it could supply power to about 749760 pumpsets.

The achievement of energization of pumpsets exceeded the targets in 7 states, these are Haryana, Kerala, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and Uttar Pradesh. But in the State of Andhra Pradesh, Gujrat, Karnataka and Punjab the achievement was between 80% to 98% during 1980-81.

2.8 Role of Institutions other than Rural Electrification Corporation:

A significant feature since Fourth Plan onwards in the financing of rural electrification programme was that the rural electrification scheme attracted significant amount of loan assistance Agricultural Refinance Development Corporation, (ARDC) New National Bank for Agriculture and Rural Development (NABARD), Agricultural Finance Corporation (AFC), commercial banks and State Land Development Banks.

The pattern of loan from commercial banks, state land development banks, ARDC/AFC revealed that the availability of the bank finances had been highly heterogenous, being skewed in favour of advanced states like Maharashtra, Gujrat, Haryana etc. There had been several deficiencies in utilization of such institutional finance also. Most backward states despite their needs for rural electrification for pumpsets purposes, had no benefit from them. Thus there had been less

than optimal use of the non-plan resources, and also a possible aggravation of regional imbalances. The terms and conditions for lending such finance often had been different for different agencies and also generally not conducive to the Electricity Boards for reasons of viability in view of the low agricultural tariffs. These issues had been gone into by working groups set up by the Reserve Bank of India which submitted its report in June, 1978 and recommended joint participation of REC/ ARDC, Commercial Banks (special project Agriculture), the contribution from REC, AFC, and ARDC being in the ratio of 1/3 each. The scheme of joint participation (SPA) as recommended, by the above working group was approved by the Planning Commission, and introduced during 1978-79 with a provision of Rs. 10 Crores, under REC, with a matching provision of Rs. 20 Crores from ARDC and commercial banks. The annual plan of 1979-80 envisaged an outlay of Rs. 25 Crores for this programme under the REC with a matching contribution of Rs. 50 Crores from ARDC and AFC. Operationally the thrust of the joint participation schemes would be on non-REC areas which have already been electrified and have good potential for further energization of pumpsets. In particular, there will be acceleration of efforts in the states of Uttar Pradesh, Bihar, Madhya Pradesh, West Bengal, Orissa and Assam which have maximum groundwater potential.  

10. Ibid - p. 15.
2.9  **Pattern of Electricity Consumption in India:** It would be useful for us to study the pattern of electricity consumption in India during the period 1950-51 to 1979-80. Table No. 2.5 gives information relating to the consumption of electric energy in different sectors of the Indian economy.

In 1950-51, about 62.6% of total electricity was consumed by the Industrial sector alone; while only 3.9% of the total (or the minimum) was used by the agricultural sector. It is obvious from the table that during this period due to growing importance of agricultural sector and also due to rapid growth in rural electrification, the share of agriculture has sharply increased from 3.9% to 15.4% in 1979-80. In fact, agricultural sector is now the second major user of electricity second only to industry (in 1979-80).

Considering other sectors using electric energy, it would be observed from the table that, the share of domestic users has declined from 12.6% in 1950-51 to 10.2% in 1979-80, that of commercial users declined from 7.5% to 6.0% ; and of 'other users' declined from 13.4% to 7.8 during the same period. Even the share of Industrial sector has marginally declined from 62.6% to 60.6% during this period. It is only the agricultural sector which gained in the share of electric consumption over these years.

2.10  **Consumption of Electricity in Maharashtra:** Consumption of electricity is considered as a measure to standard of living and quality of life. Consumption of power has grown over the years, much faster than that of coal or Petroleum
### TABLE NO: 2.5

**TABLE SHOWING THE PATTERN OF ELECTRICITY CONSUMPTION IN INDIA.**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td></td>
<td>12.6</td>
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<td>8.8</td>
<td>10.2</td>
</tr>
<tr>
<td>Commercial</td>
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<td>7.5</td>
<td>6.1</td>
<td>5.9</td>
<td>6.0</td>
</tr>
<tr>
<td>Industry</td>
<td></td>
<td>62.6</td>
<td>69.3</td>
<td>67.6</td>
<td>60.6</td>
</tr>
<tr>
<td>Agriculture</td>
<td></td>
<td>3.9</td>
<td>6.0</td>
<td>10.2</td>
<td>15.4</td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td>13.4</td>
<td>7.9</td>
<td>7.5</td>
<td>7.8</td>
</tr>
</tbody>
</table>

as a direct energy source of the economy. The economy has become more and more dependent on electricity as a basic input.

As a result of this, the demand for power has been rising phenomenally and despite considerable growth in the power supply. From 1960-61, the installed derated generation capacity in the state has increased five fold from 760 Mega Watt (MW) in 1960-61 to 3736 MW at the end of 1980-81. The power supply industry in the state generated 18,689 million units during 1980-81 as compared to 3,268 million units at the time of formation of Maharashtra State. The number of consumers served by the Maharashtra State Electricity Board has also risen from 1.41 lakhs in 1962 to about 31.46 lakhs in 1980. The per capita consumption of electricity, increased from 73 units per annum in 1960-61 to 238.06 units per annum in 1981-82.

The per capita consumption of electricity in Maharashtra during 1981-82 was 173.31 KWh excluding Greater Bombay and 238.06 Kwh including Greater Bombay, out of which 108.52 KWh was utilised by industrial sector and 34.55 KWh by agricultural sector, the remaining 26.24 KWh has been used by residential and commercial sector. From these figures, it is clear that the agricultural sector consumed only 19.93% of electricity out of total consumption of electricity in 1981-82. The main consumer of electricity in 1981-82 was the industrial sector.

2.11 Electrification of Tribal Areas: There are in all 6400 villages and 4 towns in the tribal sub-plan Area, out of these 2404 villages have been electrified upto March, 1979.
On account of remoteness of area and economic backwardness, electrification in tribal areas has lagged behind. The percentage of electrification in tribal sub-plan areas is 37.32% as on 31-3-1979. The major hindrance in increasing the pace of rural electrification in these areas has been the low revenue return on account of low potential demand.

2.12 Electrification of Harijan Bastis: Out of the total number of 36067 villages and towns in the State, the Board has electrified 23,673 villages by the end of March, 1979; of these villages 15,784 have their goathans also electrified and out of these electrified goathans 15,093 Harijans Bastis have been electrified up to 31-3-1979. The table No. 2.6 shows yearwise progress of the electrification of Harijan Basties.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total villages electrified</th>
<th>No. of goathans electrified</th>
<th>Harijan Bastis electrified</th>
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<tbody>
<tr>
<td>1974</td>
<td>16933</td>
<td>8456</td>
<td>7507</td>
</tr>
<tr>
<td>1975</td>
<td>18919</td>
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<td>1977</td>
<td>20494</td>
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<tr>
<td>1978</td>
<td>22392</td>
<td>13328</td>
<td>12855</td>
</tr>
<tr>
<td>1979</td>
<td>23673</td>
<td>15784</td>
<td>15093</td>
</tr>
</tbody>
</table>

**Source:** Annual Report of Maharashtra State Electricity Board. - 1980
From the above table it could be seen that maximum number of Harijan Basties have been electrified during 1978-79. During 1978-79 Rs. 50.6 lakhs were made available by District Planning Committee (DPDC) for electrification of Harijan Basties and this amount is fully utilised.

2.13 Role of Rural Electrification Corporation in Rural Electrification of Maharashtra State:

The Corporation has sanctioned 414 projects upto 31st March, 1981 of various categories in Maharashtra State. These projects cover Advance/ Backward/ Specially under developed Areas of state including cooperative projects, i.e. Mula-Pravara Cooperative Project which was set up with the promotional activities of the corporation. The remaining 13 schemes are for electrification of Harijan Basties.

The loan assistance sanctioned for these projects is of the order of 11691 lakhs. Out of this loan sanctioned by REC, the disbursement of loan upto the end of 1981 amounted to Rs. 3634 lakhs. The percentage of disbursement is 73.35 upto the end of 1981.

(a) Village Electrification: Electrification of 7701 villages under REC financed schemes represent an achievement level of over 108% of the target of 7140 villages upto 31st March, 1981. In the year 1980-81 electrification of 1321 villages under REC projects represent an achievement of 176% of the target of 750 villages during 1980-81.

11. Rural Electrification Corporation Limited, 12th Annual Report, 1980-81, Table -II p.33
12. Ibid, Table VII p.36
(b) **Pumpset Energization:** Against the target of 19500 pumpsets the actual achievement has been 27682 pumpsets; this represents the increase of 17,131 pumpsets (162%) over the target set for 1979-80.

Together with over 1321 villages electrified and about 27682 agricultural pumpsets energised during 1980-81, total number of villages electrified under REC financed projects upto 31st March, 1981 was 7701. The number of agricultural pumpsets energised was 101115 (1.01 lakhs) upto 31st March, 1981.

2.14 **Consumption of Electricity in Marathwada Region:**

Apart from merely increasing the percentage of electrification or even increasing the number of pumpsets energised, what is really necessary is to increase the per capita consumption of electricity, which even to-day compares rather poor with the rest of the State. Table No. 2.7 shows the per capita consumption of electricity in each district. In Marathwada, per capita consumption of electricity in 1981-82 was 78.90 KWh, which is less than the average of the state (173.31 KWh). The per capita consumption of electricity was only satisfactory in Aurangabad district (134.14 KWh). All remaining districts were the below average of Marathwada Region. The consumption of electricity in industrial sector appears very poor in Marathwada Region. It was 21.82 KWh per capita in Marathwada, while the state average consumption in the same sector was 108.52 KWh (excluding greater Bombay). The per capita consumption of
<table>
<thead>
<tr>
<th>District</th>
<th>Total consumption (KWh)</th>
<th>Industries sector (KWh)</th>
<th>Agricultural sector (KWh)</th>
<th>Residential &amp; commercial sector (KWh)</th>
<th>% Agricultural consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurangabad</td>
<td>134.14</td>
<td>50.14</td>
<td>68.30</td>
<td>15.70</td>
<td>50.92</td>
</tr>
<tr>
<td>Parbhani</td>
<td>69.13</td>
<td>7.96</td>
<td>47.77</td>
<td>13.40</td>
<td>69.10</td>
</tr>
<tr>
<td>Bhir</td>
<td>48.02</td>
<td>7.04</td>
<td>30.42</td>
<td>10.56</td>
<td>63.35</td>
</tr>
<tr>
<td>Nanded</td>
<td>57.42</td>
<td>17.94</td>
<td>22.81</td>
<td>16.67</td>
<td>39.72</td>
</tr>
<tr>
<td>Osmanabad</td>
<td>64.05</td>
<td>15.17</td>
<td>39.58</td>
<td>9.30</td>
<td>61.79</td>
</tr>
<tr>
<td>Marathwada</td>
<td>78.60</td>
<td>21.82</td>
<td>43.89</td>
<td>13.29</td>
<td>55.63</td>
</tr>
<tr>
<td>Maharashtra (including Greater Bombay)</td>
<td>238.06</td>
<td>148.52</td>
<td>30.02</td>
<td>59.52</td>
<td>12.61</td>
</tr>
<tr>
<td>Maharashtra (excluding Greater Bombay)</td>
<td>173.31</td>
<td>108.52</td>
<td>34.55</td>
<td>30.24</td>
<td>19.93</td>
</tr>
</tbody>
</table>

Source: Fact Finding Committee Report, April, 1984, Table 4.9- p. 42
(Planning Department, Government of Maharashtra, Bombay)
electricity in Agriculture sector in Marathwada was 43.89 KWh which was above the average consumption of state in the same category (34.55 KWh). But in districts of Beed and Nanded, the per capita consumption of electricity in Agriculture sector was less than the per capita consumption of State. (i.e. Beed 30.4 KWh and Nanded 22.8KWh) in Maharashtra, out of the total consumption of electricity, 19.93 per cent was consumed by Agricultural Sector, while in Marathwada 55.63 per cent was consumed by the same category. Only the districts of Aurangabad and Nanded the consumption of electricity by agricultural sector was less than (50.92 and 39.72 KWh respectively) the per capita consumption of region (55.63 KWh per capita).

2.15 Electrification of Harijan Basties: Out of the total number of 7320 villages in the Marathwada region, the Board has electrified 6922 villages upto the end of March, 1983; out of these electrified villages the Board has electrified 3593 villages having goathans upto December, 1980. Out of these electrified goanthan; 3530 Harijan Basties have been electrified upto the December, 1980. The Table No. 2.8 shows the district-wise breakup of Goathans electrified with Harijan Basties.

2.16 Category-wise Consumption in Marathwada: The Table No. 2.9 shows the position of category-wise consumers in Marathwada region upto 31st December, 1980. Total consumers of Maharashtra State Electricity Board in Marathwada were 3,86,349 as on 31-12-1980. Out of which major portion was light and fan category (i.e. residnetial and commercial) consumers (2,32,718). The Agricultural category occupies
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the District</th>
<th>Total No. of villages electrified as on 31.3.83</th>
<th>Goathan electrified including Harijan Basties as on 31.12.80</th>
<th>Goathan electrified but Harijan Basties not electrified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Aurangabad</td>
<td>1820</td>
<td>801</td>
<td>26</td>
</tr>
<tr>
<td>2.</td>
<td>Parnhini</td>
<td>1335</td>
<td>716</td>
<td>12</td>
</tr>
<tr>
<td>3.</td>
<td>Bhir</td>
<td>1363</td>
<td>487</td>
<td>1</td>
</tr>
<tr>
<td>4.</td>
<td>Osmanabad</td>
<td>1380</td>
<td>627</td>
<td>24</td>
</tr>
<tr>
<td>5.</td>
<td>Nanded</td>
<td>1024</td>
<td>922</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Marathwada</td>
<td>6922</td>
<td>3530</td>
<td>63</td>
</tr>
</tbody>
</table>

Source: Assembly Report of each district, 1980.

****
\textbf{TABLE NO: 2.9}

\textbf{TABLE SHOWING CATEGORYWISE CONSUMERS IN MARATHWADA AS ON 31-12-1980.}

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Category/ District</th>
<th>Aurangabad</th>
<th>Parbhani</th>
<th>Bhir</th>
<th>Osmanabad</th>
<th>Nanded</th>
<th>Marathwada</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Light &amp; Fan</td>
<td>69,859</td>
<td>36,529</td>
<td>29,274</td>
<td>49,636</td>
<td>47,420</td>
<td>2,32,718</td>
</tr>
<tr>
<td>2.</td>
<td>L.T. Industries</td>
<td>33,873</td>
<td>2,364</td>
<td>2,138</td>
<td>2,029</td>
<td>2,666</td>
<td>44,070</td>
</tr>
<tr>
<td>4.</td>
<td>Agricultural Pumps</td>
<td>47,726</td>
<td>18,472</td>
<td>15,980</td>
<td>33,404</td>
<td>16,167</td>
<td>98,345</td>
</tr>
<tr>
<td>5.</td>
<td>Street Lights</td>
<td>700</td>
<td>721</td>
<td>442</td>
<td>681</td>
<td>1,062</td>
<td>3,606</td>
</tr>
<tr>
<td>6.</td>
<td>Others</td>
<td>2,480</td>
<td>10</td>
<td>-</td>
<td>163</td>
<td>1,209</td>
<td>3,862</td>
</tr>
</tbody>
</table>

\textbf{Total} | 1,24,812 | 58,138 | 47,858 | 86,972 | 68,569 | 3,86,349 |

\textit{Source: Assembly Report of each district, 1980.}
the second position. As on December 31, 1980, there were 98345 agricultural consumers in Marathwada. The District-wise break-up of consumers is given in Table No: 2.9.

Now we may briefly conclude the following points from this discussion:

(1) During the initial period in 1950-51, both the State of Maharashtra and the Marathwada Region were far below the All India average with respect to energization of pumpsets as well as in the filed of village electrification. But at the end of 1983, the progress made by the State as well as the Marathwada Region has been quite spectacular. In fact, both have surpassed the All India average with respect to energization of pumps and village electrification.

(2) The role played by the Rural Electrification Corporation of India since 1969, in the field of electrification of rural areas has been quite satisfactory. Although, the REC could not achieve the targets set for it, even then during later period, it has been able to achieve good progress.

(3) The All India level, the consumption pattern of electric energy shows that, the industrial sector is the single major user of power as it uses about 60% of the total energy in India. Secondly, the share of agriculture which was only 3.9% in 1950-51 has rapidly increased to 15.4% in 1979-80.

(4) The consumption of electricity (per capita) in Marathwada region is very low when compared to the per capita consumption of electricity in the State. Certain districts like Beed and Nanded are far below the regional average. This indicate industrial backwardness of these districts.