CHAPTER II

RURAL ELECTRIFICATION POLICY AND WORKING OF THE MSEB

In the previous chapter, we had seen that there is positive relationship between stage of development of a country and its per capita consumption of electricity. This positive relationship is mainly attributable to greater industrialisation and consequent urbanisation with development of a country inducing higher consumption of electricity which has multifarious uses. Though urbanisation tends to foster faster development of use of electricity due to density of population and concentration of large and medium size industries, rural electrification is advocated on the plea that it would render rural life more attractive and thus reduce the pressure on adjoining urban areas, and at the same time, promote dispersal of small scale and cottage industries and other ancilliary units and improve productivity in agriculture, particularly through electrification of wells. Whatever be the justification for electrification of rural areas, it is regarded as an unremunerative proposition on account

of (a) wide scatter of consumption points and large investments required to cater to these points, and (b) low level of returns on investments due to lack of potential for use of electricity for industrial/agricultural purposes and limited use for domestic lighting, etc., because of prevalence of general low standard of living.

Precisely, because of uneconomic nature of rural electrification and consequent confinement of electrification of only urban areas by the private licences in the pre-independence period, the Electricity (supply) Act of 1948 was formulated, modifying the earlier Act of 1910.[1] The provisions of the modified Act empowered the State Governments to set up State Electricity Boards with a view to correcting the lop-sided development of electricity, thus undertaking electrification of rural areas on a large scale.[2] Subsequently, the State Governments set up State Electricity Boards in their respective States, which, in turn, had embarked upon electrification of rural areas. Since the State Electricity Boards were set up with specific objective of correcting intra-regional imbalances in the development of electricity and undertaking rural electrification programmes, it would be relevant here to review the Government policy on the subject.

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1 For statement of objectives of the Act, see Gazettee of India, 1947, Part V, p.154.

2 See, Section (5), the Electricity (Supply) Act, 1948.

It may be stated at the outset that the analysis of policy prescriptions relates to spatial distribution of electricity which indeed concern rural electrification. Thus, the guidelines/ suggestions regarding other aspects of electricity development such as generation and utilisation of power, financing of big projects, co-ordination to be effected between different agencies to achieve maximum results have not been considered since they have been elaborately dealt with in 'Evaluation of Rural Electrification Programme' by Programme Evaluation Organisation, Planning Commission.[1] Further, for the purpose of description of policy guidelines on the subject, we have chiefly drawn on Five Year Plan Documents, since they not only contain the views of the Government but also the opinions of expert bodies such as Central Water and Power Commission, Central Electricity Authority, etc.

Policy Guidelines on Rural Electrification

We shall initially describe the policy prescriptions on implementation of rural electrification programme as contained in first 3 Five Year Plan Documents since they were relevant at the time of commencement of the study. However, we shall refer to latter Plan (IV, V and VI) Documents to analyse any changes in the guidelines.

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1 Government of India, Planning Commission, Programme Evaluation Organisation, op.cit. See Chapter on 'Rural Electrification in the Plans and Financial Position of the State Electricity Boards' from the aforesaid study.

First 3 Five Year Plan Documents : Of the first 3 Five Year Plan Documents, it is only the Second Five Year Plan (1956-57 to 1960-61) which has dwelt upon the topic of spatial distribution of electricity and made certain suggestions in this regard. The First Five Year Plan (1951-52 to 1955-56) Document marking the beginning of planned development era, concerned itself more with the basic aspects, such as assessing the power-resource, enumerating existing development and making out a case for national policy rather than discussing the finer aspects of planning such as phasing out the programme, spatial distribution, etc. However, a mention may be made of policy-suggestion on the criteria for selection of project which indirectly has a bearing on spatial distribution. With its emphasis on agricultural development, the First Plan laid down that the projects which would add to the food production should receive priority over the projects with other uses.

Similarly, the discussion in the section on 'Rural Electrification' in the Third Five Year Plan (1961-62 to 1965-66) mainly revolved around policy suggestions[1] aimed at improving the financial position of State Electricity Boards. Perhaps, it was

1 Such as drawing up of definite schemes for the utilisation of power as part of the District Development Plan for which setting up of small committees was recommended to plan and advise on rural development programme for small towns and its neighbourhood or a group of villages which had common source of power. Also the Boards were advised, among other things, to select most economical projects, to achieve utmost economy in construction-cost and to phase out projects in the manner resulting in reduction of time-lag between availability of benefits and their utilisation to reduce losses (Source : Government of India, Planning Commission, Third Five Year Plan, Chapter XXIV, pp.404-406).

due to the fact that by the time the Plan was formulated, the mounting deficits of State Electricity Boards had assumed alarming proportions.[1] However, in line with the mainstream (improving revenue of S.E.B.) of thought, there is a policy-suggestion in the draft-outline of the Plan relating to setting up of small hydro plants (of capacity of 10 KW to 100 KW) instead of diesel plants, for electrification of isolated hilly areas away from Grid lines, as the operation of the former was observed to be more economical when compared to that of latter. This brings us to the Second Five Year Plan Document which contains most of the policy-suggestions pertaining to spatial distribution of electricity.

The Second Five Year Plan made out a case for electrification of landscape on a phased basis in view of distances separating most of the villages from developed power sources and the ensuing enormous costs involved in providing distribution lines, if all such villages were to be electrified during the course of any plan.

Further, according to the Plan Document, the case for phased programme of electrification was strengthened by the preponderence of low load density in rural areas resulting in high operation and maintenance charges. Hence it was suggested that "the most practical approach to the problem is, in the first instance, to undertake extension of power supply to villages

1 Ibid, p.405.

which lie in proximity to town areas where power supply exists. Similarly, wherever possible, supply lines should be constructed from grid transmission lines to villages lying near their routes."[1]

A suggestion had also been made in the Plan Document to initiate local schemes either through setting up of diesel power-generating stations or in hilly areas based on small hydro electric plants, where there was scope for utilisation of electricity in agriculture and in small industries and which were likely to be outside the pale of Grid system for quite some time to come.

As regards the Plan Documents of State Governments (Old Bombay, Reorganised Bombay and Maharashtra) wherein these State Electricity Boards (Bombay Electricity Board, Bombay State Electricity Board and Maharashtra State Electricity Board) functioned, it may be noted that none of these contained any policy guidelines on spatial distribution of electricity. In fact, the sections relating to power development in the first two Five Years Plan Documents devoted themselves only to enumeration and description of schemes included in the respective Plan with financial allocation. It was only the Third Five Year Plan Document which spelt out long-term objectives for power development, based on achievements in the First and Second Five Year Plans. It is to be noted that the Plan Document assigned

1 Government of India, Planning Commission, Second Five Year Plan, page 338.

overall targets separately for electrification of villages for domestic and non-agricultural purposes and for energisation of pumpsets for lift-irrigation, thus stressing the importance of irrigational use of electricity.

The Maharashtra State Electricity Board, however, adopted the following procedure for the implementation of rural electrification programme during the Third Plan period. The criterion adopted by the Board for the selection of village for electrification was the number of wells and number of oil engines of the villages. The relevant portion of the note prepared by the 'Planning and Project Section' of the Board proposing the list of villages to be taken up for electrification is quoted hereunder :

"Attached herewith is also a statement indicating the number of villages proposed in each scheme for electrification in each district, which shows (i) the capital cost involved, (ii) the agricultural potential which is expected to be covered under the scheme, (iii) the percentage return therefrom".

"It may be added that while formulating the above proposals, schemes giving higher percentage returns are preferred to those giving comparative lower returns. The attention is given to the data and the maps made available by Bureau of Economics and Statistics with regard to the areas having more number of irrigational wells and oil engines as also the list of places in

each district having more than 20 wells and/or 10 oil engines*.[1]

It can thus be seen from the above that the agricultural potential of the village, namely the number of wells and oil engines, was the paramount consideration in the selection of village for electrification. In other words, for implementation of Plan targets, the MSEB did not propose to follow dichotomous classification, viz., number of villages to be electrified and the number of pumpsets to be energised, as conceived in the draft outline of the Plan. Instead, it proposed electrification of such villages for domestic and non-agricultural purposes, which offered better potential for the use of electricity for irrigation purposes. It may be noted in this connection that the concept of an electrified village as adopted by the MSEB is in consonance with the above stated procedure followed by it for implementing the programme during the Plan. While in the States like Bihar, Orissa, Rajasthan, Uttar Pradesh and Punjab, the respective State Electricity Boards designate a village as electrified only if the domestic and street lighting connections are given, in Maharashtra, the village is termed as electrified if power is supplied for at least one purpose of use in the village. It is immaterial whether it is for lift irrigation, industry or lighting.[2]

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1 Page 4 & 5 of the note prepared by the Planning and Project Section of the MSEB concerning the proposals of Rural Electrification Programme in Third Plan (Mimeographed) - Unpublished.

2 Government of India, Planning Commission, Programme Evaluation Organisation, op.cit. See Chapter V, pp.66-67 for the concept of electrified place.

As can be seen from the above description, although the policy guidelines from the Government did not explicitly profess use of electricity for any specific purpose or mentioned any criterion for selection of villages for electrification, there was tacit inclination towards promotion of use of electricity for productive uses, particularly use for irrigation purposes. The M.S.E.B. taking the cue from these guidelines, therefore, laid emphasis on electrification of villages offering potential for irrigational use of electricity while implementing rural electrification programme.

In this context, it is noteworthy that in the subsequent Plan Documents (IV, V and VI), there is clear-cut shift in favour of use of electricity for irrigation purposes in the policy guidelines. For instance, the Sixth Plan (1978-1983) Document states, "In the early stages, the emphasis was on village electrification. The serious drought in the country in mid-sixties focussed attention on stabilisation of agriculture through exploitation of ground water resources and this led to a change in the emphasis of rural electrification from village electrification to energisation of pumpsets".[1] Further, "in order to attract a larger flow of institutional funds for this programme, specially in States having much untapped ground water potential, a new scheme of joint financing by Rural Electrification Corporation, Agriculture Refinance and Development Corporation and commercial

1 Government of India, Planning Commission, Draft Five Year Plan 1978-83, Chapter 10, p.164.

banks will be introduced. New schemes will also be introduced for intensive energisation of pumpsets in already electrified areas",[1] etc. It may be mentioned here that in the 4th Plan (1969-70 to 1973-74) Document, no target was assigned for village electrification, with target being assigned for only energisation of pumpsets.[2]

Thus, it could be seen from the foregoing that irrigation use of electricity has been assigned important place in rural electrification programme in Five Year Plans, more so in recent years. In Maharashtra, the State Electricity Board, at the time of commencement of this study, had, in fact, given prime importance to irrigational use of electricity in terms of selection of villages for electrification. However, due to lack of development of the load of electricity in rural areas in the manner envisaged by the Board, its financial position was adversely affected.

State Electricity Boards and their Finances

It is worth mentioning here that just before this study was undertaken in 1965, the Government of India had set up a committee[3] to review the finances of State Electricity Boards(which were

1 Ibid, p.165.

2 For details see, Government of India, Planning Commission, Draft Fourth Five Year Plan, 1969-74, Chapter 12, Page 270. Also, See Government of India, Planning Commission, Draft Fifth Five Year Plan 1974-78,Vol.II, Chapter 4, page 125.

3 See, Ministry of Irrigation & Power, Government of India, "Report of the Committee on Working of the State Electricity Boards", Oct. 1964.

incurring losses on account of rural electrification programme[1]) and suggest ways and means to improve the same. It is noteworthy that even as of end 1977-78, most of the State Electricity Boards continued to incurr losses[2], presumably on account of rural electrification programme undertaken by them.

Financial Position of M.S.E.B.

In this context, it may be relevant to present data on financial position of Maharashtra State Electricity Board whose area of jurisdiction the present study relates to. It may be mentioned here at the outset that Maharashtra State Electricity Board (M.S.E.B.) came into being on 1st May 1960, on formation of State of Maharashtra, through bifurcation of Bombay State Electricity Board into M.S.E.B. and Gujarat State Electricity Board consequent upon the re-organisation of erstwhile Bombay State into Maharashtra and Gujarat States. Further, M.S.E.B. inherited certain assets and liabilities from Madhya Pradesh State Electricity Board, in respect of the areas (8 districts of Vidarbha Region) merged into the State from Madhya Pradesh. Like-wise, assets and liabilities of Electricity Department of former Hyderabad State in 5 districts of Marathawada were

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1 For details, see Chapter on 'Rural Electrification in the Plans and Financial Position of State Electricity Boards" in "Evaluation of Rural Electrification Programme" - Programme Evaluation Organisation, Planning Commission, Govt. of India, 1965'.

2 See, Chapter II, Annual Administration Report, Maharashtra State Electricity Board, particularly, 'Comparative Performance with Other Electricity Boards' (pp.16-17).

transferred to M.S.E.B. with the merger of these districts in the State of Maharashtra.

Right from the inception, the financial position of M.S.E.B. has not been encouraging. At the time when the present study was undertaken, the State Electricity Board had incurred heavy losses. In Table 2.1, we present financial results of M.S.E.B. and its predecessors (Bombay State Electricity Board) as upto the period when the study was undertaken.

Table 2.1 : Financial result of the operation of MSEB and its predecessors

Name of the Board/ Financial year	Net result of the working during the year (Surplus'+'/ Deficit '-') (Rs. in lakhs)
Bombay Electricity Board	
1954-55	- 26.06
1955-56	- 16.67
Bombay State Electricity Board	
1956-57	- 12.64
1957-58	- 38.22
1958-59	- 43.03
1959-60	- 80.88
Maharashtra State Electricity Board	
1960-61	- 32.00
1961-62	- 63.28
1962-63	- 93.06
1963-64	+107.84
1964-65	- 26.98

In terms of section 67 of the Electricity (Supply) Act, 1948, the priority of liabilities are laid down for distributing

the sum arrived at after deducting the operating, maintenance and management expenses from total revenue accrued by the State Electricity Board.By and large, the surplus/deficit as stated in the above table is derived after providing for interest rate charges on borrowed funds and depreciation reserve[1] in the sum appropriated after deducting total expenses from total revenue accrued during the year.

It can be observed from the above table that except in case of Bombay Electricity Board which functioned for less than 2 years, the deficits of the State Electricity Boards (B.S.E.B. and M.S.E.B.) were mounting year after year.The sudden reversal in this general trend in the year 1963-64 was due to the State Government handing over the income arising from a big hydel project (Koyana Project) to the State Electricity Board without the Board providing for lease rent of over Rs.1 crore to be paid to the Government, on account of this project, in its annual accounts for the year.

The reasons for these mounting deficits are discussed in details by the respective State Electricity Boards in the chapter pertaining to 'Finance'/'Financial Aspects' in their Annual Administration Reports. In brief, the reasons mentioned are

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1 For the year 1962-63, the deficit is arrived at after providing for General Reserves (besides providing for interest rate charges and depreciation reserves) in the sum appropriated after deducting total expenses from total revenue. However, for the sake of comparability of surplus/deficit over the years, we have presented the figure for 1962-63 net of provision for 'General Reserve'.

as under :

(a) Unsympathetic view takenby the State Government in the initial years, while declaring loan to the Board under Section 60(2) of Electricity (Supply) Act, 1948, specifying Board's liability, on its formation, on Capital Account for the assets and other power-houses handed over to it by the State Government and thus determining the annual interest rate charges on such loan to be paid by the Board to the Government.[1]

(b) The full development of load corresponding to the increase in expenditure had not taken place in the various new schemes, particularly rural electrification schemes, the full benefit of which would be derived in later years and also because of the large number of uneconomical diesel power stations being operated by the Board in different areas.[2]

(c) With the exception of few cities (like Poona, Kolhapur, Ulhasnagar, Akola and Amravati), the Board was left with the supply of power in rural and semi-urban areas where the load density per mile of transmission and distribution line was very low, thus resulting in the construction, in a big way, of the net-work of transmission and distribution lines to fulfil the load requirements in these areas.[3]

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1 For details, see chapter on Financial Aspects in the Annual Administration Reports for the year 1956-57 and 1957-58.

2 Source : Annual Administration Report (B.S.E.B.), 1958-59, Chapter II, p.14.

3 Source : Annual Administration Report (M.S.E.B.), 1963-64, Chapter VI, page 21.

Financial Position in Recent Period :

Even in post 1964-65 period upto end 1977-78, the Board's financial position has not remained satisfactory all throughout. After showing net surplus for 4 consecutive years, i.e., from 1966-67 to 1969-70, the Board's financial position worsened in the next 4 years, i.e., from 1970-71 to 1973-74.[1] During these latter 4 years, the Board could not only show any surplus but also was not able to appropriate required sums towards payment of interest charges on borrowed funds, particularly during the years 1971-72, 1972-73 and 1973-74.[2] However, in the next four years, the Board's financial position started improving, thanks to revision in tariff from November 1976 and revision in the tariff for sale of energy to one of the Licensees (Tata Hydro Electric Company Ltd.) with effect from 28th January 1977.[3] In this context, as mentioned earlier, it should be noted that Maharashtra State Electricity Board was only one among the three State Electricity Boards showing surplus as of end 1977-78. It may be pointed out here that today, the State Electricity Board

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1 Source : Chapters on 'Finance' in the Annual Administration Reports for the years 1965-66 to 1973-74.'

2 In the year 1971-72, "the interest on Government loans amounting to Rs.451 lakhs could not be provided in the accounts" (Chapter VIII, page 33, Annual Administration Report, 1971-72). Likewise, in 1972-73, "the interest on Government loans amounting to Rs.1218 lakhs including Rs.451 lakhs of the last year could not be provided in the accounts" (Chapter IX, page 32, Annual Administration Report, 1972-73). Further, as against the required appropriation of Rs.11.03 lakhs towards interest rate charges, only Rs.9.09 lakhs was provided in the accounts for the year 1973-74. (National Institute of Bank Management, Appraisal of Rural Development..., op.cit., Chapter 3, Table 3.3)

3 Source : Chapter IX, page 36, Annual Administration Report, 1976-77.

has the onerous responsibility of carrying out its operations in a remunerative manner since the Board's operations are not only financed through budgetary provisions and market borrowings, but also by acquiring loans from commercial banks (nationalised banks) and other corporate bodies such as Rural Electrification Corporation and Life Insurance Corporation.[1]

In the opinion of the Board, the emergence of unsatisfactory financial position is due to implementation of rural electrification programme on large scale and relatively slow development of load in rural areas. To quote, ".....", the Board has to construct a vast network of transmission and distribution lines. It takes about five years or more to develop load in rural areas and new areas are to be covered. Even before this level of development is reached, this continuous expansion without corresponding increase in load, inevitably involves heavy charges on account of depreciation and maintenance without corresponding increase in revenue".[2]

Rural Electrification by M.S.E.B.

In this context, it would be relevant to analyse the implementation of rural electrification programme by the MSEB over the years. In Table 2.2, the number of villages and pumpsets electrified by the MSEB since its inception, are depicted on annual basis.

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1 Source : See Chapter I (page 3) of Annual Administration Report, 1973-74.

2 Page 19, Chapter VII, Annual Administration Report, 1967-68.

Table 2.2 : Number of villages and pumpsets electrified by the MSEB during 1960-61 & 1977-78.

year	Villages electrified during the year	Pumpsets electrified during the year
1960-61	331	1277
1961-62	338	1750
1962-63	481	2145
1963-64	700	6134
1964-65	745	8287
1965-66	1548	19003
1966-67	1801	20569
1967-68	911	25419
1968-69	2463	33566
1969-70	623	36145
1970-71	2175	50997
1971-72	1349	28205
1972-73	1551	50728
1973-74	1840	51622
1974-75	1878	38579
1975-76	666	28248
1976-77	897	36548
1977-78	1340	39909

Source: Annual Administration Reports of M.S.E.B. for 1960-61 to 1977-78.

The acceleration in tempo of electrification of villages/ pumpsets is clearly seen from Table 2.2 Between Third Five Year Plan (1961-62 to 1965-66) and Fifth Five Year Plan (1974-75 to 1977-78), the average annual number of villages electrified by the Board went up from 762 to nearly 1200. Similarly, during

the same period, average annual number of pumpsets connected has gone up from 7464 to 35,821. The slow pace of growth of load in villages as quoted above from the Board's Annual Report can be seen from the fact that over 12 years' period, from end 1965-66 to end 1977-78, the number of pumpsets per electrified village has gone up from 8.5 to barely 20.8.[1] In this context, it should be noted that during all these years and even during the Third Five Year Plan period rural electrification programme was geared specially to meet the demand of irrigational use of electricity among its different uses. Further, in view of sample villages for the study having 75 irrigational wells on an average, electrification of only 20 wells per electrified village by end 1977-78, despite a growth of 125 per centin them over 12 years' period, shows poor development of load.

Having analysed the implementation of rural electrification programme by the MSEB in State of Maharashtra as a whole, it would be relevant to describe the implementation of the programme in Poona Rural Division which the present study relates to. However, before we describe it, the organisational set-up of MSEB and the jurisdictional limits of the selected Division are briefly enumerated so as to facilitate understanding of planning and execution of the programme in the State.

Organisational Set-up of M.S.E.B.

The Maharashtra State Electricity Board consists of seven

1 Source : Chapters on 'Rural Electrification' from Annual Administration Reports for 1965-66 and 1977-78.

members.including the Chairman. There is also a separate Electricity Consultative Council composed of 15 members to advise the Board on major questions of schemes of policies. The members of the Consultative Council represent various interests such as electricity supply and other industries, consumers of electricity, commerce, transport, agriculture, labour employed in electricity supply industry and others. The members of the Board as well as of the Consultative Council are appointed by the State Government in accordance with the provisions of the Electricity Supply Act, 1948.[1]

The Board formulates all the important policies and decides on the problems of organisation and administration including sanction of schemes and purchase of stores, besides appointing junior and senior executives of the Board.

At the time when the present study was undertaken, the Chief Engineer was the highest executive of the Board and was in charge of technical side, which consisted of the operation, maintenance and execution of various schemes under different circles - areas delimited for field administration and operation.Similarly, the Chief Engineer was in charge of the Planning and co-ordination Section dealing in planning, and investigation of new power sources and other electrification

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1 The above composition of the Board and State Electricity Consultative Council is valid even today, i.e., end- 1977-78. For details see Annual Administration Report of MSEB for 1977-78, particularly Chapter I of the Report and composition of State Electricity Consultative Council.

schemes, The Chief Engineer, through this section, was also a co-ordinating authority between the Board and other sections.[1]

As stated earlier, for field administration and operation, the State had been divided into nine circles each covering two or more districts, with a Superintending Engineer or Deputy Chief Engineer, depending upon the work-load in its charge. Each Circle had been further divided into Divisions and Divisions into sub-Divisions. While an Executive Engineer was placed in charge of Division, the Sub-Division was under the control of Assistant Executive Engineer.

It should be noted that the administrative divisions of the Maharashtra State Electricity Board did not conform to the existing area units of the Government for revenue administration (District). By the end of the third Five-Year Plan (the end of 1965-66), there were 59 divisions of the State Electricity Board, while there are 26 districts in the State. Since the jurisdiction of the Executive Engineer depended on the length of transmission line, number of connections, load served in area and the volume of distribution and maintenance work; as

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1 Organisational set-up of the Board has undergone radical changes in the subsequent years with rapid expansion in its activities in the wake of implementation of rural electrification programme on large scale. Now, the Chairman of the Board is a full-time appointee, as against his honorary appointment in the past. The Chairman co-ordinates the activities of different sections of the Board. For field operations and administration, the Chairman is assisted by 2 Technical Members, one in charge of 'transmission and distribution' and the other in charge of 'generation'. These Technical Members oversee 'Chief Engineers' placed in charge of various Zones/functional areas. The Zones are divided into Circles (placed under the charge of Superintending Engineers) and Circles into Divisions overseenby Executive Engineers. For details, see Chapter VII - Personnel & Gen.Administration - Annual Administration Report (1977-78) and Organisational Chart enclosed along with the Report.

soon as it exceeded certain work-load in the course of progress of electrification schemes, the existing Divisions were bifurcated and new Divisions were created with a transfer of certain lines and electrified villages to newly created Divisions. Thus, the number of Divisions increased from 17 in 1961-62 to 59 by the end of the year 1965-66.

Furthermore, it may be observed that the planning unit of the Maharashtra State Electricity Board was a division and not the district, even though the data presented in the Annual Administration Reports of the Board pertaining to the villages electrified were district-wise.[1] Each division had a load survey unit attached to it which carried out survey of villages to be taken up for electrification, and formulated proposal after working out costs and returns for the approval of the Board. In this connection, we shall quote the relevant portion of the note of the Planning and Project Section of the Board, wherein the importance of the Division as a planning unit is clearly brought out. The said note reads, ".... the existing tempo of village electrification has to be kept up in order to make benefits of electricity available to as large number of villages as is possible in the plan, subject to availability of funds ..... It will be seen that some of the Divisions will be completing the major portion of electrification works

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1 See the appendices of Annual Administration Reports of Maharashtra State Electricity Board from the year 1960-61 onwards.

sanctioned for them. As such it will also have to be ensured that these Divisions are allotted with some additional work in this connection, i.e., to keep up the tempo of rural electrification programme."[1] Again while commenting on the proposals of rural electrification programme, the note says, "..... we have also tried to see that all the divisions of the Board engaged in the rural electrification programme are given some work-load in the areas under their jurisdictions for the ensuing years of the plan."[2]

As can be seen from the above quotation as well as from the description of the organisational set-up of the Board, the division was the basic unit for the implementation of the rural electrification programme in the plan. In other words, every division was treated separately by the Board for the execution of the programme and choice of villages was made within the division subject to availability of funds and electricity.

As stated earlier, for the field survey of electrified villages, the Poona Rural Division of M.S.E.B. was selected for the purposes of the present study.

Description of Poona Rural Division

It may be noted, at the outset, that jurisdictional limits of the then existing Poona Rural Division of MSEB formed the

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1 Note prepared by the Planning and Project Section of M.S.E.B., op.cit., p.1.

2 Ibid, p.4.

part of Poona District of Maharashtra State. It is, therefore, relevant to state here topographical features of Poona District.

Poona District lying between 17°54' and 19°24' north latitude and 73°19' and 75°10' east longitude has an area of about 6023.00 square miles. The district has a shape of a triangle with its base in the Sahyadri Mountains on the west and its apex in the extreme south-east corner near the point of confluence of two rivers, namely, Bhima and Nira.

In the West, along the Sahyadris, the Poona District has a breadth of nearly 80 miles. From this, it stretches about 130 miles south-east sloping gradually from about 2,000 to 1,000 feet above the sea and narrowing in an irregular wedge-shape to about 20 miles in the east. It is bounded on the north by Ahmednagar District, on the east by Ahmednagar and Sholapur Districts, on the south by Sholapur and Satara Districts and on the west by Kolaba and Thana Districts. For revenue administration, the district is divided into 14 talukas, namely, Junnar, Ambegaon, Khed, Sirur, Maval, Poona city, Haveli, Dhond, Mulshi, Purandhar, Velhe, Baramati, Indapur and Bhor.

The Poona Division of Maharashtra State Electricity Board was opened in the year 1955-56 with the introduction of "Pimpri--Talegaon Scheme",[1] for the electrification of rural areas in

1 See Annual Administration Report, Bombay Electricity Board, 1955-56, Chapter VI, pp.103-104.

the district. The jurisdictional limits of the division then included the entire district excluding the Poona city and its suburbs which were then in the hands of private Licensee,[1] plus some power houses of merged Princely States in the adjoining Thana District. This division was then under the control of Kolhapur Circle. For quite some time the jurisdictional limits of this Division remained as mentioned above when in the year 1961-62, i.e., at the beginning of the Third Five-Year Plan with the creation of Bombay Circle, the areas of the adjoining Thana district coming under the jurisdiction of the Division were transferred to Bombay Circle. In the subsequent year with the creation of the Poona Rural Circle, this Division was also re-organised with four talukas, namely Velhe, Baramati, Indapur and Bhor being transferred to Satara Division - an adjoining Division of the Board. This bifurcation of the district into two Divisions was made to re-organise the district on the basis of transmission systems prevailing in it. For 9 talukas remaining in Poona Rural Division after its re-organisation, a separate electricity transmission system prevailed wherein the power was purchased from the private licensee and was transmitted over the lines constructed by the Board for the electrification of the villages. For 4 talukas transferred to Satara Division, two transmission systems prevailed. The one was

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1 Under the Electricity Act of 1910 the Licences were granted to private entrepreneurs for the supply of electricity by Government. For provisions of the Electricity (Supply) Act, 1948, regulating their business, See Sections 35 to 39 of the Act.

known as Bhatghar System wherein the power was generated at the Bhatghar Station owned by the Board in Satara District and was transmitted to Bhor, Nasrapur and other places in Bhor talukas of Poona District. The other transmission system was for the electrification of rural areas in Baramati and Indapur talukas wherefor the 'Koyana Power[1]' was transmitted over the lines coming from the other side of Satara District. All these three systems were to be interconnected at Nira, a place on the border of Purandhar and Barmati talukas as and when the extension of transmission lines from respective systems were to come upto Nira.

Thus, in the August 1965 when this study was undertaken, the Poona Rural Division of Maharashtra State Electricity Board had under its jurisdiction 9 talukas, namely, Junnar, Ambegaon, Khed, Sirur, Maval, Haveli, Dhond, Mulshi, Purandhar and a part of Poona city taluka. The Poona city and its surbubs - another part of Poona city taluka - which were till 1963 in the hands of private licensees - were transferred to the Poona Urban Circle (newly created circle) on the revocation of the licence by the State Government under the provisions of Electricity (Supply) Act, 1948. This study, therefore, is concerned with the Poona Rural Division of Maharashtra State Electricity Board as it stood on August 1965.

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1 Koyna Power Project was a project constructed with a view to solving the power shortage in the Western Maharashtra Region, See, Annual Administration Report (BSEB) - 1957-58, Chapter IV, p.48.

The reconstituted Poona Division of the Maharashtra State Electricity Board accounted for 4298.50 square miles of area of the Poona District, while the Poona Urban Circle and the Satara Division accounted for 60.80 square miles and 1663.70 square miles of area of Poona District, respectively. The following table gives comparative picture of number of villages electrified and number of pumpsets connected year-wise in the areas coming under the jurisdiction of Poona Rural Division and Poona District as a whole since the inception of rural

Table 2.3 : Number of villages electrified and pumpsets connected in Poona Rural Division and Poona District (1956-57 to August 1965)

Year	Poona Rural Division		Poona District	
	No.of villages electrified during the year	No.of pumpsets connected during the year	No.of villages electrified during the year	No.of pumpsets connected during the year
1956-57	-	-	-	-
1957-58	3	2	3	2
1958-59	3	2	3	2
1959-60	4	15	4	15
1960-61	13	13	13	13
1961-62	37	39	44	39
1962-63	37	109	58	138
1963-64	29	275	33	588
1964-65	22	507	33	795
April 1965 to August 1965	5	132	N.A.	N.A.

Source : Records of Poona Rural Division and 'Rural Electrification Cell' at the Head Office of MSEB and Annual Administration Reports of BSEB and MSEB.

electrification Programme under the auspices of different State Electricity Boards[1] in the post-Independence period.

Concept of Electrified Place

In the context of data presented in the table 2.3 on number of electrified villages, it may be relevant to broach on concept of electrified place as adopted by the Board, while presenting data in its Annual Administration Report on number of electrified villages/towns, etc.

The Board in the appendix to its Annual Administration Reports has included hamlets (part of a village which is locally known as 'Wadi') as separate entities while enlisting 'villages' electrified during the year, even though these hamlets belonged to the villages[2] already electrified. The hamlets of electrified villages were shown as separate entities if their electrification involved extension of high tension line[3] and

1 Because of the reorganisation of the State to which this district belonged, the State Electricity Boards operating in the State/District had different names. Till the year 1959-60 the district belonged to the Bi-lingual Bombay State whereas after 1st June 1960 the district became the part of the Maharashtra State. Consequently, the electrification schemes in the district were executed by the Bombay State Electricity Board (BSEB) till the year 1959-60, and by the Maharashtra State Electricity Board after 1st June 1960.

2 Village in the strict sense of the term as followed in the Census i.e. place having separate land-revenue records.

3 Hightension lines are to be constructed if the distance between the hamlet and the village is large enough to preclude mere extension of low tension line for serving the consumers in the hamlet, due to technicalities of power supply.

setting up of transformer sub-station for stepping down the voltage before laying the low tension lines for distribution of electricity to consumers inhabiting them. On the other hand, if the distances between the electrified villages and their hamlets were small enough, thus rendering it possible to serve the consumers through extension of low tension lines from the villages, such hamlets were not shown as separate entities while enlisting electrified villages in the Annual Administration Reports.

As per the records of Poona Rural Division of MSEB, 172 places were declared electrified as of end-August 1965. However, the above figure of electrified places consisted of 19 hamlets ('wadis') of already electrified villages. The number of electrified places, therefore, got reduced to 153 in terms of number of electrified villages, as stated in the table 2.3 above.

For the purpose of study, the unit of electrified place considered is village and not hamlet for the following reasons. To analyse the factors influencing the use of electricity for irrigational purposes at the macro level, it was necessary to classify electrified places into two categories, namely, places having irrigational load of electricity and places not having irrigational load of electricity. It was easier to classify villages than hamlets into above-mentioned categories in view of the following :

(a) The data on all the number of places (i.e., hamlets) electrified with necessary details (viz., whether the place has irrigational use of electricity or not) were not available, since, as stated above, if the hamlet was electrified with only extension of low tension line, it was not separately shown by the Board.

(b) The boundaries of a hamlet/wadi are less rigidly defined as compared to that of a village and hence classification of electrified hamlet into above-mentioned mutually exclusive two groups was expected to be less reliable in relation to that of electrified villages, particularly when such a classification is to be based on the fact whether the energised agricultural wells fall or not within the boundaries of the hamlet.

Reverting back to table 2.3, it can be seen that the electrification programme in the district during the Second Five-Year Plan period (1956-57 to 1960-61) was confined to the areas under the jurisdiction of the reconstituted Poona Rural Division. Further, even with the disbursal of programme to the other areas of the district during the period of Third Five-Year Plan, the areas in the reconstituted Poona Rural Division accounted for the major share of the performance in the district, both in terms of the number of villages electrified and the number of pumpsets connected. The share of the Poona Division is 75 per-cent and 60 per cent, respectively in the number of villages electrified and the number of pumpsets connected in the entire Poona District during the first 4 years of Third Five Year Plan.

Thus, it can be seen that the reconstituted Poona Rural Division offered a longer time-span to study the various considerations involved in the development of use of electricity for irrigation purpose in the district since the State Electricity Boards started functioning.