CHAPTER - I

INTRODUCTION
CHAPTER - I
INTRODUCTION

At the time of independence our country was faced with the problem of food deficits, large scale impact of foodgrains and consequent drain on foreign exchange. The development plans launched in our country stressed the need to step up agricultural production coupled with rapid industrialisation with a view to generate more and more employment, bringing down regional imbalances and to upliftment of the downtrodden economically and socially. All these activities necessitated to pump in large doses of public investment.

It is realised that either agricultural or industrial development essentially needs certain infrastructure facilities in the rural areas one such is the rural electrification.

Rural electrification is expected to serve as a catalyst for agricultural and rural industrial development. Further rural electrification is a potent instrument in transforming traditional subsistence rural economy to a modern market oriented economy.

In the rural areas it can bring phenomenal changes in the methods of irrigation, water-use
management and cropping pattern changes through exploitation of ground water resources by energisation of wells. Yield increasing techniques in agriculture coupled with unrestricted power supply in the rural areas would open a wide vistas for agricultural development which can in turn create wonderful opportunities for the growth of industries and commerce.

Realising the importance of the development of these infrastructure facilities for agricultural and rural industrial development, the central government rightly considered electrification of all villages as the major objective in the rural development policy. This is sought to be achieved through the Rural Electrification Corporation (REC) and State Electricity Board (SEB).

Besides stimulating economic development, electrification of villages serves non-economic or welfare objectives as well, by helping to improve the quality of life.

Electricity helps both in the transformation of dispersed artisan activities and the promotion of modern decentralised small industries which undertake processing of agricultural produce and production of goods and services which are required
by the emerging rural economy. Apart from these aspects, rural electrification has the potentialities of being an instrument of social change and uplift by literally bringing light into the rural areas. Thus, rural electrification has been recognised as one of the crucial factors in the entire strategy of integrated rural development.

Inherent, though there is a vast growth potential in rural electrification, this aspect, however, was not fully recognised right at the outset of our First Plan. As such, until the commencement of Third Five Year Plan, the emphasis was laid on rural electrification as a social amenity for lighting purposes instead of as providing infrastructural support for agricultural and rural/small industrial production.

However, as the years rolled by, rural electrification underwent a change both in terms of shifts in emphasis, quantum of investment and energy end-use pattern. The Tables 1.1 and 1.2 indicate the growing importance of electric energy in the energisation of pumpsets installed on dug wells, tube wells and filter points, growth in village electrification and pumpsets energisation
### Table 1.1: Pattern of Investment in Rural Electrification & Progress achieved in Physical terms

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Year</th>
<th>Total Power Sector Rs. Crores</th>
<th>REC Rs.in to total Crores</th>
<th>Percentage Sector</th>
<th>Progressive total of No. of villages electrified at end of year</th>
<th>No. of pump sets energised at the end of year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1951-56</td>
<td>260</td>
<td>8</td>
<td>3.0</td>
<td>7,294</td>
<td>56,056</td>
</tr>
<tr>
<td>2</td>
<td>1956-61</td>
<td>460</td>
<td>75</td>
<td>16.3</td>
<td>21,754</td>
<td>1,98,904</td>
</tr>
<tr>
<td>3</td>
<td>1961-66</td>
<td>1,252</td>
<td>153</td>
<td>12.2</td>
<td>45.148</td>
<td>5,12,756</td>
</tr>
<tr>
<td>4</td>
<td>1966-69</td>
<td>1,209</td>
<td>237</td>
<td>19.6</td>
<td>73,739</td>
<td>10,88,804</td>
</tr>
<tr>
<td>5</td>
<td>1969-74</td>
<td>2,932</td>
<td>819</td>
<td>27.9</td>
<td>1,56,729</td>
<td>24,26,133</td>
</tr>
<tr>
<td>6</td>
<td>1974-78</td>
<td>5,244</td>
<td>842</td>
<td>16.0</td>
<td>2,16,890</td>
<td>33,41,385</td>
</tr>
<tr>
<td>7</td>
<td>1978-80</td>
<td>4,340</td>
<td>530</td>
<td>12.2</td>
<td>2,50,112</td>
<td>39,49,120</td>
</tr>
<tr>
<td>8</td>
<td>1980-85</td>
<td>19,365</td>
<td>1,576</td>
<td>8.1</td>
<td>2,96,276</td>
<td>54,46,878</td>
</tr>
<tr>
<td>9</td>
<td>1985-90</td>
<td>(As on 31-3-90) 34,355</td>
<td>2,903</td>
<td>8.4</td>
<td>4,64,597</td>
<td>83,42,821</td>
</tr>
</tbody>
</table>

1. Govt. of India, Planning Commission, Evolution of R.E. Programme - 1982 vol- 1 table 1 P.3
and the investments made over different plan periods.

It is observed that there has been a steep rise both in investment in rural electrification and consumption of energy by agricultural pumping sets. The investment increased from a mere Rs. 8.0 crores in the First Plan to about Rs. 2,903 in Seventh Plan. Consequently, the share in total electric energy consumption by the agricultural sector also increased from a modest 4.3 per cent in 1951 to about 24.0 per cent in 1990. The Third Plan stressed special attention to the establishment of State-wise grid network. The Government of India and Planning Commission have urged the states to bestow special attention on rural electrification for the development of rural industries with a view to creating additional employment opportunities.

However, in the latter half of 'Sixties' in the wake of successive droughts and consequent chronic food shortages, the National Development Council decided to shift the emphasis on rural electrification from development of rural industries to the use of electricity for increased agricultural production through a programme of massive exploitation of ground water resources.
Table 1.2: Pattern of Energy Consumption by utilities.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Domestic light &amp; small power</td>
<td>12.6</td>
<td>11.7</td>
<td>10.7</td>
<td>8.8</td>
<td>8.5</td>
<td>9.2</td>
<td>10.0</td>
<td>10.2</td>
<td>14.2</td>
<td>15.0</td>
</tr>
<tr>
<td>2</td>
<td>Commercial light and small power</td>
<td>6.9</td>
<td>6.8</td>
<td>6.1</td>
<td>6.2</td>
<td>5.7</td>
<td>6.0</td>
<td>6.3</td>
<td>6.0</td>
<td>5.7</td>
<td>6.0</td>
</tr>
<tr>
<td>3</td>
<td>Industrial power</td>
<td>63.7</td>
<td>66.9</td>
<td>69.4</td>
<td>70.0</td>
<td>69.3</td>
<td>64.7</td>
<td>61.6</td>
<td>60.6</td>
<td>51.7</td>
<td>48.0</td>
</tr>
<tr>
<td>4</td>
<td>Railway Traction</td>
<td>6.7</td>
<td>5.1</td>
<td>3.3</td>
<td>4.0</td>
<td>3.3</td>
<td>3.0</td>
<td>3.5</td>
<td>3.8</td>
<td>3.0</td>
<td>4.0</td>
</tr>
<tr>
<td>5</td>
<td>Agriculture pumping</td>
<td>4.3</td>
<td>4.0</td>
<td>6.0</td>
<td>7.1</td>
<td>9.3</td>
<td>12.6</td>
<td>14.6</td>
<td>15.4</td>
<td>23.8</td>
<td>24.0</td>
</tr>
<tr>
<td>6</td>
<td>Others</td>
<td>5.8</td>
<td>5.5</td>
<td>4.5</td>
<td>3.3</td>
<td>3.9</td>
<td>4.5</td>
<td>4.0</td>
<td>4.0</td>
<td>3.9</td>
<td>3.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

* As on 31-3-1990

Source: Ministry of energy 1988-89
Power development in A.P (statistics) 1989-90
Govt. of planning commission, evolution of RE programme 1982
It was during this time that the All India Rural Credit Review Committee highlighted the potentiality of minor irrigation from ground and surface water in agricultural development and made a strong case for mechanically lifting water, primarily with the help of electricity. It suggested the establishment of a credit agency for rural electrification at the national level which could provide soft-term loans to State Electricity Boards (SEB) for undertaking a massive programme of rural electrification with the main objective of supplying power for minor irrigation which in turn would help in increased agricultural production.

The Rural Credit Survey Review Committee (RCSRC) has rightly emphasized the need for setting up specialised agency to provide one of the basic infrastructure facilities namely Rural Electrification. The Committee’s proposal was accepted by Government of India and the Rural Electrification Corporation (REC) was established in 1969 as a government owned company under the Indian companies Act. The formation of Rural Electrification Corporation is a significant step in the history of rural electrification in India and consequently in the integrated Rural Development. Although the funds during the period
prior to the formation of REC were available from the state governments and other institutional sources, REC's entry into the field of rural electrification not only ensured a continuous infusion of funds from the Central Government to the SEBs on an over increasing scale but also helped in evolving policies and procedures for giving a new orientation to rural electrification.

The rural electrification projects under the new dispensation were directed to be so designed and formulated that these helped in bringing about an integrated development of the area. Efforts were initiated to supplement the ongoing special agricultural programmes like Small Farmers Development Agency (SFDA) / Marginal Farmers and Agricultural Labourers Agency (MFAL), Drought Prone Area Programme (DPAP) etc., with those of rural electrification. Priority has been given in the selection of areas where one or more special development programmes of agricultural and industrial development are in operation and to the backward areas.

The preferential terms extended to backward area are consistent with the objective of reducing the disparities prevailing among the states in the matter of rural electrification, as such this
objective of the rural electrification gets closely super-imposed on the objective of reducing income disparities in rural areas under the integrated programmes of rural development. The Prime Minister's 20-Point Economic Programme to gear up the economic activity and rural development directed the power sector to maximise power generation through improvement in the functioning of the State Electricity Boards so as to electrify all villages in the coming years for the development of rural economy.

With increasing investments, it has been possible to reach electricity to 60 per cent of the total of over 4.7 lakh villages in the country, covering 83.4 per cent of the rural population. At the same time more than 83.4 lakh irrigation pumpsets have been energised so far.

The Rural Electrification Corporation since its inception in July, 1969 has sanctioned over 5,300 projects all over the country involving an aggregate loan assistance of about Rs.1,700 crores. Of these projects, over 2,000 are located in backward areas and over 500 projects are meant for electrification of tribal areas. Together, these projects envisage electrification of over 2.2 lakh new villages and energisation of 19 lakh pumpsets.
In addition, the projects are programmed to provide power connections to over 2 lakh industrial units and eleven lakh street light points besides over 47 lakh domestic and commercial connections. REC has also sanctioned over 360 projects for the electrification of over 23,400 Harijan bastis.

The number of villages electrified under REC's programme of rural electrification has already crossed the 4.64 lakhs mark and over 83.4 lakh irrigation pumpsets have been energised. With a view to accelerating rural electrification and making more funds available for it, REC has launched a big programme of pumpset energisation jointly with the Agricultural Refinance Development Corporation (ARDC) and Commercial Banks. The programme known as Special Project Agriculture (SPA) envisages an investment of Rs.630 crores to energise eight lakh pumpsets in potential areas to give further fillip to agricultural production. The programme has already resulted in energisation of 2.4 lakh pumpsets in SPA project areas. REC has been vigorously promoting and financing rural electric co-operatives in different states for distribution of electricity on co-operative basis. So far 23 such co-operatives have been sanctioned by the corporation involving an aggregate loan assistance of Rs.41.86 crores.
Andhra Pradesh made remarkable strides in rural electrification programme throwing open new vistas of development of the rural areas. As on March 31, 1990 the Rural Electrification Corporation sanctioned 512 projects in Andhra Pradesh involving an aggregate loan assistance of Rs.160.5 crores. Andhra Pradesh has electrified so far 27,358 electrified villages and energised 11,11,571 wells.

It is recognised that rural electrification is a catalyst for rural industrialisation, modernisation of agriculture and for integrated rural development. Having invested a large sum in rural electrification, a stage now has come to evaluate the impact of rural electrification on various developmental activities in rural areas.

Though rural electrification accepted as a desirable social and economic objective, it is necessary to critically evaluate the performance of rural electrification schemes which have been in operation for more than two decades, to as certain to what extent they have fulfilled avowed objectives. Such evaluation should go beyond the routine compilation of statistical data confined
in the annual reports of the concerned authorities.

There are quite a few competent evaluation studies on rural electrification. Through these studies provided found of information, yet there is further need to have a series of specific micro studies either to support the already existing findings or to contradict the same.

The present study is one such attempt to evaluate the impact of rural electrification on agricultural and rural industrial development including the transformation of rural artisan trades in Nizamabad district.

OBJECTIVES

The specific objectives of the study are

1. To assess the costs and returns for important crop enterprises on energised farms.

2. To estimate resource productivity, scale returns and resource-use efficiency on energised farms.

3. To estimate the impact of rural electrification on agricultural development in terms of

   a. additional area brought under irrigation
b. changes in cropping pattern  
c. changes in productivity  
d. increase in agricultural production  
e. increase in gross returns; and  
f. generation of additional employment potential  

4. To assess the impact of rural electrification on rural industries in terms of  
a. number and types of units set up  
b. capital investment  
c. output produced  
d. employment generated; and  
e. type of entrepreneurship came forward to set up industries  

5. To find out the impact of rural electrification on the transformation of technology in rural artisan trades  

LIMITATIONS OF THE STUDY  

Collecting information from the informants about their position 'before' and 'after' energisation situation suffered from the draw back of lapse on the part of the memory of the respondents. This draw back was corrected to a
larger extent by selecting the farmers who energised their wells between 1979 and 1985. Efforts were also made to see that the sample respondents could successfully present a fairly reliable information.

Some respondents were afraid of divulging information concerning input output data, for the fear of additional taxes. Yet respondents were convinced by the efforts of the investigator and provided relatively correct information.

The data collected were limited to four talukas in a district and therefore, the conclusions drawn from this study should be taken only as indicative of the general phenomena.

PLAN OF THE THESIS

The study is presented in nine chapters. The first chapter analyses in brief, the importance and progress of rural electrification besides indicating specific objectives of the study. The literature available on the impact of rural electrification, in the second chapter. The methodology adopted for the study with concepts used is discussed in the third chapter. The fourth chapter dealt with Agro-Economic conditions of the district. In fifth chapter impact on Agricultural
development is discussed. The sixth chapter deals, the impact on small industrial development. The seventh chapter is confined to discuss the impact on Artisans development. The resource returns, returns to scale and resource-use efficiency are discussed in the eighth chapter. The final chapter encompasses the summary, conclusions and policy implications.