

CHAPTER V

5. A Summary of Findings, Suggestions and Conclusion

5.1. Introduction

Agriculture forms the backbone of the Indian economy. A strong foundation of the agriculture is necessary condition for sustained and rapid economic and development in India. Without this, it will be impossible to accelerate growth and ensure sustained improvement of the economy of the people. Agriculture can contribute substantially to the improvement of the rural as well as the overall economy and has the potential to become the leading sector in development. It provides food security, generates significantly to country's exports.

One of the important objectives of this study is to find out the rural electrification on agricultural development in Erode district in terms of living standard of farmers, cropping pattern, production and productivity. In pursuance of this objective, an attempt has been made in this study to examine various characteristics of the standard of living of farmers, production, productivity and cropping pattern.

In this chapter, the main findings of the study are summarized and suggestions are made. The data were collected from primary and secondary sources. The present study is limited to the survey of Erode district. An attempt is made to find out the electrification on agricultural development in the rural areas of Erode district. It also throws light on the various causes of backwardness of agrarian economy of Erode district.

5.2. Objectives of the Study

The specific objectives of this study are as follows:

1. To study the impact of electrification on living standard of farmers in Erode district.
2. To analyse the pattern of consumption of electricity in Erode district.
3. To find out the rural electrification on agricultural development in Erode district in terms of production, productivity and cropping pattern.
4. To study the problems of availability and regular supply of rural electricity in Erode district.
5. To suggest the remedial measures for tackling the problems of electrification in Erode district.

5.3. Hypotheses of the Study

The specific hypotheses of this study are as follows:

1. There is no significant relationship between electrification and the living standard of farmers.
2. There is no significant contribution of electrification on cropping pattern.
3. There is no significant relationship between production and productivity of agriculture in Erode district depends on the degree of electrification.

5.4. Methodology

The present study is limited to Erode district and it is based on survey method. The research is restricted only to study the electrification on agricultural development in the rural areas of Erode district. The study attempts to throw light on the various causes of backwardness of agrarian economy of Erode district. The lack of electrification in the field of agriculture is hypothetically granted as prime reason of this backwardness.

Erode district comprises of 6 Taluks. For the purpose of this study the district has been divided into three different groups. The first group consists of Erode and Bhavani. Second group is Anthiyur and Perundurai. Third group consists of Sathyamangalam and Gobichettipalayam. The irrigated level is measured through the number of kilometers of canal. The first group includes both irrigated and non-irrigated area when compare with other two groups. Second group includes lowest non irrigated area when compare with other two groups. Third group includes highest irrigated area in the selected group. For analysing the impact of electrification on agricultural development, selection of the Taluks has been made to represent the whole district.

5.5. Sampling Scheme

The research method followed for this research work can be described in short as below. Out of total 6 Taluks in the first stage selection of 3 Taluks have been made. Utmost care has been taken to see that these Taluks would be the true representative of all the Taluks of the district. In the second stage of the sampling, out of the sample villages, 6 villages have been selected. The objective of this study was to collect first-hand information from the local people and therefore 10% of total farmers from each selected villages were interviewed. Stratified Random Sampling technique is the method of sampling adopted for the purpose of this study. These selected samples were later on classified on the basis of the size of landholding to analyse the impact of rural electrification on agricultural development.

5.6. Field Work and Collection of Data

Before the exact process of data collection, a predicted interview schedule was used for the purpose of pilot study. The interview schedule was pre-tested with the response obtained from 30 farmers. The feedback of the farmers was useful in carrying out a few corrections/modifications in the items included earlier in the interview schedule. The final interview schedule was again subjected to further improvement, confirming that the instrument is fully reliable and internally consistent, thus paving the way for designing the final interview schedule. After the preliminary modifications, the actual data collections were carried on with farmers by frequent visits.

5.7. Analysis of Data and Tools

The analysis presented in this study is mainly based on primary as well as secondary sources of data. The statistical data on relevant information is collected from the farmers with the help of Interview Schedule. The relevant information is collected from farmers prior to electrification and after electrification. The data collected from all groups of sample farmers after electrification has been considered for the year 2000. The time period for the use of electricity for the purpose of agriculture differ from farmer to farmer. The sample farmers have made the use of electricity for various agricultural activities at different points of time. Therefore, before electrification the data collected from sample farmers are for different time periods. Hence, in order to standardize the data, the average time lag between before electrification and after electrification has been worked out.

The average time lag between non-electrification and electrification has been calculated with the help of following methodology. The year prior to the year of the installation of pump sets has been taken into consideration of each and every sample farmers for calculating the average year before electrification. The average year has been calculated by considering the years between the actual year (year before electrification) and the year 2000 (year after electrification). The average year before electrification was calculated by dividing the total time lag between prior to electrification and after electrification by total number of sample farmers.

The average time lag between before electrification and after electrification for the marginal farmers worked out to 7 years (base year of prior to electrification data is of 1993), for small farmers 11 years (base year selected for data regarding before electrification is of 1989), for semi-medium farmers 14 years (base year of prior to electrification data is of 1986), for medium farmers is calculated as 20 years (the base year for the data prior to electrification

is of 1980) and for large farmers 23 years (the base year for the data prior to electrification is of 1977).

The average time lag between non-electrification and electrification for all sample farmers worked out to 15 years. The variations in lag period as per the different size of landholding may be due to various changes introduced by sample farmers in their farms after taking electric power. The changes brought by the large sample farmers could be more than the other categories of farmers, which probably must have taken some more time to derive the benefits for electrification.

Secondary data and additional information have been collected from the Agricultural Census Report, District Census Handbook and Report Relating to Rural Electrification, Government Publications Library and Internet, etc.

Keeping in view the objectives of the study, some appropriate statistical techniques such as percentages, average, standard deviation and co-efficient of variation have been used in this study.

5.8. Findings of the Study

The following are the findings of the study:

5.8.1. Impact of Electrification on Living Standard of Farmers

This study clearly brings out the inequalities in the literacy level of the households of farmers. In the electrified households of farmers, the literacy level is 68.83% and the illiteracy level is 31.17%. In the non- electrified households of farmers, the literacy level is 54.35% and the illiteracy level is 45.65%. The literacy level is higher in electrified households in comparison with the non- electrified households of farmers.

In the case of large sample farmers all selected households were found to be electrified. The percentage of electrified households in total sample was low in the case of marginal farmers i.e., 61.90%. If the size of landholding increases, the proportion of electrified houses also increases. The variation in the level of income and expenditure of all sample farmers has decreased after electrification.

5.8.2. Impact of Electrification on Cropping Pattern, Production and Productivity

The total number of farmers having their own pump sets are 107 and the number of pumps possess by them are 135. Out of total pumps, 109(80.74%) pumps are of 5HP and 26 (19.26%) pumps are of 10HP. By and large, it has been observed that mostly semi-medium, medium and

large sample farmers possess pump sets of 10HP. Total 10HP pump sets are 26, out of which semi-medium sample farmers possess 2 (07.69%), out of which medium sample farmers possess 20 (76.92%) pump sets of 10HP whereas large farmers are having 04 (15.38%) pump sets of 10 HP.

The total sample farmers are 120, out of which 70.83% of farmers are dependent on wells for irrigation, 15.00% of farmers are depending on government canals, 08.33% of farmers are using rivers as a major source of irrigation, 05.83% of farmers are irrigating their land area with the help of tanks. Domestic wells seem to be the most popular source of irrigation in the area selected for the study. Out of the total selected sample farmers majority of them are depending on wells for source of irrigation. All types of farmers are using wells for the purpose of irrigation. Water from canals is also another source of irrigation which is quite popular. Tanks, rivers etc. are not being extensively used for the purpose of irrigation by the selected sample farmers. This may be due to the fact that well irrigation doesn't need any price for lifting water except in terms of electricity charges which are incurred for the use of pumping water but no charges are involved in terms of water rates. This aspect needs to be considered for management of water. Government can seriously think about bringing some degree of regulation on private wells in order to manage scarce water resources. In certain cases establishment of canal helps to increase the water level of domestic wells but this aspect is neglected while developing the scheme of water management.

The farmers of the Erode district have largely using electric pump sets for irrigation. The area under irrigation has increased due to rural electrification. The total cultivated area of sample farmers prior to electrification was 1,506.05 acres. Due to electrification though there is a change in total cultivated area after electrification, it is increased up to 1,553.05 acre. There is a change in the area under irrigation also. Out of total cultivated area (1,506.05 acre), before electrification 15.80% area was irrigated and 84.20% area was non-irrigated but after electrification irrigated area has increased up to 18.47% and non-irrigated area has gone down to 81.53%. Per acre productivity of all crops has increased from 27.2 quintals per acre to 38.2 quintals per acre.

5.8.3. Electrification on Problems Relating to its Regular Supply

The consumption of electricity in Erode district for the year 2013-2014 is 2922.49. Out of the total electricity consumption, the highest consumption of electricity for the domestic purpose is found to be 1258.37(43.06), which are the highest amongst all the sectors of the economy. In the field of agriculture the consumption of electrification is too low. i.e., only

13.23%. If the electricity is properly utilized for agricultural purposes it can lead to increase in agricultural production, which in turn will help to increase the income of farmers and the agro-based industries, can also automatically be developed. In Erode district, there is a wide scope of using electricity in agricultural sector for the purpose of rural development.

The sample farmers make use of electricity for different kinds of agricultural activities such as irrigation, green house, cattle-shed, poultry house etc. The use of electricity for different purposes in the agricultural sector has contributed significantly for the overall development of the primary sector. Out of 120 sample farmers, all farmers used electricity for the purpose of irrigation. Sample farmers have started making use of electricity for irrigation activities in farm. Regular supply of water provided for their crops by electric pumps. Electric pump sets are also helpful for lifting water from wells and other sources of irrigation. Therefore, it is helpful for increasing production and improving productivity. Out of total selected sample farmers, 0.83% of them have used electricity for the purpose of green house. In recent times electricity has proved to be helpful in development of green house. Electricity has also helped in lighting the green house, supply of water for their crops and also for maintaining temperature of the green house. Out of the total farmers, 15.00% of them have started making use of electricity for poultry product or poultry house. Electricity can also be helpful for the poultry and poultry product. Out of total selected sample farmers, 70.00% of farmers make use of electricity for the purpose of cattle shed. Sample farmers also use of electricity for lighting purpose in the cattle shed. Out of the total selected farmers, 10.83% of farmers make use of electricity for the purpose of rest house. The large number of sample farmers is making use of electricity for irrigating their own area of land. The farmers are using electricity for electric pump sets, lifting water from wells, canals, ponds, tanks, lakes, rivers etc. this has contributed in increasing the total area under irrigation. It is helpful in increasing production and improving productivity. Therefore, it automatically improves the level of income and standard of living of farmers.

5.9. Suggestions

It is difficult to generalize on the basis of the results from the analysis of the sample of about 120 farmers. This is a study at micro level. These results are indicative of the situation prevailing in the rural sector of India. Rural electrification contributes to bridge the gap between urban and rural life. In advanced regions, it soon became the chief power source for the farm. The following measures are recommended as mere guidelines for improving the standard of agricultural sector.

1. In the rural area, it is essential, to reduce accidents and short circuits regarding the electric pump sets and household uses. The regional office of State Electricity Board for Erode district should provide facilities for training which would be of great help for documentation, information, demonstration and mass communication.
2. Majority of sample farmers in the selected study area of the Erode district were found to be facing the problems of indebtedness, credit supply, marketing of agriculture goods, maintaining the electric equipments etc. The main objective of loan facility is to give incentive to produce more with better quality on one hand and on the other hand it helps to minimize the burden of debt on the farmers. It is equally important for efficient marketing of agricultural commodities in the form of storage facilities, cooling facilities, processing facilities etc. All these measures are necessary to give better remuneration to the farmers. Therefore, to provide all these above marketing facilities the better supply of electricity must be made available. Most of the time farmers from rural area face the problem relating to the maintenance of farm equipments. This unique type of problem will be solved if the agro-service sectors are established in every village for repairing and maintaining all types of agricultural equipments such as machineries, tractors, electric pump sets etc.
3. It is generally found that there is a close relationship between use of electricity and modern agricultural equipments. The modern agricultural equipments or inputs greatly influence agricultural production. If the farmers use the modern agricultural inputs at greater extent such as drip irrigation, sprinkling irrigation, threshing units, pump sets etc. The agricultural production will increase at faster rate. In the other words the use of electricity for the modern agricultural equipments will create a huge marketable surplus of agricultural production such as Rice, Sugarcane, Turmeric etc. But it will be possible when the sufficient and regular electricity supply is maintained by the electricity board.
4. The burden of population on agricultural sector has been rising in our country and the demand for food crops and non-food crops have been increasing continuously, therefore, the intensive cultivation is the need of the agricultural development. The intensive cultivation, for example, sowing at proper time, application of fertilizers and other inputs is not possible without the sufficient irrigation. The multiple cropping patterns can only be possible if there are sufficient irrigation facilities. The sufficient water obtains with the help of water management; therefore there is a need to develop the water harvesting and watershed schemes. This type of programme will help to

maintain the sufficient level of ground water. Therefore, above mentioned programme should be implemented efficiently by the rural community to solve the problem of water.

5.10. Suggestions for Further Research

The following lines of research are suggested for the further researchers on improving the standard of agricultural sector.

1. This study is confined to Erode district only. Hence, further research could be undertaken even with the same objectives in the different ecological zone.
2. Comparative study on rural area and urban area could also be done.
3. Farmer's awareness may be analysed by Taluk wise, District wise and State wise comparison.

5.11. Conclusion

The findings and suggestions of this study are likely to be useful in many ways. The analysis presented in this study may help the authorities to formulate plans for improving the standard of living of the farmers in our country. The study would also be helpful in asserting the relative effects of different types of farmer's characteristics of consumption. The role and importance of electrification have also been analyzed, which would probably be useful for framing suitable energy policy for rural electrification. In India, it is necessary to develop the technology to generate power from agricultural wastes. The nations like Canada, Japan and USA have already set up few large plants for generation of energy from agricultural wastes. In India, a lot of research needs to be done for this development. The government should make sufficient funds and subsidies for this activity.