Chapter - VI

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6.1 Introduction

The present study aims to analyze the growth, factor productivity and commercial efficiency of salt refineries in Tuticorin District. The major objectives of the study are a) to estimate the growth of salt refineries in Tuticorin District; b) to estimate the factor productivity of salt refineries in Tuticorin District; and capacity utilization of salt refineries in Tuticorin District; and c) to analyse the capacity utilization of salt refineries in Tuticorin District and d) to analyse the commercial efficiency of salt refineries in Tuticorin District.

The study is based both on primary and the secondary data collected from various records of Assistant Salt Commissioner of Office, Shastri Bhavan, Chennai, Salt Superintendent Office, Tuticorin and the Balance Sheet and Profit and Loss account of the salt refineries. To examine the various objectives of the study appropriate mathematical and statistical tools such as ratios compound growth rates, simple and multiple regression techniques have been used. Since the results of the analyses were interpreted and inferences drawn at appropriate places, only major highlights of the study are presented in this chapter. The introductory part starts with the need for the present study and also traced the importance of raw salt industry.

Most of the studies reviewed the issues related to other manufacturing industries in different aspects such as growth, technical efficiency, productivity and structural change. Only few studies are related to salt industry. These studies have discussed about labour issues only. No worthwhile studies have been made so far to analyse the growth, productivity, commercial efficiency of salt refineries. The present study makes an attempt to overcome this shortcoming.
6.2 Status of Indian Salt Industry in India and Tamil Nadu

India is the third largest salt producing country in the world with average annual production of 182 lakh tonnes in the year 2010. Total area allotted for salt cultivation was 5.39 lakh acres. Besides, this industry is the one in which about 64 percent of the production is in the private hands, followed by public sector 1.70 percent and co-operative sector 10.1 percent and unrecognized sector 24.85 percent.

Tamil Nadu occupies the second place in the salt production among the different states in India. In Tamil Nadu, total area allotted for salt cultivation was about 8.06 lakhs acres in the year 2008. Around 16,500 salt workers involved in salt production and most of the salt workers in Tamil Nadu belong to SC/ST communities. In Tamil Nadu, raw salt is produced in large quantities in the districts of Tuticorin, Nagapattinam Ramnad and Kanyakumari. Tuticorin leads in salt production about 5.78 lakh tonnes followed by Nagapattinam 4.57 lakh tonnes, Ramnad 2.05 lakh tonnes and Kanyakumari 0.129 lakh tonnes. And also Tamil Nadu is having the capability of producing 747.00 tonnes of iodised salt, of which nearly 90 percent of salt comes from Tuticorin District and the remaining from the some other Districts.

6.3 Growth Performance of the Salt Refineries in Tuticorin District

The growth performance of salt refineries with reference to the selected indicators such as capital, labour, production, sales, and profit by using the compound growth rate formula adopted by the World Bank using the least square methods. Moreover, these variables are playing pivotal role in the further analysis of this study. Among the different indicators, capital has registered the highest growth rate of 8.27 percent followed by labour (4.41 percent), net profit (4.35 percent), labour (5.57 percent), production (2.75 percent) and sales (3.70 percent) confirms that all the indicators have showed the positive growth rate.
The exercise reveals that, the Brilliant Salt refinery is capital intensive, so its growth can be increased only by putting the additional investment on capital in the manufacturing process. On the other side, capital deepening also pushes up the productivity of labour. The increasing investment on plants and machinery makes labourers more effective leads to higher production, sales and profit. Investment in capital is sufficient in both refineries (Raja Salt and Victory Salt), so the additional investment in labour will make these refineries more efficient.

Although Sahayamatha Groups have emerged as the leading salt refineries, the rate of growth is found to be low. Because, they have failed to concentrate their efforts on labour such as land and building and plant and machinery, moreover these two refineries have been working only on the aim of acquiring more profit. The additional investment on labour will make these refineries more efficient and helps their survival. The investment on both capital and labour were very low in Raja Salt. So it urgently needs additional investment on both capital and labour. So this finding tends to reject the first hypothesis which states that the growth rate of salt refineries is expected to be higher. Even though they spend more investment on capital, the rate of growth of production was found to be very low (2.75 percent).

Thus it can be concluded that, the overall growth in salt refineries was 4.84 percent during the study period. The maximum growth of 7.23 percent was found in Brilliant Salt (7.23 percent) followed by Victory Salt (7.22 percent) Sahayamatha Salt-II (6.62 percent) TSMC (5.50 percent) Sahayamatha Salt-I (5.06 percent), Raja Salt (4.97 percent) Das and Co (3.56 percent), Golden Salt (3.30 percent) Sahayamatha Salt-II (2.88 percent). Out of eight refineries five refineries are recorded higher growth rate than the sectoral growth rate (4.84 percent) and the remaining three refineries are noticed less than the sectoral growth rate.
6.4. Total Factor Productivity of Salt Refineries in Tuticorin District

To study the trends and growth partial factor productivity, refined salt production was taken as output, wages as labour input, gross fixed asset as capital input. The mean and compound growth rates were used to analyse the data and to study the total factor productivity Solow’s index was used in the present study.

Average productivity of capital (AP$_K$) for all the refineries in Tuticorin District of Tamil Nadu has decreased marginally during the study period under review indicating increasing capital productivity, however, amidst fluctuations. This envisages that increasing gross block has not been accompanied by corresponding growth of output. A maximum growth rate of 4.72 percent was recorded in Das and Co.

Over the period of analysis marginal productivity of capital (MP$_K$) fluctuations as well as negative trend in almost all salt refineries except Golden Salt indicating unstable productivity trend among the salt refineries. Positive sign of the ratio represents output increases with increase in capital.

Unlike AP$_K$, AP$_L$ has increased substantively in all salt refineries during the period of analyse with impressive growth rates. The comparative analysis between the salt refineries also revealed that labour productivity widely varied. Varying AP$_L$ means wage rate would differ significantly.

It may be observed that marginal productivity of labour (MP$_L$) was highly fluctuating in almost all salt refineries during the period under review. In other words, the refineries were unable to achieve uniform labour productivity index. At the same time most of the salt refineries showed negative sign and indicating that increasing employment has not accompanied by corresponding growth of output.
The high K/L ratio indicates the capital intensiveness of the refinery. The capital intensity has increased in all the refineries over the years and the mean K/L ratio also increased. This could be possible due to higher investment in fixed assets. The growth rate provides empirical evidence that the salt refineries have made an attempt to increase capital intensity during the period under review.

The magnitude of O/L ratio and K/L ratio reveal whether salt refineries are capital intensive or labour intensive. Higher the K/L ratio indicates the capital intensiveness of the salt refineries while the higher O/L ratio indicates higher labour productivity. In most of the salt refineries in Tuticorin District the growth rate of the K/L ratios were higher than the O/L ratios. This indicates higher capital intensity.

6.5 Commercial Efficiency of Salt Refineries in Tuticorin District

To study the commercial efficiency of the salt refineries the various financial ratios employed. The five important ratios have been used for the present study. They are a) Debt-Asset Ratio b) Fixed Assets Turnover Ratio c) Total Assets Turnover Ratio d) Gross Profit Margin Ratio and e) Net Profit Margin Ratio.

The average debt asset ratio of Tuticorin Salt Refineries was 0.350 during the period of study. Out of eight salt refineries, the maximum ratio was witnessed by both Sahayamatha Salt –II (0.480) and Golden Salt (0.430) salt refineries. It is evident that the poor performance of debt management by the salt refineries. Raja Salt (0.230) and Das and Co (0.026) have obtained low debt asset ratios. It shows the consistency of these refineries.

The sectoral fixed asset turnover ratio of Tuticorin salt refineries was 3.063. Salt refinery wise highest value (3.910) was found in TSMC. It is evident that there is no high degree of efficiency in asset utilization. The Das and Co
(2.86) has recorded low fixed asset turnover ratio and reflects the low use of assets. The mean value of the sectoral total assets turnover ratio of Tuticorin salt refineries was 3.063. All the refineries have recorded positive and high total assets turnover ratios. The highest ratio value was found in Golden Salt. It is evident that all salt refineries have efficiently used their total assets.

The sectoral average gross profit margin ratio of Tuticorin salt refineries was 0.173. The maximum average ratio has achieved by Golden Salt (0.290) and Raja Salt (0.212). Most of the Tuticorin salt refineries had less Gross profit margin ratio. It shows that the low productivity of the refineries. The mean value of the Net Profit Margin ratio of the Tuticorin salt refineries was 0.0089. The maximum average net profit margin ratio has achieved by Golden Salt (0.160). Most of the Tuticorin salt refineries had less net profit margin ratio. It indicates that the low productivity of the resources. It is evident from the analysis that more than 50 percent of the salt refineries had recorded less efficacy of their resource use.

However the overall analysis indicates that the salt refineries in Tuticorin District were unable to maintain a stable growth during the period of under review.
6.6 Suggestions

1. The government must provide proper training programmes to manage the storage of raw materials, maintenance of machines, tools and equipments.

2. Electricity charges should be reduced and the government should provide concessional rate. Such measures could reduce the cost of production.

3. The Tamil Nadu government may announce salt-making activity as ‘farming’ like in Andhra Pradesh. This will enable the salt producers to claim facilities like free electricity, crop loans, crop insurance etc. and compensation which the government extends to the agriculture sector.

4. Technical study cell may create with the participation of workers to give suggestions to increase production, productivity, quality and reduce waste and cost.

5. Systematic training on efficient production methods including work culture, team spirit among lower, middle and top level management and workers are all positive steps, which helps to achieve higher productivity.

6. Steps must be taken to modernize the refineries in such a way the profit of the salt refineries increases.

7. The government may organize exposure visits to various salt refineries for the refined salt producers throughout the world. It will be very helpful for the up gradation of the industrial infrastructure of the refineries.
Area for further Research

Due to the paucity of data the study could not cover the following areas

1. Cost function analysis relating to productivity could form an interesting topic for further research.

2. Comparative analysis of public, co-operative and private salt refineries in Tuticorin District of Tamil Nadu.

3. This study also may be done with technical efficiency analysis.

All the assessment does deserve critical treatment and assessment by the researchers and institutions in future.