

**ECONOMICS OF TOILET SOAP PRODUCTION  
IN KERALA**

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FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY IN ECONOMICS**

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## Certificate

Certified that this thesis entitled **“ECONOMICS OF TOILET SOAP PRODUCTION IN KERALA”** is the record of bonafide research carried out by VALSA JOHN C., under my supervision. The thesis is worth submitting for the degree of Doctor of Philosophy in economics.

Thrissur  
29-3-07



*Lakshmy Devi K.R.*  
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Research Supervisor.

# Declaration

I declare that this thesis is the record of bonafide research work carried out by me under the supervision of **Dr. Lakshmy Devi K.R.**, Professor, Department of Economics, University of Calicut, Dr. John Matthai Centre, Aranattukara, Thrissur. I further declare that this thesis has not previously formed the basis for the award of any other degree, diploma, associateship, fellowship or other similar title of recognition.

Thrissur

29-3-07



VALSA JOHN C.

*Dedicated*

*to*

*My Parents*

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# CHAPTER 1

## DESIGN OF THE STUDY

### 1.1 INTRODUCTION

Kerala with a high man land ratio, with 1.8 per cent of the entire land surface and 3.43 per cent of total population of India, considered industrialisation as an effort in which she places a major hope of finding solution to the problems of poverty, unemployment, insecurity, over population, and ending her newly realized problems in the modern economy. To quote United Nations Industrial development Organisation, UNIDO 1996<sup>1</sup> - globalisation process has the potential to accelerate industrialization in developing countries. With the intention of re-positioning the state as an industrial friendly one, various measures were taken by the Government of Kerala. In the era of globalization and competitiveness an appropriate strategy for the industrialization of any state can be formulated only if there is a wide perception about the present status.

In Kerala planned economic development may be stated to have started during the period 1956-61, immediately after the formation of Kerala State. The main emphasis of the earlier plans of Kerala was on Agriculture and social services. As a result Kerala has achieved a high level of development in terms of social indicators but the state's economic development is retarded due to the sluggishness in agriculture and industrial fronts. The studies made on the industrialization in Kerala reassured the state's industrial backwardness. It has been observed that the development of state depends on the improvement and growth in different sectors of the economy. The sector wise contribution of net state domestic product of Kerala, showed that the tertiary sector has contributed more to, NSDP at the cost of primary and secondary sectors .i.e, the contribution

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<sup>1</sup> UNIDO (1996) Industrial Development- Global Report (1996)- Oxford University Press.

of the two production sectors decreases year after year while the contribution of service sector increases. The agriculture sector whose contribution was 36.03 per cent during 1992-93 fell to 16.74 per cent in 2003-04. The contribution of the secondary sector reduced from 26.13 during 1992-93 to that of 22 per cent during 2003-04. On the other hand the tertiary sector's contribution increased from 37.84 during 1992-93 to that of 54 per cent in 2003-04. Thus the structural transformation of the Kerala economy has been continuing in the same trend heavily biased in favour of the service sector for quite some time now. The growth of Kerala industries had not been uniform throughout the years. The maximum growth achieved was in the years, 1993-94 (with 22 per cent). The deceleration in growth is seen in the year, 1994-95 (-3.9), 1997-98 (-0.02) and 2001-02 (-16.08) <sup>2</sup>. When the maximum growth of 22 per cent was felt in Kerala in 1993-94, the growth in Indian industries was 6 per cent. While Kerala industries felt deceleration in 1994-95, 1997-98, and 2001-02, Indian industries felt acceleration. In the industrial map of India the position of Kerala is almost insignificant. To improve the situation serious efforts are needed.

Speedy industrialization can be achieved if the capital and consumer goods industries are suitably planned and started. The industrial structure of Kerala is characterized by very low representation of large, medium industrial units and significant concentration of small scale industries. To meet the increased demand for consumer goods, the development of small scale industry is very important (units with an investment less than rupees one crore are considered as small scale units). The total number of Small Scale Industrial units (SSI) registered in Kerala as on 31-03-04 was 2.75 lakh with an investment of Rs. 4031 crores providing employment opportunity to 12.37 lakh persons. The SSI sector in Kerala contributed more than 40 per cent of gross output of the manufacturing sector of the country as a whole. Thus the small scale sector has been a prime contributor

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<sup>2</sup> Economic Review – Kerala State Planning Board, various Issues.

to over all growth of industrial sector in Kerala. It can help to answer some of the most pressing problems such as unemployment, poverty, regional disparities in income and development, small markets, low level of skill, lack of capital and unequal distribution of income.

The industries which show a good potential for growth in the small scale sector are chemical industries. In Kerala the sector wise distribution of manufacturing firms shows that the chemical industry group occupies a prominent position within the manufacturing sector. It offers the highest percentage share of employment and production in the manufacturing sector. According to the Annual Survey of Industries (ASI) the highest amount of value added was contributed by the chemical industries. From the product point of view, soaps and detergents belong to the category of the product of chemical industries. Soap industry is an important consumer good industry providing both toilet and laundry soaps, used both for bathing and washing. In Kerala as a result of spreading consumerism the demand for soaps is increasing. It was reported by one of the leading manufactures in the country, (Godrej), that around 65 per cent of their expensive soaps are being sold in Kerala. Thus soap manufacturers of Kerala have to face stiff competition from multinationals and other large industrial units.

In Kerala soap is produced both in the public and private sectors. In the public sector we have Kerala soaps and oils (KSO) and Kerala Soaps and Detergent chemicals (KSDC) but are not functioning properly. In the private sector 80 per cent soap production belongs to the small scale sector, and are mainly localised. The traditional way of manufacturing toilet soaps by using non edible oils and herbal extracts which are having rich medicinal values are having the capacity to cure skin diseases. The toilet soaps of multinational companies have failed in arresting these diseases. It is found that Albenium oil, extract from turmeric and Tulasi along with non edible oils like Neem, Karanja,

Marothi, Jathropa produces a high quality toilet soap. Kerala enjoys an export market for her Herbal toilet soaps like Chandrika, Radhas and Thulasi.

With vast marketing prospects and production being very remunerative, the significance of the industry can not be neglected. At present our understanding about the performance of the soap production units are rather limited, therefore it is interesting to analyse the performance of these units to obtain a better knowledge of their position and performance. Are the production units in the state economically viable? and financially feasible? if not, why? and what measures shall be adopted to improve the situation.

To quote Asian Development Bank, ADB<sup>3</sup> Globalization presents policy makers in developing countries new challenges, new vistas, needless to mention the urgency of reformulating strategies and policies aimed at industrialization. Successful industrialization must have an indigenous base. Kerala has talent assets, and the power of genius to compete with the best in the world to achieve industrialization. How we can make use of this opportunity effectively to be globally competent in industrial production? As soaps play an integral role in the human life all over the world, and Kerala soap enjoys some unique qualities, we can take advantages of globalisation in soap production also.

## **1.2 STATEMENT OF THE PROBLEM**

The studies made on the industrialisation in Kerala reassured the state's industrial backwardness. Different hypotheses have been put forward for this lag. The industrial structure hypothesis viewed that the slow industrial growth in the state is due to the lopsided structure rather than the differences in resource endowment. The hypotheses stated in the earlier studies suggested that, the inadequate development of capital goods and consumer goods industries has led to the industrial stagnation in Kerala. As capital goods industries are highly capital

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<sup>3</sup> Asia Development Bank (1997); Asian Development Outlook, Oxford University Press.

intensive, there is reasonable scope for the development of consumer goods industries, which requires less investment, as there is paucity of funds in the states. Soap industry, which provides both toilet and laundry soaps, is one of the important consumer goods industries in the state. Soap has become an integral and indispensable part of Keralites, as they are very much particular about their cleanliness as well as their appearance. For the entire population of more than 3 crores, oil bath and clean clothing have become the part and parcel of their life. Due to the increase in the purchasing power of the people, rise in the level of education and standard of living, the demand for soaps is increasing in Kerala. Not only that, the demand for soap is likely to go up substantially in the coming years, due to some favourable factors like growth of media especially T.V, growth of super markets and retail outlets, and increasingly talented advertising and marketing agencies.

In the era of globalisation there is a strong move towards market driven economy and integration with the global economy, as a result, Kerala soap market is flooded with a new set of international branded soaps and is tested as one of the best market for soaps by the leading multinationals. In Kerala, 80 per cent of soap production units are in the small scale sector. Soap produced by these sectors are mainly local based and they have to face stiff competition from multinational companies. Even with much scope for soap production in Kerala, the existing units find it hard to grapple with many contributing factors that have affected its effective functioning. In short mismatch is observed in the demand and supply conditions. So the production and distribution of soap products require to be planned to ensure the adequate supply at reasonable prices.

The planners and government seem to have short sighted view of the prospects of soap production in Kerala. The current trends make a strong case for suitable policies to promote soap production in kerala. In order to revive the industry and to tackle its problems effectively, knowledge of its present structure

is indispensable. Hence the present study examine the economics of toilet soap production in Kerala and tries to identify the factors that have contributed to the present condition and thereby suggest measures through which the performance of the industry can be improved..

### **1.3 OBJECTIVES**

- (1) To examine the economics of toilet soap production in Kerala.
- (2) To evaluate the financial performance of toilet soap production in the state.
- (3) To identify the major problems and constraints confronted by the toilet soap production units.

### **1.4 HYPOTHESES**

For achieving the above objectives the following two main hypotheses are formulated

- 1) Toilet soap production in Kerala is productive.
- 2) Toilet soap production in Kerala is profitable.

### **1.5 DATA SOURCE AND METHODOLOGY**

#### **1.5.1 Sample selection:-**

In Kerala 80 per cent of the soap producing units are in the small scale sector. There fore this study is confined to the soap production units in the small scale sector alone. The database of the study represents a sample of small scale industries registered with the state Directorate of Industries and come under the purview of Small Industries Development Organization (SIDO). The total number of soap production units registered in the industries Department of the state comes to 272. Detailed enquiry by the research scholar revealed that there are only 184 units with proper functioning. Further among these units only 92 units are producing toilet soaps. The survey was started with a view of taking a sample size of 10 per cent. We classify all the units in our sample into four groups on the basis of investment in land and building, plant and machinery. They are very small units with investment below Rupees one lakh, small units with an

investment ranging between one lakh and three lakhs, medium units with investment above rupees three to five lakhs and large units having investments above rupees five lakhs. Very small group consists of 31 units, 27 units comprises small group, medium group covers 25 units and large group has 9 units. The sample in the present study was limited to 10 units selected at random from each group, 3 from very small, 3 from small, 3 from medium and one from large. Units were drawn from across the state. The sample frame is shown in Flow Chart.1

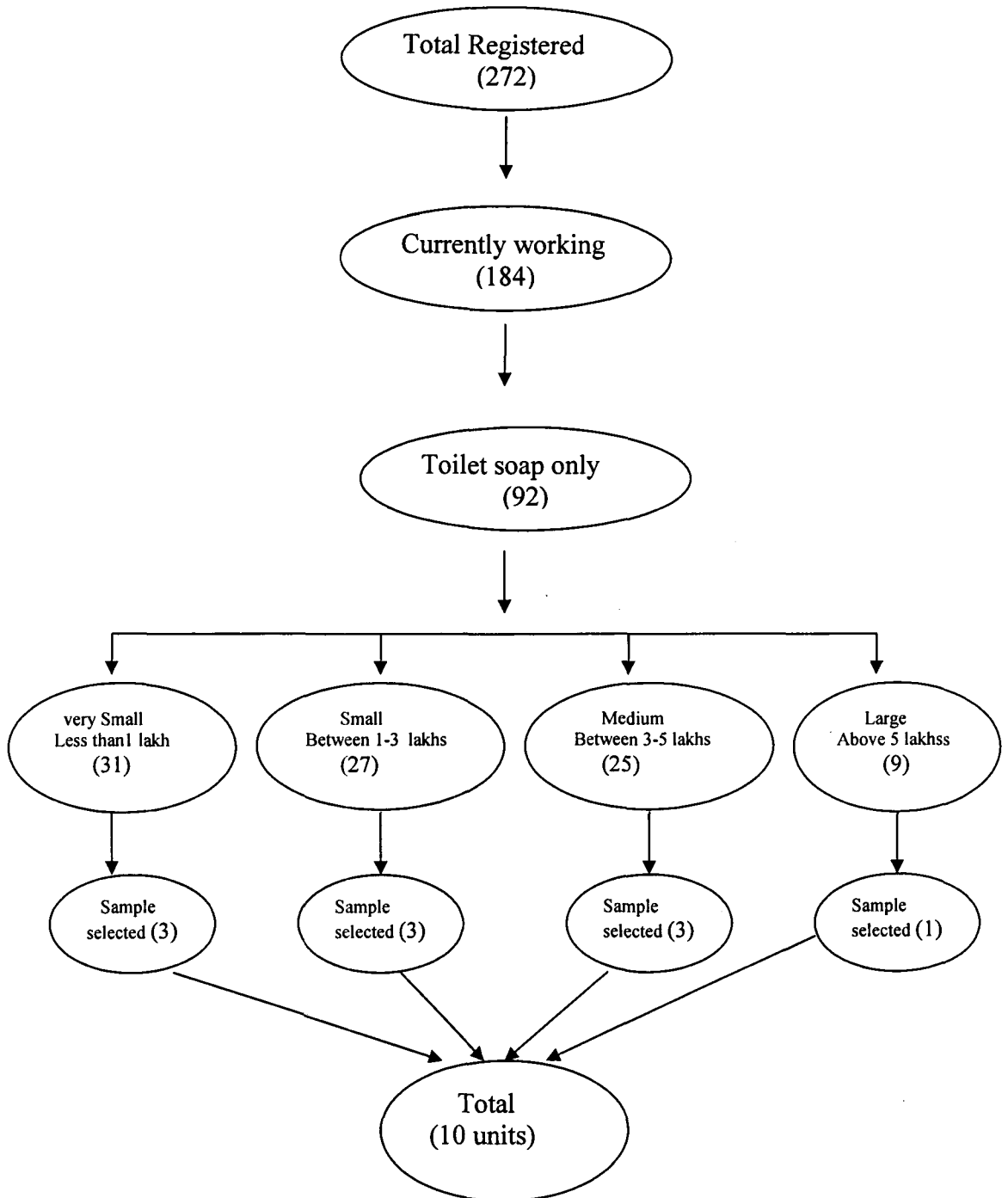
### **1.5.2 Data sources:-**

The study makes use of both primary and secondary data. Data were collected for a ten-year period from 1995-2004. Primary data were collected with the help of pre-tested structured schedules. The various accounts and reports maintained by the units especially, profit and loss account, balance sheets and information gained in the discussion with management and eminent persons, are used to examine the economics of the toilet soap production.

The secondary data collected from the Economic Reviews, information from Industries Department , Planning Board, Centre for Monitoring Indian Economy (CMIE), Annual Survey of Industries (ASI), Indian Toiletries and Soap Makers Association (ITSMA), Reports of Small Industries Development Bank of India (SIDBI) are also used.

# Flow Chart. 1

## Flow chart for sample selection



### 1.5.3 Methodology

The methodology adopted is both descriptive and analytical. In order to satisfy the objectives both Economic and financial analysis is carried out. The discussion on economic analysis is centered around micro economic theory, but strict theoretical approach is not possible due to non availability of qualitative data. So the economics of toilet soap production was studied by the detailed examination of capital structure, inputs used including labour , value of output, profit, and value added with the help of growth rate, averages and percentages and bi -variate tables. For the analysis both the exponential and annual average growth rate is used. The compound growth rate is calculated by using the exponential function

$$Y = ab^t$$

$$\text{ie, } \ln Y = \ln a + t \ln b$$

$$\text{CGR} = [\text{Antilog}(b) - 1] * 100$$

### 1.5.4 Structural Ratios

Structural changes over the reference period were discussed with the help of selected structural ratios namely,

$$(1) \text{Fixed capital to invested capital ratio} = \text{Fixed capital} / \text{Invested capital}$$

$$(2) \text{Fixed capital to productive capital ratio} = \text{Fixed capital} / \text{Productive capital}$$

$$(3) \text{Input output ratio} = \text{Value of input} / \text{Value of output}$$

$$(4) \text{Value added to output ratio} = \text{Value added} / \text{Value of output}$$

$$(5) \text{Fixed capital to output ratio} = \text{Fixed Capital} / \text{Value of output}$$

$$(6) \text{Invested capital to output ratio} = \text{Invested capital} / \text{Value of outputs}$$

$$(7) \text{Value added to invested capital ratio} = \text{Value added} / \text{Invested capital}$$

(8) Value added to input ratio = Value added/ Value of inputs

(9) Output input ratio = Value of output/Value of input

(10) Output invested capital ratio = Value of output/ Invested capital

(11) Input invested capital ratio = Value of input/ Invested capital

### 1.5.5 Productivity Analysis

Empirical investigation of the study is conducted using total factor productivity analysis. Since both labour and capital contributes to output it is necessary to derive TFP index that will include both labour and capital as inputs. TFP can be measured by the use of Direct method and Kendrick method.

#### Direct method

In a general form we can define Total Factor Productivity as

$$TFP = (\text{Output Index}) / (\text{Factor Input Index})$$

Total Factor Productivity Index (TFPI) can be directly obtained through geometric average of the partial productivity indices. Partial productivity has been obtained by dividing gross value added by respective factor of production. If we define partial factor productivity index of capital by PFPI (K) and of labour by PFPI(L) and Total factor productivity index by TFPI, then,

$$TFPI = \sqrt{[PFPI(K)] * [PFPI(L)]}$$

$$PFPI (K) = V(t) / K(t) \text{ and}$$

$$PFPI(L) = V(t)/L(t)$$

Where  $V(t)$  = index of value added for the year t

$K(t)$  = index of capital employed for the year t

$L(t)$  = index of labour employed for the year t

### 1.5.6 Kendrick Method

TFP of Kendrick has been computed by using the following form

$$\text{Kendrick's TFPI} = V(t) / \{ aL + (1-a)K(t) \}$$

$$V(t) = aL(t) + (1-a)k(t)$$

Where  $V(t)$  = index of value added

$a$  = share of labour in value added in the base year

$1-a$  = share of capital in value added in the base year

$K(t)$  = index of capital employed for the time  $t$

$L(t)$  = index of labour employed for the time  $t$

Since the Kendrick's TFPI is based on the indices of value added, capital employed and labour employed, the denominator has been calculated through geometric average of the weighted indices of capital and labour. Kendrick's index of TFP is based on the assumption of competitive equilibrium, constant returns to scale and Hicks-neutral technical change

### 1.5.7 Production Function

The study also made use of Cobb Douglas and Translog production functions in order to examine the factor use efficiency and factor contribution

#### Cobb-Douglas production function

$$Q = AK^{\beta_1}L^{\beta_2}M^{\beta_3}e^u$$

Where  $A > 0$ ,  $0 < \beta_1 < 1$ ,  $0 < \beta_2 < 1$ ,  $0 < \beta_3 < 1$ . where  $Q$  = gross value of output.  $A$  is the efficiency parameter,  $K$ ,  $L$ , and  $M$  are working capital, wages and salaries and raw material cost.  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$  are constant and to be determined empirically which gives a measure of factor intensities. In Cobb Douglas production function sum of the factor elasticities gives an indication of returns to scale.

## Translog Production Function

Translog production function takes the following form.

$$\begin{aligned} \ln Q = & \beta + \beta_1 \ln(K) + \beta_2 \ln(L) + \beta_3 \ln(M) + 0.5\beta_4 \\ & \ln(K^2) + 0.5\beta_5 \ln(L^2) + 0.5\beta_6 (\ln(M^2)) + \\ & 0.5\beta_7 \ln(K)\ln(L) + 0.5\beta_8 \ln(K)\ln(M) + 0.5\beta_9 \ln(M)\ln(L) + e \end{aligned}$$

Where Q- Gross value of output, K- working capital, L- wages and salaries, M- cost of raw material, and Ln- natural log.

### 1.5.8 Financial Analysis

Financial performance was examined with the help of financial ratios. Efficiency of the different toilet soap production units in liquidity management, inventory management, cash management, operational performance and assets utilization were assessed by using

- (1) Current ratio = Current assets/ Current liabilities
- (2) Quick assets ratio = Quick assets/ Current liabilities
- (3) Turnover of current assets ratio = Sales/ Current assets
- (4) Inventory to current assets ratio = Inventory/ Current assets
- (5) Cash to current assets ratio = Cash/Current assets
- (6) Gross profit ratio = Gross profit/Sales
- (7) Operating ratio = Cost/Sales
- (8) Bifurcated operating ratio = Raw material and fuel costs/ Sales,  
Salary and wages/ Sales, Establishment cost/sales
- (9) Assets turnover ratio = Net sales /Net assets
- (10) Net fixed capital turnover ratio and = Sales/Fixed capital
- (11) Working capital turnover ratio = Sales/ Working capital

### **1.5.9 Working Definitions**

For soap industry exclusive definitions for various concepts are not available and hence the definition adopted by ASI have been used for the study and marginal modifications were also made wherever necessary.

#### **a) Fixed Capital**

Fixed capital represents the value of fixed assets owned by the factory as on the closing day of the accounting year. Fixed assets include land, buildings, and plant and machinery. Strictly speaking, while calculating fixed capital, historical cost calculation and depreciation are also not to be accounted for.

#### **b) Physical Working Capital**

Physical working capital is defined to include all physical inventories owned, held or controlled by the factory as on closing day of the accounting year such as stock of materials, stock of semi finished goods and stock of finished goods.

#### **c) Working Capital**

Working capital is the sum total of the physical working capital and the cash deposits in the hand and bank and the net balance of amounts receivable over amounts payable at the end of the accounting year.

#### **d) Productive Capital**

Productive capital is the total of fixed capital and working capital as defined above.

#### **e) Invested Capital**

Invested capital is the total of fixed capital and physical working capital as defined above.

f) Workers

Workers are defined to include all persons employed in the factory including administrative staff also.

g) Emoluments

Emoluments are defined to include wages/ salaries and also the other benefits enjoyed by the workers

h) Inputs

Inputs comprise gross value of materials, power and fuel consumed during the accounting year.

i) Cost of Production

The total cost of production is the sum total of inputs costs, wages/ salaries and other establishment costs.

j) Value of Output

Value of output is defined to include the value of products manufactured during the accounting year.

k) Gross Profit

The study used the gross profit as given in the accounts of the sample Units.

l) Value added

Value added is calculated by deducting the value of total inputs from the value of total output.

## 1.6 LIMITATIONS

The study suffered some serious limitations, which narrowed down the scope of a very detailed analysis on certain occasions.

- 1) Since the study makes use of both primary and secondary data, it poses a variety of data problems. Most of the units did not have concrete information and they rarely followed the practice of keeping records. Hence sufficient difficulty was experienced in getting required data for a ten-year period.
- 2) We feel some inconsistencies in the analysis due to the reporting errors
- 3) The secondary information is limited for the soap industry (toilet soap) and there is a scarcity of authentic studies .
- 4) Standard definition of various concepts were not developed for the soap industry specifically. So certain working definitions were used for the analysis.
- 5) Details of quantity of inputs used and the quality produced are important to examine the economics of an industry but because of the non availability of quantity wise information, the major part of the analysis was done only in value terms.

## **1.7 SCHEME OF THE STUDY**

The text of the thesis is discussed in eight chapters, which are outlined as follows.

The thesis opens with an introduction in which the problem to be investigated is briefly stated. It also covers objectives, scope, limitations and scheme of the study. Methodologies used for the study are also given in this chapter.

In order to identify the research gap review of literature of the studies was made in the second chapter.

The third chapter discusses the industrial development in Kerala. Here we are throwing light on Kerala's position on the industrial map of India.

Chapter four gives a brief account of soap industry in global, Indian and Kerala scenario. Here we go to enquire the historical roots of soap industry. The nature and growth performance of the soap industry have also been discussed. It brings out the current status of soap production in Kerala.

An economic analysis of the toilet soap production in Kerala is attempted in the fifth chapter with reference to capital structure, input cost, including labour, value of output, profit, and value added with help of growth rate, bivariate tables and percentages. Structural changes were examined with the help of selected structural ratios. We are examining the performance of soap manufacturing units in Kerala as reflected in the productivity measures. As an index of overall efficiency we are constructing a measure of total factor productivity. Total factor productivity by Direct and Kendrick method has been measured. The production functions, Cobb Douglas and Translog were also attempted to trace the factor contributions in the toilet soap production.

Chapter six presents financial performance of the toilet soap production units in Kerala. Financial analysis is attempted using the various ratios in liquidity management, inventory management, cash management and operational performance.

The third objective of the study is identification of the major problems and constraints confronted by the toilet soap production units in Kerala, which is covered in the seventh chapter.

The conclusions emerged from the study, a few recommendations and area for future research are listed in the final chapter.

## CHAPTER 2

### REVIEW OF LITERATURE

To identify the research problem, Literature review is a logical requirement. Before specifying the objectives, a critical review of selected literature focusing the method may be an order of analysis. The review of empirical studies explores the avenues for future and present research efforts related with the subject matter. So a close look at these studies would enable the researchers to identify the problems and it would help to locate the gaps in the literature and new issues that need to be taken up for the detailed analysis.

Industrial area is widely researched. Scholars have undertaken a number of studies that have gone into the details of various aspects of industrialisation. These studies fall under the categories of dissertation (both M. Phil, Ph.D) working papers and published articles. While reviewing the specific studies on soap industry it was felt that very few attempts were made to analyse the structure, status, problems, and prospects of the same. Hence a broader approach was followed and the literature available can be classified into three sections:

1. General Reviews – studies on Kerala Industrialisation
2. Specific Reviews – Studies on Soap Industry
3. Reviews based on Methodological Issues.

#### 2.1 General Reviews

We shall now move to take a closer look at the industrial scenario in Kerala. The studies on various industries of Kerala underlined the state's industrial backwardness and various hypotheses have been put forward to explain

this phenomenon. These include Ramachandran(1973)<sup>1</sup>, Oommen(1981)<sup>2</sup> Subrahmanian and Pillai (1986)<sup>3</sup>, Alice Albin (1988)<sup>4</sup>, Thampy(1990)<sup>5</sup>, Subrahmanian(1990)<sup>6</sup>, Thampy & Nandamohan(1994)<sup>7</sup>, Prakash(1994)<sup>8</sup>, Subrahmanian and Pillai (1994)<sup>9</sup>. They concluded that lopsided industrial structure, high wage cost, labour militancy, government policy, lack of entrepreneurship and locational disadvantages made Kerala industrially backward. They also argued that the weak industrial base holds good even in the case of small scale Industries.

The National Council of Applied Economic Research (NCAER) study (1962)<sup>10</sup> identified the following factors as the causes for the slow growth of Industries in Kerala. (1) Predominance of technologically backward small scale units, which created only a meager re-investible surplus and did not lead to entrepreneurial talents. (2) Political instability in the state during the past years which had scared prospective industries away from the state. Lokanathan (1962) in his report on Techno Economic Survey of Kerala imposed the responsibility for retarding progress of investment in Kerala on the trade unions.

Kerala is still known for traditional industries like handloom, coir, cashew, handicrafts and beedi, which provide large scale employment especially to women. The question as to how and why the growth potential of traditional industries as in some parts of India remained stymied in the region

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<sup>1</sup> Ramachandran Nair.K. (1973) Industrial relation in Kerala Sterling publishers, New Delhi.

<sup>2</sup> Oommen (1981) Mobility of small scale entrepreneur a Keral experience, Indian Journal of Industrial Relations, vol.17, No.1, pp. 65.

<sup>3</sup> Subramanian. K.K. and Mohanan Pillai (1986), Kerala's Industrial backwardness. Exploration of alternative Hypothesis". Economic and Political Weekly, Vol. 21 No.14, pp 577-592.

<sup>4</sup> Alice Albin (1989) Manufacturing Sector in Kerala-M.Phil Dissertation, C.D.S. Trivandrum

<sup>5</sup> Thampy, M.M. (1990) "Wage cost and Kerala's Industrial Stagnation: Study organised small scale sector". Economic and Political Weekly Vol.25. No.37, Sept. 15.pp.2077-2082.

<sup>6</sup> Subramanian (1990) "Development paradox in Kerala – Analysis of Industrial stagnation. Economic And Political Weekly, 15 Sep, pp.2053-2058.

<sup>7</sup> Thampy and Nanda Mohan (1994). "Kerala's Industrial stagnation- psychic economic analysis – paper presented in the international Congress on Kerala Studies held at Trivandrum on 27-29 August.

<sup>8</sup> Prakash B.A. (1994) Kerala Economy, Performance, Problems, Prospects – Sage Publications, New Delhi, 1994.

<sup>9</sup> Subramanian K.K. and P. Mohanan Pillai (1994) Modern Small Industry in Kerala – A Review of structural change and growth performance. Working paper No.254, CDS, Trivandrum.

<sup>10</sup> Lokanathan K. (1962) Techno Economic survey of Kerala, National council of Applied economic research, New Delhi.

has been an issue that attracted the attention of researchers much earlier. In this context some major commodity studies need to be mentioned.

They are on cashew, Kannan (1978)<sup>11</sup>, Beevi (1978)<sup>12</sup>, Deepa (1994)<sup>13</sup>, on coir, Isaac (1984)<sup>14</sup>, Isaac and Nair (1987)<sup>15</sup>, on beedi, Pyaralal (1986)<sup>16</sup>, on tile, Raghavayya (1980)<sup>17</sup>, Mani (1990)<sup>18</sup> and on handloom, Devi (1982)<sup>19</sup>, Karthikeyan (1985)<sup>20</sup>, Rajagopal (1986)<sup>21</sup> and Mridul Eapen (1991)<sup>22</sup>, on marine product industry, Valsala (1977)<sup>23</sup>, Sebastian (1986)<sup>24</sup>, Shajahan (1987)<sup>25</sup>. These studies have examined the respective traditional industries in the broader context of industrial transformation, organisational factors, labour process and the survival strategy of workers during the crisis phase of the industry and unionisation as well as technology and marketing.

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<sup>11</sup> Kannan K.P. (1978) "Employment, Wages and conditions of work in the Cashew Processing Industry", Working paper No.77, CDS Trivandrum.

<sup>12</sup> Beevi Emam A.J.(1978). Impact of minimum wage legislation on cashew Industry – M.Phil Dissertation CDS Trivandrum.

<sup>13</sup> Deepa G.L. (1994) Industrial crisis and women workers. A study of cashew processing industry in Kerala. M.Phil Dissertation CDS, Trivandrum.

<sup>14</sup> Issac Thomas T.M. (1984). Class struggle and Industrial structure : A study of coir weaving Industry in Kerala. PhD Dissertation, CDS Trivandrum.

<sup>15</sup> Nair M.N.V. (1977). Coir Industry – Its structure and organisation, Indian Institute of Management, Bangalore.

<sup>16</sup> Pyaralal, Raghavan (1986) Organisation of Beedi Industry – A study of Cannanore district – 1920-1985-M.Phil Dissertation CDS, Trivandrum.

<sup>17</sup> Reghavayyiah, Jayaprakash (1980). Bassel Mission Industries in Malabar and South Cannanore 1834-1913, M.Phil Dissertation CDS, Trivandrum.

<sup>18</sup> Mani K.P.(1990) Tile Industry in Kerala Economics, Problems and Prospects, PhD Dissertation, Cochin, University of Science and Technology (CUSAT). Cochin.

<sup>19</sup> Devi, Geetha.S. (1982) Handloom Production in Kerala – A study of Trivandrum and Kannur centres. M.Phil Dissertation, University of Kerala, Trivandrum.

<sup>20</sup> Karthikeyan A.C.(1985) Economics of Handloom Industry in Kannur district, PhD Dissertation, University of Mysore, Mysore.

<sup>21</sup> Rajagopal V. (1986). The Handloom Industry in North and South Kerala – A study of production and Marketing structures, M.Phil. Dissertation, CDS, Trivandrum.

<sup>22</sup> Eapen, Mridul (1991), "Hantex : An Economic appraisal" – Working paper No.242, CDS, Trivandrum.

<sup>23</sup> John, Valsala (1977). Marine products Export Industry in Kerala, Some aspects of structure and backward linkages – M.Phil Dissertation CDS-Trivandrum.

<sup>24</sup> Mathew Sebastian (1986) – "Growth and changing structure of prawn exporting industry in Kerala". M.Phil Dissertation CDS, Trivandrum.

<sup>25</sup> Shajahan K.M. (1987). Marine products exports from Kerala – Study of composition, trends and performance 1940-1985. M.Phil Dissertation CDS, Trivandrum.

Narayanan and Karunakaran (1985)<sup>26</sup> suggested that the improvement of traditional and small scale sector was the only way of industrialisation in Kerala. Aswathy (1988)<sup>27</sup> in her study - Analysis of regional growth pattern in India, has found that Kerala has remained almost static in industrial scenario.

Radhakrishnan (1989)<sup>28</sup> in his study - Growth structure and productivity of Indian manufacturing industry - an econometric analysis made a comparison of productivity performance in the large scale manufacturing sectors of Kerala and all India. The analysis indicated that the long term trend in growth rate of labour productivity of Kerala exceeded the observed growth rate of capital productivity. The steep decline in the growth rates of both labour and capital productivities, during 1970 - 90 is disheartening and is a sure indication of the malice that has crept into the manufacturing sector of Kerala.

Albin's study (1989)<sup>29</sup> which was based on National Account Statistics, ASI, and Statistics of Own Account Enterprise and Census of India covered almost two decades from 1960 - 61 to 1982 - 83. The study went into the details of the organisational composition of industrial sector. In 1961 Kerala had a low share in the household sector relative to all India. Between 1961 and 1981 Kerala showed a faster decline in household employment. The study found out that Kerala's growth rate in small industry was less than that of all India. Finally Alice Albin concluded that regional factors have been so strong as to overpower the effect of structural factors and make Kerala's industrial growth rate negligible.

Arun's study (1993)<sup>30</sup> on inter regional characteristics of industrialisation concluded that Kerala's industrial structure showed a bias towards agro based and

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<sup>26</sup> Sankara Narayanan, K.C. and Karunakaran, V.(1985). Kerala Economy Oxford and India – Book house Publishing Company New Delhi.

<sup>27</sup> Aswathy Dinesh (1988) – Analysis of regional growth pattern in India, Sardar Patel Institute of economic and Research Ahmedabad.

<sup>28</sup> Radhakrishnan.C. (1989) Productivity Trends in the organized manufacturing Industries of Kerala. PhD Thesis. Department of Economics, University of Kerala.

<sup>29</sup> Albin, Alice (1989) Manufacturing sector in Kerala – M.Phil Dissertation CDS Trivandrum.

<sup>30</sup> Arun T.G. (1993) Growth and structural changes in the manufacturing industry of Kerala 1976-87. A comparative study-vis-à-vis south India. M.Phil Dissertation, CDS Trivandrum.

chemical industries . The analysis showed that in Kerala both regional, specific factors, as well as structural factors have implication for industrial deceleration.

Subrahmanyam and Pillai (1994)<sup>31</sup> in their study - Modern small industries in Kerala - a review of structural change and growth performance suggested that modern small sector including electronics, plastics, engineering, computer etc. would have a major role in the future industrial development in Kerala.

Joseph in his study titled -Some recent trends in small scale industries – a case study of diamond industry in Kerala (1995)<sup>32</sup> provided some empirical explanation for the re-location of the highly labour intensive diamond industry from its traditionally low wage cost centre like Surat to high wage state like Kerala. The study focused on organizational structure of industry in Kerala. The study tends to disprove such hypothesis like high wage island and labour militancy as the causes for the industrial backwardness of the state and argued that subcontracting system provides the impetus to the emergence of local entrepreneurship. According to Pillai (1996)<sup>33</sup>, poor infrastructure is the major bottleneck in the industrialisation of Kerala.

Babu and Harilal (2002)<sup>34</sup> have studied about the competitiveness of different industries in Kerala. The study suggested that Kerala ranks last comparing with Karnataka and Tamil Nadu in terms of competitiveness. The state has competitive advantage in industries like food processing, wood and wood products, paper and paper products, chemical products, rubber, petroleum and plastic products. The study points out that the state is characterised by the existence of a small sections of modern sector and a predominant traditional sector with low investment and productivity.

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<sup>31</sup> Surbamanian. K.K. and P. Mohanan Pillai (1994) – Modern small industry in Kerala – A Review of structural change and growth performance – Working paper 254, Centre for Development Studies, Thiruvananthapuram.

<sup>32</sup> Joseph, Tomy (1995) “Some Recent Trends in small scale industries. A Case study of Diamond industry in Kerala. M.Phil Dissertation CDS Tvm.

<sup>33</sup> Gopalan pillai G.C. (1996) Poor infrastructure “The major bottleneck in the Industrialisation of Kerala”. Paper presented during workshop on industrialisation of Kerala. August 19, CDS, TVM.

<sup>34</sup> Babu and Harilal K.N.(2002) Competitiveness and Industrial climate in Kerala. Confederation of Indian Industry (CII) Kochi.

Manoharan (2002)<sup>35</sup> proceeded with the objective of examining the extent of industrial development in Kerala. The hypothesis of the study is that there was no industrial advancement during the people's plan period compared to the past. The secondary data has been made use of to present analysis. Ratios and percentages between and over years are applied. The study concluded that there is marked decline in the share of tertiary sector and sluggish growth rate of industries. He also suggested that the government should act as a facilitator rather than a regulator in the whole process of industrial development.

Jeromi (2003)<sup>36</sup>, in his paper, What Ails Kerala's Economy - a sectoral exploration, highlights the lack of development strategy in Kerala for growth and employment generation. Suresh (2003)<sup>37</sup> analysed the role of plastics production and consumption. The objectives of the study are the following: to analyse the growth pattern, productivity, and financial performance. The data sources are both primary and secondary in nature. Linear homogenous production function and Cobb Douglas production function were applied. Financial performance was estimated by using financial ratios. The study concluded that almost all the units in Kerala were in small scale sector and were operating under profitable conditions.

Ashita (2002)<sup>38</sup> study, Economics of engineering industries in Kerala, examined the financial performance, problem and prospects of engineering industry in Kerala. The study cover a period of 10 years (1988-98) and made use of Cobb Douglas and translog production function to assess the labour productivity. Financial performance was examined with the help of financial ratios. She concluded that the engineering industries in Kerala were not economically sound.

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<sup>35</sup> Dr. Manoharan Nair (2002), Industrial Development in Kerala. Kerala Calling, June 2002. pp.24-25.

<sup>36</sup> P.D. Jeromi (2003). What Ails Kerala Economy. A Sectoral exploration. Economic and Political weekly. April 19-25. Vol.38.No.16 p p 1584-1600.

<sup>37</sup> Suresh (2003) Economics of Plastic Industry in Kerala. Ph.D. Thesis University of Calicut-(Dr. John Matthai Centre).

<sup>38</sup> Ashita Ravindran (2003). Economics of Engineering Industry in Kerala. Ph.D. Thesis Cochin University of Science and Technology (CUSAT) Cochin.

Raghavan on Kerala development and failures (2004)<sup>39</sup> stated that despite high quality life and welfare indicators, Kerala lags behind in industrialisation with massive doses of unemployment. One of the important features of Kerala economy is poor track record of industrial and agricultural programmes. The rate of growth of manufacturing sector for the year 2001 - 2002 was 2 – 4per cent, while in the national level it was 6per cent. The shrinking industrial base thus forms a general characteristic of the industrial economy of Kerala.

All these studies on various industries had shown that Kerala is proverbially an industrially backward state in the country with low manufacturing activity.

## **2.2 Specific Reviews**

Very few attempts were made to analyse the structure, status, problems and prospects of Soap Industry. Following are the studies available in this respect.

Kalele (1958)<sup>40</sup> made a study of the small scale soap units operating in Pune city in 1958 - its organisational structure and investment, distribution and sales and reinvestment of profits and indebtedness. He found out that there was a sort of stagnation in the case of smaller units, the larger units show some progress as regards the volume of business and increase in capital. The author had studied the small scale soap industry in Pune and the data relate to the year 1958. Seven units have been analysed in relation to their organisation structure, investment policies regarding purchases of raw materials and sales of products and also regarding their profits. The author indicated how the government can help the smaller units, both in respect of finance and in the purchase of raw materials.

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<sup>39</sup> V.P. Raghavan (2004). On Kerala's Development and failures. Indian Economic Journal Volume 51. pp.30-36.

<sup>40</sup> J.C. Kalele (1958) Some Aspects of small scale soap industry in Poona-Artha Vijnana Vol.2. No.4 December 1960. pp.327-337.

Subramanian and Papola's (1971)<sup>41</sup> "Profitability and Growth of Firms" - evidence of the 27 companies in the chemical Industry indicates independence of profitability and growth in relation to size.

Langdon (1975)<sup>42</sup> found in the Kenyan soap industry that small scale firms were struggling to survive despite a growing market for soaps and detergents. Multinational companies had begun to penetrate the market with different products and produced with different technologies. His study concluded that MNC's role in Kenya seems responsible for blocking in a general way the development of decentralised local industry in a wide range of sectors.

Hansavivek (1981)<sup>43</sup> in his article "Away from Soaps" - gave picture of the performance of Tata Oil Mill Company (TOMCO) to cater to the increased export demand for its toilet soaps mainly from USSR. This will enable the company to make good quality toilet soap with flexibility for raw materials without any import licensing constraints. The company had achieved a marked improvement in its working results in 1980-81 compared to the previous year when it had to contend with prolonged labour unrest. But now the management is seeking a more fundamental diversification of the company's products instead of toilet soaps.

The working group on soaps and detergents set by the government in (1984)<sup>44</sup> had projected the demand and production for soaps and detergents for the seventh plan ending 1989-90 and has also looked into the demand by the end of the century. The projections for the industry have been worked out by the working group in terms of (a) Fabric washing products comprising laundry soaps and chemical detergents. (b) Toilet soaps which included all personnel washing soaps. The study revealed that with the lower prices, detergents becoming a major

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<sup>41</sup> Subramanian and Papola T.S. (1971) "Profitability and growth of firms" – The case of Indian chemical Industries. Anvesak -Ahamedabad. Pp 126-131.

<sup>42</sup> Langdon. S. (1975). Multinational Corporations, taste, transfer and underdevelopment . A case study from Kenya-Review of African Political Economy, 1975. No.2. pp.25-30.

<sup>43</sup> Hansavivek. "Away from Soaps" , Economic and Political Weekly. Vol.16. No.37. Sep. 12. 1981. pp. 1481-1482.

<sup>44</sup> Dilip Maitra – Industry Report by Tata Consultancy Services. Economic Scene May 1984.

factor on the market since, their penetration in the rural market has increased substantially in the past few years with the result that detergents are now found in almost every village. With higher growth in rural income, rural people are likely to spend more on toilet soaps, ie, the next consumption item after food grains and clothing.

The Indian Soaps and Toiletries Makers Association (1985)<sup>45</sup> had done a demand projection for synthetic detergents from 1985-90. This was attempted by them in two stages - estimating the demand for all washing products and also of the rate at which synthetic detergents share in the total washing products market is growing. The growth, development and growing importance of synthetic detergents industry and its encouraging outlook had been reviewed by Tata consultancy services during the year 1985.

Goldar (1985)<sup>46</sup> in his paper analysed the unit size and economic efficiency in small scale washing soap industry in India. The study was based on related unit level data for the census of small scale industrial units. The main finding of the study was that tiny washing soap units were quite inefficient as compared with relatively bigger units within small scale washing soap industry. This was borne out by comparison of partial and total factor productivity and by the analysis of technical efficiency differences based on a frontier production function.

The Economic Times Research Bureau in their Review (1988)<sup>47</sup> on soap and detergent industry explained the different aspects of this Industry. Poised for a major breakthrough in this industry as stated by Usha Sivaraman, this industry had undergone a metamorphosis in the past few years. From being a stronghold of the large scale soap manufacturing giants, the equation was changing in favour of the small scale sector. This tilt was more pronounced in the detergent business while, for soaps, the organised sector continues to have the upper hand. The

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<sup>45</sup> The Soap Industry- Indian Soap and toiletries Makers Association 1985-page.1-10.

<sup>46</sup> Biswanath N. Goldar (1985) Washing Soap Industry in India. ArthaVijnana Vol.27. No.1. pp.21-40.

<sup>47</sup> Usha Sivaraman. Soaps and detergent industry. Economic times. July 28. 1988. pp.5.

Economic Times Research Bureau found out 15 per cent growth rate for the industry.

The leading spokesman Arni (1988)<sup>48</sup> in his article “Synthetic detergent Plan Priorities and Policies” stated that the use of synthetic detergent had grown immensely in India in the last two decades and contributed to the establishment of a major industry . India presently had only a few thousand washing machines and it may appear premature to consider issues arising from their large scale usage.

The studies conducted by Shetty (1988)<sup>49</sup> - the Economic Times Research Bureau on small sector Giant” “Nirma shows the way.” stated that the small scale sector manufacturing soaps and detergents presents two starkly contrasting pictures, on the one hand, it was Nirma chemical works who had successfully played David to the Goliath - Hindustan lever, Hippolin, Vimal, etc., on the other hand a large number of small units have been forced to down their shutters or marginalise their operations due to the increasing diseconomies in production mainly because of rising input costs. The study found out that Nirma Chemical works was the largest producer of synthetic detergent powders with a turn over of around Rs. 300 crores.

Meenakshikutty (1989)<sup>50</sup> - in her Ph. D Thesis Economics of Detergent Industry in Kerala made a comparative analysis of the performance of two public sector soap production units namely KSO and KSDC. Her study was based on the secondary data published by ASI. To find out the cost and profitability of these two units she applied linear programming method and Cobb Douglas production function. The study found that these two units of soap production in Kerala were not productive and efficient.

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<sup>48</sup> VRS Arni (1988). Hindu dated August 27-1988.

<sup>49</sup> Asha Shetty (1988). Indian Soap Industry – Indian Soap Journal January 26<sup>th</sup> 1988. pp.162.

<sup>50</sup> Meenakshikutty (1989). Economics of detergent Industry in Kerala. Ph.D Thesis. University of Calicut.

Weitzman's (1991)<sup>51</sup> paper - Price Distortion and Shortage Deformation, What happened to the Soap? has presented a formal model of consumer behaviour under conditions of shortage. A clear theme of the paper was that price distortions and monetary overhang could present very severe threats to the normal functioning of an economy. The essential issue was to remove the incentives that lead to excessive inventory stocks blocking what should be direct flow of goods from production and consumption.

Kumar (1995)<sup>52</sup> examined the activities that influence the characteristics of buyers and compares them in both rural and urban markets. Personal interviews were used to understand buyer's behaviour of soaps. The data indicated valuation of the behaviour of rural buyer compared to the urban buyer in many respects. Such understanding of the rural behaviour had implications for marketing decisions. Comparing the rural market with behaviour in urban market, the buying behaviour of washing soaps and toilet soap is examined. In urban areas, equal number of consumers are loyal to brand and to the shop. But in rural area loyalty to shop was higher. The study suggests a positioning effort that focuses on delivering the basic benefit effectively, and better than existing brands in the rural retail shelf. The rural markets presents challenges to the marketer as it differs from urban markets in literacy levels, incomes, social system and habits.

EPW Research foundation studies (1997)<sup>53</sup> on Godrej soaps - Lower Sales and Profits found out that Godrej soaps, a major player in the soaps and toiletries industry, saw a 14.3 per cent decline in its net sales in 1996-97, while the company's value of production fell by 1-9 per cent over 1995-96, its operating profits crashed by 47.3 per cent. The company broke off its alliance with Procter and Gamble (P&G) and has now undertaken the marketing of its toilet soaps,

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<sup>51</sup> Martin L. Weitz man (1991). "Price distortions and shortage deformation, what happened to the soap? American Economic Review vol. 81. No.3. pp.401-414.

<sup>52</sup> V. Sanal Kumar (1995). Buyer Behaviour in Rural Markets. A study of group market productivity. Vol 39. No.2. July-sep. 321-328.

<sup>53</sup> Godrej Soaps – Lower sales and profits , Economic and Political Weekly Vol. 32, No.43, pp27-80

while the distribution of Consumer products had been handed over to Godrej Hi care, a company in which Godrej soaps had a 46 per cent stake.

Another study was conducted by EPW Research foundation during (1997)<sup>54</sup> in connection with the capacity expansion of Godrej Soaps - The study revealed that while the major products which contributed to revenue last year were soaps, fatty acids, detergents, financial services and alpha olefin and its precursors and derivatives, their respective contributions have changed in 1995-96. While revenue from soaps continues to remain the back bone of the company's income, the other major revenue providers in 1995-96 were oils; fatty acids, alpha olefin and its precursors and derivatives and cosmetics. Despite a fall of around 15.7 per cent in sale of soaps in volume terms during the year, sales revenue increased by around 21 per cent, due to higher realisation. The company's exports sales also improved by 27per cent. The company installed new ultra modern toilet soap finishing lines of 48 tonnes per day capacity each at its Vikhroli and Malanpur factories. The company has entered into an agreement with Sara Lec De/NV - which is a part of Sara Lec Corporation which is a fortune 500 company.

EPW research foundation studies on Godrej soaps - Back in Black (2000)<sup>55</sup> Stated that Godrej soaps, the flag ship of Godrej House has 5-6 per cent of market share of the Indian soaps segment. It was keen on growth through organisational restructuring - acquisitions and divestitures, financial reengineering, floating of brands, absorption of the research and development results into product improvement and cost pruning measures backed up by good governance. GSL's bouncing back into black in the year March 31, 2000, after the previous years loss, shows the company means business. Its consumer products and chemicals business did well, but a decline of 33 per cent in the sales of contract manufacturing of non - Godrej brands, pulled down over growth to 12 per cent.

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<sup>54</sup>Godrej Soaps- Capacity expansion. , Economic and Political Weekly 1997. vol.32. No.1, pp. 9-10

<sup>55</sup> Godrej Soaps – Back in Black, Economic and Political Weekly 2000, vol. 35. No.39.pp.3456-57.

Soaps and detergents were major drivers of income growth with their share in total income moving up from 29.7 per cent to 41.9 per cent in the year. In soaps, Godrej brands notched up a growth of 24 per cent.

### **2.3. Reviews Based on Methodological Issues.**

In this section an attempt is made to review the empirical studies related to productivity, production function etc. which related to methodology.

Sankar(1970)<sup>56</sup> estimated the elasticity of substitution and returns to scale for 15 manufacturing industries in India for the period from 1943-58. Among the industries analysed the elasticity of substitution between capital and labour was unity for the Indian sugar industry. He also found a presence of increasing returns to scale in a number of industries

Dadi (1970)<sup>57</sup> in his paper Productivity Wage Rate and Relative Share of the Workers in Manufacturing Industries made an attempt to test the logarithmic relation between the labour productivity and wage rate for the Indian manufacturing industries spread over different regions for the year 1962. The production function is estimated on the basis of cross section data relating to 17 - two digit manufacturing industries in India. The hypothesis that value added and wages per worker are uncorrelated was rejected at least in ten out of seventeen two - digit industries. The rank correlation between share of wages and wage rate was also calculated to examine the distributive aspect of the productive function.13 industries confirmed the good fit - relative wage share and wage rate moving in the opposite direction in those industries where elasticity of substitution was greater than one, and in the same direction where it was less than one.

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<sup>56</sup> Sankar Ulaganathan (1970) "Elasticities of substitution and Returns to scale in Indian Manufacturing Industries". International Economic Review. Oct. Vol.II.No.3. pp.399 to 411.

<sup>57</sup> M.M. Dadi (1970). Productivity, wage rate and Relative share of workers in manufacturing industries , Economic and Political Weekly. April 25. Vol. 5. No.17. pp. 711-714.

Banerjee (1971)<sup>58</sup> analysed the productivity growth and factor substitution in Indian manufacturing industry using CMIE and ASI for the period 1946-64. He computed TFP indices and estimated Cobb Douglas production function. It had been observed that performance of the manufacturing sector had been rather sluggish over the study period. There was no sign of technical progress and capital deepening was the major influence behind the increase in production of Indian manufacturing sector.

Kazi (1972)<sup>59</sup> examined the possibilities of capital-labour substitution in the CES production function framework across the regions in Indian industry. He utilized the time series of cross section data 1961,62 and 63. In most of the cases the author observed that the elasticity of substitution between capital-labour lies between zero and unity. Furthermore the findings corroborate the fact that the role of capital-labour substitution was significant in the context of Indian establishments.

Banerjee (1973)<sup>60</sup> estimated elasticity of substitution between capital and labour for 5 selected Indian industries viz Cotton and Jute textiles (1946-63) , Sugar(1946-62),Paper(1946-58) and Bicycle(1946-58). The 5 different variants of SMAC relationship had been used to estimate elasticity of substitution from time series of inter-state cross section data. It had been observed that the hypothesis of zero elasticity of substitution implying fixed input coefficients was rejected conclusively for all the industries excepting paper.

Mehta(1974)<sup>61</sup> had estimated Cobb Douglas and CES production function for Indian sugar industry on the basis of time series data. The CMIE&ASI data for the period 1953-65 have been utilized for analytical purpose. The study revealed

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<sup>58</sup> Banerjee. A. (1971) "Productivity growth and factor substitution in Indian manufacturing sector". Indian Economic Review. Vol. 6. No.12. pp.1-23.

<sup>59</sup> Kazhi U.A.(1972). An Interstate production study for Indian Industries. A paper presented at the 11<sup>th</sup> Indian Econometric Conference. Hyderabad. March. Pp.1-47.

<sup>60</sup> Banerjee. A. (1973) "Capital – labour substitution in selected Indian Industries". Sankya, volume 35. Dec. pp. 515-522.

<sup>61</sup> Mehta S.S.(1974) Growth and productivity in Indian Industries, Anvesak, June pp.52-72.

that total factor productivity had been declining over the period under investigation. The study also observed that there was no evidence of constant returns to scale and neutral technical progress for the industry.

Banerjee (1975)<sup>62</sup> examined the relationship between capital intensity and productivity in the context of India's industrial development. The analysis had been carried out for manufacturing sector as a whole and 5 individual industries (viz-cotton textiles, jute textiles, sugar, paper and bicycle) by using CMIE&ASI data for the period 1946-64. The study highlighted that the performance of the manufacturing sector was sluggish over the period 1946-64. While labour productivity showed a significant upward trend no evidence was found to indicate the presence of technical progress in the sector.

Barthwal (1975)<sup>63</sup> fitted various forms of production functions viz variable elasticity of substitution(VES) (CES) & Cobb Douglas for Indian paper industry using ASI & CMIE data for the period from 1948-65. The study revealed that Cobb Douglas production function was consistent for Indian paper industry. Further the author observed some evidences of constant returns to scale and almost negligible technological progress in Indian paper industry. The partial elasticities of capital and labour inputs were found to be in the order of 0.64 and 0.36 respectively.

Basin & Seth(1977)<sup>64</sup> made an analysis regarding returns to scale, the extend of technological change and elasticity of substitution in Indian manufacturing sector , by using pooled ASI & CMIE data for the period 1953-65 for 27 comparable industries. The estimation of Cobb-Douglas production function indicated that the exponent of capital was relatively higher than the exponent of labour which in turn implied that output was relatively more

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<sup>62</sup> Banerjee, A. (1975), Capital Intensity and productivity in Indian Industry. Mc.Millan o. New Delhi.

<sup>63</sup> Barthwal R.R. (1975). The Economics of production. Some Empirical tests for Indian paper Industry. Souther Economic Review. Vol. 4. No.3 pp. 173-193.

<sup>64</sup> Basin Vijay.K. and Seth. (1977) "Estimation of production function for Indian Manufacturing sector: Pooling of cross-section and time series Data". Arthavijnana Vol.19 No.2. pp.113-128.

responsive to capital. The estimated sum of two exponents showed that the Indian manufacturing sector is subjected to decreasing returns to scale.

Acharya & Nair(1978)<sup>65</sup> made an attempt to measure productivity trends in Indian cement industry by using ASI data for the period 1959-71. They obtained the estimate of elasticity of substitution between labour and capital by using standard SMAC relationship. The magnitude of elasticity of substitution coefficient was found to be 0.86 – which then tested was not observed significantly different from 0 and 1 in the industry.

Hitiris - (1978)<sup>66</sup> provide empirical evidence of the relationship between market structure and profit margins in the U.K. manufacturing industry and assess the importance of foreign competition and profitability in a country which had a relatively large foreign trade sector. The basic data source for the present study are the input - out put tables. The main objective of the study had been to examine the hypothesis that the degree of foreign competition exerts an important influence on profit margins which was independent of the structure of the domestic market. The hypothesis was positively tested.

Mehta(1980)<sup>67</sup> attempted to analyse productivity trends for 27 Indian industries by using adjusted CMIE & ASI data for the period 1953-65. The results revealed that there was a considerable diversity in the experience of different industries regarding trends of labour and capital productivity. Labour productivity was found to have increased significantly in industries like vegetable oil, chemicals, tanning, glass & glass ware and insignificantly in matches ,iron and steel and cement. However, capital productivity has not increased appreciably in

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<sup>65</sup> Acharya S. and N.K. Nair (1978). Empirical issues in Total Productivity Measurement. An experiment with eminent Industry in India. Productivity vol. 19 No.43. pp.365-375.

<sup>66</sup> Theodore-Hitiris (1978). Market Structure and profit margins in U.K. Manufacturing Industry. Economic Journal March 1978, vol. 88, No.349 pp.107-120.

<sup>67</sup> Mehta (1980). Productivity, Production function and technical change, concept publishing company, New Delhi.

most industries, rather, the reverse was true in most industries. The TFP of Indian manufacturing sector had been found to decline.

Arya(1981)<sup>68</sup> measured technological change in Indian cement industry by computing “solow index” – of technical change for period 1951-70. The study observed that the upward shift in the production function was neutral since no change was traceable in the marginal rate of substitution between capital and labour. The rate of technical progress was higher during 1961-70 as compared to 1951-60 which indicated that major shifting in the production function took place in the later decade.

Rajalakshmi (1981)<sup>69</sup> made a comparative study of the productivity performance of the mineral and metal based industries of Rajasthan and all India. She observed that at the all India level the productive efficiency declined over the period in industries like basic industrial chemicals, machinery, except electrical machinery. This happened inspite of increase in labour productivity and capital intensity. Among the other 3 industries selected for the study, non metallic mineral products and metals except machinery exhibited an increase in the means of productive efficiency. In the case of Rajasthan, the total factor productivity growth was substantially higher than that at the all India level for all industry groups except electrical machinery

Mukharjee (1982)<sup>70</sup> conducted a study of productivity trend in the large scale manufacturing sector in Bihar. The study dealt with in a comparative frame work at the all India level. The study showed that total factor productivity derived significantly at the all India level, while it was not so at the state level over the decade 1961-71. Total factor productivity showed the declining trend both at the

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<sup>68</sup> Arya. I.C. (1981) on Measuring Technological change in cement industry in India. *Arthavijnana* Vol. 23. No.2. pp.167-175.

<sup>69</sup> Rajalaskhmy (1982) Productivity of basic Industrial chemiscals including fertilisers. *Anvesak*. Volume.12.No.2.pp.99-106.

<sup>70</sup> I.N. Mukhrje (1982). *Productivity, Growth and structural change in Indian industries* – Seema publications Delhi.

state level and all India level - rate of decline being marginally high in the state. According to Brahmanada's (1982) estimate, the productivity performance of Indian industries during 1971-81 was worse than in the early two decades. It also showed that the productivity changes between 1971- and 1981 - was pronouncedly negative.

Nishimiza and Page (1982)<sup>71</sup> analysed the productivity change in Yugoslavia by industry and region for the period of 1965 - 1978 and discussed main empirical results. The objective of this paper was to propose a methodology that decomposes total factor productivity change into technological progress and changes in technical efficiency. They discussed specification and estimation of deterministic frontier production function which is estimated by the programming technique of Aigner and Chu (1968) and Timmer (1970, 71). The analysis indicated that the slow down in total factor productivity growth was a consequence of both a reduction in the rate of technological progress and of a determination in technical efficiency.

Babu & Vani(1983)<sup>72</sup> made an attempt to estimate the parameters of CES production function for the Indian manufacturing sector at constant prices for inputs and outputs for the two periods 1949-58 & 1959-66. The study observed that there was a shift in the production function for the period 1949-66 and the elasticity of substitution in terms of ease in substitution of capital for labour at each labour-capital ratios. The study concluded that substitution possibilities differ in the 2 periods and hence the assumption of unitary substitution which was same for both periods was not found to be valid in Indian manufacturing sector.

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<sup>71</sup> Mieko Nishimza and John M. Page (1982). The productivity change in Yugoslavia by industry and region influences on the profitability of manufacturing sector. *Economic journal* 1982. vol.92 No.368. pp.920-936.

<sup>72</sup> Babu V.G. and K.V. Vani (1983) " Lanier Estimation of the CES function, Indian manufacturing sector 1949-58 and 1959-66 *Indian Economic Journal* Oct.-Dec. vol. 33 No.2, pp. 91-95.

Jarris's (1985)<sup>73</sup> estimation of a system of dynamic inter related equation of the demand for labour and capital services in the U.K. engineering industry used a quarterly data for the period 1968 - 81. The data requirements of the model were quite extensive, especially with regard to the user cost of capital. It was based on the joint assumption of profit maximising behaviour and technology adequately described by a C.E.S. production function. The result suggested that the U.K. engineering industry operates under a capital intensive technology with substitution possibilities between capital and labour services and decreasing returns to scale. They also suggested that technical progress did not have a significant effect.

Verma (1985)<sup>74</sup> in his paper Production Structure of Jute Industry in India examined the production structure of Jute industry of India specifically, it seeks to estimate factor productivities, production elasticities returns to scale and elasticity of substitution in Jute industry. The methods of Kendrick, Solow, and Divisia have been followed in this study. Data on Jute Textiles relating to value added, capital, labour, and wages had been taken from census of manufacturing industries. It was found that the growth of factor productivity in Jute industry was little. Jute industry seems to be operating under constant returns to scale. The elasticity of substitution between labour and capital in Jute industry was small.

Goldar (1986)<sup>75</sup> estimated the average annual growth rate TFP by both Solow and Trans Log indices, during 1951 - 65 at 1.3 per cent. He observed a significant rising trend in labour productivity and capital intensity and significant declining trend in capital productivity. To summarise Goldar's estimates of productivity for the two periods - 1951 - 65 and 1959- 79, brought out that TFP

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<sup>73</sup> R.I.D. Jarris (1985) Dynamic Inter related equation of demand for labour and capital services in U.K. Engineering Industry. *Economic Journal* 1985. Vol. 95 No.380. pp.1049-1065.

<sup>74</sup> P.C. Verma (1985) Production structure of jute industry in India. *Indian Economic Journal*. Vol.33. No.2 pp.124-129.

<sup>75</sup> Goldar B. (1986). *Productivity growth in Indian Industry*, Allied publishers, New Delhi

growth in Indian manufacturing during 1951 - 79 was rather sluggish and the relative contribution of TFP growth to output growth was quite small.

Funke (1986)<sup>76</sup> analysed the pattern of falling profitability in the U.K. manufacturing sector between 1951 and 1981 on the basis of time series data. He made use of Weisskopf's approach which splits up changes in the profit rate into changes in the profit share, output, capital ratio and their component parts. The paper had attempted to disentangle some of the influences on falling profitability in the U.K. manufacturing sector since 1951. Weisskopf's finding for the US is that profitability usually peaks before capacity utilisation was also true for most upswings in the UK in 1960's and early 1970's.

Soni & Jane(1987)<sup>77</sup> measured neutral technical progress and magnitude of elasticity of substitution for industrial sector of Gujarat as compared to the same for all India as a whole(all industries) using ASI data for period 1960-61 to 1980-81. For this they estimated VES production function specification given by Leo & Fletcher. The regression coefficients for the time variable indicating neutral technical progress were found to be highly significant. The parameters corresponding to the neutral technical progress had values 0.19 and 0.05 for the industrial sectors of Gujarat state and all India respectively. These results implied that the technological parameters for the industrial sector of Gujarat state were found to be nearly 4 times that of all India.

Majumdar & Page(1987)<sup>78</sup> estimated a three input translog production for 5 indian industries namely, printing , machine tools ,soap , shoes , and metal casting. They had taken value added as output and capital, skilled labour and unskilled labour as three inputs. They estimated the production function from cross -

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<sup>76</sup> Michael Funke (1986). The manufacturing sector in the U.K.- An Empirical study Oxford Bulletin of Economics and statistics Vol.48 No.2. pp.165-183.

<sup>77</sup> Soni K.C. and B.B. Jane (1987) "VES production function with Neutral Technological change" – A comparative study of Gujarat state – vs all India. Anvesak Dec. Vol. 17 No.2 pp.59-75.

<sup>78</sup> Little, Majumdar and J.M. Page (1987). Small Manufacturing Enterprise. A comparative analysis of India and other Economies. Oxford University press. New york.

sectional data on firms obtained from a survey of industrial enterprises in India (belonging to the 5 industries mentioned above). The translog production function and the share equations for skilled and unskilled labour had been jointly estimated on the basis of the multivariate regression technique. The results of the study of Little et.al (1987)<sup>79</sup> showed that capital, skilled and unskilled labour are mutually substitutable and generally the substitution possibility between capital and skilled labour was found to be more than that between capital and unskilled labour. In soap, metal casting and machine tools the hypothesis of constant returns to scale was not rejected by the data. Printing and shoe making industries exhibited variable returns to scale which was not significantly different from one.

Bhatia(1990)<sup>80</sup> made an attempt to examine changes in productivity during 1965-85 in the manufacturing sector of India in comparison to that in U.K & U.S through Kendrick and Solow indices of total factor productivity. The results indicated that productivity in Indian manufacturing sector was observed to have declined during 1965-75, but the same exhibited a rise subsequently which was particularly steep during 1980-85 and was even faster than that in U.K & U.S. However, in absolute terms, the level of productivity in India was much lower than that in the 2 countries.

Singh's paper (1990)<sup>81</sup> was an attempt to study the different facets of the growth and structure of the industry i.e. growth performance, market concentration, ancillarisation, growth of internal demand, export performance, and the impact of the policy liberalisation in 1980's. The data for the study was based on mainly secondary sources - i.e. Hand book of statistics and Engineering export promotion council (various years). The analysis of the growth production structure and market reveals that by the late 1980's the bicycle industry had managed to take

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<sup>79</sup> Little I.M.D, Majumdar and Page(1987) *Small Manufacturing Enterprises – A comparative analysis of India and other economies*, Oxford University Press, New York.

<sup>80</sup> Bhatia D.P. (1990). *Productivity in the manufacturing sectors of India, the U.K. and U.S., Estimates and Comparisons*. The Indian Economic journal. Vol. 38. No.2. p.p. 100-120.

<sup>81</sup> Sukhpal Singh (1990). *Bicycle Industry*. , Economic and Political Weekly, Vol.25.No.34.August 25-1990. pp.M 99 to M 109.

roots. Production of bicycles grew rapidly during 1950's followed by a slow growth in the 1960's. The impact of policies of liberalization, modernisation and export promotion was reflected in the changes in the production structure of the industry after the first half of 1980's

Bairam(1990)<sup>82</sup> estimated appropriate production function for 46 major industrial branches and for the total Indian economy. He used cross-regional industrial branch data for 1965 and aggregate annual time series data drawn from research work of Lakdawala, Yoginder Alaga and Sharma(1974)<sup>83</sup> entitled: "Regional Variations in Industrial Development". The results of the study conclusively suggested that the underlying production model for Indian industrial branches was Cobb-Douglas production function. It has been observed that for 33 of the 46 branches considered , the estimated substitution parameters were not statistically different from Zero at the 0.95 confidence level. This clearly implied that the appropriate production function for all these branches was the Cobb-Douglas and, hence, the elasticity of substitution is equal to unity. For aggregate Indian manufacturing industry the results favoured the Cobb-Douglas production function as the most appropriate production function.

The purpose of Soong's paper (1990)<sup>84</sup> Performance of small firms under adversity - the Singapore experience, was to assess whether small firms perform better than large firms in terms of establishments, employment, output, value added and exports during periods of slow down or recession. The paper used data from the census of industrial production to assess, whether small firms were better than medium and large firms during 1973 - 75 and 1985 - 86 periods. Regression analysis was employed to determine factors which affect the labour demand of

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<sup>82</sup> Bairam E. (1990) "Aggregate and Disaggregate production function. Estimates for the Indian Economy using Annual Time Series and Cross Regional data". Indian Economic Journal Vol. 38, No.2, pp. 152-168.

<sup>83</sup> Lakdawala D.T, Yoginder Alagh, Atul Sharma (1974) "Regional variation in Industrial development. Sardar Patel Institute of Economic and Social Research. Monograph Series 2..

<sup>84</sup> Chew-Soong (1990). Performance of small firms under Adversity. The Singapore Experience. Indian Economic journal. Vol.38. No.2 pp.185-193.

small firms, and large firms .The main conclusion of the paper was that small firms were more vulnerable to increased labour cost than to recession.

Bhatia (1990)<sup>85</sup> tries to study the changes in productivity during 1965 - 1985 in India in relations to that in the UK and the US. The data on capital stocks, value added and persons employed in India, UK and the US were based on secondary sources - mainly from the UN year book. The methodology adopted was that of using the purchasing power parity estimates available from the World Bank studies on international comparison project. Productivity index was also used. The study found that in India, productivity after 1975 grew at a rate faster than that in the UK and US. A cross-country comparison reveals that productivity in India was much lower than those two countries. In the year 1975, India's productivity was much lower than that in these two countries, ie, the total productivity in the manufacturing sector of India was 37 per cent of that in the UK and only 20 per cent of that in the US.

.Another important study on productivity growth in Indian industry was of Ahluwalia (1986 and 1991)<sup>86</sup>. Ahluwalia (1986) examined the trends in capital output ratio over the period 1959 -80 for the manufacturing sector and observed statistically significant positive trends in all the industry groups. Ahluwalia (1991) attempted to analyse the rate of productivity and the growth of the organised manufacturing sector of Indian economy. The empirical analysis had clearly brought out the poor performance with respect to total factor productivity growth up to the end of 1970's. An important feature of total factor productivity in the first half of 1980's was that it largely reflected importance of labour productivity measured in terms of out put per worker. Capital productivity was stagnant over the period.

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<sup>85</sup> D.P. Bhatia (1990). Productivity in the manufacturing sectors of India, the U.K. and U.S. Estimates and Comparisons. Indian Economic Journal. Vol. 38, No.2. pp.100-110.

<sup>86</sup> Ahluwalia (1991) Productivity and growth in Indian manufacturing Oxford University press.

Beena (1991)<sup>87</sup> compared the physical and financial performance of state sector public undertakings with that of the private sector firms operating in the same product group for the period 1975 - 87 on the basis of secondary data collected from annual accounts. The study found that while the public sector performed better in terms of growth in output and value added the private sector maintained a marginally higher increase in terms of gross fixed capital formation and employment. However, in terms of financial efficiency the private sector was found to have performed better compared to the public sector. The study concluded that public sector had demonstrated relatively better productive efficiency compared with the private sector.

Singh & Kumar(1992)<sup>88</sup> analysed the pattern of total factor productivity growth and factor substitution in small scale sector and large scale sector in Indian manufacturing by using ASI data for period from 1973-74 to 1984-85. the analysis of growth rates of Kendrick, solow and translog indices of TFP painted a gloomy picture regarding the factor use efficiency in Indian manufacturing sector. The study revealed that the small scale sector was not inferior to large scale sector so far as labour productivity was concerned. Also, both large scale and small scale sectors had experienced the phenomenon of capital deepening.

Ghosh & Neogi (1993)<sup>89</sup> examined the performance of 29 'sunrise' Indian industries in terms of labour productivity to capital intensity. The study used ASI(factory sector) data for the period from 1974-75 to 1986-87. They observed that the increasing use of overhead capital has not produced any significant improvement in productivities and the most important factors that influenced productivities in an aggregative were skill, the capital-labour ratio, elasticity etc. it

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<sup>87</sup> Beena P.L. (1991) Performance of manufacturing enterprises in State sector and private sector in Kerala – A comparative study. M.Phil Dissertation CDS. Trivandrum.

<sup>88</sup> Singh P. and S. Kumar (1992). "Productivity and factor substitution in small scale sector in India". PSE Economic Analysts. Vol. 13. No 1 and 2, pp. 135-144.

<sup>89</sup> Ghosh and Neogi (1993). "Intertemporal Efficiency variations in Indian Manufacturing Industries" – Journal of productivity analysis-Vol. 36,No.4 pp301-324.

also revealed that firm size did not play any significant role in determining productivity.

Kumary (1993)<sup>90</sup> analysed the productivity trend at group level of public sector enterprises (1974 - 78). In the analysis, the estimates of TFP - for steel group and consumer goods group showed a falling trend with falling labour and capital productivities. But for groups like power, petroleum, chemicals etc. TFP showed a rising trend with a rise in labour and capital productivity. For minerals and metals group labour productivity showed an increasing trend and capital productivity showed a decreasing trend.

Singh & Ajith (1995)<sup>91</sup> estimated different parameters of production function for Indian industries by using ASI data for the period 1974-90. They used both conventional production function specifications, namely, Cobb-Douglas, CES & Translog as well as new production function introduced by Bairam (1989). The result showed that there had been an increase in use of capital relative to that of labour in most of the manufacturing industries. Capital productivity recorded marginal improvement in 1970's followed by gradual decline in 1980's. The labour productivity had shown steady improvements during 1974-90, with the signs of significant improvements in the 80's. Among the production function, the Cobb Douglas and Bairam production functions performed better than CES & Translog production functions.

Sidhu's (1995)<sup>92</sup> analysed the productivity trends in major manufacturing industries in Gujarat and all India level showed that the capital productivity in the manufacturing industries both in state level and in all India level recorded a lower growth than labour productivity during the decade 1980-91.

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<sup>90</sup> Anitha Kumary (1993). Productivity in Public sector – Analysis at Industrial group level-Economic and Political Weekly, Vol. 30, No.27, pp.125-128.

<sup>91</sup> Singh T and D. Ajith (1995) "Production function in the manufacturing Industries in India 1974-90". Reserve Bank of India occasional papers. Vol.16. No.2. June pp.241-266.

<sup>92</sup> Sidhu. Hina (1997) Factor Productivity, Elasticity of substitution and Returns to scale in chemical industry, interstate, variation. Indian journal of Regional Science. Vol.29.No.1 and 2 pp.105-125.

Majumdar in his study *Fall and Risk of Productivity in Indian Industry* (1996)<sup>93</sup> found that as the policy became regulation oriented in 1960's efficiency dropped steeply. As the regulation and control regime turned authoritarian in the later part of 1960's and mid 1970's there were occasional spirit in the efficiency scores. Efficiency scores started rising only in the 1980's.

In their analysis of productivity growth and technological change in Indian Manufacturing Lal Mrigendra etal (1996)<sup>94</sup> observed that the labour productivity was high compared to capital productivity from the period 1973-74 to 1989-90. The study revealed that there was significant gains in TFP so far as the manufacturing sector of India is concerned. Srivastva (1996)<sup>95</sup> observed that the estimation of average total productivity growth rate for the different sector was generally quite low with the model value of around 0.56 for the period 1970-85.

Baghel & Pendse(1997)<sup>96</sup> made an attempt to analyse productivity trends and statistical estimation of production function and technical change in the aggregate manufacturing sector of India. The ASI data for the period 1973-74 have been utilized for computing Solow and Kendrick indices of TFP along with partial productivity indices of labour, capital and raw material and econometric estimation of Cobb-Douglas, CES &VES production functions. The analysis revealed that the Indian manufacturing sector had not experienced technological change which was evidenced from the growth rates of TFP growth indices as well as parameters of time variable in the production functions.

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<sup>93</sup> Sunit K. Majumdar (1996) *Fall and Rise of productivity in Indian Industry. Has Economic liberalisation had an impact?*, *Economic and Political Weekly*. Vol.31. No.48. November 30. pp. M.46 – M 53.

<sup>94</sup> Lal Mrigendra, Singh Baghal, and Neelkanth G. Pendse (1996). *An Econometric Analysis of productivity growth and technological change in total manufacturing sector*. *Indian Economic Journal*. Vol. 44.No.2 pp.39-58.

<sup>95</sup> Vivek Srivastava (1996) *Liberalisation, Productivity and competition. A panel study of Indian manufacturing*, Oxford university press, New Delhi.

<sup>96</sup> Baghel LMS and N.G. Pendse (1997). *An Econometric Analysis of productivity growth and technological change in Total manufacturing sector*. *Indian Economic Journal* vol. 44, No. 2, pp. 39-58.

An attempt has been made by Yousefi (1997)<sup>97</sup> in his paper - Determinants of industrial growth in oil producing countries - the case of claim to see why 'Iran' has not been able to develop its industrial sector, despite its vast financial resources. Data regarding the share of manufacturing GDP, share of investment in GDP were taken from Central Bank of Iran, Annual reports, Balance sheets of organisation and Budget planning. The value of industrial exports and industrial imports were taken from custom office of Iran, which covered the period 1971 - 1986. Regression analysis was applied. The study indicated that the capacity of a country to generate manufactured growth from internal sources was positively related to the extent of resource mobilisation within the country which was roughly measured by the share of investment in GDP and the extend of demand generation within the economy as measured by the level of income.

Charcoal Production and Rural Entrepreneurship Development -Kalal and Abdullah's (1998)<sup>98</sup> study proposed to analyse the charcoal entrepreneurs on the following objectives (1) to examine the socio economic background of the charcoal entrepreneurs. (2) to analyse the performance of charcoal entrepreneurs on charcoal production, pattern of investment, capacity initiations and (3) to find out the problems of charcoal makers relating to production and marketing. Data have been collected from 24 entrepreneurs by both formal interview and informal discussions. With the method of least square, the projection of charcoal production for the year 2000 - showed that the charcoal production would double in five years time. To conclude it may be stated that the charcoal production has been done by many rural entrepreneurs in the absence of alternative employment. However the cost of production had been rapidly increasing due to various reasons.

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<sup>97</sup> Dr. Mohammed Gholi, Yousefi (1997). Determinants of Industrial growth in oil producing countries. Economic and Political Weekly Vol.39. No.6.pp.592-597.

<sup>98</sup> Dr. N. Marime Kalal and Mr., Mohammed Abdulla-Charcoal production and Rural entrepreneurship Developmnt. Indian Economic Journal. Vol. 45, No.2, Pp.159-166.

The paper *Industrial Restructuring of Workers in Plastic Processing Industry* by Shah and Gandhi (1998)<sup>99</sup> explores how the newly introduced economic reforms and in particular industrial restructuring was affecting women workers at their work place. The study had tried to capture the range of units and women workers in order to make it representative of the industry. The qualitative and quantitative methods were interwoven in different stages of the research. Initially the former was used to arrive at a set of research questions and it consisted of questionnaire of 157 questions. The quantitative group focussed on the work place and changes within it. The SPSS software programme was used for data processing. The study showed that the majority of the women workers of house holds were in the low income category with a percapita income of less than Rs. 950 per person, per month. They had no fall back on resources or any other source of income besides their wages.

The present paper of Upadhyay (2000)<sup>100</sup> - *Econometric Analysis of total Factor Productivity in Indian Fertilizer Industry*, analysed the total factor productivity in Indian fertiliser industry. Translog cost function had been fitted to estimate the different components of TFP, viz. returns to scale, technical progress, elasticity of substitution, scale bias, and technical bias over a period of 25 years from 1973 - 74 to 1997 - 98. The analysis found that industry exhibited decreasing returns to scale during the entire study period.

A case study of APSRTC - the paper of Singh (2001) examined the Andra Pradesh State Road Transport Corporation using its annual data from 1979 - 80 to 1999 - 2000 . TFP studies using index numbers can be readily extended to show the impact of productivity gains on a firm's financial performance by tracking the share of productivity gains between the enterprise and customers. Despite the productivity gains achieved by APSRTC, the author found that on average, the

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<sup>99</sup> Nandita Shah, Nandita Gandhi (1998) *Industrial Restructuring workers in plastic processing Industry*. *Economic and Political Weekly* vol. 33, No.22, pp.36-40.

<sup>100</sup> Seema Sharma V. Upadhyay (2000) *Economic analysis of Total factor productivity in Indian fertilizer Industry*, *Asian African Journal* vol. 3. No.2, pp.93-110.

prices it must pay for the inputs are outstripping the prices it receives for the output .

Kumar (2001)<sup>101</sup> in his paper Efficiency and Technology Undercurrents in Indian Textile Industry traced out the changes in the growth patterns, level of efficiency and technology under currents which the textile industry observed overtime in two subsectors namely cotton and woollen. The study covered the period of 1973 - 94. The major source of data was Annual survey of industries-factory sector summary results. To capture growth, efficiency and technology under currents in the textile industry, trend growth rate of different variables, efficiency parameters, factors intensity, total factor productivity and production functions - Cobb Douglas and CES - are estimated. He advocated that textile industry witnessed positive growth during 1973 - 94 in capital stocks, out put and capital output ratio, more so in its woollen textile segment while it enjoyed a relatively stable demand, domestic as well as international on the break down of East European market. A negative growth in total factor productivity, value added to output and value added to capital ratio's were recorded in the woollen textile subsector.

Das and Mukhopadhyay (2001)<sup>102</sup> made an attempt to understand the various characteristics of the Indian leather industry. The characteristics of the industry are reviewed in terms of its production and share in the Gross Domestic Product (GDP), employment generation, linkage effect in the economy, and exports in the light of various policy initiatives for 20 years, based on CSO data. He commented that the leather industry has grown at an annual average rate of 20 per cent during 1972-91. The share of leather products in total GDP had reached a level of 1.5 per cent. At the export front also the industry's performance was quite notable. Export value is more than 60 per cent of total value of production. Regarding

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<sup>101</sup> Rakesh Kumar (2001). Efficiency and technology under currents in Indian textile industry. Indian Economic Journal vol.49.No.2.pp.142-145..

<sup>102</sup> Samantak Das and Dripto Mukhopadhyay (2001). The Indian Leather Industry, A perspective. Margin, Vol.33. No.4, pp.59-83.

employment - industry employed around 1.78 million person ie 25 per cent of total employment. The linkage effect had been studied through input output analysis. Higher multiplier values and backward linkage co-efficients assert that the leather industry had a significant positive impact on the entire economy.

Datta (2002)<sup>103</sup> desired to probe deeper into the performance trend of cotton mill industry in terms of some productivity measures - partial and total. For the purpose of the analysis, he had considered the period 1966 - 90 and the Annual survey of industries and Reserve bank of India Bulletin. Three alternative measures of total factor productivity - viz kendrick, solow, and translog Indices had been analysed for all India cotton mill industry's performance. These Indices had been constructed with 1980 - 81 as base. He viewed that the units had gradually been sinking to ground in terms of productivity cost and finances and were being weeded out by the cost efficient power looms.

Raut (2002)<sup>104</sup> formulated a model of optimal export decision of private firms and then empirically studied the effect of firm size, import of raw materials and capital data on variables such as net sales, fixed assets, wages & salaries( were goods taken from Bombay stock exchange directory). Competitiveness measured in terms of price - cost - margin (PCM) or Learner's Index for the period 1975 - 1986. He found out that while competitiveness and value added growth improved in all industries, the export performance and productivity growth improved only in a few industries. Competitiveness had significant positive effect only in the lighter industries.

Bheemappa (2002)<sup>105</sup> in his article Technology and Rural industrialisation opined that the setting up of Agrobased industries assumed great significance and holds great promise to bring about substantial improvement in the quality of life.

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<sup>103</sup> Soumyendra Kishore Datta (2002). An analysis of productivity trend in the Indian cotton mill industry. Indian Economic Journal. vol. 49, No.2.pp.65-70.

<sup>104</sup> Lakshmy. K. Raut (2002). "The effect of competitiveness and productivity growth on exports of Indian private firms. Indian Economic Journal vol.50. No.34. pp.48.79.

<sup>105</sup> Bheemappa (2002) Technology and Rural Industrialisation, Yojana Vol. 46, No. 11 pp. 43-45.

They promote local entrepreneurship, generate employment and provide jobs for rural workers as well as put a check on rural urban migration.

Ramaswamy (2002)<sup>106</sup> examined three hypotheses regarding small scale manufacturing units namely (1) small firms uses more labour per unit of capital (2) they produce more output per unit of capital and (3) do small firms use resources more efficiently than large firms in terms of total factor productivity. The establishment level data from the Reserve bank of India survey of small scale industrial units were collected. Analysis was confined to four industry groups namely Motor vehicle parts, Agricultural machinery and parts, Machine tools and parts and plastic products. The analysis indicated that capital intensity and partial productivities were sensitive to alternative measures of firm size. Firm size and TFP are not found to be systematically related. There was a negative relationship between firm size and capital productivity. The lack of systematic relationship found in their study between establishment size and relative total factor productivity suggested that technical efficiency differences between establishments with in the small scale sector of the Indian industry may not be substantial.

Hashim (2003)<sup>107</sup> in his article - productivity and cost in Indian Air lines - viewed the relationship, between unit cost and productivity of Indian Airlines for the period 1964- 99. Based on secondary data, partial factor productivity as well as total factor productivity had been estimated. The TFP was calculated by aggregating four inputs namely labour, capital, energy and materials with the help of the translog multilateral index procedure, proposed by caves - et-al. (1982). From this analysis it could be concluded that there was an urgent need for Indian Airlines to improve its productivity. This would require proper utilisation of capital stock in particular and other inputs in general.

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<sup>106</sup> K.V. Ramaswamy (2002). Capital Intensity, productivity, and Returns to scale in Modern small Industries in India. Indian Economic Review. Vol 28. No.2. pp. 157-173.

<sup>107</sup> Danish A. Hashim (2003). Productivity and Cost in Indian Airlines – 1964-99-A Comparative analysis , Economic and Political Weekly. vol.38, No.39.pp.4144-4150.

Bedi (2003)<sup>108</sup> studied the structural changes in the composition of sponyarn, age of installed spindles and its impact on the efficiency and the productivity of spindles. The productivity analysis along with the state of spinning industry and future requirement of sponyarn used in forecasting the future requirement of spindles improved at a rate of 2-38 per cent per annum during the period 1988 to 1996 as a result of gradual introduction of new technology.

The paper advertisement and markets by Acharya and Mukherjee (2003)<sup>109</sup> shed some light on the issues - What purpose do advertisement serve ? What are the economic gains from such huge amounts of expenditure? What social value do they add in the Indian context? The analysis was based on both the available secondary data and media surveys. Their study revealed that except for cosmetics and toiletries, the magnitude of advertisement expenditure in India in the 1990's had not been well below 2 per cent. But the share of total advertisement expenditure incurred by all 136 industries has been the highest for food products.

Indian Automotive Industry Challenges and Prospects - in this paper Chaturvedi (2003)<sup>110</sup> discussed the challenges and prospects of the Indian Automotive industry. He also focused on the performance of passenger car industry and Auto component industry. The data base of the study covers sales volumes data in the CRIS INFAC Annual Review 2002 and Utility Vehicles Review and Out look, dated May 2003 - reclassified in accordance with price based segmentation. The study found out that by fiscal 2003, the passenger car market constituted 52.2 per cent of the total Indian passenger car market and was expected to grow to 57.6 per cent of the Indian passenger car market by fiscal 2007 at a CAGR of about 12.3 per cent.

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<sup>108</sup> Jatinder S. Bedi (2003). Production, Productivity and technological changes in Indian Spinning – Indian Economic Review. Vol. 38 No.2 pp. 205-233.

<sup>109</sup> Rajat Acharya, Debjani Mukherjee (2003). Advertiser and Market. Economic and Political Weekly, Vol.38, No.50. pp.5236 to 5242.

<sup>110</sup> Sunil Chaturvedi (2003). Indian Automotive Industry – Challenges and prospects. Productivity vol.44.No.3. pp, 345-361.

In the paper of Kodali (2003)<sup>111</sup> Japanese manufacturing strategies for Indian industries, attempts had been made to examine Japanese manufacturing strategies for feasibility in Indian industries. The present work describes a comparative rating model for the justification of Japanese manufacturing strategies for Indian industries. The study concluded that Japanese manufacturing strategies had been proved more promising and challenging as compared to Indian manufacturing strategies. It was very evident from the data that the Japanese manufacturing strategies had the larger potential to provide the competitive advantages.

Raj (2004)<sup>112</sup> traced trends in the efficiency of firms in the Indian manufacturing sector and investigates the factors that affect it in the era of liberalisation. The Data Envelopment Analysis (DEA) had been used to estimate the efficiency of firms belonging to 27 industry groups for the years 1991 - 2001. The results indicated that average efficiency declined in the period 1991 - 96 and improved thereafter. Rohini (2004)<sup>113</sup> looks at the performance of the Indian steel industry by using CMIE Data. It specifically examined certain major players both during the down turn as well as the recent upswing, when recovery in prices has bolstered the bottom lines of companies. The study concluded that steel industry in India would remain in a fractured state and may miss the opportunity to become global player.

Sarkaria and Shergil (2004)<sup>114</sup> examined the relative roles played by market share concentration and capacity utilisation in determining the performance of firms in Indian manufacturing industries. The period chosen for the study 1980-81 & 1990-91 was based on CMIE data. For the purpose of the study, they used a

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<sup>111</sup> Rambabu Kodali (2003). Japanese Manufacturing Strategies for Indian Industries. Productivity Vol.44.No.2, pp. 303 t- 310.

<sup>112</sup> Saon Raj (2004)-MNC's Strategic Alliances and efficiency of firms – Emerging trends, , Economic and Political Weekly, Vol.39.No.5, pp.434-440.

<sup>113</sup> S. Rohini (2004) Steel Industry. A Performance Analysis-, Economic and Political Weekly. Vol. 39. No.16. pp.1613-1620.

<sup>114</sup> Mahinder. S. Sakkaria and G.S. Shergil (2004). Market structure and financial performance. An Indian Evidence with enhanced controls. Indian Economic Journal,. Vol.48, No.2, pp.97-107.

composite measure of growth and profitability as the representatives of financial performance. They computed multiple regression model by using SPSS package on computer and reached the conclusion that there was a strong negative relationship between risk and profitability and capital intensity.

Nikado's (2004)<sup>115</sup> aim was to get some policy implications for the SSI sector. He measured the technical efficiency of SSI sector by using a stochastic production frontier model on the basis of data drawn from the second - all India census of SSI units published by development commissioner SSI 1992. He recommended that the government had to promote SSI by promoting agglomeration economies, keeping infrastructure in good condition, and supporting technological upgradation. etc.

Mansor et.al(2004)<sup>116</sup> gave some evidence of problem regarding technical efficiency of wooden furniture industry in Malaysia .In their study a Cobb Douglas Stochastic frontier production function was estimated using data from 124 furniture manufacturing industries in Malaysia for the year 1997.The result showed that actual firm output was 20 per cent less than the maximal output which could be achieved from the existing level of inputs. The evidence suggested that many firms still operate below the efficiency level, confirmed the conventional view that 'labour intensive' firms were most likely inefficient.

Iyer and Pillai (2004)<sup>117</sup> paper - Ownership structure and financial performance - A study of chemical industry in India - examined the relationship between ownership structure and financial performance of firms with particular emphasis on the dynamics of the relation between the two. The data for all sample - 1219 firms were obtained from prowest data base provided by CMIE Mumbai.

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<sup>115</sup> Yuko Nikado (2004). Technical efficiency of small scale Industry. Application of Stochastic production frontier model. Indian Economic Journal vol.45. No.2,pp.153-159.

<sup>116</sup> Shajali-Abu Mansor, Ahasradom and Rozamma - A.B. Rahim (2004). Asian Economic Review. Vol46. No.2. pp. 377-384.

<sup>117</sup> Viswanathan Iyer and Archana Pillai (2004) Ownership structure and financial performance. A Study of chemical Industry in India. Journal and Industrial Economics Vol. 52,No.5, pp.7-13.

This paper followed the multiple regression approach to test the hypothesis ie there was a positive relationship between the proportion of insider ownership and the profitability of the firm. There was also a positive relationship between the proportion of insider ownership and the market value of the firm. Empirically firm performance is expected to have positive correlation indicating its active involvement in monitoring management. He advocated that ownership concentration was one way to improve financial performance through R&D spending.

The literature review categorically established that soap Industry is infant area in social science research. A few studies had already highlighted the problem of these industries in terms of raw material escalating price. Very few concentrates on economic performance in terms of factor use efficiency, capacity utilization, financial performance and cost behaviour. To the best of my knowledge no more studies had been made so far to examine the productivity and profitability trends in toilet soap production in Kerala for this particular period 1995-2004. Hence the present study is relevant in this context to examine the economic and financial performance of toilet soap production in Kerala.

## CHAPTER 3

### KERALA'S INDUSTRIALISATION

The most important reason for the incessant craze for the rapid industrialization in the under developed and developing countries has been the identification of positive nexus between industrialization and economic prosperity. It is an essential ingredient of rapid and self sustained development of economies. One of the reasons for the economic miracles of the advanced developed countries of the world today, lies in their successful industrialization. In countries like India and Japan with high ratio of population to natural resources, and if particular, to land, manufacturing and industry represent virtually, the only hope of greatly increasing labour productivity and raising levels of living, however much is done to improve Agriculture. A successful exploitation of a more favourable relation between population and natural resources requires mostly the growth of manufacturing industry.

The old development literature on Kerala either in the form of articles in periodicals or books could not provide in one place a comprehensive account of the development pattern of Kerala. Most of them either completely ignore or recognize only marginally, the pattern of development inherited by the state from the historical past, the edifice on which the structure was later built. The recent development literature on Kerala by Dreze Jean and Sen (1995, 97)<sup>1</sup> Franke and Chasin (1992)<sup>2</sup> George (1994)<sup>3</sup> Kannan (1999)<sup>4</sup>. Krishnan (1994)<sup>5</sup> Kurian (1994)<sup>6</sup>

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<sup>1</sup> Dreze, Jean, and Amartya Sen (eds) 1995-India Economic Development and Social opportunity, Oxford and Delhi-Oxford University Press.

Dreze, Jean, Amartya Sen (eds) 1997-India development Selected, Regional Perspective – Delhi, Oxford, University Press.

<sup>2</sup> Franke, Richard.W, and Barbara H. Chasin (1992) Kerala development through Radical Reform, New Delhi-Promilla and Co-publishers in collaboration with the institute for food and development policy – San Francisco.

Ramachandran V. K. (1997)<sup>7</sup> Nair P. R. (1997)<sup>8</sup> Raj (1998)<sup>9</sup> came out with the assertion that Kerala is a shining example of social development and slow growth in economic sphere. This highly impressive performance of Kerala in terms of indicators of human resource development and quality of life is the natural consequence of the welfare oriented strategy of development followed by the state government in Kerala consistently during the past five decades with greater emphasis on education, health and infrastructural facilities, than on the productive sectors of Agriculture and industry. More alarming for Kerala is the decentralization in industrialization especially the poor performance of the manufacturing sector (Subrahmanian – 1990)<sup>10</sup>.

According to Colin Clark (1949)<sup>11</sup> and Simon Kuznet (1979)<sup>12</sup>, in the process of economic development, the economy is universally divided into three principal sectors – primary (mainly Agriculture), secondary (manufacturing) and tertiary (service). As the economy grows, the contribution of secondary and tertiary sectors may increase to quote Kaldor (1960)<sup>13</sup> “it is the rate of growth of manufacturing production which is likely

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<sup>3</sup> George K.K. (1994) – Limits to Kerala Model of development. An analysis of fiscal crisis and its implication. Working Paper No. Centre for Development Studies, Trivandrum.

<sup>4</sup> Kannan.K.P. (1999) – Political Economy of Labour and development in Kerala –Economic and Political weekly Vol.33, No.52, pp. 78-98.

<sup>5</sup> Krishnan T.N. (1994) – Social intermediation and Human development, Kerala State, India. A Retrospective study 1960-1983. Paper presented at the World summit on Social development.

<sup>6</sup> Kurian C.T.(1994) Kerala’s development experience Random comments about the past and some considerations for the future in A.K.G. Centre for Research Studies.

<sup>7</sup> Ramachandran V.K. (1977) on Kerala’s development achievements in Dreeze, Jean and Sen (eds) India’s selected Regional Perspective – New Delhi – Oxford.

<sup>8</sup> Nair.P.R. Gopinathan (1997) Social development in Kerala Sources, Process and Pay offs, Research project on strategies and financing for human development. Working Paper No. Centre for Development Studies, Trivandrum.

<sup>9</sup> Raj. K.N. (1998) Human Resource Development with particular Reference to Kerala-Indian Journal of Labour Economics, Vol. 41, No.1, pp 52-60

<sup>10</sup> Subramanian (1990). Development paradox in Kerala-Analysis of industrial Stagnation Economic and Political weekly. Vol 25. No.37, pp 2053-58.

<sup>11</sup> Colin Clark (1949) – The conditions of Economic Progress. London, 1949.

<sup>12</sup> Kuznets, Simon (1979). Modern Economic growth rate, structure and spread Oxford IBH publishing Co. New Delhi 1979.

<sup>13</sup> Kaldor (1960). Causes of slow rate of growth of United Kingdom, Cambridge University Press, London.

to exert a dominant influence on the over all rate of economic growth – partly on account of its influence on the rate of growth of productivity in the industrial sector itself, and partly so because it will indirectly raise the rate of productivity growth in other sectors. Unfortunately in Kerala, the sectoral contribution of state domestic product during the previous years revealed that over the years, the share of manufacturing sector in the state’s income is relatively small as shown in Table (3.1).

**Table 3.1**  
**Sectoral Contribution of Gross Domestic Product in Kerala from 1951-2004**  
(in %)

Sectors	1951	1961	1971	1981	1991	2001	01-02	02-03	03-04
Primary	53.36	54.74	49.44	40.27	30.16	24.90	25.01	22.09	22.1
Secondary	15.49	14.57	16.32	20.57	29.67	26.92	26.54	22.00	21.7
Tertiary	31.15	30.69	34.24	39.16	40.17	48.18	48.65	56.01	56.2
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Note For 1951-1981 – Base year 1960-61  
1981 – 95-1981 price Old series  
1995 – 2004 - New Series (1993-1994 price)

**Source :** Economic Review (Government of Kerala – various years), CMIE – National Income Statistics Mumbai , RBI – Annual Report 2003-04

It is evident from the table that the production sectors are lagging behind and the tertiary sector is slowly getting dominance. The contribution of secondary sector towards the GDP reveals the poor performance of the manufacturing sector in Kerala.

Kerala is an industrially backward state relative to a number of other Indian states (Nossiler 1992)<sup>14</sup>. A number of hypotheses put forward by eminent scholars and institutions are available to locate the causes of industrial backwardness of the state. They are labour disturbance hypothesis (1981)<sup>15</sup>, wage cost hypothesis (1984)<sup>16</sup>, industrial structural hypotheses (1986)<sup>17</sup>, psychic cost hypothesis (1990)<sup>18</sup>, alternative hypothesis (1994)<sup>19</sup> and Jaimony hypothesis (1999)<sup>20</sup>. Due to Industrial backwardness, it is worth noting that Kerala presents a pathetic picture with respect to temporal variation in the rate of growth in the manufacturing sector (Goldar and Seth 1989)<sup>21</sup>. The growth rate recorded in the manufacturing sector of Kerala has been marginal compared to all India neighbouring states in term of net state domestic product as shown in the Table 3.2.

From table it was found that Kerala, Andhrapradesh and Karnataka were the states experiencing industrial deceleration by 1980's. Among the major states of India only Kerala witnessed an unhealthy kind of continuing deceleration in the rate of industrial growth. So in the industrial map of India, the position of Kerala is almost insignificant.

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<sup>14</sup> Nossiler (1992). Politics, Development, Social Change – 1967-75 in N.R.(Dayal) ed. Communism in Kerala. A Study in Political adaptation, Oxford University Press.

<sup>15</sup> M.A. Oommen (1981) Mobility of small scale Enterprises – A Kerala experience – Indian Journal of Industrial Relations Volume 17, No.1, , Pp.65.

<sup>16</sup> Planning board (1984) Report of the high level committee on Industry trade and power. Vol.I and II – State Planning board Government of Kerala, 1984.

<sup>17</sup> K.K. Subramanian and P. Mohan Pillai (1986),Kerala's Industrial backwardness-Exploration of an Alternative Hypothesis. Economic and Political Weekly, Vol.21, No.14, pp.577.

<sup>18</sup> M.M. Thampy (1990) Wage cost and Industrial Stagnation – A Study of the organized, small scale sector. Economic and Political Weekly,. Vol.25, No.37, Pp.2077.

<sup>19</sup> B.A. Prakash (1994) (ed). Kerala Economy, Problems and Prospects – Saga Publications – New Delhi.

<sup>20</sup> P.S. Surendran(1999) – The Kerala Economy growth and Survival-Vrinda Publication,.

<sup>21</sup> Goldar and Biswanath Seth, Vijay, (1989) – Spatial Variations in the Rate of Industrial Growth in India- Economic and Political Weekly, Vol. 24, No.22, Pp.1830.

**Table 3.2****State Wise Growth of Net State Domestic Product  
(At factor cost constant price in %) Base 1980-81=100**

State	Growth rate during 1980-81 1989-90	Rank	Growth rate 1989- 90, 99-2000	Rank
Gujarat	63.14	5	72.58	2
Maharashtra	71.81	2	64.80	4
Andrapradesh	57.61	8	72.82	1
W. Bengal	43.16	12	65.76	3
Kerala	27.96	14	59.08	5
Madhyapradesh	38.69	13	51.65	8
Tamilnadu	58.88	7	58.64	6
Rajastan	77.51	1	52.08	7
Karnataka	61.91	6	51.26	9
Haryana	70.78	3	45.71	10
Punjab	65.54	4	37.71	11
Orissa	52.02	10	14.88	13
Uttarpradesh	53.45	9	27.27	12
Bihar	47.50	11	13.74	14

Source : RBI Hand Book of Statistics on Indian Economy.

Even though the people of Kerala look upon the rapid industrialization of Kerala as a lasting solution to the problem of poverty, inequality, unemployment etc, Kerala has been facing an industrial slow down for the last five decades with industry facing near stagnation. Kerala has a lopsided industrial structure with its base consisting of a set of resource based industries, demand based industries and capital goods related industries not having a fair share as shown in Table 3.3.

**Table 3.3**  
**Industrial Base of Kerala 1990-95**

Industries	1990		1995	
	No. of factories	% share in kerala's aggregate factory share	No. of factories	% share in kerala's aggregate factory share
Food Products	568	16.66	578	14.32
Electricity	4	0.12	4	0.10
Basic chemicals	153	4.47	212	5.25
Metal Alloys	42	1.23	37	0.92
Machinery equipment	152	4.44	180	4.46
Cotton textiles	150	4.38	141	3.49
Rubber plastic petrol coal	203	5.93	299	7.41
Beverages and Tobacco	416	12.16	388	9.62
Non metallic mineral Products	442	12.92	871	21.59
Paper and its products	162	4.73	176	4.36
Transport equipment	29	0.85	32	0.79
Wool silk and others	3	0.09	3	0.07
Textiles	150	4.38	152	3.77
Metal Products	93	2.69	102	2.53
Repair of Capital goods	-	-	-	-
Gas and steam	46	1.34	54	1.34
Jute Textiles	22	0.64	23	0.57
Textile Products	34	0.99	31	0.77
Leather and its products	-	-	-	-
Wool and products	702	20.55	686	17.00
Water works and supply	7	0.20	9	0.22
Repair services	45	1.33	53	1.42
Total	3422	100	4035	100

Source : CMIE computed from profiles of States - Mumbai 1997.

To get a clear picture of the present status of industrial development in Kerala, it is necessary to trace out the magnitude and intensity of industrialization of the state in the earlier periods. So a detailed and in depth look into the industrial development of Kerala before and after the formation of Kerala State (1956) is

needed. For this purpose the process of industrial development in Kerala can be conveniently and systematically analysed under four periods.

- I. Industrial development before 1956.
- II. Industrial development during 1956-1975
- III. Industrial development from 1975 to 1992
- IV. Industrial development after 1992 (introduction of NIP)

### **3.1 Industrial Development Before 1956**

The historical sketch, demonstrated clearly that economic development had been well grounded in Kerala in the very earlier period itself. From the days immemorial, the traditional industries like mat-weaving, hand loom, bamboo products etc. were popular in different parts of Travancore, Cochin and Malabar. But concrete attempts of industrialization were started only by the middle of 19<sup>th</sup> century. Kerala had a respectable industrialization on the eve of the independence. The period from 1935 to 1948 still remains the golden age of Kerala's industrial sector, because it was during this period that many of industries were started – The industrial past of Kerala in erstwhile princely states were glorified by traditional Industries like handloom, coir, Khadi, Cashew nuts etc. When the industrial development of Travancore and Malabar is traced, the services rendered by Sir C. P. Ramswamy and that of Basel Mission is credit worthy.

The foundation of most of the large scale industries in the state (particularly in the Travancore area) was laid before 1950. The first factory, a textile factory, was started at Quilon in 1881 by an American group. When the industrial development of Travancore is traced, Sir. C. P. Ramaswamy Iyyer, Diwan of Travancore deserves special attention. He realized the fact that capital and skilled labour are not sufficiently available in Travancore and near by states and hence he invited outsiders to start industries in Kerala. Thus came Indian Aluminium Company at Eloor. Travancore sugars and chemicals limited Ogale

glass factory, Fertilizers and Chemicals Travancore limited, Rayons Perumbavoor and Travancore Titanium Products Limited, Trivandrum Rubber Works, Punalloor paper mills, Travancore Pywoods, Travancore Cements and Kundara Ceramics Limited, constituted the important large scale state owned industries in the early fifties (K.R. Rajan)<sup>22</sup>.

The important industries which flourished in the Cochin state were coconut oil and textiles. One of the important textile mills in Cochin state was Pushpagiri weaving mills started at Thrissur in 1908 – the present Sitaram Textiles. An industrial survey was conducted in 1909 by Cochin State government followed by an economic survey in 1920. The survey committee suggested the starting of one industrial Advisory board. As per this recommendation the board was constituted but soon after, it was merged with the economic development committee formed in 1925.

Just like Cochin State, Malabar also earned good amount of foreign exchange from the export of coconut oil. Another important industry popular in Malabar was the soap industry. While we trace the industrialization of Malabar or even North Kerala, the works of Basel Mission deserves special reference. Basel Evangelical Missionary Society, or Basel Mission, a missionary organization established in Basel, Switzerland started operating in the Madras presidency from 1834 onwards. The activities of the mission concentrated in Malabar and South Canara (Karnataka State) may be chronologically placed under three phases (Jai Prakash Raghaviah 1986)<sup>23</sup> - early phase (1834 – 1852), middle phase( 1852 – 1882) and final phase (1888 – 1914). The early phase begins with the arrival of missionaries in the Malabar Coast in 1834. Initially, the missionaries organized various industrial activities mainly based on local crafts. This phase was

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<sup>22</sup> K. R. Rajan(1987) Industries of Kerala , State Institute of Languages , Vol.2, Thiruvananthapuram

<sup>23</sup> Jaiprakash Raghaviah (1986). “Basel Mission Industries in Malabar and South Canara.(1834-1914). M.Phil dissertation-submitted to the centre, for development Studies, Trivandrum p.35.

characterized by the initiatives under taken by the industrial missionaries. During the middle phase (1852-1882) industrial activities became increasingly under the control of the industrial commission. This period was characterized by the establishment of factory type of production organization. Handloom weaving establishments at various centres were set up beginning with Mangalore. The first tile factory, printing press and mechanical workshop were also established at Mangalore during this period. The phase also witnessed considerable diversifications of trading activity of the mission. The final phase started from 1882 when the industrial organization was amalgamated with the necessary Joint stock company. It enables higher capital investment and expansion of industrial activities in Malabar coast. However, in 1914 with the outbreak of the World War I, the missionary involvement in the industrial activities came to an end. In 1914, the Basel Mission sold their entire enterprises to the Common wealth Trust. Till the First World War, rice mills, tea and coffee processing establishments, constituted the main food industries. The processing of cashew nuts grew rapidly during the inter war period. The colonial domination and the import of manufactured goods adversely affected weaving industry in Kerala. However, the weaving industry started reviving with the intervention of Basel Missionaries. Similarly the tile industry which was about one and quarter century old was initiated by the same missionary group.

The industrial structure, at least till the early 1940's, was dominated by the export oriented plantation and agro processing industries. Coconut and its products, plantation crops and other hill products account for 80.4 per cent of value exports in 1870-71, 80.2 per cent in 1919.20, 82.1 per cent in 1938-39 and 85.5 per cent in 1945. In 1940-41 the workforce in plantation and agro processing industries accounted for over 84 per cent. No reliable statistics are available regarding the few organized industries that existed in the state in the early fifties. The total number of factories in the Travancore area in the early fifties was

reported in the Travancore Cochin News, (Vol. III No. 3. Feb. 1953) as 992. (quoted by P.P. Pillai). The category wise data showed that there were 200 coir factories, 190 cashew factories, 100 tea factories, 100 brick and tile factories, 90 cotton factories, 50 rubber factories, 40 printing and book factories and 222 other factories. The value of coir products exported stood at Rs. 1078 lakh and that of cashew products Rs. 855 lakh in 1950-51. The cashew Industry in Travancore area provided employment for an estimated number of 65,000 workers. The foundation of most of the large scale industries in the state particularly in the Travancore area was laid before 1950.

The industrial scene of Kerala in the early fifties also was dominated by traditional and small scale industries. The traditional industries like cashew, handloom, handicrafts, etc. provide large employment to the rural sector. In fact the traditional Industrial sector constituted the second largest sector, next to Agriculture in terms of providing employment. However, this sector was characterized by its low investment, low productivity, low wages, and under employment. The share of secondary sector towards the state domestic product during 1950-51 was only 16.17 per cent while that of primary sector and tertiary sector contributed 54.51 per cent and 29.32 per cent respectively. Thus at the time of formation of the state in 1956, Kerala had only a couple of modern industries, just begun. The predominance of cash crops, the early opportunities of the state in setting agriculture commercialized, and the exploitative character of the colonial regime had provided the state only limited opportunities in the industrial sector and led to a particular pattern of industrial activities, dominated by traditional industries like coir, cashew, handloom, tiles etc. Very few modern industrial units existed with no substantial forward linkage that would attract and sustain industrial diversification and expansion. In other words Kerala started off with a weak industrial base. Let us examine the important characteristics of the industrial development pattern of Kerala since the formation of the state.

### 3.2 Industrial Development During 1956-75

Under the state Re-organization Act of 1956, Travancore – Cochin state and Malabar the district under presidency, were united to form the state of Kerala on 1<sup>st</sup> November 1956. Situated between the western ghats and the blue waters of the Arabian sea, Kerala occupies a narrow strip of land on the south west coast of India 360 miles long and nowhere more than 70 miles in width (Nossiler 1982)<sup>24</sup>. The state entered the era of economic planning in 1956. Serious efforts for industrial development in the state began only with the Third Five Year Plan in 1960. But at the national level the industrial development got the highest priority in the Second Five Year Plan itself.

The industrial schemes in the First Five Year Plan, which was implemented prior to the formation of the state of Kerala, were confined to a few activities in the area of traditional and small scale industries like formation of coir co-operatives, survey of small industries etc. During the second five year plan (1955-60) also the state could not put any serious thought in the industrialization except taking steps in the expansion of production in Kundra ceramic factory and the Kerala cycles private limited, in the establishment of a spinning mill in Trivandrum and the organization of coir and handloom co-operatives. Thus virtually the structure and pattern of industrial sector inherited from the past remained more or less the same without much changes even by the end of the fifties.

Traditional industries play a vital role in the economy of Kerala both in the factory sector and the small scale sector. The traditional industries occupy a prime place particularly in terms of employment. The most important traditional industries that dominate the traditional sector as well as the factory sector alike are coir, cashew and handloom industries. The other industries belonging to

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<sup>24</sup> Nossiler T.J. 1982 – Politics, development, social change – 1967-75, in N.R. (Dayal) (ed) Communism in Kerala. A Study in political adaptation Oxford University Press Pp.3

traditional sector are beedi, tile and handicraft. Among the traditional industries in Kerala, handloom industry has a significant place as one providing employment for more than two lakh persons. An organization of handloom units within the co-operative sector was started in Kerala in 1955-60. The Kerala state handloom weavers Apex co-operative society was established in 1976.

The main thrust of coir development scheme during 1960-61 was re-organization of production and marketing of coir under co-operative societies. The volume of exports of coir and coir products has been on the decline since 1960-61 from 64782 tonnes to 37282 tonnes during 1975-76, though in value terms, there has been remarkable increase from 8.55 was to Rs. 19.44 crores during the period.

Just like coir industry, cashew industry also is an important foreign exchange earner. The value of the total production of cashew products was 173 lakhs during 1958 increased to 272 lakh in 1976. The production kept an upward trend from 84.63 thousand tonnes during 1960-61 to 119.87 thousand tonnes in 1975-76.

It was during the Third Five Year Plan (1960-65) that the industrial sector received a little more consideration by the planners. During the years 1960-61 to 1968-69 Kerala made some beginning in the re-organization, expansion, and modernization of some of its existing public sector industries like Kerala ceramics, Kerala soap Industry, Trivandrum rubber works, Calicut factory etc. In addition to this the Kerala State Industrial Development Corporation was set up for the promotion of private industries and some steps were taken to promote and revitalize traditional and small scale industries. It was during this period the industrial estate programme was started and steps were taken to expand large medium industries in the public sector. Efforts for further promotion of industries particularly for the establishment of modern industries and the stabilization of traditional industries continued with added emphasis during the successive years. The plan expenditure in the industrial front from 1951 to that of 1975 was

Rs. 5477.51 lakhs. The concerted vigorous efforts in implementing a series of Industrial Programmes and gave new life and hope in the performance of this sector during the period. The plan wise expenditure/outlay provided for Industrial Sector (large, medium and small scale Industries is given in Table 3.4.

**Table 3.4**

**Plan Wise Expenditure / Outlay Provided for Industrial Sector (Large, Medium, Small)- as a Percentage of Total Outlay Expenditure Under State Plans- 1975- 76.**

Five year plan	Outlay/ expenditure for industry	Outlay/expenditure for large and medium industries	Outlay expenditure for small scale industries
1950-51	1.9	-	-
1955-56	7.4	2.2	-
1960-61	7.9	4.4	2.2
1965-66	7.5	4.5	0.57
1970-71	11.1	7.3	0.35
1975-76	8.2	5.8	0.61

Source : State planning Board, Govt. of Kerala. Eighth Five year plan, report of the task force on large and medium small scale industries- State Planning Board P. 13.

From Table 3.4, it is evident that the industrial sector of the state did not attract adequate investment in the earlier plans. Right from the Second Five Year Plan, the small scale sector attracted considerable public interest. The industrial policy statements of Kerala envisaged an interlinked Industrial system of small scale, medium and large industries, so as to have an optimum use of states, available natural and man power resources for generating maximum income and employment. The growth performance of Kerala Industrial sector during 1956-75, in terms of sectoral composition, per capita income, and employment is given in the following tables (Tables 3.5, 3.6)

**Table 3.5****Annual Compound Growth Rates of GDP and Per Capita Income in Kerala 1951-76.**

Period	At current price					At constant price				
	Primary	Secondary	Tertiary	Total	Per capita income	Primary	Secondary	Tertiary	Total	Per capita Income
1950-51 to 55-56	8.45	2.47	3.89	5.72	3.85	3.35	2.36	4.18	5.42	1.19
1955-56 to 1960-61	8.47	2.52	3.91	6.06	3.79	2.4	1.63	0.77	1.80	-0.23
1960-61 to 1965-66	10.43	9.33	11.09	10.46	7.97	0.41	5.75	4.40	2.47	-0.15
1965-66 to 1970-71	9.32	14.77	15.33	12.04	0.35	5.08	4.16	5.59	5.08	2.69
1970-71 to 1975-76	10.35	13.84	13.85	12.17	9.84	1.60	3.83	3.27	2.55	0.53

Note : GDP at constant prices for 1950-51 to 1970-71 are at 1960-61 prices.

Source : Government of Kerala Directorate of economics and Statistics State Planning Board – (statistics for Planning and Economic Review of various years).

**Table 3.6****Sectoral Share of GDP and Work Force in Kerala From 1950-1981**

Sector	Sectoral share GDP (%) 1970-71 prices				Sectoral shares of workforce (%)			
	1951	1961	1971	1981	1951	1961	1971	1981
Primary	53.36	54.74	49.44	40.24	54.85	54.26	55.97	53.10
Secondary	15.49	14.57	16.32	20.57	21.53	20.54	17.46	19.40
Tertiary	31.15	30.69	34.24	39.19	23.62	25.20	26.57	27.50

Note : Mining and quarrying are included in primary sector 1961

Source : Government of Kerala – Directorate of Economics and statistics 1985.

From table it is clear that the industrial sector of Kerala has been stagnant since 1970. It may be due to the weak inter industry linkages, power shortage, high unit of cost of production and increased price of lands etc. The entrepreneurs are not coming forward to invest money in Kerala due to the fear of labour unrest.

From Table 3.5, during the fifties, the primary sector SDP grew at the rate of 8.45 and 8.47 per cent respectively during the first half and second half respectively as against the rate of growth of only 2.47 per cent and 2.52 per cent in SDP of the secondary sector and 3.89 per cent and 3.91 per cent respectively in the SDP of tertiary sector. In other words, during the fifties, the primary sector grew much faster than the non primary sector in terms of the sectoral SDP at current prices. In the sixties the primary sector had a growth rate of 9.87 (current prices) and 2.72 (at constant prices) as against the growth rate of 12.02 per cent and 4.95 per cent respectively for the secondary sector and 13.19 per cent and 5.00 per cent respectively for the tertiary sector. During the seventies primary sector contributed 1.60, and secondary sector 3.83 and tertiary sector 3.27 (at constant prices). The dismal picture of industrial sector becomes all the more vivid and revealing when we look at the sectoral performance of SDP of Kerala.

### **3.3 Industrial Development from 1975-92**

It was during the period 1975-80 maximum effort was taken by the government in the industrial sector. The period witnessed all round and systematic attempts for exploiting the potential of the state for developing both medium and large industries as well as traditional industries. The Kerala Electronic Development Corporation (KELTRON) was established and a project for setting up of the thousand small scale industrial units was launched during this period. The concerted and vigorous efforts in implementing a series of industrial programmes gave new life and hope to the industrial sector of Kerala.

The number of registered factories increased from 6317 in 1975 to 9106 in 1980 and the total employment from 264 thousand in 1975 to 300 thousand in 1980. The annual growth rate of index of industrial production has been 3.90 per cent between 1970-71 to 1975-76 and 1.40 per cent between 1980-81 to 1985-86. (State Planning Board Kerala 1981).

The industrial policy resolution of 1977 had unequivocally declared the emphasis on small scale sector, which was re-affirmed in the industrial policy resolution of 1980. The industrial policies both at the National and state level have been oriented throughout towards promoting, fostering and expanding industries in the small scale sector. In view of the acute unemployment prevailing in the state and lack of adequate large scale industries, the development of modern type of small scale industries assumed added significance and received priority in Kerala. Small scale industries act as catalytic agent in accelerating economic development. They are economically efficient as well as labour intensive, and have significant role in achieving rapid growth in both output and employment (Cortes, berry, Ishaq. 1987)<sup>25</sup>. It plays a vital role in resolving chronic problem of poverty, inequality and unemployment (Ersi, Kalchelty 1989)<sup>26</sup>.

As a result of the package of incentives introduced by the government in 1979, and the concerted industrial position efforts of organizations like Kerala State Industrial Development corporation (KSIDC), Kerala Financial Corporation (KFC), Small Industries Development Corporation (SIDCO), District Industries Centre (DIC). The Industrial sector received a remarkable boost during the later half of seventies.

During the period 1980-85 to 1985-90 the government continued to recognize and promote the traditional industries, to revive sick units, to expand

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<sup>25</sup> Cortes, Maritus Berry A and Ishaq.A (1987), Success in small and medium scale enterprises, The World Bank, Oxford University Press, New York Pp.56.

<sup>26</sup> Eresi, Kalchetty (1989), Management of Finance in Small Scale Industries. Vohra Publishers and distributors, Allahabad, Pp.122

and improve the performance of public sector units and to provide incentives to promote private sector industries. The traditional industries and household industries faced an unprecedented recession. Some of them like coir and cashew industries were shifted to neighbouring states. The dominance of traditional industries has declined over the years due to multiple factors and currently these industries are labelled as sunset industries. The following studies need to be mentioned while tracing the growth of traditional industries. They are on cashew, K. P. Kannan (1970)<sup>27</sup>, Emam Beevi (1978)<sup>28</sup>, Deepa G. L. (1994)<sup>29</sup> on Coir, Nair (1977)<sup>30</sup> Issac (1984)<sup>31</sup> on Beedi, Pyaralal (1984)<sup>32</sup> on Tile, Ragavayya (1980)<sup>33</sup>, Mani (1990)<sup>34</sup>, and on Handloom Rajagopala (1986)<sup>35</sup>, Mridul Eapen (1991)<sup>36</sup>. A common feature shared by the traditional industries is the regional concentration on account of geographical, historical and sociological factors, as well as resource endowment. The recent debate is on the re-structuring of traditional industries.

By 1980's Kerala with 3.7 per cent of country's total population, accounted for only 3.07 per cent of the number of factories, 3.12 employment, 2.61 per cent of fixed capital, 2.56 of its gross output and 2.90 net value added in the factory

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- <sup>27</sup> Kannan K.P. (1978). "Employment, Wages and Conditions of work in the Cashew Processing Industry". Working paper No.77, Centre for Development Studies Trivandrum.
- <sup>28</sup> Beevi, Emam A.J.(1978), Impact of minimum wage legislation on Cashew Industry, M.Phil Dissertation, Centre for Development Studies Trivandrum .
- <sup>29</sup> Deepa G.L.(1994), Industrial Crisis and Women workers: A Study of Cashew processing Industry in Kerala. M.Phil Dissertation, Centre for Development Studies Trivandrum.
- <sup>30</sup> Nair, M.N.V. (1977), Coir Industry : HS Structure and Organisation, Indian Institute of Management, Bangalore.
- <sup>31</sup> Issac, Thomas, T.M.(1984) Class struggle and Industrial Structure: A Study of Coir weaving Industry in Kerala, Ph.D. Dissertation, Centre for Development Studies Trivandrum.
- <sup>32</sup> Pyaralal, Raghavan (1986) Organisation of Beedi Industry – A study of Cannanore district 1920-1985, M.Phil. Dissertation, Centre for Development Studies Trivandrum.
- <sup>33</sup> Raghavaih, Jayaprakash (1980), Basel Mission Industries in Malabar and South Cannanore 1834-1913 M.Phil. Dissertation, Centre for Development Studies Trivandrum .
- <sup>34</sup> Mani. K.P.(1990), Tile Industry in Kerala – Economics, Problems and Prospects, Ph.D. Dissertation, Cochin University of Science and Technology (CUSAT), Cochin/
- <sup>35</sup> Rajagopalan V, (1986) The Handloom Industry in north and south Kerala – A Study of Production and marketing Structures, M.Phil Dissertation, Centre for Development Studies Trivandrum.
- <sup>36</sup> Eapen, Mridul (1991) "Hantex: An economic appraisal", Working paper No.242, Centre for Development Studies, Trivandrum.

sector of the country between 1980-81 and 1989-90. Kerala recorded only a pitiable 1.73 per cent growth in value added by manufacture as against the annual compound growth rate of 10.5 per cent of all India.

Regarding the contribution of industrial sectors in Kerala during 1985-90, about 70 per cent of coir in India is produced in Kerala. Out of 1.32 lakh tonnes of coir produced in India in the year 1985-86, as much as 92,400 tonnes are produced in Kerala. In 1990-91 the exports of coir products declined 27929 tonnes, though in value terms, the exports registered an increase to 48.33 crores in 1990-91. In 1991 Kerala had 252 cashew factories, providing employment for more than one lakh persons. The value of the total production of cashew products was Rs. 2522.77 lakhs. The production in the handloom sector in 1990-91 was reported to be only 54.60 million meters of cloth, valuing Rs. 818.7 million. Though production declined from 869 lakh meters to 546 lakh meters in terms of value it registered an increase from 3178 lakhs to 8187 lakh in 1990-91.

As on 31<sup>st</sup> March 1989 it was reported that there were only 210 manufacturing companies in the medium and large scale sectors in the state with an estimated fixed asset of Rs. 1990 crores, providing employment for 99 thousand persons. Out of these 210 companies, 45 are in the state sector 18 in the central sector, 32 in the joint sector, 15 in the cooperative sector, 100 in the private sector.

Despite the numerous promotional activities and government programmes for industrial development during the past from 1950-51 – 1990-91 in the state, the progress achieved in the industrial sector remains dismal. By 1990-91, the performance of industrial sectors is often described as stagnant and moribund Joseph Taramangalam (2002)<sup>37</sup>. The industrial sector, both registered and non registered, witnessed acute stagnation. The industrial sector is still dominated by small and modern manufacturing base, that can propel further industrial growth. The traditional

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<sup>37</sup> Joseph Taramangalam (1999) The Perils of social development without economic growth, The development debacle of Kerala, in Bulletin of concerned Asian scholars, vol.30, No.1 and a "Rejoinder" in Vol.30.

industries and household industries recently faced an unprecedented recession. Thus while India forges ahead with accelerated industrialization in 1990's, Kerala is inevitably slipping farther behind the rest of India.

### **3.4 Industrial Development:- After (1992) – Introduction of New Industrial Policy, (NIP).**

Liberalization is considered as an important element in the reform package that the Indian economy has experienced. Since the early 1990's one of the major elements of the reform process was the new industrial policy statement (NIP) announced in June 1991. The new industrial policy in operation since 1991 marks a big departure from the old policy. The changes in the industrial scene, it involves, will reshape the entire economic life, in a profound way. The new policy was announced in two stages – rather in two parts. The first part announced on 24<sup>th</sup> July 1991 concerned with large industries, including the medium sized industries. The second part announced on 6<sup>th</sup> August 1991, dealt with the small industries. The major policy changes initiated in the central sector since July 1991, viz, removal of entry barriers, reduction of areas reserved exclusively for public sector, rationalization of the approach towards monopoly, restrictive trade practices, liberalization of foreign investment policy, far reaching liberalization of import policy with respect to intermediaries and capital goods may have all contributed to the upsurge and industrial growth in India.

Within the frame work of the NIPS regional governments have taken independent measures to accelerate the growth of industrial investment in their respective regions and some of them have come out with spectacular results. What is the position of Kerala industries in the post reform period ? M. M. Thampy (1994)<sup>38</sup> argues that Kerala has been experiencing a deceleration in the

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<sup>38</sup> M.M. Thampy (1994) and Nanda Mohan. V. (1994), Kerala's Industrial Stagnation – Paper presented in the International Congress of Kerala Studies held at Trivandrum 27-29 August.

rate of industrial growth since the second half of 1960's. Though Kerala has offered a number of incentives, the state is not able to attract much industrial development during the post reform period. High cost of production compared to other states, high cost of land, scarcity of land, acute shortage of power and psychic costs incurred by entrepreneurs are identified as the major constraints to industrial development in the state.

Table 3.7

**Central Sector Investment in India and Kerala as on 31<sup>st</sup> March 2003-04**

Years	Investment Gross Block		% of column (3) to column (2)
	All India	Kerala	
1970	3795	116	3.06
1975	6242	202	3.24
1980	18161	423	2.33
1985	47323	831	1.76
1990	113430	1701	1.5
1995	227349	2906	1.28
1996	256200	3390	1.32
1997	284330	3992	1.40
1998	319829	4717	1.50
1999	353660	5962	1.69
2000	381365	6828	1.79
2001	411865	9893	2.4
2002	490397	13504	2.81
2003	525303	14548	2.77
2004	582701	15668	2.89

Source : Reports of the public enterprises survey Govt. of India

The industrial sector of Kerala during the post reform period consisting of public and private sectors, has been further split into large and medium scale units. Nearly one fourth of the number of large and medium industries are located in Ernakulam district with about half the industrial investment in large and medium sectors. The districts of Kasargod, Kannur, Wynad, Malappuram, Idukki and Pathanamthitta are relatively backward in the matter of industrial investment and consequently in employment generation also. In the case of large and medium scale units 77-80 per cent are in the private sector. The central government companies account for only 3.40 per cent of industrial units in the state. It is also seen that central investment in Kerala with a population of 3.10 per cent of country, declined from 3.06 per cent in 1970 to 1.01 in 1994. But in the year 1999-2000 there was a marginal increase in Kerala's share of central investment. (See Table 3.7.)

Strengthening of the private sector is an important feature of the new industrial policy of 1991. A major step towards a greater marketisation of industrial economy is the abolition of the licensing system for a large number and a large variety of industries. 2 major features of the new industrial policy involve a big change in the industrial set up of the country towards a greater role for the private sector. Public sector has now been left with six reserved industries with the remaining having been thrown open to the private sector. (See Table 3.8)

Besides providing for large private sector, a greater role of market competition and the market related incentives, the new industrial policy aim at integrating the domestic economy with the world economy. The removal of restrictions on the private domestic as also private foreign entrepreneurs in respect of large number of industries brings the domestic market near to the world market. The large and also small industries are likely to undergo a sea change in respect of their working and results.

**Table 3.8****Growth of Working Factories and Average Daily Employment 1990-2004**

Year	Number of Factories			Number of Employment		
	Private	Public	Total	Private	Public	Total
1990	12035	413	12448	239562	115988	355550
1991	12800	455	13255	243211	125527	368738
1992	14113	495	14608	248198	127538	375736
1993	14646	486	15132	277266	111492	388758
1994	14824	481	15305	281669	108591	370260
1995	14840	491	15331	263878	111270	375148
1996	15906	528	16434	293923	111144	405067
1997	16803	533	17336	317592	111248	428840
1998	17177	542	17719	334143	109698	443841
1999	17955	549	18504	3187229	117745	436474
2000	17986	558	18544	336895	101855	438750
2001	18001	553	18554	329230	107180	436410
2002	17727	535	18262	313260	95553	408813
2003	17838	538	18376	316169	95580	411749
2004	17912	542	18454	317248	95592	412840

Source : Directorate of Economics and Statistics –Thiruvananthapuram Economic Review

The new industrial policy for the small scale sector industries announced on 6<sup>th</sup> August 1991 envisages a number of changes in the old policy with a view to making them strong and viable units. The most important feature of the policy is the four point theme – to provide financial support to the small scale industries (SSI) sector through SIDBI. The policy also allows equity participation by other or non SSI industrial undertaking in the SSI sector up to

24 per cent of total share holdings. This is being done to provide small units access to the capital market and to encourage modernization, technical upgradation, ancillarization and subcontracting etc. The new policy provision for supplying of risk capital to the SSI sector is also given. The policy also ensures speedy payments arising from the sale of products of SSI sector. Measures are also taken to improve the quality of the products of small scale sector. Special measures for handloom handicraft, khadi and village industries are undertaken to improve their technologies and marketing facilities, welfare scheme and management systems.

**Table 3.9**

**Details of Small Scale Industrial units in Kerala on March 2004**

Year	Number of units	Investment in Rs. (lakh)	Employment (in number)	Value of goods products (in lakh)
1992	84440	86386.28	517992	275706.39
1993	95851	100888.51	568598	302037.60
1994	110384	117516.26	629543	360794.14
1995	126220	136734.18	703161	380776.88
1996	143123	159787.86	774936	508868.37
1997	160544	192269.07	839596	633011.19
1998	180091	235133.66	909859	744840.46
1999	199827	265343.62	981491	860442.76
2000	219833	305096.73	1053533	977065.49
2001	239896	347061.48	1114495	1099825.30
2002	258010	372643.88	1173474	1221437.62
2003	261024	381011.24	1183241	1280246.61
2004	270344	391118.53	1215532	1408372.69

Source : Economic Review (various issues), Government of Kerala.

Regarding the performance of small scale industries, the number of small scale industrial units increased from 84440 on 31<sup>st</sup> March 1992 to 27034 on 31<sup>st</sup> March 2004. The investment as on 31<sup>st</sup> March 1992 increased from 86386.28 lakh to 39274388 on 2004. Employment increased from 5179982 as on March 31<sup>st</sup> 1992 to 1193474 as on 31<sup>st</sup> March 2004. The value of goods produced increased from Rs. 275706.39 lakh on 31<sup>st</sup> March 1972 to 1221437.62 lakh as on 31<sup>st</sup> March 2004,( as shown in Table 3.9).

**Table 3.10**

**Working Status of Small Scale Units as on March 2004**

District	Total no. of units	No. of units identified as sick registered revived			Units revived by DIC
Thiruvananthapuram	28918	498	269	122	-
Kollam	26157	511	275	125	4
Pathanamthitta	13112	244	59	55	3
Alappuzha	24491	468	227	191	7
Kottayam	27741	621	316	254	9
Idukki	7081	130	49	23	-
Ernakulam	35183	1641	279	124	-
Thrissur	28272	470	148	63	4
Palakkad	21516	301	118	52	9
Malappuram	12724	225	62	6	3
Kozhikode	19895	402	251	106	2
Wayanad	4552	80	46	17	1
Kannur	13780	250	117	38	-
Kasargod	6922	100	4	5	-
Total	270344	5941	2220	1181	42

Source : Economic Review (various issues), Government of Kerala.

In the Kerala context, the impact of globalization on small scale units is of critical concern because we have seen that the SSI sector is the source of bulk of employment. Since the economic reforms are to promote efficiency, reduce the bias in favour of excessive capital intensity and encourage employment generated pattern of industrialization, the promotion of modern small scale industries and traditional industries has special significance. On the other side, economic reforms gave room for the greater policy of market forces and for the areas earlier reserved for the small scale sector. This may work against the interest of SSI units. Hence the need of the hour is to face the challenges of globalization and try to survive. The survival strategy depends on improvement in the growth in all the subsectors of the industrial map which includes, small scale, medium, large, tiny and traditional etc.

### **3.5 Future Vision**

For planned development of SSI's as also for better effectiveness of development programmes with minimum cost, it is obvious that the centre piece of policy for the SSI has to be cluster. The period 2002-2007 (Xth Plan) gave importance to the cluster based small scale industries. A cluster is a sectoral and geographical concentration of enterprises. The clusters of small enterprises, interacting themselves through specialization and sharing of services have been the key to the success of many industrialized countries. The vitality of small enterprises lay in the co-operative competition which can exist in clusters. Various studies highlight a model of industrial development in which the emergence of linkages and co-operation between small enterprises in a specific location, provides economies of scale. The collective efficiency is another advantage of clusters which may be termed as the competitive advantage derived from local external economies and joint action. It is precisely this 'collective efficiency' which cluster aim to achieve. The most talked Indian "Tiruppur Cluster" a major centre of cotton knitwear,

speaks explicitly of the inter firm linkages in production. Signs of collective activity involves sharing of information and external economies reaped from the growing market for outputs and inputs, including labour. However, it is not clustering perse which makes for industrial success but clustering in propitious context. In this favourable context can be created by government by providing services – financial, technical and marketing to all members of cluster. It is important to observe that these services may be provided economically and will be effectively utilized in clusters.

The cluster based approach to small scale industries needs to be concretized. The tenth plan of Kerala also emphasises the re-positioning of traditional industries, promoting private investment and introducing public sector reforms. The traditional industries like coir, handloom and other village industries need to be re-positioned, according to the national and international demand for the products. Upgradation of technology and techniques is critical in the sector. Top priority should be given to public sector, which should be based on viable revival packages as well as mergers and closures, diversification, expansion and conversion to joint ventures as may be appropriated. Table 3.11 provide the details of industrial clustering in Kerala during 2002-2007.

The modernization of coir industry was made possible with the establishment of Central Coir Research Institute (CCRI). The CCRI, Alappuzha, a research and development wing of coir board, has come up with a new product called 'coirret' which can convert green husk brown fibre into white within 72 hours. Before it took 6-10 months for setting coconut husk. With this advancement, better quality yarn and coir fibre can be supplied to the world market – Government of India under foreign trade policy 2004 has declared 'Kannur' as the town of export excellence for handloom industry.

**Table 3.11****Kerala Cluster Development (2002-2007) programme****Products / Sectors – Identified having good potential for cluster development.**

Sl. No.	District	Sector
1	Thiruvananthapuram	Cane products, wood industry, handicraft, printing, silk fabrics
2	Kollam	Food, pencil, wood
3	Pathanamthitta	General engineering, food products
4	Alappuzha	Bell metal, stone products
5	Kottayam	Apparel, food leather
6	Idukki	Garments, Lemon grass, bamboo
7	Ernakulam	Plywood, fruit, processing, rice mill, rubber, plastic, wood, sweets, electrical, electronics, mineral, water printing
8	Thrissur	Diamond, wood, screw pine, pottering tiles, rethreading, machinery, note book
9	Palakkad	Ball metal, food, agricultural employments, bamboo
10	Malappuram	Garments, rubber, wood, general engineering, food.
11	Kozhikode	PVC footwear, food (Halwa, banana chips, jewellery)
12	Wayanad	Food, garments, bamboo
13	Kannur	Coir Materials, governments, printing, plywood.
14	Kasargod	Pottery, screw pine, Thalangara hat.

Source : Kerala Bureau of industrial Promotion (K-BIP) (2004 Ernakulam) Economic Review 2004.

### **3.6 Role of Government and Institution in the industrial development of Kerala**

The industrial development of Kerala could not be completed without the discussion of the role played by the government and institution

in Kerala industrialization. Since 1990's the role of government in almost all the developing countries including India, has undergone a fundamental change. The role of government is being transformed from being mainly a provider to being an enabler in the production and distribution of goods and services. It simply implies that the government through policy intervention should create an enabling environment for the development of industries. The central and state governments have been encouraging the development of industries, especially small scale sector ever since the adoption of industrial policy resolution of 1956. The industrial policies emphasized wide dispersal of industries to rural areas and small towns. In order to accelerate the growth of small SSI's, the central and state government have offered incentives, concessions and assistance; special concessions are introduced for developing backwardness. In the present de-regulated environment it has become quite important to foster co-operation between government and private sector. In order to encourage the growth of harmonious blend of large medium and small scale manufacturing an institutional arrangement, subcontract exchanges, a system of ancilliary production was established under SIDCO.

Credit is a critical and catalytic element in the Kerala industrialization process. The major purveyors of credit to industrial sector, have been commercial banks, co-operative and RRB's supplying mainly working capital, short term loans and state financial corporations, and state industrial development corporation (SIDCO) supply long term loans. These apart, at the apex level, SIDBI and NABARD, have been extending direct as well as refinance support to SSI through primary lending institution. Although qualitative expansion of institutional credit to the industrial sector, especially to SSI, is appreciable, there has been no visible improvement in the quality of lending. The industrial sector received substantially lower credit support

from the institutional agencies. The bottlenecks in the smooth credit flow to the industrial sector have been identified by various committees constituted and studies conducted by government of India RBI/NABARD recently by Nayik Committee (1992)<sup>39</sup>. It is disheartening to note that the total institutional credit accounts for just 9 per cent of SSI production in 1995-96. The performance of the majority of SFC has been dismal and the average recovery rate for all SFC's has been very low at 37 per cent. Thus the industrial sector received substantially lower credit support from the institutional agencies. Inadequacy of working capital finance with attended liquidity problems has been one of the major stumbling blocks in the development of SSI's. So strategies need to be considered to ensure timely and adequate credit to SSI.

The small Industry Development Organisation (SIDO) with the Development Commissioner as its head, functioning through a net work of 16 SISI, 27 branch institutes, 41 extension centers, 5 production centers and 4 Regional resting centres has played a vital role in the development of small industries in the country by providing a variety of services. The District Industrial Centres (DIC), KITCO, SIDCO, SIDBI etc. and such organisation and decentralization etc. to some extent provide financial assistance, marketing support, technical guidance, research and development programmes for industrial development in Kerala . Thus an elaborate set of policies, programmes and institutions have been evolved over the past five decades for providing government support (Balasubramanya M.H., 1988)<sup>40</sup>.

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<sup>39</sup> Nayik Committee (1992). RBI 1992, Report of the Committee to examine the Adequacy of Institutional credit to the SSI Sector and Related Aspects – chairman –Mumbai.

<sup>40</sup> Balasubramanya, M.H. (1988) "Shifts in India's Small Industry policy. Small Enterprises Development Journal, London, Vol.9, No.1, pp.36.

The index of industrial production is an important economic indicator for measuring the growth of the industrial sector. The index of industrial production in Kerala from 1992-to 2004 is depicted in Table 3.12.

**Table 3.12**

**General Index of Industrial Production in Kerala - 1992-2004  
(Base year 1993-94)**

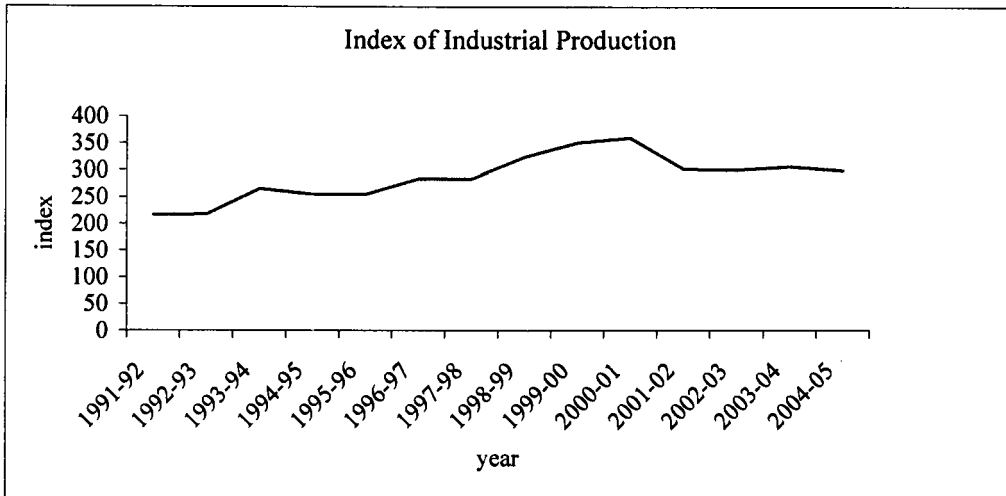
Year	General index of industrial production	Annual growth rate
1991-92	216.21	-
1992-93	217.31	0.50
1993-94	265.30	22.00
1994-95	255.08	(-) 3.90
1995-96	255.49	0.10
1996-97	284.05	11.20
1997-98	284.00	(-) 0.02
1998-99	324.44	14.24
1999-00	351.24	8.26
2000-01	360.20	2.60
2001-02	302.29	(-) 16.08
2002-03	300.70	5.10
2003-04	306.7	6.2
2004-05	299.8	5.56

Source : Department of Economics and Statistics, Various issues, Government of Kerala, Trivandrum

From Table 3.12, it is clear that the annual rate of growth of industrial production which was 14.24 in 1998-99, was reduced to 2.60 during 2000-01. Not only that, the annual growth rate even became negative in the years 1994-95, 1997-98 and 2001-02. But thanks to government policies the growth rate showed a positive picture from 2002 to 2004.

**Figure 3.1**

**Index of Industrial Production in Kerala-1992-2004**



As whole, the performance of industrial sector after five decades of five year planning is often described as stagnant – Kerala’s industrial performance measured by any parameter – annual growth of its manufacturing sector, share of manufactures in state domestic product, value added in the factory sector or any like measure has been on a low side, Joseph Taramangalam (1999)<sup>41</sup>.

**3.7 Current Issues on Industrial Development of Kerala**

Kerala has reached the stage where the economy is at cross roads with stagnancy in the growth of material commodity production and the output of manufacturing goods. The various issues related with the stagnant picture of industrialization in Kerala is that the industrial sector – ie. a core sector has not obtained any emphasis under the five year plans. Considering the total expenditure percentage on industry from the First to the Tenth plan, the expenditure does not seems to be conducive to the development of the large scale

<sup>41</sup> Joseph Taramangalam (1999)). Kerala’s Development Experience – Chapter 12, Pp 175-195.

industrial sectors. A noteworthy feature of the industrial policy of the state is that it has basically focused on small scale, village and cottage industries.

The industries in the small scale sector faces many problems like small sized units, low capacity utilization, low factor productivity, unfavourable wage productivity relationship as well as industrial morbidity due to financial and marketing problems. Since many of the industries are traditional they did not require sophisticated technology. There appeared to be no inducement for technological innovation and development. The private sector industries are running in loss not due to the resource crunch, but due to the old and obsolete technique, raw material problem as well as interest cost. In these days of globalization, our manufacturing units have to face stiff competitions from the multinational companies.

In Kerala the labour productivity and total factor productivity in the industrialists shows a declining trend, due to low linkage effect, ie. lack of inter industry linkage. The import of consumer goods especially foodgrains as well as the import of basic components like iron, coal etc. from the other states have created backward effect in the economy rather than linkage effect.

Moreover, the intensity of unionism, organizational consciousness of the working class in the state and its relationship with the psychological attitude of entrepreneurs regarding the discussion making of investments especially in small scale industries seems to be a major factor preventing the investment of funds and remittances for industries in the state. In these days of globalization our manufacturing sector has to face stiff competition from the multinational companies.

In short the industrial sector of Kerala faces many problems related to the nature, size, structure and inter industry mix etc. the psychic factors and the discriminative policies also contribute to the low industrial development of the Kerala economy in recent years.

Kerala which has been backward and stagnant in the field of industrial development should take serious efforts to identify new opportunities and to equip to meet the emerging challenges. Globalisation presents policy makers in developing countries new challenges, new vistas; needless to mention the urgency of reformulating strategies and policies aimed at industrialization (ADB)<sup>42</sup> In these days of globalisation and liberalization, Industrialisation in Kerala, has been considered as a key to rapid economic development. The promotion of Industrial sector is sure to serve the purpose of equity, employment and exchange earning. In Kerala chemical industry is the most prominent industry among manufacturing sector. Though a variety of industries are functioning within the chemical industry, soap industry occupies an important place as it is less capital intensive . Soap from Kerala has already established its position in markets, both in domestic and foreign, due to some of its unique nature. As a consumer goods industry, soap industry has an important place in the industrial sector of Kerala. .Hence in the succeeding chapter an attempt is made to trace out the overview of the soap industry, in the global, Indian and Kerala scenario.

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<sup>42</sup> Asian development Bank (1997), Asian Development Outlook, Oxford university Press.

## CHAPTER IV

# SOAP INDUSTRY – AN OVERVIEW

Soap is a basic material indiscriminately used by the rich and the poor. Since soaps are used both for bathing and washing, it has become an integral and indispensable part of human life. Let us find out scientifically what a soap is? Soap is the metallic salt of fatty acid got through saponification of oil with alkali, oil/ fat etc are formed by the fatty acid and glycerin (Encyclopedia Britannica)<sup>1</sup> In other words when an oil or fat is boiled with a solution of caustic soda, resultant products are soap and glycerin. The chemical reaction is called saponification and is expressed as follows.

Oil + caustic soda = Soap + glycerin. Soap is made by combining tallow (or other hard animal fat) or vegetable or fish oil with an alkaline solution. The two most important alkalies in use are caustic soda and caustic potash. Soap can be distinguished from Non Soap of Detergents (NSD's) by their composition, NSD's are largely made from petroleum by products.

Soaps today are far too sophisticated and are available in a wide variety of forms for specific end uses. Soaps remove the dirt from the body and clothes. The soap that is used to wash the body is called toilet soap or bathing bar. The soap that is used for washing clothes is called either washing soap or laundry soap. The important classification of toilet soap are floating soaps, marbled soaps, medicated soaps and carbolic soaps.

It is not essential to start, with an oil or fat for preparing soaps. Then what are the raw materials required for the manufacture of soaps. They are alkalies, ethanolamines, fixed oils and fats, animal fats and oils, lard, vegetable

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<sup>1</sup> Encyclopedia- Britanica- David Cystal (1999)- Cambridge paper back, pp1159

soap oils and fats, perfumes etc.. The important alkalies used are sodium carbonate, or soda ash, caustic soda or sodium hydroxide. Sodium carbonate is non saponifying alkali and is therefore used in the preparation of soaps from fatty acids. Caustic soda is the most widely used alkali in the manufacture of hard soaps which are the most common. Caustic potash is used only for the manufacture of soft soaps. Perfumes are added to soaps to attract the consumer. Toilet soap contain more of perfume than the laundry soap. Perfumes used may be natural, semi synthetic or entirely synthetic. Natural-essential oils used in soap are sandal wood oils, khas oils, palma rosa oil, ajwan oil, pepper mint oil, and oil of lavender (J.S. Aggrawal)<sup>2</sup>. The soap which is made of coconut oil and ground nut oil is scented with appropriate scents. The soap is mostly popular in south India because of the fact that it has scented structure.

Fats and oil in main commercial use for soap making is shown in the following table.

**Table 4.1**

**Fats and Oil Used for Soap Making**

Vegetable oils	Animal fats
Coconut, palm, cottonseed, Rice bran	Tallow
Palm kernel, mowrah castor, Neem, sunflower, rape seed, Karanja	Lard Fish oil

Source- chemical business. Feb. 2000,page 17

A good toilet soap can be manufactured from a fat blend containing 80 per cent good grade tallow and 20 per cent coconut oil. The procedure for developing a fat blend for the indigenous situation is based on the situation of fatty acid (FA) composition of the blend. Since coconut oil is expensive, other combination such as 85 tallow and 15 CNO, and 90 tallow and 10 CNO, have also been considered leading to the fatty acid composition, as shown in Table.4.2

<sup>2</sup> J.S. Aggrawal, (1952) Oil used in Soap making Indian Soap Journal., pp 162

**Table 4.2****Fatty Acid composition of Toilet Soap**

C No.	Tallow	Blend containing 80% tallow, 20% CNO	Blend containing 85% tallow, 15% Cno	Blend containing 90% tallow, 10 % CNO
C10 and below	13	12.6	1.95	2.3
C12 and below	48	10.4	8.05	6.7
C14 and below	19	17.0	6.25	5.5
C18 and below	8	20.8	22.60	22.4
C18.1 and below	3	20.2	23.40	24.6
C18.2 and below	8	13.2	32.65	34.7
Palmolic	1	5.8	5.10	3.8
	100	100	100	100

Source – Soaps and Detergents. SISI. page 82

Theoretically the usage of an oil or fat is dictated by the following considerations:(1) suitability (2) availability in commercial quantity and (3) price. The economics of soap situation in India is that the country imports at an annual rate of about 120,000 tonnes of tallow and about 90,000 tonnes of vegetable oil- amounting to Rs. 300 crores in 2000.

Soap is manufactured from oils and fats derived from vegetable and animal source, but there is considerable shortage of oils and fats in the country to meet the demand for soap manufacturing industry. The more industrialized countries have high per capita consumption of soaps and detergents, while India is lacking. The Per capita use of soap is very low i.e 2.2kg in India compared to West Germany and USA- i.e 16.8 kg and 14.5 kg respectively.

The quality of soap is also based on the total measurement of fatty liquid in the soap, which is called Total Fatty Measurement (TFM).. This indicates the quality of soap in the soap bar. When there is an increase in the filler, the quality

of soap is less and TFM also decreases. On the other hand of the filler is less, the quality of soap is more and TFM increases.

There are three methods usually adopted for the manufacture of soap: 1) Cold process (2) Hot process and (3) Semi hot process. (Edgar woollat)<sup>3</sup>. The cold process is a simple process and can be managed by simple equipment and small capital and is more suitable for small scale entrepreneurs. Hot process requires huge capital equipment. It is more suitable for large scale entrepreneurs. When common salt is poured in to a mixture of tonnes of vegetable oil and proportionate caustic soda, soap gets deposited at the bottom of the kettle. This is separated and sodified and these are cut into small pieces, heated, the required colour and filler are added and made into soap bars. In the hot process glycerin gets separated and this is sold as the byproduct. This is another source of income for the large scale companies. Medium level manufacturers adopt semi hot process. In this process, coconut oil is heated to 70<sup>0</sup>- 90<sup>0</sup> c and mixed with caustic soda. Here glycerin is not separated. The presence of glycerin in the soap is not in any way harmful.

The chemistry and technology of soap is simple. The soap business is highly profitable. The technology of soap making involves the interaction of oils and caustic soda in correct proportion with the application of heat in a vessel and allowing sufficient time for the completion of the reaction. The techniques for manufacturing toilet soap have undergone revolutionary changes over the last fifty years, from open boiling of oils and fats with caustic soda, batch washing, fitting, gravity, settling, drying soap on a brand dryer, milling the ribbons and then carrying out the subsequent operations. We have progressed to a stage where one starts with a blend of distilled

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<sup>3</sup> Edgar Woollat (1985) The manufacture of soaps, Other detergents and glycerine. Ellis Harwood Ltd. Hal Stead Press.

fatty acids, produces 74 per cent TFM soap in saponification loop using, proportionately pumps for fatty acids and caustic soda solution and feeds the mass directly to a spray dryer to produce noodles for the subsequent operations. Inter mediation and micro processors play a very important role converting manual process into automatically controlled operations with minimum labour requirements. In the twentieth century, Toilet soap manufacture has undergone a complete transformation. Machines are used to stamp wrap, and pack the soap into card board boxes. There have been changes in formulation also. The import of tallow or other animal fat is banned in India for use in soaps. Practically all indigenous soaps are made from vegetable oils. The scope for using non edible oils has widened with the development of methods for pre-treating oils for removing objectionable colours, odours, and other harmful compounds and making them suitable for soaps and for the manufacture of fatty acids. Thus the formulation of oils for soap making has undergone a sea change as practically any oil available in commercial quantities can be suitably treated and used for making laundry as well as toilet soaps. This step is also necessary because the import of oils involves an outflow of foreign exchange which is already in short supply ( Norris Shreve )<sup>4</sup>.

Now a days, the demand for washing and bathing materials is increasing with the increase in the standard of living, purchasing power of population, urbanization, literacy, growth of media, especially TV, improvement in transportation and communication networks, growth of super markets, and retail outlets. As a result of the new economic policy, the winds of liberalization, or the opening up of the market have brought about changes that would have been unimaginable a decade ago.

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<sup>4</sup> Norris Shreve R (1994) Chemical Process Industries 3<sup>rd</sup> (ed) McGraw Hill-1994.

## 4.1 Origin and Growth Performance of Soap Industry

It is difficult to trace back the origin of soap making industry. Even the primitive man was conscious of keeping his body and surroundings clean. He adopted different ways to keep his body clean, according to the changing environment. It is learned that a group of people named phonations were making soap by using the fat of goat, ash etc. The custom of rubbing the body with spar while bathing is prevalent in some of the tribal societies. The method of using mimosa and certain leaves to remove the dirt also existed in some villages. Initially when the so called man-made cleaning and washing agents were unknown, the naturally occurring chille salt peter of nitrates of sodium and potassium were used for washing and cleaning. It is recorded in history that soap was first manufactured by the Gauls using tallow and ash from beech wood. The Romans learnt this from the Gauls when Rome under the leadership of Julius Caesar conquered the Gauls. Thus according to Mscheifield (1952)<sup>5</sup> Romans were aware of the simple saponification reaction. The Assyrians were known for the use of alkali as head wash. The Frantis are tribes of West Africa who used a type of soap made of wood ashes and fats during the first century A.D. Crude methods of soap making were known to the ancient Egyptians, Chinese and Indians. It is very interesting to note that in India, people were using some seeds of plants as soap.

During the second century, soap was manufactured scientifically. Caustic soda or sodium hydroxide is manufactured by heating lime from lime stone or seashell with sodium carbonate made by evaporating alkaline water. By the Eighth century, soap manufacturing progressed in Italy and Spain. It was only after five hundred years, that the soap manufacturing technique reached France. The first unit manufacturing soap using olive oil was founded at Marselk in France by the fifteenth and sixteenth century. Italy also started manufacturing soap at a commercial level, by mixing fat and potash separated from the ash of trees. The progress of this method of making soap was slow. An important discovery made by the British scientist Nichholson Lebanse in

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<sup>5</sup> M Sheffield,(1952) A. Century of Soap making, Indian Soap journal. Vol. 17 pp.192-193.

1787 was a solution for this problem. He was able to make sodium chloride from salt after this Michael Eugne Cheverat successfully completed the experiment of making soap mixing fat and sodium hydroxide. Through this experiment, it was found that soap manufacturing is a chemical process and glycerin gets separated from fat when sodium chloride and fat are made to react. These two discoveries were responsible for the commercial production of caustic soda and its use for the manufacture of soap. There arose plenty of soap manufacturing units in England by eighteenth and nineteenth centuries. But the burden of tax weakened these units and as a result the tax on soap manufacturing units was stopped. Because of this there was a great increase in the manufacture and use of soap. At the same time the name of W.G Lever became a trade mark in the soap business. It was in 1884 that the first manufactured soap with the brand name suitable was introduced in the market. Afterwards there came a series of soaps, with distinctive smell and quality. Lux soap that became very popular in 1900's is an example for this.

Thus the modern soap making as a standardized process can be attributed to the discoveries of Cheverat, Leblance, Masprate, Mercquerer, and Vanghelin. The commercialization of soap industry was largely due to promoters like Grassage, Weld Jusias, Gramble, Brumer and Morid, Andrew Pears, Edward Cook, George Crasfield and Robert Spear. Hindustan also contributed to this development. Much of the development in soap making industry today, however is due to organizing capacity of first Viscount Lever Hume.

Later on with the advancement of scientific knowledge, the soap industry was established by the government on a firm footing. During the initial period, naturally occurring animal fatty, oils were used in soap making. As available natural fats were limited in supply, it was substituted subsequently by vegetable oils. As time passed inadequate availability of vegetable oils for soap making also was felt. This promoted soap industry to search for some other substitutes of vegetable oils for making soap and also for some substitutes for soaps. It was

with the development of petroleum industry that the solution to this was found. The industry made a phenomenal progress after the Second World War. Today, there are a host of soap manufacturers from small scale sector to multinationals. Soaps and detergents occupy a vital place in modern chemical science.

#### 4.2 Soap Industry- Global Scenario

Soap is generally classified as a staple commodity alongside detergents. It also figures in the personnel wash and personnel care markets. Only rarely are statistics for soap directly separable from those for detergents or from toiletries. The demand for soaps and detergents is increasing with the increase in the standard of living and purchasing power of the population. Urbanization and increasing awareness of cleanliness are other favourable factors as quoted by K.S. Parasuram<sup>6</sup>. The per capita consumption of soaps and detergents of various continents during 1960 to 2000 is given in the following table.

**Table 4.3**

**Per Capita Consumption of Soap 1960-2000 (in Kg)**

Continent	1960	1970	1980	1990	2000
West Europe	9.7	13.8	18.9	19.2	19.8
East Europe	6.5	6.8	8.6	9.2	9.5
North America	12.8	20.2	30.1	30.9	31.2
Central America	4.1	6.9	7.8	8.1	8.6
South America	4.6	4.7	7.8	8.2	8.8
Africa	2.3	2.4	3.2	3.8	4.3
Asia	1.0	4.6	6.3	7.1	8.2
India	0.99	1.1	1.6	2.2	2.8

Source : Soaps and Detergents 2003. Tata McGraw Hill, page publishing company limited, New Delhi.

<sup>6</sup> K.S. Parasuram. (2003) Soaps and Detergents, Tata McGraw Hill Publishing Company Ltd. New Delhi.

From Table 4.3 it is clear that in North America the per capita consumption of soap is increasing steadily from 12.8 kg in 1960 to 31.2 kg in 2000. The per capita consumption of soap in India is very low compared to that in other continents. The world per capita consumption of soaps and detergents in the year 2003 is of the order of 10 kg when Indian figure stands at 2.9 kg.

Recent market analysis by Euro Monitor (2000)<sup>7</sup> shows that in 2000 the soaps and detergents together represented around 12.4 per cent of consumer expenditure on household goods in industrialized countries and between 2.6 per cent to 5 per cent in the developing world. For the developed economies, this reflects the growing maturity of the market and intense price competition in the market place. There is much greater scope for marketing to induce consumers in the emerging markets to raise the consumption level. According to the Report of (WSP) Water and Sanitation Programme, with the world bank's and London School of Hygiene and Tropical Medicine (LSHTM), The soap market is divided into true soaps,(Combination of fat and caustic material) and non soappy (largely petroleum by- products).

The world market for soaps and detergents has continued to experience steady growth since 1995, with an increase of 21 per cent over the period. The world market for soaps was worth US \$ 88 billion in 2000. In absolute terms, the US market continues to dominate the world stage, although the Japanese market has grown more strongly during the period. In Eastern Europe, the liberalisation of economies, such as the Czech Republic, Hungary and Poland have had the effect of accelerating the sales development, while France continues to make a strong contribution to the European. Total sales of soap have received a strong impetus from recent economic developments in china where continued future expansion is anticipated . The Indian market also benefited significantly from the dramatic 1995 reduction of excise duty rates on soaps and detergents when

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<sup>7</sup> Euro Monitor(2000)

effectively doubled the market in a single year . The following table shows the Global sales by region.

**Table 4.4**  
**Global –Soap Sales by Region in '000 tonnes**

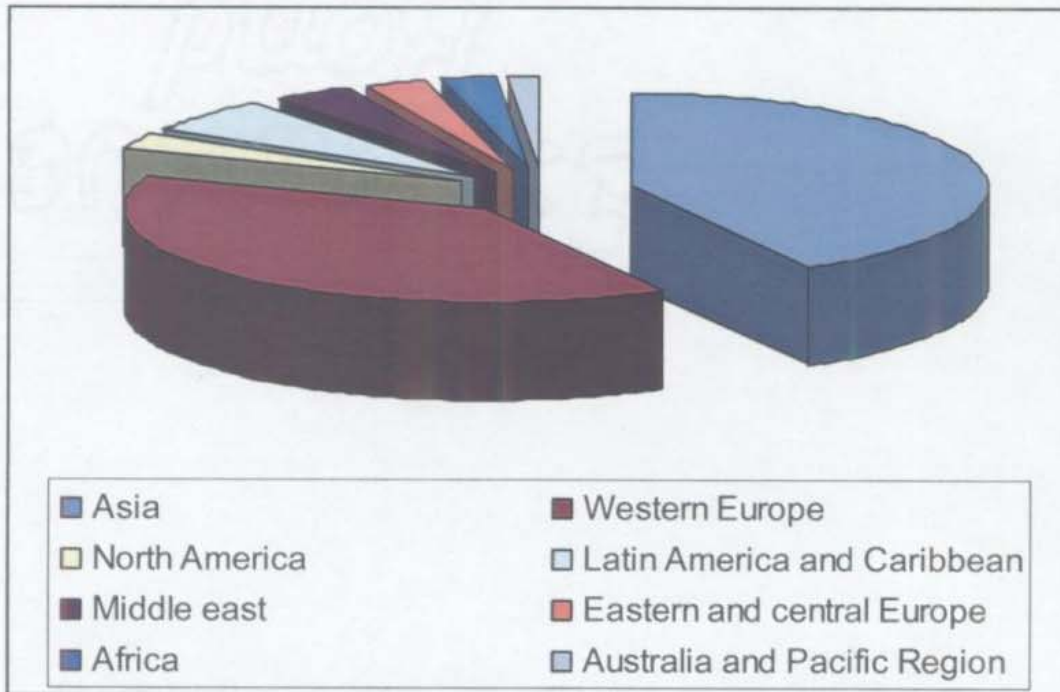
Region	1999	2000	2001	2002	2003
Asia	18494	19432	21514	24087	29480
Western Europe	20937	25556	27220	29554	27385
North America	17014	17550	18149	18787	1939
Latin America and Caribbean	3300	3372	3694	4233	4643
Middle east	1540	1757	2107	2345	2546
Eastern and central Europe	5125	6922	13824	1085	1887
Africa	1071	12271	1414	1610	1764
Australia and Pacific Region	921	947	1012	1004	969

Source : Data Monitor 2004

From Table 4.4, it is clear that the primary Engines (drivers) of this sales growth were Western Europe (31 per cent), Asia (59 per cent), and Latin America and Caribbean (41 per cent). During the same period the mature North American market expanded by just 14 per cent while the impact of economic recession has severely curtailed sales in Australia and the Pacific Rim. The Middle East and Africa regions are believed to have expanded sales.

Figure 4.1

Global- Soap Sales by Region in '000 tonnes(2003)



The global market for soap is dominated by small number of multi national companies with string brand identity and enormous advertising budgets. There is cut throat competition between these multinationals. The top global players include Unilever, Procter and Gamble, Colgate Palmolive and Johnson and Johnson. Important regional players include Beiersdorf in Europe, The Kao Corporation in Asia Pacific, Paterson zocharis in Africa and Nirma and Godrej in South Asia.

The largest toilet soaps and detergents producing company by sales, is the Unilever group, which has strong pressure in all regional markets in the world. The top ten leading manufacturers and distributors of soap world wide account for more than 55 per cent of total sales by value in 2000, totally in excess of US \$ 80 billion.

The following table lists the top 10 companies dominating the global soap market in terms of value sales.

**Table 4.5**

**The Top 10 Global Players in the Soaps and Detergents Markets in 2000**

Position	Company	% value of world
1	Unilever	10.07
2	Procter and Gamble	7.41
3	Gillette group	7.66
4	Colgate Palmolive	4.5
5	Johnson and Johnson	4.45
6	Shiseido	4.32
7	Estee lacerder	4.21
8	Reviol	3.42
9	Wella	2.27
10	Hemkel	2.27

Source:- Euro monitor- 2000-01

The major players in the International market control the major brands in their respective market sectors, and have the financial and marketing muscle to combat the ever increasing threat of competitors. These manufacturers tend to house families of products, not necessarily in the same brand sector, but under a general brand identity. For example: - Colgate Palmolive produces bar soap, liquid soap, shower gel and shampoo, all under the brand name Palmolive. Generally the big firms operate strong individual brand identity for their core products. This behaviour is best seen in Gillet soap sector as illustrated by the following table.

These three companies, Unilever, Johnson and Johnson, Colgate Palmolive have the largest number of brands in the top 50 Ranking as Table 4.6.

**Table 4.6**  
**Key players: Brand Ownership in top 50 Ranks**

Name of company	Brands in the top 50	Brand and position
Unilever	12	Lux (10) Rexona (25) Dove (25) Ponds (16) Lifebuoy (44)
Procter and gamble	8	Crest (20) Camay (50)
Colgate Palmolive	3	Palmolive (18)

Source: Market assessment publication (2000-01)

Despite the increasing number of brands and products on the global market, established brands from the key global players such as Unilever, Johnson and Johnson, Colgate Palmolive etc are proving difficult to displace. Though these manufacturer's brands are more expensive than National brands and privately labeled products, consumers seem to prefer familiar trusted brands.

The top soap manufacturers have large advertising budgets at their command. Unilever is the number one spender on advertising globally. The multi national companies advertise in television, radio, the internet, posters, direct mail and through sponsorship and public relation companies.

In the developed world, the multinationals face competition from the major super markets who are increasingly introducing own brand products. In the developing world, the competition to the multinationals comes from local companies and from small artisanal producers, who sell in markets or house to house.

The global soap market is dominated by a small number of multinational companies. Soap is only one sector of their product changes. In multinational

companies such as Unilever and Procter and gamble, soaps and detergents range typically accounts for less than 20 per cent group turnover.

The global production and marketing of soaps and detergents is largely mature in developed countries and displays stagnant growth. The growth potential in developing countries is high. In developing and emerging markets the consumption of soap is increasing due to growing population, increasing disparity of income, and increased consumption by the elite and derives aspiration in the poor segments. It is generally economical to produce soap locally than to import. Local manufacturers are fighting back by using their local knowledge capacity for rapid innovation to expand into new riches in a saturated market or by producing cheaper product changes.

### **1.3 Soap Industry- Indian Scenario**

Growth and development of soap industry in Indian scenario can be studied as 1. soap industry before independence, 2. soap industry after independence and 3. soap industry during the 1990s.

#### **4.3.1 Soap Industry before Independence**

In India modern soap industry was started during the early 20<sup>th</sup> century. The history of soap manufacturing in India by the organized sector can be traced to as far back as 1879, to the North West soap company at Kanpur by the British and Kerseve soap company at Meerut in 1897. By 1918 there were as many as eleven large soap manufacturing units in India which started the production of modern type of soap<sup>8</sup>.

It was around this time that imports of toilet soap began and major International brands appeared on the scene. The first indigenous unit was set by Godrej in 1918 in Bombay. Next was the Tatas in 1930, followed by Levers in

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<sup>8</sup> Usha Shivaraman (1988) Poised for a major breakthrough, Economic Times, July 28, Page no. 5

1934. By the end of the thirties domestic production had started in full swing and therefore imports of soap declined. The import worth Rs. 20 million in 1920-21 came down to Rs. 8 million in 1940-41. Thus immediately after the end of the first world war Godrej, Tata oil Mills, Mysore and Madras governments entered into the soap manufacturing field. In 1922 Unilever was taken over by the North West factory. But they did not show much interest in increasing their capital in soap manufacture in India. Large scale soap manufacture came into being, only by 1930. Limited progress was acquired in this business.

#### **4.3.2 Indian Soap Industry- After Independence**

Soon after independence, the Indian government took the leadership in strengthening the indigenous soap manufacture. Soaps and detergents are manufactured in India both in the organized and in the unorganized sector. Industrial licencing introduced by the government benefited the soap business. The support given by the government and other financial institutions helped in a strong manner to promote the growth of soap production in the small scale sector. As result the government imposed total ban on the import of soaps from 1955 onwards. Besides satisfying the needs of the internal market, the Indian soap manufacture sphere acquired the capability for export also. In 1955, when the production in the organized sector was one lakh tonnes, it was one lakh ten thousand tonnes in the unorganized sector. Even then sufficient attention was given to the organized sector. Hindustan lever produced more than 60,000 tonnes and maintained its supremacy as it was before independence. As a result of changes brought in the policy of licencing, the production of soap and detergents in the organized sector of India was steadily increasing from 1960 onwards. This is shown in the following table.

**Table 4.7**

**Production of Soaps and Detergents in India 1960-1990**

Year	Production in tonnes
1960	149004
1970	233602
1980	308442
1990	1563160

Source- Business Environment 1992, Indian soaps and Toiletries Makers Association, Vol . X. No.52.

From Table 4.7 it is evidenced that, the production of soaps and detergents increased from 149004 tonnes in 1960 to 1563160 thousand tonnes during 1990. In India the per capita consumption of soaps and detergents, however, is woefully low, lower than in a number of developing countries. The per capita consumption is 0.3 kg per annum for soaps compared with 0.6 to 1 kg per annum in other third world countries.

**4.3.3 Indian Soap Industry During the 1990's**

As a result of the introduction of (NIP) New Industrial Policy (1990), barriers came down. New players both from India as well as abroad are entering in different products. The winds of liberalisation or opening up of the market have brought about changes that would have been unimaginable a decade ago. Multinational companies are taking over many viable Indian companies and acquiring some of their popular brands. We see a real battle over brands. There are established brands, international and just launched new brands. For eg. in Toilet soap, there are several old brands such as Lux, Liril, Rexona, Life buoy, Hamam, Pears, Moti, Jai, Cinthol, Mysore sandal and Margo. Still during the 1990's a large number of premium brands were launched such as Dove, Camay and Lesancy.

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Many developments have taken place in the toilet soap market also with leading players being Hindustan lever, Godrej and Colgate Palmolive. In the organized soap industry, many changes are taking place with major products launched by Hindustan lever Ltd. The soap market also can be classified into premium and low cost category, with the low cost accounting for 70 per cent of the market. The toilet soaps can be categorised in segments including health complexion and skin care etc. Life buoy for example is the largest selling soap marketed by Hindustan lever. Brands like Cynthol and Liril are in the freshness segment. Some of the family soap includes Hamam, Lux etc., skin care products include Dove, Pears, Camay and Palmolive<sup>9</sup>

The over all consumption of toilet soaps in India rose from 5 per cent in 1990 to 7 per cent in 2000. The demand in the urban market was relatively stagnant, but the rural market experienced a healthy growth. The demand depends on (1) prices at which the brand is offered, (2) Income level of the people, (3) Population, (4) indirect tax levies, (5) global brands invading the Indian market and changing price value connotations.

The toilet soap market can be segmented into 4 types:

- 1) Carbolic soaps or economy segment (Life Buoy, Nirma Bath).
- 2) Popular soap (eg. Lux, Hamam, Ganga)
- 3) Premium soaps ( eg. Cinthol, Liril, Pears)
- 4) Super premium soaps ( Dove, Lesany, Camey)



Now a days the consumer trend is going for a multiple brands buying. A large number of middle and upper income consumers are using more than one brand of premium soap and this tendency is likely to spread to other popular segments of soap. The toilet soap industry thus witnessed the launching of new brands, and the market

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<sup>9</sup> Ramanuj Majumdar (1998) Product Management in India (second edition) Prentice- Hall of India, New Delhi

had roughly 132 brands of the 4.9 lakh tonnes of toilet soaps, the popular segment accounted for nearly 3.6 lakh tonnes (ISTMA)<sup>10</sup>. Toilet soaps will be increasingly positioned on the basis of several psychological or caring factors instead of prime functional attribute of cleaning abilities.

The Indian soap market being pull based, advertising is used to create considerable brand equity. It is said that to build and maintain brand image a huge amount is spent on advertising and promotion. For instance, annually Hindustan Lever Ltd. spent as much as 152 crores rupees, P&G 38.7 crores and Colgate 32.4 crores, on advertisement respectively. In India the major competition in the toilet soap industry is confined to the following companies- Hindustan Lever Ltd, P& G, Godrej, Nirma and Colgate Palmolive. Toilet soap market in India was dominated by a very few MultiNational Companies which could monopolistically price their product. In the era of globalisation global brands of soaps are available in the Indian market, there by changing the price value situations. In these days Indian soap manufacturers has to face stiff competition from the multinational companies in the soap production.

With the increase in the standard of living, purchasing power of population, urbanization etc. the demand for soap and hence its production is increasing. According to the estimates of Indian Soaps and Toiletries Makers Association (ISTMA-2003), India is the largest producer of soap in the world i.e 9,60,000 tonnes per year and Indian soaps and detergent market is valued at Rs. 6716 crores. As per their report the soap market of India is growing at about 3 to 4 per cent per annum. The index of industrial production is an important economic indicator for measuring the growth in industrial sector. In order to have a realistic picture of soap production in India, it is very much essential to look into the index of industrial production of soap- all kinds as shown in Table 4.8.

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<sup>10</sup> ISTMA (2001)- Indian Soaps and Toiletries Makers Association, Bombay

**Table 4.8****Index Number of Industrial Production Soap of All kinds – India (000 tonnes)**

Year	Production in 000 tonnes
1990-91	1563
1991-92	1548
1992-93	1470
1993-94	1465
1994-95	1570
1995-96	1798
1996-97	1480
1997-98	1586
1998-99	1969
1999-2000	2994
2000-01	3733
2001-02	3745
2002-03	4086
2003-04	4190

Source: Hand Book of Statistics on the Indian Economy .2004. Page 58-59

As indicated in Table 4.8, soap production in India is increasing rapidly from 1563 tonnes in 1990-91 to 4190 tonnes in the year 2003-04

**4.3.4 Small Scale Manufacture of Soap and its Social Relevance**

It is already mentioned that the chemistry and technology of soap is very simple. On this account it is feasible to make a soap for personal use and the use of the neighborhood. Soap manufacture has become the monopoly of large-scale industries like Hindustan lever Ltd. The actual production cost of soap manufactured by these large scale companies is in reality only 20 per cent-25 per cent of maximum retail price, (MRP). These companies extort crores of Rupees from the consumers for advertisement and commission for marketing. And the consumer gets caught in the whirlpool of this fantasy created by advertisement and other means and without knowing that they are getting exploited, buy and

use the soaps manufactured in these large scale companies and this increases their profits.

At present the western countries are preferring natural and herbal products not for mere fashion but as a necessity to counter the skin diseases spreading like wild fire. The toilet soaps which are manufactured and marketed by multinationals have failed in arresting these diseases. The traditional way of manufacturing toilet soap developed by small scale sector by using non edible oil which are having rich medicinal values are having the capacity to cure skin diseases. It is found that Albenum extract from turmeric and thulasi along with non edible oil like neem, karange, marothi, jalthropa produces a high quality toilet soap. There is a good demand for high quality herbal soaps like Medimix, Chandrika, Radhas and Thulasi in the export market.

The small-scale sector, which accounts for little more than two thirds of the total soap production in India consists of about 5200 units. The greatest contribution of Neo soap industry of KVIC opened a new era in toilet soap especially for small manufactures<sup>11</sup>. The continuous R and D in machinery upgradation as well as product development is a new challenge to the Multinationals. KVIC's, contribution in manufacturing the toilet soap by using non edible oils like neem, Karange, Jalthropa, not only increased medicinal values in toilet soap, but is also contributing for employment generation in rural areas. The soap segment of this sector is mainly depending on the local market, and it faces severe competition from the multinationals and other large industries.

Most units in the small scale sector do not ordinarily manufacture toilet soap since the investment required for plant and machinery is normally beyond reach. However, the small scale sector does enter into conversion contracts with the large scale sector for making toilet soaps. About 67 per cent toilet soaps are

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<sup>11</sup> Krikanta Rao (2000) Non edible oils and Soap industry by Khadi and Village industries Commission Report.

produced by the small scale sector and it meets nearly 90 per cent of the consumer demand for laundry soaps, since the manufacturing process adopted is simple<sup>12</sup>.

The production of soaps and detergents in organized, small and medium sector is shown in Table 4.9. it is clear that the production of soaps and detergents in both large and small and medium sector is going on increasing from 1990 onwards. Comparing the production of soap of these sectors, the contribution of small and medium sector is greater than that of the organized sector. Soaps manufactured in the large scale sector are expensive because of higher overheads, superior formulation, and capital intensive techniques used for pre heating oils. At present 7,00,000 tonnes of soaps are being manufactured in India with about 2/3 in the small scale sector.

**Table 4.9**

**Production of Soaps and Detergents , Organized Small, Medium Sectors  
1990-2000 (in Million Tonnes)**

Year	Organised sector	Small and medium	% Share/ small and medium sector
1990	0.159	0.05	24
1991	0.171	0.07	29
1992	0.165	0.14	46
1993	0.170	0.20	54
1994	0.180	0.28	61
1995	0.190	0.35	65
1996	0.200	0.41	67
1997	0.210	0.59	74
1998	0.220	0.70	76
1999	0.300	0.90	75
2000	0.400	1.00	71

Source: Estimates from ISTMA 2001.

<sup>12</sup> Soundara Pandian (2002) Industrial Resurgence in Rural India- Scope and Strategies, Kanishka Publishers New Delhi

From 1990 onwards, the Indian soap industry is thriving and flourishing. The toilet soap industry is one of the oldest Fast Moving Consumer Goods industry in India.(F MCG). It is among the highest penetrated category with in FMCG sector reaching an estimated 95 per cent urban and 87 per cent of the rural households. In value terms the industry is worth Rs. 45000 million and volume terms it is worth 53 million. (As reported by operation Research Group (ORG) survey). The main characteristic of the industry was severe competition and high level of brand proliferation.

#### **4.4 Soap Industry – Kerala Scenario**

It is long time since the soap products and soaps that reached Kerala crossing the ocean, have become a part of Keralite's day –to- day life. It is no wonder that large scale industries have made us, slaves of their brands through appealing advertisement strategies. Where else in the world can we find people who take bath twice daily and use clothes properly washed. Soaps and detergents are basic consumer needs and have an age of old tradition.

Though in India the soap industry is thriving and flourishing, Kerala exhibits an altogether different picture of the industry. The industrial structure of Kerala is characterized by very low representation of large and medium industrial units and significant concentration of small scale industries. SSI sector in Kerala contributed more than 40 per cent of gross output of the entire manufacturing sector of the country as a whole. The industries which show a wider potential in the field of small scale sector are chemical industries. The annual survey of industries shows that the highest amount of value added was contributed by chemical industries and soap industry belongs to the category of chemical industry.

In Kerala, soap industry was popular in Malabar during 1914- 1915. While the history of soap industry is traced, the work of bassel mission (1914) deserves special attention. At present production of soaps in Kerala is carried both in the public and private sectors. The two public sector units are Kerala Soaps and Oils Ltd, and Kerala state Detergents and chemicals. The general criticism

leveled against KSO (1914) and KSDC(1975) is that they are not making adequate return on investment and not working properly. 80 per cent of soap producing units belongs to the small scale sector. There are about 272 units in the small scale sector, producing soaps and detergents in Kerala. Soap industry in the small scale sector enjoys tax benefits and low capital intensity, so the cost of production is lesser and the selling price will be reasonable.

Soaps can be broadly classified into washing or laundry and toilet soaps. Among the toilet soap, the categories are popular, premium and economy. The price segments of toilet soap are given in the following table

**Table 4.10**

**Price segments of Toilet soaps**

Segment	Price	Weight
Premium	>Rs.15	75 gm
Popular	Rs.8-15	75 gm
Economy	<8	75 gm

Source : Vanscom database

The popular range of soaps is cheaper to a much large segment. Today more than 50 per cent of the total volume of the market belongs to the low priced cater. In Kerala the production of toilet soap accounts for 25 per cent of market share. The Kerala producers are enjoying only 15 per cent in the washing soap market.

During 1970-1980, the total consumption of both soap per year is 30,000 tonnes in Kerala. Apart from that the sale of washing soap and soap powder was worth 30 cores. This market increased during 1995 to 5.85 tonnes of soap and during 2000 by 9.14 tonnes of soap. At present in India the total toilet soap production is worth 1000 crores, that includes premium soaps, popular soaps and carbohc or economical soaps. If we take the total soap production in Kerala the rates will be maximum 6 per cent of the total consumption.

The contribution of small scale sector towards soap production in Kerala is shown in the following Table 4.11

From the table, it is clear that the production of soap in Kerala is increasing steadily. It is said that though per capita consumption of soap is higher in Kerala, it is lagging behind in most of the states in the production of Soap. India produces nearly 10,000 crores worth of soap every year but a negligible proportion alone is contributed by Kerala. Even with all the favourable infrastructure like improved market, availability of raw-materials, like oils, skilled labour, still the soap industry finds it difficult to establish its root in Kerala.

**Table 4.11**  
**Production of Soaps and Detergents in Kerala- 1994-2004**

Years	Production (000,tonnes)
1990-91	156
1991-92	154
1992-93	147
1993-94	166
1994-95	250
1995-96	298
1996-97	320
1997-98	336
1998-99	350
1999-2000	356
2000-2001	352
2001-2002	359
2002-03	342
2003-04	362

Source : Industrial Data Book –various issues (1990-2004)

In spite of severe competition from multinationals and other large industries, Kerala enjoys a 'niche' in the soap market- mainly of its Herbal soaps like Chandrika, Radhas, Ajanta, and Thulasi etc. They enjoyed local and exports market. Though so many soap manufactures failed in finding proper markets for their products, these could establish themselves mainly due to the product quality and successful marketing strategy.

Fully realizing the potential of soap industry in Kerala, in terms of employment generation, income, industrial and economic development of the state, "Kudumbasree" had undertaken soap manufacturing as one of the seven wonder projects of 2000-01. As a result of this, women entrepreneurs in kudumbasree were able to start 57 soap manufacturing units in various towns. They can find market for the soap by making use of the direct marketing network of the neighborhood and 580 women. Government is providing supportive policy for the promotion of soap industry in Kerala. In spite of all the ventures, the growth rate of the industry is not at all satisfactory. The soap industry of Kerala is facing intense competition from the multinationals and other large companies, after the introduction of the new economic policy,. Our soap market is flooded with international brands of soap products. The soap production in Kerala faces a number of problems that lead to the closing down of the units. The main reason for the failure of the units is the low quality of products and multiplication of units engaging in one and the same line of product. When one unit producing a particular product is found successful more and more units are established producing the same commodity. This will ultimately result in that stage in which the new as well as the old units find it

difficult to manage the units successfully. Apart from low quality, and unhealthy competition, higher cost of production and low productivity are other reasons for the failure of soap industry in Kerala. More over, as a result of liberalization, copra and coconut oil are imported without any restriction. This is not only destroying the Kerala farmers, but also the soap production in Kerala.

At the same time, there is bright future for soap production in developing countries due to increase in standard of living, literacy, the growth of media especially T.V, improvements in transportation and communication networks, innovative R & D for raw materials and finished products, growth of super markets and retail outlets, high speed packaging machines and attractive packaging materials, state of the art technology to enhance productivity and reduce costs, increasingly talented advertising and marketing agencies, liberalization of markets and growth in free trade etc. It is generally more economical to produce soap locally than to import. The local manufacturers can fight with their local knowledge and capacity for rapid innovation to expand into new riches in an unsaturated market or by producing cheaper product range. Though the local manufactures can exploit specific opportunities, bigger companies are gaining ground overall through their economies of scale and heavy investment in knowledge.

The contribution of soap industry in Kerala in terms of productive capital, value of output and value added is given in the following Table 4.12. Even though the contribution of chemical industry is the highest in Kerala, the table depicted that the productive capital, value of output, and value added of soap industry compared to all industries are very low. This is also clear from Figure 4.1

Table 4.12

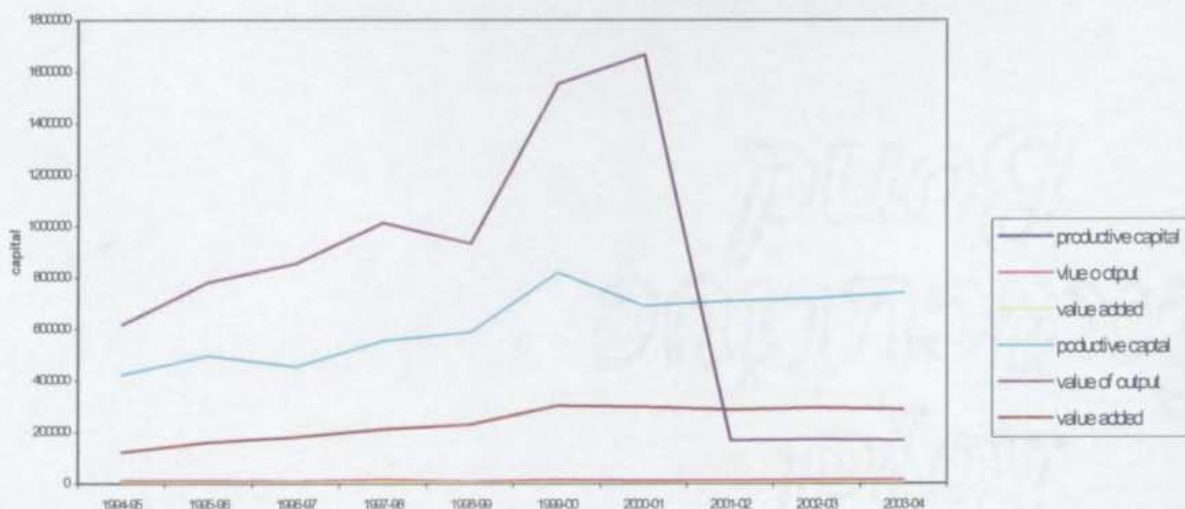
Comparison of Productive Capital, Value of Output, value added in Soap and all Industries in Kerala- 1994-2004 (in lakhs)

Year	Soap industry			All industry		
	Productive capital	Value of output	Value added	Productive capital	Value of output	Value added
1994-95	2975	10326.09	2135.06	423615.05	616285.14	121702.0
1995-96	5003.24	11469.81	1932.92	497741.53	784789.92	160086.00
1996-97	4244.51	9556.34	2504.97	455185.99	855830.11	179822.7
1997-98	3876.87	14768.76	5700.86	554694.25	1013257.08	211869.56
1998-99	4459.64	8706.03	1265.54	590086.00	934993.08	229008.60
1999-00	3514.01	15219.63	4056.62	821796.00	1554922.02	303785.60
2000-01	2134.19	12988.57	2747.50	692312.00	1668593.6	296978.00
2001-02	3640.05	13204.8	2988.42	711325.00	168482.50	286654.00
2002-03	3820.0	14820.62	3112.04	722650.25	170515.30	294328.00
2003-04	4210.5	15110.68	4011.80	741540.30	169218.20	287584.40

Source- Department of Economics and Statistics Kerala -2004

Figure 4.2

Comparison of productive capital, value of output and value added output in soap and all industries in Kerala (1994-2004)



Since soaps are both used for bathing and washing, it has become an integral and indispensable part of human life. For generation its use has increased; and its manufacture has become an industry essential to the comfort and health of civilised human beings. With very vast marketing prospects and avenues, their production being very remunerative, soap industry has wider potential in the industrial development of a country. Soaps and detergents occupy a vital place in modern chemical science. Their development is infact very much linked with the growth of the petro-chemical industry, which provides the basic raw materials. Today there is a host of soap manufacturers from small scale sector to multinationals, each having its own strength to cater to the consumer. The soap industry in Kerala plays a significant role in employment generation, economic development and provides quality products to the consumer. It is felt that even though the soap industry had to play a legitimate role in the state, it has not initiated the required part. Different factors would have adversely affected the prospects. The operational problems have retarded the growth hence it is worthwhile to examine the economics, financial performance and problems of this industry, which is attempted in the succeeding chapters.

# CHAPTER V

## ECONOMICS OF TOILET SOAP PRODUCTION IN KERALA

### 5.1 INTRODUCTION

In the previous chapter we examined the growth performance and significance of soap industry at the international, national and state levels. As a consumer good industry soap industry is also important for industrial development of the state. With this focus an attempt is made in this chapter to discuss the economics of toilet soap production in Kerala. However a comprehensive analysis is difficult due to many reasons. The major hurdle being the non availability of quality data. Practically no data are compiled on a rational basis by many of the production units. Thus the analysis in this chapter is restricted to the data gathered from the sample units. The data are collected directly from the units by the researcher and the time period of the study is ten years from 1995 to 2004. The sample consists of 10 production units. On the basis of investment in fixed capital ie. investment in land and building and plant and machinery, we classify all toilet soap production units in our sample into 4 groups. They are 1) very small units with investment below Rupees One lakh 2) Small units with investment ranging between one lakh and three lakhs 3) Medium units with investment above three lakhs and below five lakhs and 4) large units having investments above 5 lakhs. More than 80 per cent of the sample units selected had a very old tradition. With respect to the organizational structure, proprietorship is seen to be the most prevalent pattern of ownership, followed by partnership also.

Theoretically the discussion on economics should be centered around the foundations of micro economic theory. Considering the difficulties for a strict theoretical approach, the discussion is developed based on Annual survey of

Industries (ASI) format. So the economic performance of toilet soap production in Kerala is examined in terms of capital structure, value of inputs including labour, value of output, profit and value added. The succeeding sections examine the economics of toilet soap production in Kerala for the reference period 1995-2004.

## 5.2 Capital Structure

The discussion on economics of an industry starts with the examination of the capital structure consisting of - fixed capital, invested capital, working capital, and productive capital. In the present analysis since the sample size is different, per unit value of the fixed, invested, working and productive capital of the sample units are examined. Tables (Table 5.1 to Table 5.4) give the per unit capital structure of the aggregate sample units – large, medium, small and very small over the reference period, 1995 to 2004.

**Table 5.1**  
**Capital structure of Large unit-1995-2004 (per unit)**  
(Rupees in Lakhs)

Year	Fixed capital	Invested capital	Working capital	Productive capital
1995	19.31	83.79	143.30	162.61
1996	20.71	86.39	127.99	148.71
1997	16.39	60.32	108.91	125.31
1998	25.38	81.74	181.02	206.40
1999	30.91	75.56	227.30	258.21
2000	28.11	100.69	184.45	212.56
2001	27.92	89.04	236.66	264.58
2002	41.43	90.17	173.87	215.30
2003	39.81	86.55	67.88	107.69
2004	32.72	56.20	125.05	157.77

Source: Compiled by the Researcher

**Table 5.2**  
**Per Unit Capital structure of Medium units-1995-200**  
(Rupees in Lakhs)

Year	Fixed capital	Invested capital	Working capital	Productive capital
1995	2.10	3.43	3.05	5.15
1996	1.82	3.49	3.63	5.44
1997	1.60	3.63	2.68	4.28
1998	1.54	3.71	3.26	4.80
1999	1.45	3.79	3.88	5.33
2000	1.30	3.81	4.82	6.12
2001	1.20	3.86	4.05	5.25
2002	1.09	4.57	5.11	6.21
2003	0.90	4.76	6.04	6.94
2004	0.80	5.31	8.48	9.27

Source: Compiled by the Researcher

**Table 5.3**  
**Capital structure of Small units-1995-2004 (per unit)**  
(Rupees in Lakhs)

Year	Fixed capital	Invested capital	Working capital	Productive capital
1995	0.72	1.22	0.63	1.34
1996	0.63	1.16	0.71	1.35
1997	0.64	1.17	0.61	1.25
1998	0.59	1.15	0.62	1.22
1999	0.53	1.10	0.57	1.10
2000	0.49	1.10	0.68	1.17
2001	0.46	1.09	0.68	1.14
2002	0.43	1.07	0.69	1.11
2003	0.43	1.08	0.68	1.10
2004	0.40	1.06	0.67	1.07

Source: Compiled by the Researcher

**Table 5.4****Capital Structure of Very Small Units-1995-2004 (per unit)**

(Rupees in Lakhs)

Year	Fixed capital	Invested capital	Working capital	Productive capital
1995	0.25	0.28	0.31	0.56
1996	0.22	0.25	0.32	0.54
1997	0.22	0.27	0.35	0.57
1998	0.20	0.24	0.31	0.51
1999	0.13	0.18	0.33	0.45
2000	0.15	0.19	0.36	0.51
2001	0.13	0.19	0.31	0.44
2002	0.12	0.17	0.28	0.40
2003	0.14	0.20	0.35	0.50
2004	0.13	0.21	0.37	0.50

Source: Compiled by the Researcher

From the tables it is clear that for the large unit, the fixed capital is increasing from Rs. 19.31 lakhs in the year 1995 to Rs. 32.72 lakhs in the year 2004. The investment in fixed capital is very high as Rs. 41.43 lakhs during the year 2002 due to the increase in investment in plant and machinery. On the other hand fixed capital of medium, small, and very small units is declining throughout the reference period. It decreases from Rs.2.10 lakhs to Rs. 0.80 lakhs, Rs.0.71 lakhs to 0.40 lakhs, and Rs.0.25 lakhs to 0.13 lakhs for medium, small, and very small units respectively in the years 1995 to 2004. It may be due to the fact that once they are established, they do not incur much expenditure on any of the fixed cost items.

The invested capital of the sample units depicted in the Tables 5.1 shows wide fluctuations during the reference period. If we compare the fluctuations, it is high in the case of large and medium units ranging from Rs.83.79 lakhs to

Rs.56.20 lakhs and Rs.3.43 lakhs to Rs.5.31 lakhs. These fluctuations were mainly due to the fluctuations both in fixed capital and the stock of goods. The invested capital of the large unit reaches the peak level in the year 2000 as Rs. 100.69 lakhs, whereas it is the highest for the medium units (Rs.5.31 lakhs) in the year 2004. The invested capital increased mainly due to the increase in the stock of raw materials. On the other hand for small and very small units, the general trend indicates a fall in invested capital over the years due to the reduction in the stock of materials and semi finished goods. It reduces from Rs. 1.22 lakhs to Rs.1.06, and from Rs.0.28 lakhs to Rs0.21 lakhs, in the case of small and very small units.

The per unit investment in working capital is the highest in the large units followed by medium, small and very small units. The working capital position of the large unit is very high in the year 2001 amounting to Rs. 236.66 lakhs, because the assets were greater than the liabilities. The working capital of medium units is steeply increasing from Rs. 3.05 lakhs in 1995 to Rs.8.47 lakhs in the year 2004 except in 1997. The working capital of small units remain more or less the same for the reference period. For all years except 2002, the working capital of very small unit show an increasing trend and reaches the maximum level of Rs. 0.37 lakhs in the year 2004.

The details of per unit productive capital will provide useful information to an analyst. The per unit productive capital of large and medium sample units is higher. Regarding the productive capital the large unit shows a declining trend in the years 1996, 1997, 2000, 2002, 2003 and 2004. It is the highest in the year 2001. For the medium units the productive capital is increasing from Rs.5.15 lakhs in 1995 to Rs 9.27 lakhs in 2004. Productive capital of both small and very small units is decreasing for the reference period. This may be due to the fall in fixed capital over the years.

**Table 5.5**

**Annual average growth rate of per unit capital(%) - 1995-2004**

Units	Fixed capital	Invested capital	Working capital	Productive capital
Large	8.88	-1.69	8.04	5.58
Medium	-10.14	5.10	14.04	7.97
Small	-6.17	-1.52	1.248	-2.37
Very Small	-5.57	-2.40	2.47	-0.68

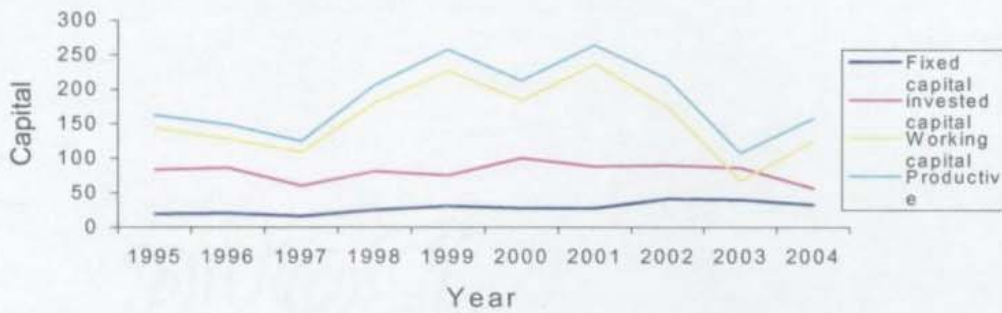
Source: Compiled by the Researcher

In Table 5.5, we present a comparison of fixed, invested, working, and productive capital of the entire sample units in terms of annual average percentage growth rate, for a period of ten years – 1995-2004. From the table it is clear that, for the large units, the average percentage changes of fixed, working, and productive capital are positive, recording 8.88, 8.04 and 5.58 per cent, and for invested capital it is negative as 1.69 per cent. Medium units have positive growth rate in invested, working, and productive capital and negative growth rate in fixed capital. In the case of small and very small units, it is positive for working capital only, and negative for all others

Comparing the entire picture it may be stated that there is a notable increase in the fixed capital of large unit, whereas all other sample units showed a declining trend. Invested capital per unit is higher in medium units. The share of invested capital of small and very small units is declining. The average growth rate of per unit investment in working capital is the highest in the medium units (14.04) due to the increase in the physical working capital. Among the sample units the per unit productive capital of large and medium units is better than the small and very small units. The capital structure of the sample units can be seen in the figures (figure 5.1 to figure 5.4)

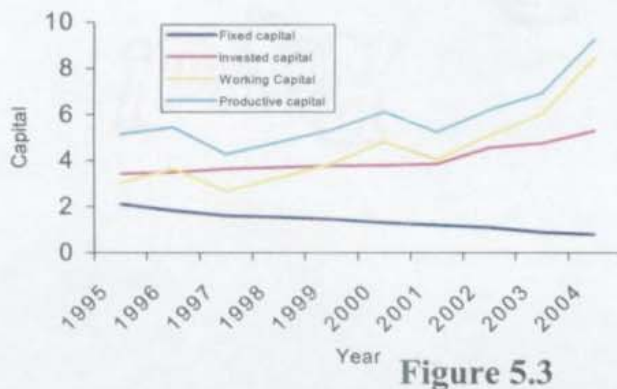
**Figure 5.1**

Capital structure of large units 1995-2004



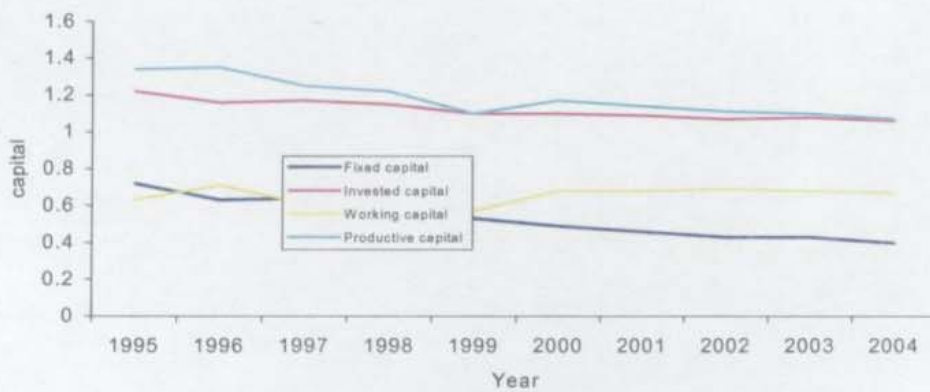
**Figure 5.2**

Capital structure of Medium units -1995-2004



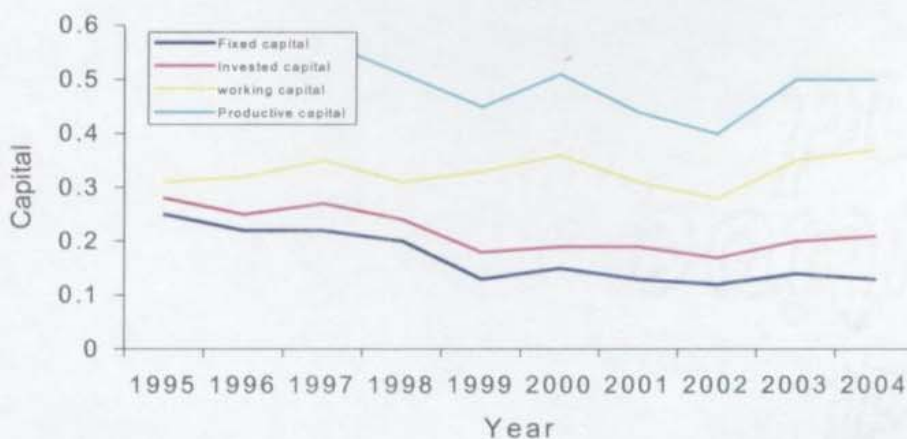
**Figure 5.3**

Capital structure of Small Units-1995-2004



**Figures 5.4**

Capital structure of very small units-1995-2004



Let us now discuss the structural composition of fixed, invested, working and productive capital of large, medium, small and very small units for the period 1995-2004.

### 5.2.1 FIXED CAPITAL

The components of fixed capital include land & building and plant & machinery. Tables 5.6, 5.7, 5.8, 5.9 give the structural composition of the fixed capital of large, medium, small and very small units for the period 1995 to 2004.

**Table 5.6**  
**Composition of Fixed Capital of Large unit( per unit)-1995-2004**  
**(Rupees in Lakhs)**

Year	Land and Building	Plant and machinery	Total
1995	0.31	19.00	19.31
1996	0.28	20.43	20.71
1997	0.25	16.14	16.39
1998	3.92	21.46	25.38
1999	11.18	19.73	30.91
2000	10.70	17.41	28.11
2001	10.28	17.64	27.92
2002	9.89	31.54	41.43
2003	9.55	30.26	39.81
2004	0.92	23.48	32.72

Source: Compiled by the Researcher

From Table 5.6, it is clear that due to the fluctuations of investment in plant and machinery, the fixed capital of the large unit increased from Rs.19.3 lakhs to Rs.41.43 lakhs in 2002. The investment in plant and machinery is high in the year 2002 amounting to Rs.31.54 lakhs. The investment in land and building is the highest,

Rs.11.18 lakhs, in the year 1999. The increase in fixed capital of large unit may be due to the increase either in land and building or in plant and machinery.

**Table5.7**

**Composition of Fixed capital of Medium units( per unit)-1995-2004**  
(Rupees in Lakhs)

Year	Land and Buildings	Plant and	Total
		machinery	
1995	1.50	0.60	2.10
1996	1.37	0.45	1.82
1997	1.26	0.34	1.60
1998	1.17	0.37	1.54
1999	1.11	0.34	1.45
2000	1.02	0.28	1.30
2001	0.98	0.21	1.20
2002	0.93	0.16	1.09
2003	0.78	0.12	0.90
2004	0.71	0.09	0.80

Source: Compiled by the Researcher

For the medium, small and very small units, the general trend indicates a fall in fixed capital over the years. From the Tables 5.7, 5.8 and 5.9, it is visible that the investment in land and building of the medium units reduced from Rs.1.5 lakhs in 1995 to Rs.0.71 lakhs in 2004. For small units the investment in land and building reduced from 0.47 lakhs in 1995 to Rs. 0.35 lakhs in 2004. In the case of very small units, the investment in land and building decreases from Rs. 0.18 lakhs in 1995 to Rs. 0.12 lakhs in 2004. There is also considerable reduction of investment in plant and machinery of medium, small and very small units.

**Table 5.8**

**Composition of Fixed capital of small units( per unit)-1995-2004  
(Rupees in Lakhs)**

Year	Land and Buildings	Plant and machinery	Total
1995	0.47	0.25	0.72
1996	0.45	0.19	0.63
1997	0.43	0.21	0.64
1998	0.41	0.18	0.59
1999	0.40	0.14	0.53
2000	0.38	0.10	0.49
2001	0.37	0.08	0.46
2002	0.36	0.06	0.43
2003	0.35	0.07	0.43
2004	0.35	0.06	0.40

Source: Compiled by the Researcher

**Table 5.9**

**Composition of Fixed Capital of Very Small Units( per unit)-1995-2004  
(Rupees in Lakhs)**

Year	Land and Buildings	Plant and machinery	Total
1995	0.18	0.07	0.25
1996	0.17	0.05	0.22
1997	0.18	0.04	0.22
1998	0.16	0.03	0.20
1999	0.10	0.03	0.13
2000	0.12	0.03	0.15
2001	0.11	0.02	0.13
2002	0.10	0.02	0.12
2003	0.13	0.01	0.14
2004	0.12	0.01	0.13

Source: Compiled by the Researcher

Table 5.10, shows the relative proportion of land & building and plant & machinery in fixed capital of sample units from 1995 to 2004. In the case of the entire sample units, the investment in land & building showed fluctuations. There have been significant changes in the share of land & building of the large, medium, small and very small units from 1.63 to 28.23, 71.43 to 88.6, 65.12 to 86.07 and 72.85 to 92.48 per cent respectively. It indicates that there has not been high investment in plant & machinery of sample units except in large units. The general trend indicates a fall in fixed capital over the years. This is mainly due to depreciation.

**Table 5.10**

**Relative Proportion of land and building (L&B Land Plant and Machinery (P&M) in Fixed Capital of Sample Units- 1995-2004 (%)**

Year	Large		Medium		Small		Very Small	
	L&B	P&M	L&B	P&M	L&B	P&M	L&B	P&M
1995	1.63	98.37	71.43	28.57	65.12	34.88	72.85	27.15
1996	1.37	98.63	75.23	24.77	70.43	29.57	76.84	23.16
1997	1.55	98.45	78.87	21.13	67.29	32.71	79.67	20.33
1998	15.43	84.57	76.07	23.93	69.51	30.49	82.91	17.09
1999	36.16	63.84	76.29	23.71	74.48	25.52	80.09	19.91
2000	38.07	61.93	78.16	21.84	79.02	20.98	78.88	21.12
2001	36.81	63.19	82.18	17.82	81.71	18.29	82.45	17.55
2002	23.88	76.12	85.38	14.62	85.11	14.89	85.51	14.49
2003	23.98	76.02	86.72	13.28	82.96	17.04	90.67	9.33
2004	28.23	71.77	88.6	11.32	86.07	13.93	92.48	7.52

Source: Compiled by the Researcher

The growth rate of fixed capital of the sample units aggregate, corresponding to the periods 1995-2004 is shown in Table 5.11.

**Table 5 .11**  
**Compound Growth Rate of Fixed Capital**

Units	CGR
Large	8.95
Medium	-9.45
Small	-6.39
Very Small	-7.41

Source: Compiled by the Researcher

The large unit has a compound growth rate of 8.95 per cent. The compound growth rate of fixed capital in all other sample units – medium, small and very small are not only decelerated sharply but also become negative in character during 1995 to 2004 due to the reduction in investment in plant and machinery.

### 5.2.2 INVESTED CAPITAL

Tables (5.12, 5.13, 5.14, 5.15) present the composition of invested capital as fixed and physical working capital. Stock of materials, stock of semi finished goods and stock of finished goods are included in the physical working capital of sample units.

**Table 5.12**  
**Composition of Invested Capital of Large unit – 1995-2004**  
(Rupees in Lakhs)

Year	Fixed Capital	Physical working Capital	Invested Capital
1995	19.31	64.48	83.79
1996	20.71	65.67	86.39
1997	16.39	43.92	60.32
1998	25.38	56.36	81.74
1999	30.91	44.65	75.56
2000	28.11	72.58	100.69
2001	27.92	61.12	89.04
2002	41.43	48.73	90.17
2003	39.81	46.74	86.55
2004	32.72	23.49	56.20

Source: Compiled by the Researcher.

**Table 5.13**  
**Composition of Invested Capital of Medium Units (per unit) – 1995-2004**  
(Rupees in Lakhs)

Year	Fixed capital	Physical working capital	Invested Capital
1995	2.10	1.33	3.43
1996	1.82	1.68	3.49
1997	1.60	2.04	3.63
1998	1.54	2.17	3.71
1999	1.45	2.34	3.79
2000	1.30	2.51	3.81
2001	1.20	2.67	3.86
2002	1.09	3.47	4.57
2003	0.90	3.86	4.76
2004	0.80	4.52	5.31

Source: Compiled by the Researcher

**Table 5.14**  
**Composition of Invested Capital of Small units – 1995-2004**  
(Rupees in Lakhs)

Year	Fixed capital	Physical Working Capital	Invested Capital
1995	0.72	0.50	1.22
1996	0.63	0.53	1.16
1997	0.64	0.53	1.17
1998	0.59	0.55	1.15
1999	0.53	0.57	1.10
2000	0.49	0.61	1.10
2001	0.46	0.63	1.09
2002	0.43	0.64	1.07
2003	0.43	0.65	1.08
2004	0.40	0.66	1.06

Source: Compiled by the Researcher

For the large unit, the invested capital has been fluctuating over the reference period. These fluctuations are mainly due to the fluctuations in fixed capital and the stock of goods. Both fixed and physical working capital for the years 1995 and 1996 are increasing from 19.3 lakhs to 20.7 lakhs and 64.4 lakhs to 65.6 lakhs. Due to a fall in fixed and physical working capital, the invested capital for the period 2003-2004 declined from 86.7 lakhs to 56.2 lakhs. In the year 2000, the invested capital is very high amounting to Rs.100.6 lakhs due to a hike in the physical working capital inspite of a reduction in the fixed capital.

**Table 5.15**

**Composition of Invested Capital of very Small units( per unit)– 1995-2004**

(Rupees in Lakhs)

Year	Fixed capital	Physical working capital	Invested Capital
1995	0.25	0.03	0.28
1996	0.22	0.03	0.25
1997	0.22	0.05	0.27
1998	0.20	0.04	0.24
1999	0.13	0.05	0.18
2000	0.15	0.04	0.19
2001	0.13	0.05	0.19
2002	0.12	0.04	0.17
2003	0.14	0.06	0.20
2004	0.13	0.08	0.21

Source: Compiled by the Researcher

In the case of medium units throughout the period, the invested capital is maintaining an increasing trend. It is due to the increase in the stock of raw materials. The physical working capital increased from Rs.1.3 lakh to 4.5 lakhs, over a period of ten years. At the same time the fixed capital, which is Rs.2.1 lakhs in 1995, declined to Rs. 0.80 lakhs in the year 2004 as per Table 5.13.

The composition of invested capital of small and very small unit shows variations in both fixed and physical working capital. The fixed capital of small units is maintaining a declining trend over the period. The small units have high fixed capital of 0.72 lakhs in 1995, and a very low fixed capital of Rs.0.40 lakhs in 2004. The physical working capital of the same units, on the other hand shows an increasing trend from 1995 to 2004. It increases from 0.50 lakhs in 1995 to 0.66 lakhs in the year 2004. Even though the physical working capital of small units is increasing from 1995 to 2004, the total invested capital of the same is reducing from Rs.1.22 lakhs in 1995 to 1.06 lakhs in 2004, due to the decrease in fixed capital as given in Table 5.14.

The tendency of fixed capital in very small units is to decline in all years except in 2000. It reduces from 0.25 lakhs in 1995 to 0.13 lakhs in 2004. On the other hand there is considerable improvement in the physical working capital of very small units over a period of ten years. It increases from 0.03 lakhs in 1995 to 0.08 lakhs in 2004. As a result of fluctuations in both fixed and physical working capital, the invested capital of very small units is fluctuating from 0.28 lakhs to 0.21 lakhs over a period of ten years. A clear picture of percentage share of fixed and physical working capital in invested capital of the sample units is given in Table 5.16.

The large unit's share of physical working capital to the invested capital has reduced from 76.96 per cent in 1995 to 41.79 per cent in 2004 due to stock piling. But the percentage share of fixed capital in the invested capital of large unit increases from 23.04 in 1995 to 58.21 in 2004. The physical working capital of medium, small and very small units was steeply increasing throughout the reference period. In the case of medium units it increased from 38.54 per cent in 1995 to 85.03 per cent in 2004. The physical working capital of the small units, increased from 41.24 per cent in 1995 to 62.22 per cent at the end of 2004. Regarding the very small units the percentage increase over the years is from 10.28 to 36.15.

**Table 5.16****Relative proportion of Fixed Capital and Physical Working Capital in Invested Capital of Sample units (%)**

YEAR	Large		Medium		Small		Very Small	
	Fixed capital	Physical working capital	Fixed capital	Physical working capital	Fixed capital	Physical working capital	Fixed capital	Physical working capital
1995	23.04	76.96	61.16	38.84	58.76	41.24	89.72	10.28
1996	23.98	76.02	51.99	48.01	54.62	45.38	87.25	12.7
1997	27.18	72.82	43.96	56.04	54.41	45.59	81.60	18.40
1998	31.05	68.95	41.61	58.39	51.91	48.09	82.38	17.6
1999	40.90	59.10	38.22	61.78	48.46	51.54	69.91	30.09
2000	27.92	72.08	34.18	65.82	44.42	55.58	79.91	20.09
2001	31.35	68.65	30.99	69.01	41.87	58.13	71.78	28.22
2002	45.95	54.05	23.98	76.02	39.87	60.13	74.07	25.93
2003	46.00	54.00	18.98	81.02	39.58	60.42	69.64	30.36
2004	58.21	41.79	14.97	85.03	37.78	62.22	63.85	36.15

Source: Compiled by the Researcher

Now we may discuss the growth rate of invested capital of the sample units.

This is shown in Table 5.17.

**Table 5.17****Compound Growth Rate of Invested Capital of Sample units**

Year	CGR
Large	-0.62
Medium	4.56
Small	-1.43
Very Small	-4.33

Source: Compiled by the Researcher

Invested capital of large, small and very small units show a negative growth rate, where as the medium units have a higher growth rate (4.56 per cent) due to the increase in physical working capital.

From the composition of invested capital it is inferred that except the medium units, the invested capital of large, small and very small units are decreasing throughout the years. The physical working capital of all units except the large are maintaining an increasing trend from 1995 to 2004. The contribution of fixed capital in the invested capital of medium and small units is continuously declining, and that of large and very small units is highly fluctuating.

### 5.2.3 WORKING CAPITAL

Working capital is a very important accounting concept, conventionally defined as the difference between current assets and current liabilities.

Table (5.18) shows the working capital position for different sample units – large, medium, small and very small from 1995 to 2004.

**Table 5.18**  
**Working Capital of Sample Units (per unit)**  
(Rupees in Lakhs)

YEAR	Large	Medium	Small	Very Small
1995	143.30	3.05	0.63	0.31
1996	127.99	3.63	0.71	0.32
1997	108.91	2.68	0.61	0.35
1998	181.02	3.26	0.62	0.31
1999	227.30	3.88	0.57	0.33
2000	184.45	4.82	0.68	0.36
2001	236.66	4.05	0.68	0.31
2002	173.87	5.11	0.69	0.28
2003	67.88	6.04	0.68	0.35
2004	125.05	8.48	0.67	0.37

Source: Compiled by the Researcher

In large units the working capital which stood at Rs.143.3 lakhs in 1995 increases to Rs.236.6 lakhs in 2001. Afterwards the working capital of large units decreases due to fluctuations in current assets and current liabilities. On the other hand medium, small and very small units recorded an increase in the working capital. The working capital increased from Rs.3.05 lakhs to Rs.8.48 lakhs, Rs.0.63 lakhs to Rs.0.67 lakhs and Rs.0.31 lakhs to Rs.0.37 lakhs in respect of these units as both assets and liabilities increased

The relative proportion of current assets and current liabilities in working capital of different sample units is presented in Table 5.19.

**Table.5.19**

**Position of current assets and current liabilities in working capital of sample units –1995-2004 (in Lakhs)**

Year	Large units		Medium units		Small units		Very Small units	
	Current assets	Current Liabilities	Current assets	Current Liabilities	Current assets	Current Liabilities	Current assets	Current Liabilities
1995	175.71	32.42	4.22	1.17	1.42	0.79	0.68	0.37
1996	185.77	57.76	4.98	1.35	1.48	0.76	0.66	0.34
1997	176.38	67.46	4.20	1.52	1.40	0.79	0.67	0.32
1998	220.97	39.95	4.80	1.54	1.46	0.84	0.69	0.38
1999	277.83	50.53	5.55	1.68	1.37	0.80	0.74	0.41
2000	240.07	55.62	6.49	1.67	1.51	0.83	0.80	0.44
2001	258.16	21.51	5.73	1.67	1.53	0.85	0.75	0.44
2002	241.14	67.28	6.78	1.67	1.55	0.86	0.73	0.45
2003	176.21	108.34	7.72	1.69	1.56	0.88	0.83	0.48
2004	195.18	70.12	10.18	1.71	1.54	0.86	0.88	0.52

Source: Compiled by the Researcher

Table 5.19 shows that the current assets of large unit are increasing from Rs.175.71 lakhs in 1995 to Rs. 277.83 lakhs in 1999. It may be due to large increase in closing stock and sundry debtors. In 2004 the assets position of large unit reduced to Rs.195.18 lakhs due to the reduction in cash in hand and book. The position of sundry debtors and closing stock of medium units raises its current assets from Rs.4.22 lakhs in 1995 to Rs. 10.18 lakhs in 2004. There is also an improvement in the assets position of the small units. The current assets of small units increased from Rs.1.42 lakhs in 1995 to Rs. 1.56 lakhs in 2003, mainly due to an increase in advances and deposits. There is upward trend in the working capital of very small units, because of a rise in current assets from Rs.0.68 lakhs in 1995 to Rs. 0.88 lakhs in 2004. The current liabilities of large and medium units are highly unstable. It is as high as Rs.108.34 lakhs in large unit during 2003. The medium units have the maximum current liability of Rs.1.71 lakhs in 2004. The current liabilities of small and very small units are increasing due to an increase in bank loans and other loans. It is Rs. 0.86 lakhs and Rs. 0.52 lakhs respectively in 2004.

**Table.5.20**

**Compound Growth Rate of Working Capital of sample units – 1995-2004**

Year	CGR
Large	-1.64
Medium	10.76
Small	0.78
Very Small	0.65

Source: Compiled by the Researcher

Table 5.20 brings out clearly the compound growth rate of working capital of the sample units for the reference period. During 1995-2004 the working capital of medium, small and very small except the large units have positive growth rate.

The investigation of the working capital position of the sample units proves that the volume of working capital is increasing in the medium, small and very small units. In the case of large unit there is uncertainty due to high financial commitments.

#### 5.2.4 PRODUCTIVE CAPITAL

The productive capital which is the sum total of fixed and working capital of the sample units is given in Tables 5.21, 5.22, 5.23, 5.24.

**Table 5.21**  
**Composition of Productive Capital of Large units- 1995-2004**  
(Rupees in Lakhs)

year	Fixed capital	Working capital	Productive capital
1995	19.31	143.30	162.61
1996	20.71	127.99	148.71
1997	16.39	108.91	125.31
1998	25.38	181.02	206.40
1999	30.91	227.30	258.21
2000	28.11	184.45	212.56
2001	27.92	236.66	264.58
2002	41.43	173.87	215.30
2003	39.81	67.88	107.69
2004	32.72	125.05	157.77

Source: Compiled by the Researcher

**Table 5.22**  
**Composition of Productive Capital of Medium units(Per unit)- 1995-2004**  
(Rupees in Lakhs)

year	Fixed capital	Working capital	Productive capital
1995	2.10	3.05	5.15
1996	1.82	3.63	5.44
1997	1.60	2.68	4.28
1998	1.54	3.26	4.80
1999	1.45	3.88	5.33
2000	1.30	4.82	6.12
2001	1.20	4.05	5.25
2002	1.09	5.11	6.21
2003	0.90	6.04	6.94
2004	0.80	8.48	9.27

Source: Compiled by the Researcher

The productive capital in large unit for a ten year period shows wide variations. The fixed capital is very high in this unit compared with other sample units. It increases from Rs.19.3 lakhs in 1995 to Rs.32.7 lakhs in 2004. The working capital of this unit is also increasing in years 1998, 1999, 2001, and 2004 and is decreasing in years 1996, 1997, 2000, 2002 and 2003. There is an improvement in the productive capital of medium units from year to year. It rises from Rs.5.1 lakhs in 1995 to Rs. 9.2 lakhs in 2004. The improvement in the position of productive capital of these units is due to the rise in their working capital. The working capital of these units increased by 2.8 times from 1995 to 2004. The productive capital of both small and very small units show a declining trend, in spite of a rise in working capital. The reason is the reduction in fixed capital of these units. The productive capital reduced from Rs. 1.34 lakhs in 1995 to Rs. 1.07 lakhs in 2004 and Rs. 0.56 lakhs in 1995 to Rs.0 .50 lakhs in 2004 in the case of small and very small units.

**Table 5.23**

**Composition of Productive Capital of Small units(Per unit)- 1995-2004**

(Rupees in Lakhs)

year	Fixed capital	Working capital	Productive capital
1995	0.72	0.63	1.34
1996	0.63	0.71	1.35
1997	0.64	0.61	1.25
1998	0.59	0.62	1.22
1999	0.53	0.57	1.10
2000	0.49	0.68	1.17
2001	0.46	0.68	1.14
2002	0.43	0.69	1.11
2003	0.43	0.68	1.10
2004	0.40	0.67	1.07

Source: Compiled by the Researcher

**Table 5.24****Composition of Productive Capital of Very Small Units(Per unit)- 1995-2004**

(Rupees in Lakhs)

year	Fixed capital	Working capital	Productive capital
1995	0.25	0.31	0.56
1996	0.22	0.32	0.54
1997	0.22	0.35	0.57
1998	0.20	0.31	0.51
1999	0.13	0.33	0.45
2000	0.15	0.36	0.51
2001	0.13	0.31	0.44
2002	0.12	0.28	0.40
2003	0.14	0.35	0.50
2004	0.13	0.37	0.50

Source: Compiled by the Researcher

Table 5.25 depicts the percentage share of fixed and working capital in the productive capital of the sample units from 1995 to 2004. In the large unit, the percentage of fixed capital in the productive capital is less than the working capital as 11.87 and 88.13 per cent in 1995. It is interesting to note that the percentage share of fixed capital is increasing from 11.87 per cent in 1995 to 20.74 per cent in 2004. But the working capital reduces from 88.13 per cent in 1995 to 79.26 percentage during 2004. On the contrary, medium units have a declining fixed capital of 40.77 to 8.58 per cent from 1995 to 2004. The share of working capital of medium units rose to the level of 91.42 per cent from 59.25 per cent over a period of ten years. The share of fixed capital in the productive capital of small and very small units decreased from 53.32 to 37.33 per cent and 44.49 to 26.25 per cent respectively from 1995 to 2004.

**Table 5.25****Relative proportion of Fixed Capital and Working Capital in Productive Capital of sample units(%)**

Year	Large		Medium		Small		Very Small	
	Fixed Capital	Working Capital	Fixed Capital	Working Capital	Fixed Capital	Working Capital	Fixed Capital	Working Capital
1995	11.87	88.13	40.77	59.23	53.32	46.68	44.59	55.41
1996	13.93	86.07	33.38	66.62	47.04	52.96	40.98	59.02
1997	13.08	86.92	37.32	62.68	51.02	48.98	38.76	61.24
1998	12.30	87.70	32.14	67.86	48.84	51.16	38.55	61.45
1999	11.97	88.03	27.22	72.78	48.53	51.47	27.92	72.08
2000	13.22	86.78	21.30	78.70	41.76	58.24	29.44	70.56
2001	10.55	89.45	22.81	77.19	40.15	59.85	30.39	69.61
2002	19.24	80.76	17.64	82.36	38.38	61.62	30.73	69.27
2003	36.97	63.03	13.02	86.98	38.60	61.40	28.67	71.33
2004	20.74	79.26	8.58	91.42	37.33	62.67	26.65	73.35

Source: Compiled by the Researcher

The growth rate of productive capital of the sample units can be analysed from Table 5.26.

**Table.5.26****Compound Growth rate of Productive Capital of Sample units-1995-2004**

Year	CGR
Large	0.44
Medium	5.77
Small	-2.47
Very Small	-2.25

Source: Compiled by the Researcher

The compound growth rates of productive capital of large and medium units during the period 1995-2004 are positive (0.4 and 5.7 per cent respectively). While the growth rate of productive capital of small and very small units are negative due to the reduction in fixed capital.

Generally, over the reference period, the productive capital of medium units is much better than the other sample units. The increase is either due to a rise in working or fixed capital. The reduction in productive capital may be due to the fall in the fixed capital over the years. In large units inspite of upward trend of fixed capital, productive capital falls due to the reduction in working capital during the years 2003 & 2004.

From the analysis of the capital structure of the sample units of toilet soap production in Kerala, we may infer that among the different units the capital structure of large and medium units is significant. Significant changes have not taken place in the composition of fixed capital in small and very small units. An increasing tendency for the units to store materials and stocking of goods has been observed.

### **5.3 Employment**

Just like capital, labour is also an important and infact, indispensable factor in the production process. Since small industries are fairly labour intensive, they create employment opportunities at a relatively low capital cost. They normally absorb more quantity of labour. The details of labour absorption relating to the sample units of toilet soap production are also examined and presented in Table 5.27

**Table 5.27****Per unit Employment in Sample Units**

YEAR	Large units			Medium units			Small units			Very Small units		
	Permanent	Temporary	Total	Permanent	Temporary	Total	Permanent	Temporary	Total	Permanent	Temporary	Total
1995	52	27	79	6	4	10	5	2	7	3	1	4
1996	52	27	79	6	4	10	5	3	7	3	1	4
1997	40	31	71	6	5	11	5	3	8	4	1	5
1998	45	33	78	7	5	12	5	3	8	4	1	5
1999	45	28	73	7	6	13	5	3	8	4	1	5
2000	50	31	81	7	6	13	5	3	8	4	1	5
2001	41	28	69	7	7	14	6	3	8	4	1	5
2002	40	26	66	7	7	14	6	3	8	4	1	5
2003	42	41	83	7	8	14	6	3	9	4	1	5
2004	42	38	80	7	8	15	6	3	9	4	1	5

Source: Compiled by the Researcher

The labour absorption is found to be the maximum at 80, in large units in the year 2004. In the case of medium units the number increased from 10 to 15 during 1995-2004. The number of employees in small and very small units is relatively low. Anyhow the trend of employment in the medium and small units is increasing.

As shown in Table 5.28, the growth rate of employment in medium and small units is higher than in large and very small units.

**Table 5.28**

**Compound Growth Rate of Employment of Sample Units-  
1995-2004**

Year	CGR
Large	0.10
Medium	4.65
Small	2.36
Very Small	0.66

Source: Compiled by the Researcher

During 1995-2004, the compound growth rate of employment in medium, small and very small units is 4.6, 2.3 and 0.6 per cent respectively. And the large unit has a growth rate of 0.1 per cent. A very interesting observation relating to the employment pattern is the clear cut gender bias in favour of males, in these sample units. Several explanations were offered for the phenomenon of deceleration in the rate of employment, ie, high demand for wages and the introduction of technology etc. The above discussion shows that the rate of growth of employment has been slow and fluctuating in the case of sample units under the study.

#### **5.4 COST OF PRODUCTION**

The computation of cost of production and its analysis is very important in the study of economics. Broadly the cost of production is the sum total of the input cost, wages and salaries and other establishment costs. In our study the cost of production is treated to be the sum total of raw material and stores, wages and salaries, other operating costs and power and fuel cost. The raw material cost mainly consist of the cost of oil base, soap base, cost of perfumes, cost of colour and the caustic Soda The details of the per unit cost of production of sample units are given in Table 5.29.

**Table 5.29**  
**Per Unit Cost Of Production Of Sample Units- 1995-2004**  
(Rupees in Lakhs)

Year	Large	Medium	Small	Very Small
1995	300.24	2.22	0.54	0.17
1996	273.39	2.38	0.60	0.18
1997	324.36	2.58	0.54	0.22
1998	322.79	2.81	0.64	0.22
1999	387.96	3.08	0.62	0.19
2000	474.63	3.25	0.61	0.22
2001	456.56	3.52	0.64	0.25
2002	454.99	3.91	0.73	0.21
2003	523.93	4.14	0.79	0.27
2004	521.04	4.49	0.77	0.31

Source: Compiled by the Researcher

It is seen from the table that the per unit cost of production of the sample units is increasing from 1995 to 2004. In the case of large unit it increases from Rs.300 lakhs to Rupees 521 lakhs. The cost of production which stood at Rs.2.2 lakhs in the initial year of the medium units increases to Rs.4.4 lakh in the year 2004. The cost of production of both small and very small units also shows an increasing trend for the reference period. It increases from Rs. 0.54 lakhs to Rs.0.77 lakhs and 0.17 lakhs to Rs.0.31 lakh in respect of small and very small units.

The components of cost of production of the sample units are given in tables from Tables 5.30, 5.31, 5.32 and 5.33.

**Table. 5.30****Per unit Cost of production (value of input) of large unit –1995-2004**

(Rs in Lakh)

Cost of production (value of inputs) Large					
year	Rawmaterial& stores	Wages & salary	Other operating costs	Power&fuel	Total
1995	216.17 (72.00)	37.613 12.53	44.915 14.96	15.278 0.51	30.024 100.00
1996	181.29 (66.31)	47.104 17.23	43.465 15.90	15.241 0.56	27.338 100.00
1997	234.25 (72.22)	42.949 13.24	45.289 13.96	18.629 0.57	32.436 100.00
1998	216.68 (67.13)	44.808 13.88	58.580 18.15	27.154 0.84	32.278 100.00
1999	276.50 71.27	53.955 13.91	54.411 14.03	30.861 0.80	38.796 100.00
2000	353.61 74.50	54.721 11.53	61.463 12.95	48.334 1.02	47.462 100.00
2001	304.89 66.78	83.458 18.28	63.514 13.91	46.946 1.03	45.655 100.00
2002	305.52 67.15	79.401 17.45	65.643 14.43	44.246 0.97	45.498 100.00
2003	374.06 71.40	80.917 15.44	64.124 12.24	48.231 0.92	52.392 100.00
2004	376.66 72.29	73.388 14.09	66.202 12.71	47.870 0.92	52.103 100.00
Average percentage change over the years	7.85	9.20	4.86	15.29	6.91

Figures in brackets give percentage to total

Source: Compiled by the Researcher

**Table 5.31****Per unit Cost of Production (value of Input) of Medium units –1995-2004**

(Rupees in Lakhs)

year	Rawmaterial & stores	Wages & salary	Other operating costs	Power& fuel	Total
1995	1.19 (53.74)	0.66 (29.93)	0.25 (11.29)	0.11 (5.03)	2.23 (100)
1996	1.32 (55.67)	0.66 (28.01)	0.26 (11.15)	0.12 (5.17)	2.38 (100)
1997	1.39 (54.07)	0.75 (29.32)	0.29 (11.42)	0.13 (5.19)	2.57 (100)
1998	1.48 (53.01)	0.84 (30.25)	0.31 (11.36)	0.15 (5.38)	2.81 (100)
1999	1.62 (52.66)	0.95 (30.95)	0.33 (10.97)	0.16 (5.42)	3.08 (100)
2000	1.69 (52.13)	1.00 (30.83)	0.36 (11.31)	0.18 (5.72)	3.25 (100)
2001	1.79 (50.95)	1.09 (30.99)	0.43 (12.36)	0.20 (5.71)	3.52 (100)
2002	1.98 (50.83)	1.18 (30.43)	0.51 (13.12)	0.22 (5.61)	3.91 (100)
2003	2.04 (49.31)	1.28 (31.03)	0.57 (14.00)	0.23 (5.67)	4.14 (100)
2004	2.25 (50.21)	1.33 (29.77)	0.63 (14.04)	0.26 (5.99)	4.49 (100)
Average percentage change over the years	7.35	8.14	10.86	10.28	8.41

Figures in brackets give percentage to total

Source: Compiled by the Researcher

**Table 5.32****Per unit Cost of production (value of input) of small unit –1995-2004**

(Rupees in Lakhs)

year	Rawmaterial& stores	Wages & salary	Other operating costs	Power&fuel	Total
1995	0.27 (50.78)	0.20 (37.89)	0.32 (6.00)	0.28 (5.33)	0.53 (100)
1996	0.29 (49.12)	0.22 (38.14)	0.42 (7.16)	0.33 (5.58)	0.59 (100)
1997	0.27 (50.65)	0.21 (38.94)	0.35 (6.51)	0.21 (3.90)	0.54 (100)
1998	0.30 (47.80)	0.23 (37.06)	0.05 (9.21)	0.03 (5.93)	0.63 (100)
1999	0.29 (47.98)	0.22 (36.61)	0.04 (7.78)	0.04 (7.63)	0.62 (100)
2000	0.26 (42.92)	0.24 (39.94)	0.07 (12.02)	0.03 (5.12)	0.60 (100)
2001	0.31 (49.81)	0.21 (33.09)	0.06 (10.34)	0.04 (6.76)	0.63 (100)
2002	0.33 (45.72)	0.25 (35.08)	0.08 (11.20)	0.05 (8.00)	0.73 (100)
2003	0.35 (44.71)	0.30 (39.34)	0.07 (10.18)	0.04 (5.77)	0.78 (100)
2004	0.33 (44.08)	0.27 (35.95)	0.08 (11.55)	0.06 (8.42)	0.76 (100)
Average percentage change over the year	2.90	4.19	15.27	16.00	4.40

Figures in brakets give percentage to total

Source: Compiled by the Researcher

**Table 5.33**  
**Per unit Cost of production (value of input) of very small unit –1995-2004**

(Rupees in Lakhs)

Year	Rawmaterial & stores	Wages & salary	Other operating costs	Power & fuel	Total
1995	0.09 (55.47)	0.07 (39.87)	0.01 (3.67)	0.001 (0.99)	0.172 (100)
1996	0.08 (47.07)	0.08 (44.76)	0.01 (7.02)	0.002 (1.15)	0.183 (100)
1997	0.10 (49.31)	0.09 (41.39)	0.02 (7.93)	0.003 (1.37)	0.22 (100)
1998	0.12 (58.16)	0.08 (35.32)	0.01 (5.33)	0.003 (1.19)	0.22 (100)
1999	0.09 (53.27)	0.06 (35.29)	0.02 (9.94)	0.002 (1.51)	0.19 (100)
2000	0.10 (50.85)	0.07 (34.53)	0.03 (13.18)	0.003 (1.44)	0.22 (100)
2001	0.12 (50.82)	0.10 (38.81)	0.02 (8.85)	0.01 (1.52)	0.25 (100)
2002	0.11 (56.36)	0.06 (27.54)	0.03 (13.91)	0.01 (2.19)	0.21 (100)
2003	0.15 (57.10)	0.77 (28.58)	0.03 (12.41)	0.01 (1.90)	0.27 (100)
2004	0.17 (54.92)	0.96 (31.08)	0.04 (12.21)	0.01 (1.79)	0.31 (100)
Average percentage change over the year	7.88	6.60	28.35	14.83	7.66

Figures in brakets give percentage to total

Source: Compiled by the Researcher

### **5.4.1 Large unit**

Table 5.30, provides the details of the per unit cost of production of the large unit. It is seen from the table that in the case of large unit, raw material costs constitute more than 72 per cent of the total cost of production. The cost which stood at Rs. 216 lakhs in 1995 increased to Rs.376 lakhs in the year 2004. The average percentage change over the years is 7.85. This is mainly due to the variations in the prices of materials purchased for soap production by the large units such as oil base, soap chips, preservatives, perfumes, colours, super fatting agents, fillers and miscellaneous additives. In the case of wages and salaries the increase over the reference period is 9.20. Other operating costs of large unit increased from Rs.44 lakhs to Rs.66 lakhs. The power and fuel cost of large unit varied from 0.51 per cent to 0.92 per cent over the years. Considering all these, we may infer that the major cost item in the large unit is the raw material cost.

### **5.4.2 Medium units**

It is clear from Table 5.31, that the cost effectiveness of medium units depend exclusively on the cost control over raw materials. The share of the cost of raw material is above 50 per cent over a period of ten years. Next to raw material cost, the share of wages and salaries is also significant in the case of the units. The average percentage change over the year in this cost item is 8.14. Other operating costs and fuel costs play only nominal role in the cost of production of the medium units, recording 11.29 and 5.03 per cent in 1995 and 14.04 and 5.99 per cent share in 2004.

### **5.4.3 Small units**

The details available from Table 5.32 reveal that the per unit raw material cost of small unit also increases from Rs. 0.27lakhs in 1995 to Rs. 0.33 lakh in the year 2004. It is also observed that over the years the share of labour cost came down from 37.89 per cent to 35.95 per cent. This may due to labour displacement.

Throughout the reference period the other operating cost and fuel costs of small units increases from 6 to 11.55, and 5.33 to 8.42 per cent respectively.

#### 5.4.4 Very small units

The trends in the behaviour of cost components of very small units are at par with the other groups. The raw material cost constituted around 55 per cent. Next to raw material cost, labour cost is also significant. In the initial year the labour cost which was 39.87 per cent reduced to 31.08 per cent. The share of other operating costs varied between 3.67 per cent and 12.21 per cent over a period of ten years. On the other hand fuel cost play only a nominal role in the cost of production because of the very small size of the units.

The compound growth rate of the cost of production of the sample units for the period 1995-2004 is shown in Table 5.34.

**Table 5.34**  
**Compound Growth Rate of Cost of Production**

Year	CGR
Large	7.86
Medium	8.26
Small	4.07
Very Small	5.03

Source: Compiled by the Researcher

The compound growth rate of the cost of production is 7.8,8.2, 4.0 and 5.0 per cent for the large, medium, small and very small units. The high rates of cost of production in the large and medium unit are due to the higher raw material cost. For the large units, the average rate of growth of cost of production decreases due to the operation of economies of scales in the process of production.

A perusal of these tables brings out the following facts with respect to the cost of production of sample units of toilet soap production in Kerala.

1. There is significant cost escalation in the sample units over the years.
2. The cost of raw material which forms more than 50 percentages on an average of the total cost is mainly responsible for the increase in the total cost.
3. Next to raw material cost, labour is yet a crucial problem for the sample units. The amount of remuneration and benefits given to labour has increased in absolute terms over the years.
4. Contrary to the general trends, the role of fuel cost is low in various units of toilet soap production in Kerala. The very nature of production process contributed towards this.

## **5.5 VALUE OF OUTPUT**

Value of output is defined as the value of products manufactured during the accounting year. When we examine the output composition of the sample units it is felt that there is product heterogeneity. The major product of large unit is Chandrika toilet soap (25gm and 75gm). Medium units produces soaps like Radhas, Krishna Tulasi, Pyari, Red Sandal soap etc. The different types of soap produced by small units are Nice, Jasmine, Ajanta, and Ramacham. Soaps like Rose, Ivy sandal, Kavery and Dhanvantri are the major items of soaps manufactured by the very small units. It is seen from Table 5.35, that the value of output which stood at Rs. 412.3 lakhs 1995 increased to Rs.691 lakhs in 2004. The value of output of medium units increased from Rs.3.67 lakhs in 1995 to Rs. 4.92 lakhs in 2004. For small and very small units it rises from Rs.0.91 lakhs and 0.39 lakh in 1995 to Rs. 0.99 lakhs and Rs.0.47 lakhs in 2004 respectively. From the table it is clear that the growth in the value of output of large units is more significant during the reference period, 1995-2004. Out of the total output, major share is contributed by large units due to the operation of economies of large scale production (managerial, commercial and technical). It is also clear from the Figure 5.5.

**Table 5.35**  
**Value of Output of Sample Units –1995-2004**

(Rupees in Lakhs)

Year	Large	Medium	Small	Very Small
1995	412.38	3.67	0.91	0.39
1996	351.79	3.62	0.96	0.40
1997	364.88	3.81	0.97	0.40
1998	364.24	3.48	0.97	0.37
1999	542.45	4.04	0.98	0.39
2000	620.89	3.72	0.98	0.43
2001	777.67	4.39	0.98	0.46
2002	701.59	4.66	0.99	0.43
2003	691.83	4.71	0.99	0.42
2004	691.73	4.92	0.99	0.47
Average percentage change over the year	7.36	3.67	1.02	2.32

Source: Compiled by the Researcher

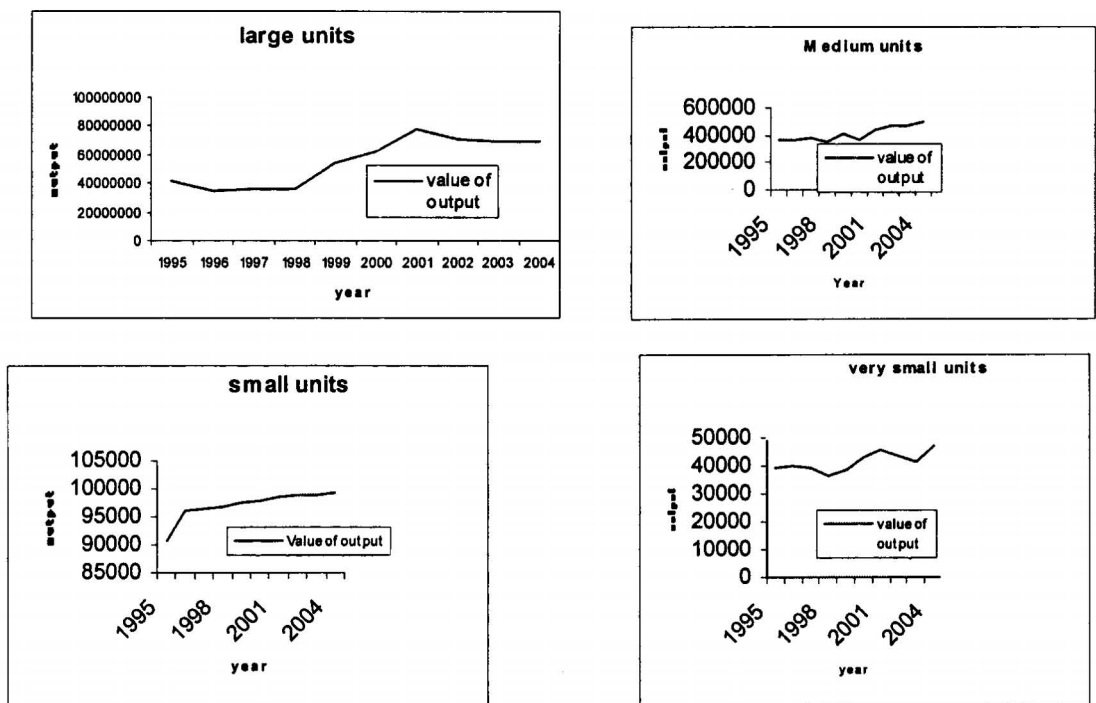
**Table 5.36**  
**Compound Growth Rate of Value of Output of Sample Units- 1995-2004**

Year	CGR
Large	9.56
Medium	3.77
Small	0.72
Very Small	1.91

Source: Compiled by the Researcher

Table 5.36 shows the average and compound growth rate of the value of output of the sample units from 1995 to 2004. The compound growth rate of value of output of large unit is greater than the value of output of other sample units. Compared to other units the growth rate of value of output of small units is less as shown in Table 5.36.

**Figure 5.5**  
**Value of Output of sample units**



## 5.6 PROFIT

Profit is considered to be the pillar of any industry in the private sector. Profits are necessary to survive and grow over a large period of time. The primary objective of economic activities is to achieve at least normal profits. Profit is the difference between total revenue and total expenses over a period of time. Profitability can be increased either by increasing sales or by reducing cost.

**Table 5.37**  
**Per unit Profits of Sample units –1995-2004**

(Rupees in Lakhs)

Year	Large	Medium	Small	Very Small
1995	596.68	1.20	0.33	0.25
1996	522.70	1.57	0.32	0.25
1997	447.45	0.76	0.34	0.18
1998	674.67	1.37	0.31	0.21
1999	810.44	2.29	0.36	0.27
2000	826.52	1.20	0.32	0.26
2001	985.15	1.10	0.33	0.13
2002	995.85	1.08	0.17	0.21
2003	942.92	1.27	0.17	0.17
2004	952.22	1.72	0.21	0.18
Average percentage change over the year	6.89	13.54	-2.73	1.46

Source: Computed by the researcher

The details of the gross profit of sample units in the table (See table 5.37) suggest that there are fluctuations in the behaviour of gross profits over the reference period. These fluctuations are common in all units. Discussions with the entrepreneurs revealed that these fluctuations are due to the variations in the cost of production. (The detailed discussion on profit and profitability trends is made available in the next chapter).

From Table 5.37, it is clear that the profitability of large unit is more significant than that of other units – medium, small and very small. The large unit has a profitability of Rs.596 lakhs in 1995. Later it increased to Rs.952 lakhs in 2004, with an average percentage change over the year as 6.89. The profitability enjoyed by the medium units increases from Rs.1.20 lakh in 1995 to Rs.1.72 lakhs

in 2004. In the case of small and very small units, the profits reduced from Rs0.33 lakhs to Rs.0.21 lakhs and Rs.0 .25 lakhs to Rs.0 .18 lakh between 1995-2004 due to the increase in the cost of production.

**Table 5.38**  
**Compound Growth Rate of Gross Profits of Sample Units**  
**(1995-2004)**

Year	CGR
Large	8.52
Medium	1.35
Small	-7.05
Very Small	-3.78

Source: Computed by the Researcher

Table 5.38 shows the compound growth rate of gross profit of sample units. The large and medium units have positive growth rate of profit. It may be due to increase in sales

If we compare the profitability of the sample units, it is clear that large unit enjoys more profit than medium, small and very small units. As time goes by, the profitability of the units are reducing either due to some managerial problem or due to the increase in costs of production.

## **5.7 VALUE ADDED**

According to economics terminology, “The difference between the value of output produced by a firm in a given period and value of the inputs purchased from other firms in producing output is known as value added.” It is one of the important indicators reflecting the contribution of the industry. Economists normally rely on value added and its tends to decide the policies. The trends in value added are significant in recent years in the context of liberalization. In certain industries profits will be high but value addition is to be low and vice

versa. It is necessary to know value added output of the sample units of toilet soap production in Kerala.

**Table 5.39**  
**Per unit Value added Output of Sample units-1995-2004**

(Rupees in Lakhs)

Year	Large	Medium	Small	Very Small
1995	112.14	1.70	0.41	0.22
1996	78.41	1.51	0.41	0.23
1997	40.52	1.53	0.46	0.19
1998	41.45	0.99	0.39	0.15
1999	154.49	1.29	0.40	0.22
2000	146.26	0.83	0.44	0.24
2001	321.11	1.30	0.41	0.23
2002	246.60	1.26	0.34	0.25
2003	167.90	1.14	0.29	0.18
2004	170.69	1.06	0.32	0.20
Annual Average growth rate	28.6	-1.57	-2.01	0.63

Source: Computed by the researcher

Table 5.39 provides the details of value addition of different sample units from 1995 to 2004. From the table it is clear that, for the large unit, the value addition increased from Rs.112 lakh to Rs. 170 lakhs during 1995-2004. The annual average growth rate is positive for the large (28.6) and very small units (0.63) and negative for medium (-1.57) and small (-2.01) units as is clear from the table.

**Table 5.40**

**Compound Growth Rate of Value added Output of Sample Units**

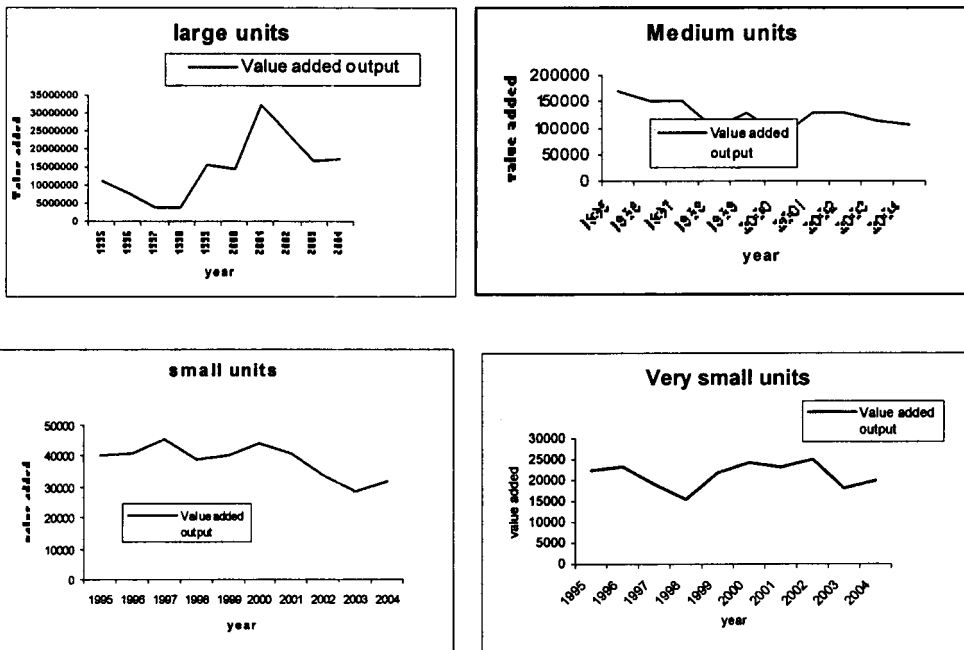
Year	CGR
Large	15.81
Medium	-4.00
Small	-3.51
Very Small	-0.06

Source: Computed by the researcher

Table 5.40 shows the compound growth rate of value added output of sample units from 1995-2004. The compound growth rate is negative for all units except the large for a period of ten years. The large units possess a higher rate of growth of 15.8 per cent as given in Table 5.40. We can conclude that the value added of the sample units of toilet soap production in Kerala except the large is very, marginal in nature.

**Figure 5.6**

**Value added Output of Sample Units**



## 5.8 STRUCTURAL RATIOS

In the earlier sections we have examined the economics of the sample units of soap industry analyzing the conventional variables like capital, input, output, profit, and value added. But the picture will be more revealing when we try to interrelate these variables with the help of structural ratios. Structural ratios will help to evaluate the extent of capital use, labour use and to some extent input use efficiency. Adopting the ASI format the following ratios are computed for different sample units for the reference period 1995-2004 (See Tables 5.41, 5.42, 5.43, 5.44) and the trends are discussed.

(1) Fixed capital to invested capital ratio = Fixed capital/ Invested capital

(2) Fixed capital to productive capital ratio = Fixed capital/Productive capital

(3) Input output ratio = Value of input/ Value of output

(4) Value added to output ratio = Value added/ Value of output

(5) Fixed capital to output ratio = Fixed Capital/ Value of output

(6) Invested capital to output ratio = Invested capital/ Value of outputs

(7) Value added to invested capital ratio = Value added/Invested capital

(8) Value added to input ratio = Value added/ Value of inputs

(9) Output input ratio = Value of output/Value of input

(10) Output invested capital ratio = Value of output/ Invested capital

(11) Input invested capital ratio = Value of input/ Invested capital

The magnitude of capital consumption will be reflected in fixed capital invested capital ratio and fixed capital productive capital ratio. A high ratio indicates the intake of more capital in the industry. In the initial year, for large, medium, small and very small units, the fixed capital to invested capital ratio

stood at 0.23, 0.61, 0.59, 0.90 and the fixed capital ratio stood at 0.12, 0.41, 0.53 and 0.45 respectively. Though the capital intensity was high in the earlier years, it has gradually declined, for the medium, small and very small units over the years. The fixed capital to invested capital, and fixed capital to productive capital ratio increased from 0.23 to 0.58, and 0.12 to 0.21 from 1995 to 2004, in the case of large units.

The fall in the capital intensity is further illustrated by the behaviour of fixed capital output ratio. In the medium, small and very small units it declined from 0.57, 0.79, 0.65 in 1995 to 0.16, 0.40, 0.28 in 2005. For the large units, it remained the same as 0.05 in 1995 and in 2004. Invested capital to output ratio is an indicator of the extent of piling in the form of materials, semi finished goods and finished goods. Invested capital output ratio also showed a decreasing tendency in the case of large, small and very small units, because of the increased stock piling. In the medium units it rises from 0.94 in 1995 to 1.08 in 2004.

The input output relations are also very important in production economics. A low input output ratio indicates high turn over for each unit of input used, and hence a rise in input-output ratio normally shows a rise in the cost of input. The ratios computed for different years clearly revealed the fact that the cost of inputs has risen significantly in these units. In the case of large, medium, small, and very small units, it increased from 0.73, 0.61, 0.59 and 0.44 in 1995 to 0.75, 0.91, 0.77 and 0.65 in 2005 respectively.

Inputs are related to invested capital also. For large units this ratio varied between 3.58 in 1995 to 9.27 in 2004. In the medium units it increased from 0.65 in 1995 to 0.85 in 2004. The very small units have a high input invested capital ratio ranging from 0.61 and 1.48. The input invested capital ratio is very low in the case of small units. It varies from 0.44 to 0.72 during 1995-2004.

Another important variable is value added which is related to output, input, and invested capital. Value added input ratio and value added output ratio explain

the contribution of the industry in terms of input and output. The value added input ratio stood at 0.37, 0.76, 0.76, and 1.30 in 1995 for the large, medium, small and very small units, gradually declined and reached respectively 0.33, 0.24, 0.41 and 0.65 in 2004 which probably shows low input use efficiency. The contribution of the units is also expressed in value added output ratio. A high ratio shows greater contribution. This ratio declined in large, medium, small and very small units from 0.27, 0.46, 0.45, 0.57 in 1995 to 0.25, 0.21, 0.32, 0.43 in 2004. The output per worker increases in the case of large and very small units during 1995-2004. There is a reduction in the output per worker of medium and small production units. It decreases from Rs. 36688.60 in 1995 to Rs.32799.29 in 2004 and Rs. 13632.90 in 1995 to Rs.11475.73 in 2004 in respect of medium and small units. The value added per worker also decreases in the case of all units except the large unit. When we compare the behaviour of structural ratios for various units, it is felt that the behaviour of large unit is better than that of the medium, small, and very small units. The differences were noticed in the earlier discussion also.

**Table 5.41**  
**Structural Ratios of Large Unit-1995-2004**

Year	Fixed capital to invested	Fixed capital to productive capital	Input output ratio	Value added output ratio	Fixed capital to output	Invested capital to output	Value added to invested capital	Output per worker	Input per worker	value added per worker	Value added to input	Output input ratio	Output to invested capital	Input to invested capital
1995	0.23	0.12	0.73	0.27	0.05	0.20	1.34	521995.43	380045.98	141949.45	0.37	1.37	4.92	3.58
1996	0.24	0.14	0.78	0.22	0.06	0.25	0.91	445309.27	346058.98	99250.29	0.29	1.29	4.07	3.16
1997	0.27	0.13	0.89	0.11	0.04	0.17	0.67	513919.79	456846.90	57072.89	0.12	1.12	6.05	5.38
1998	0.31	0.12	0.89	0.11	0.07	0.22	0.51	466968.68	413833.26	53135.42	0.13	1.13	4.46	3.95
1999	0.41	0.12	0.72	0.28	0.06	0.14	2.04	743085.32	531453.86	211631.46	0.40	1.40	7.18	5.13
2000	0.28	0.13	0.76	0.24	0.05	0.16	1.45	766528.32	585958.39	180569.93	0.31	1.31	6.17	4.71
2001	0.31	0.11	0.59	0.41	0.04	0.11	3.61	1127057.93	661678.39	465379.54	0.70	1.70	8.73	5.13
2002	0.46	0.19	0.65	0.35	0.06	0.13	2.73	1063020.36	689378.62	373641.74	0.54	1.54	7.78	5.05
2003	0.46	0.37	0.76	0.24	0.06	0.13	1.94	833526.89	631236.93	202289.96	0.32	1.32	7.99	6.05
2004	0.58	0.21	0.75	0.25	0.05	0.08	3.04	864658.75	651296.75	213362.00	0.33	1.33	12.31	9.27

Source: Computed by the Researcher

**Table 5.42**

**Structural Ratios of Medium Units-1995-2004**

Year	Fixed capital to iinvested	Fixed capital to productive capital	Input output ratio	Value added output ratio	Fixed capital to output	Invested capital to output	Value added to invested capital	Output per worker	Input per worker	value added per worker	Value added to input	Output input ratio	Output to invested capital	Input to invested capital
1995	0.61	0.41	0.61	0.46	0.57	0.94	0.49	36688.60	22229.90	16969.53	0.76	1.65	1.07	0.65
1996	0.52	0.33	0.66	0.42	0.50	0.96	0.43	35044.68	23042.81	14570.65	0.63	1.52	1.04	0.68
1997	0.44	0.37	0.68	0.40	0.42	0.95	0.42	34635.76	23444.76	13867.48	0.59	1.48	1.05	0.71
1998	0.42	0.32	0.81	0.28	0.44	1.07	0.27	29808.11	24059.89	8480.74	0.35	1.24	0.94	0.76
1999	0.38	0.27	0.76	0.32	0.36	0.94	0.34	30271.58	23119.65	9687.55	0.42	1.31	1.06	0.81
2000	0.34	0.21	0.87	0.22	0.35	1.03	0.22	27882.18	24385.65	6254.68	0.26	1.14	0.98	0.85
2001	0.31	0.23	0.80	0.30	0.27	0.88	0.34	32093.66	25787.07	9493.22	0.37	1.24	1.13	0.91
2002	0.24	0.18	0.84	0.27	0.23	0.98	0.28	34112.71	28612.88	9255.05	0.32	1.19	1.02	0.86
2003	0.19	0.13	0.88	0.24	0.19	1.01	0.24	32845.77	28903.91	7987.56	0.28	1.14	0.99	0.87
2004	0.15	0.09	0.91	0.21	0.16	1.08	0.20	32799.29	29961.33	7043.67	0.24	1.09	0.93	0.85

Source: Computed by the Researcher

**Table 5.43**

**Structural Ratios of Small Units-1995-2004**

Year	Fixed capital to invetsted	Fixed capital to productive capital	Input output ratio	Value added output ratio	Fixed capital to output	Invested capital to output	Value added to invested capital	Output per worker	Input per worker	Value added per worker	Value added to input	Output input ratio	Output to invested capital	Input to invested capital
1995	0.59	0.53	0.59	0.45	0.79	1.34	0.33	13632.90	8030.90	6083.75	0.76	1.70	0.75	0.44
1996	0.55	0.47	0.62	0.42	0.66	1.21	0.35	13120.49	8166.50	5538.35	0.68	1.61	0.83	0.52
1997	0.54	0.51	0.56	0.47	0.66	1.21	0.39	12072.12	6797.83	5717.12	0.84	1.78	0.82	0.46
1998	0.52	0.49	0.66	0.40	0.61	1.18	0.34	12094.71	7954.57	4873.02	0.61	1.52	0.85	0.56
1999	0.48	0.49	0.64	0.41	0.55	1.13	0.37	12206.04	7776.50	5034.66	0.65	1.57	0.89	0.56
2000	0.44	0.42	0.62	0.45	0.50	1.12	0.40	12215.93	7583.46	5543.68	0.73	1.61	0.89	0.55
2001	0.42	0.40	0.65	0.42	0.46	1.11	0.38	11809.73	7679.60	4924.37	0.64	1.54	0.90	0.59
2002	0.40	0.38	0.74	0.34	0.43	1.08	0.32	11875.80	8772.64	4085.76	0.47	1.35	0.92	0.68
2003	0.40	0.39	0.79	0.29	0.43	1.09	0.27	11432.62	9059.92	3295.19	0.36	1.26	0.92	0.73
2004	0.38	0.37	0.77	0.32	0.40	1.07	0.30	11475.73	8834.19	3661.58	0.41	1.30	0.94	0.72

Source: Computed by the Researcher

**Table 5.44**  
**Structural Ratios of Very Small Units-1995-2004**

Year	Fixed capital to invetsted	Fixed capital to productive capital	Input output ratio	Value added output ratio	Fixed capital to output	Invested capital to output	Value added to invested capital	Output per worker	Input per worker	Value added per worker	Value added to input	Output input ratio	Output to invested capital	Input to invested capital
1995	0.90	0.45	0.44	0.57	0.65	0.72	0.80	8351.64	3687.43	4799.57	1.30	2.26	1.39	0.61
1996	0.87	0.41	0.45	0.58	0.55	0.63	0.92	8635.36	3923.00	4987.86	1.27	2.20	1.59	0.72
1997	0.82	0.39	0.56	0.48	0.56	0.68	0.71	8473.43	4759.86	4091.21	0.86	1.78	1.47	0.83
1998	0.82	0.39	0.61	0.42	0.54	0.65	0.65	7308.93	4465.27	3081.53	0.69	1.64	1.54	0.94
1999	0.70	0.28	0.48	0.57	0.33	0.47	1.21	7709.20	3708.87	4368.87	1.18	2.08	2.13	1.03
2000	0.80	0.29	0.50	0.56	0.35	0.43	1.30	8597.73	4322.13	4845.40	1.12	1.99	2.30	1.16
2001	0.72	0.30	0.54	0.51	0.29	0.41	1.24	8553.25	4615.19	4346.31	0.94	1.85	2.43	1.31
2002	0.74	0.31	0.49	0.58	0.28	0.38	1.51	8116.44	3977.94	4691.75	1.18	2.04	2.62	1.28
2003	0.70	0.29	0.64	0.44	0.34	0.49	0.88	7792.81	5021.31	3394.88	0.68	1.55	2.03	1.31
2004	0.64	0.27	0.65	0.43	0.28	0.44	0.96	8804.06	5762.25	3745.44	0.65	1.53	2.25	1.48

Source: Computed by the Researcher

## 5.9 TRENDS IN PRODUCTIVITY

The discussion on economics will be incomplete without a discussion on productivity trends. The study of productivity is an important aspect of the analysis of development in view of the limited availability of resources. A direct positive relationship between productivity change and rate of growth of output is generally postulated and empirically established in the literature of economic

growth. When discussing the performance of production units, it is common to describe them in terms of productivity – a good indicator to evaluate the economic performance. In this section the productivity trends in toilet soap production of Kerala for the period 1995-2004 are going to be examined.

In a very lucid way productivity is denoted by the ratio of output to any or associated inputs. Higher productivity can be regarded as efficient use of inputs in terms of materials and services<sup>1</sup>. In precise term productivity may be defined as a measure of efficiency with which resources are converted into commodities and services or it measures the output per unit of input. The idea of productivity was firstly put forward by Quesnay in 1766. Productivity changes are both the cause and consequence of dynamic forces operating in an economy – technological progress, accumulation of human and physical capital, entrepreneurship and institutional arrangements.<sup>2</sup>

Productivity growth is measured with the help of partial productivity ratios or total factor productivity ratios. Ratios of output to particular inputs may be termed as partial productivity measures<sup>3</sup>. Total Factor productivity is a measure of the growth in output that can not be explained by growth in inputs as such and has been called a measure of “Unexplained residual”. TFP growth is a residual productivity growth that includes the effect of technological changes, better utilization of capacities, skills and organization, and improved quality of factors of production etc. Improvement in productivity can not be attributed to any single factor. It has to be understood as a product of a whole lot of interacting economic relationships. Compared with partial productivity indices, total productivity measures are necessarily more exact and they provide an isolated measures of technical progress, combined with increased utilization of resources. The term Total Factor Productivity (TFP) was introduced by Tinbergen in 1942.

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<sup>1</sup> Raman M.V.V. (1972) ‘Productivity and economic growth’ – National productivity council.

<sup>2</sup> Naderi , M. Ishaq(1970) Some approach to the theory and measurement of total factor productivity – a survey, *journal of economic literature*. Vol. 2 pp 1137.

<sup>3</sup> John W Kendrick (1961), *Productivity trends in the United States*, NBER, pp. 25..

There are a lot of methods to measure total factor productivity growth. Perhaps no other measure of productivity has been in recent years, more popular than the productivity index. The commonly used measures of Total factor productivity are (1) Direct method (2) Kendrick's arithmetic measure (3) Solow's geometric measure (4) Divisia's measure and (5) Translog productivity indices. Almost all these methods assuming perfect competition and constant returns to scale are fairly effective in giving broad indicator of productivity performance. In our study we are using two methods to measure total factor productivity – Direct method and Kendrick method, since they hold computational simplicity (for details, see chapter I – Methodology). It is seen that these two approaches to total factor productivity give different results Table 5.45 provides the details of the TFP indices obtained for sample units – large medium, small and very small for a period of ten years (1995-2004).

**Table 5.45**

**Total Factor Productivity Indices of sample units(1995-2004)**

Year	Large		Medium		Small		Very Small		Whole sample	
	Direct	Kendrick	Direct	Kendrick	Direct	Kendrick	Direct	Kendrick	Direct	Kendrick
1995	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100	100
1996	65.34	50.20	86.21	71.31	94.22	96.38	94.54	111.30	66.42	67.27
1997	38.52	17.96	92.50	106.40	114.51	142.44	54.01	66.46	41.82	41.97
1998	30.06	8.67	53.44	35.53	93.69	103.85	45.70	54.60	31.89	31.75
1999	91.28	77.97	62.50	49.00	103.56	131.82	124.30	141.44	91.40	90.53
2000	94.58	95.29	36.74	16.00	107.42	142.16	119.83	138.16	92.75	93.91
2001	150.71	266.67	59.11	47.58	107.68	133.91	98.11	141.27	149.65	150.96
2002	131.54	213.90	50.78	33.63	82.08	87.58	207.71	238.85	128.99	127.34
2003	125.44	182.91	41.81	22.36	62.95	55.66	66.52	79.10	116.77	84.42
2004	164.79	213.17	32.73	11.63	75.15	76.91	64.63	87.70	152.90	97.81
avg	0.22	0.91	-0.07	0.01	-0.02	0.01	0.14	0.14	0.18	0.13

Source: Computed by the Researcher

## Total Factor Productivity Indices of sample units – Direct and Kendrick method

The Total factor productivity indices of sample unit are examined using the Direct and Kendrick methods. The variable used for the analysis are Value added output, Wages and salaries of labourers and working capital and method is explained in the methodology part.

### **5.9.1 Productivity analysis of Large unit**

In the case of large units the Direct method of TFP registered an annual average rate of growth of 0.22 per cent. But considering the year wise trend, it shows a declining trend except for 2001 and 2004. TFP, according to the Direct method is very low in 1998 (30.06) and very high in 2004 (164.79). It may be due to the increase in productive capital, introduction of technology and improvements in the labour quality etc. Compared with 1990's, TFP shows an increasing trend after 2000.

According to Kendrick index of TFP in large unit the average annual growth rate is 0.91 per cent. TFP according to this method shows a declining trend up to 2000. (This may be due to the increase in productive capital) and an increasing trend after 2000. The large unit achieved the highest productivity in 2001 (266.67). In the year 1998 productivity was very low (8.67) due to some internal problem.

### **5.9.2 Productivity analysis of Medium units**

Regarding medium units majority of the years under consideration has marked a decline in TFP according to the Direct method. The exceptional years were 1997, 1999 and 2001. The annual average rate of growth was negative. (-0.07). It may be because of the reduction in value added as shown in Table 5.45.

The TFP indices obtained for medium units through Kendrick method show different rates of growth, but almost the same trend. But the annual average

rate of growth was higher than that of direct method (0.01). Productivity was high in the year 1997 (106.40) while it was the least in 2004 (11.63).

### **5.9.3 Productivity analysis of Small units**

According to the direct method TFP in small units show a declining trend after 2002. The annual average rate of growth was negative (-0.02). This may be due to the decrease in value added output of the units since 2000.

Kendrick index also gave the same trend. The trend is of a fluctuating nature. The highest decline was registered in 2003 (55.66). On the other hand productivity was high in 2000 (142.16). The annual average rate of growth was positive (0.01). It may be because of the influence of extreme values of 1997 and 2003.

### **5.9.4 Productivity analysis of Very Small units**

As per Direct method TFP of very small units registered an annual average growth rate of 0.14 per cent. It had shown a decreasing trend except for two years – 1999, 2002. The value added output also shows the same pattern of increase which may result in the improvement of TFP upto 2002.

The results of Kendrick method shows the lowest TFPI during 1998 (54.60) which may be attributed to the decline in capital productivity. The Kendrick TFPI registered an annual average growth rate of 0.14 per cent. In the year 2002, TFPI is the highest due to an increase in labour productivity in that year.

From the analysis we can conclude that TFP in large unit shows a declining trend up to 2000, and an increasing trend after 2000. TFP in medium units is declining except in 1997. Small units have an increasing trend of TFP upto 2001, and very small units show a decreasing trend except in 1999 and 2002. It is also noted that according to direct and Kendrick method, TFP is greater in large, and

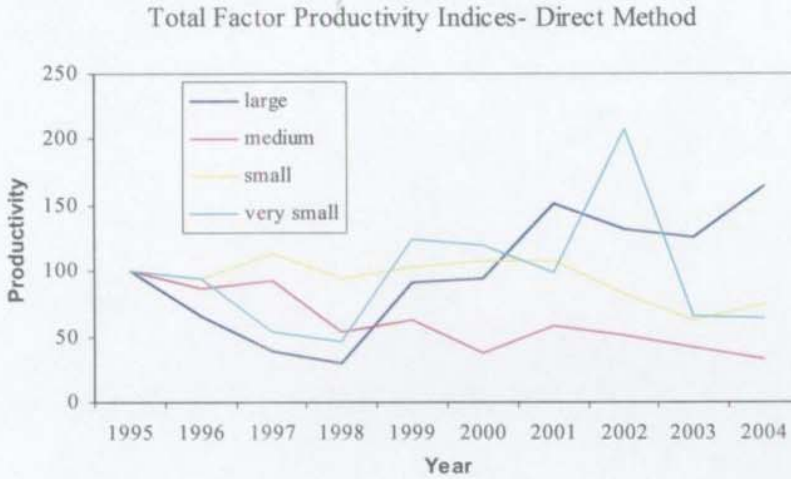
very small units than in medium and small units. The large units exhibit a higher growth rate (0.22) than the whole sample (0.18)

The total factor productivity indices for the whole sample shows an increasing trend by the direct method and Kendrick method. It is more revealed by the Kendrick method as it shows an increasing trend in TFP up to 2001 and declining trend after that. It may be either due to the variation in capital employed, wages and salaries and value added etc. Due to the import liberalization process, the input prices rise faster than the output price resulting the decline in TFP. Low productivity is also attributable mainly to the socio-demographical conditions

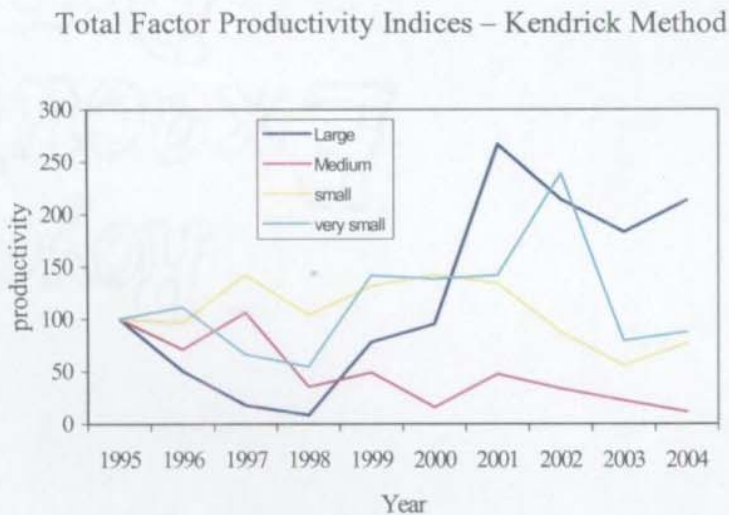
Many studies have tried to measure productivity at aggregate level manufacturing pertaining to different time periods (see chapter 2 – literature review). However, productivity at regional (state) levels have been rather few. Studies by Jaya Devan (1996) Ray (1997,2002) Coondo and Neogi (1998) Mitra (1999) Mitra et al (2002) Trivedi (2003) Aghion et al (2003) Veeramani and Golder (2004) have dealt with productivity estimation at the state level. However, all of these studies except those of Veeramani and Golder provide a comparison of growth process not only at the interstate levels, but also at disaggregated industry level in the state. As far as the unorganized manufacturing sector is concerned, there are very few studies that have analyzed the productivity trends.

One of the problems raised by the scholars on productivity trends was the poor quality of data in the country and the consequent inaccuracies in the value of co-efficients. The productivity trends worked out in this study are also not free from these problems – Hence the methodology was limited to the conventional Cobb-Douglas production function and translog production function. Both Cobb Douglas function and Translog production function is used for the analysis to have a better result.

**Figure 5.7**



**Figure 5.8**



### 5.10 PRODUCTION FUNCTION APPROACH

Production function is an engineering relationship between inputs and outputs, which shows for a given level of technology, the maximum rate of output, which can be achieved with the application of given level of inputs. Cobb Douglas type of production function makes output dependent on at least two productive factors. It depicts constant returns to scale. Payment to each factor of its marginal product will exactly exhaust total output. The property of unitary

elasticity of substitution in Cobb Douglas production function means that provided factors are paid at the rate corresponding to their marginal products, factor shares will remain constant<sup>4</sup>. The constant elasticity of substitution production function, which is a broader class of linear homogenous production function in which the Cobb Douglas function becomes a special case, open up possibilities for some important and useful economic analysis. In our study we examine factor productivities, returns to scale, elasticity of substitution, rate of neutral technological change by means of Cobb Douglas production function fitted to the time series of the money values of the different parameters of toilet soap production during the years 1995-2004.

### 5.10.1 Cobb- Douglas Production Function

An attempt is made below to estimate the Cobb Douglas production function for three factors – Capital, labour and raw material based on the assumption of unit elasticity of substitution between inputs may be specified as follows. (for details see chapter I methodology).

$$Q = AK^{\beta_1}L^{\beta_2}M^{\beta_3}e^u$$

Where  $A > 0$ ,  $0 < \beta_1 < 1$ ,  $0 < \beta_2 < 1$ ,  $0 < \beta_3 < 1$ . where  $Q$  = gross value of output.  $A$  is the efficiency parameter,  $K$ ,  $L$ , and  $M$  are working capital, wages and salaries and raw material cost.  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$  are constant and to be determined empirically which gives a measure of total factor productivity growth. In Cobb Douglas production function sum of the factor elasticities gives an indication of returns to scale. The results of Cobb Douglas production function for sample units are available in Table 5.46 to 5.49.

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<sup>4</sup> Marvin. Frankel (1962), The production function in Allocation and growth: A synthesis. The American Economic Review, vol. L11 No. pp. 68-72.

**Table. 5.46****Cobb Douglas Production Function of Large Unit**

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	4.46	2.33	-1.92	0.10
K	0.16**	0.07	2.21	0.06
L	0.55*	0.15	3.72	0.01
m	0.64*	0.17	3.73	0.01
rts	1.35			
R Square	0.95			
Adjusted R Square	0.93			

Source: Computed by the researcher

\*\* significant at 5 per cent level \* significant at 1 per cent level

**Table. 5.47****Cobb Douglas Production Function of Medium Units**

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	7.07	3.17	2.23	0.06
K	0.03	0.17	0.16	0.88
L	0.02	0.62	0.03	0.98
m	0.49	0.89	0.54	0.61
rts	0.53			
R Square	0.79			
Adjusted R Square	0.68			

Source: Computed by the researcher

**Table. 5.48****Cobb Douglas Production Function of Small Units**

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	10.52	1.41	7.45	0.01
K	0.01	0.11	0.10	0.92
L	0.08	0.08	0.96	0.37
m	0.09	0.10	0.82	0.44
rts	0.18			
R Square	0.50			
Adjusted R Square	0.24			

Source: Computed by the researcher

**Table. 5.49****Cobb Douglas Production Function of Very Small Units**

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	9.95	3.58	2.78	0.03
K	-0.11	0.37	-0.28	0.79
L	0.12	0.20	0.59	0.58
m	0.17	0.14	1.23	0.27
rts	0.19			
R Square	0.30			
Adjusted Square	R -0.05			

Source: Computed by the researcher

**Table. 5.50****Cobb Douglas Production Function of whole Units**

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	2.28	0.27	8.46	4.39E-10
K	-0.07549	0.064973	-1.16	0.25
L	0.110146	0.109082	1.01	0.32
m	0.875464**	0.082709	10.58	1.33E-12
rts	0.91			
R Square	0.97			
Adjusted R Square	0.96			

Source: Computed by the researcher

\*\* significant at 5 per cent level

From Table 5.46 it is seen that the Cobb Douglas production function shows an increasing returns (1.35) for large unit. All variables show positive and significant impact. The most significant input is raw material. We may infer that the production of large unit very much depends on the raw material. The model explains that about 96 per cent variation in output is due to these variables and it shows the goodness of fit of the model.

For medium units the returns to scale is decreasing (0.53). The three variables show positive influence on production, 79 per cent variation in output is due to these variables (Table 5.47)

Regarding small units, the input coefficients, capital raw material and labour were found to be statistically insignificant in the analysis. The returns to scale is 0.18 as given in Table 5.48.

In the case of very small units also Cobb Douglas production function expresses decreasing returns (0.19). All variables show positive impact on output except negative value of capital (Table 5.49).

Considering the whole model for toilet soap production units in Kerala (as shown in Table 5.50) the function yielded an insignificant but positive co-efficient for capital and labour while a positive and significant co-efficient for raw material and labour. The statistical test for returns to scale estimates show that they are operating under decreasing returns to scale.

The consistently low value of the coefficient of capital and labour can be interpreted as the low elasticity of output with respect to capital and labour, ie, the changes in gross output is not much affected by the changes in capital and labour, but is affected by raw material. The estimates of marginal productivity is high for raw material and labour than that of capital.

From the purely statistical view the estimated regression line fits the data quite well. The  $R^2$  value of 0.97 means that about 97 per cent of the variation in the (log of) output is explained by (log of) material, labour and capital.

### 5.10.2 Translog Production function

An attempt was made to fit a Translog production also to the sample data to supplement the earlier attempted Cobb Douglas Production function.

The interesting property of the translog production function is that it provides a second order approximation to an arbitrary twice continuously differentiable function and also accommodates varying elasticity of substitution. Translog production function takes the following form.

$$\ln Q = \beta + \beta_1 \ln(K) + \beta_2 \ln(L) + \beta_3 \ln(M) + 0.5\beta_4$$

$$\ln(K^2) + 0.5\beta_5 \ln(L^2) + 0.5\beta_6 (\ln(M^2) + 0.5\beta_7 \ln(K)\ln(L) + 0.5\beta_8 \ln(K)\ln(M) + 0.5\beta_9 \ln(M)\ln(L) + e$$

Where Q- Gross value of output, K- working capital, L- wages and salaries, M- cost of raw material, and Ln- natural log.

**Table 5.51**  
**Translog Production Function of Whole unit –1995-2004**

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept				
k	3.89	1.28	3.03	0.005
l	1.43	1.32	1.08	0.291
m	-3.77	1.29	-2.90	0.007
kk	-.322	.21	-1.52	0.138
ll	.80	.89	0.85	0.404
mm	-.81	.49	-1.64	0.111
kl	-.94	.42	-2.21	0.035
km	.94	.31	2.97	0.006
lm	.17	.59	0.29	0.777
R Square	0.998			
Adjusted R Square	0.997			
Mean rts	.9786907			

Source: Computed by the Researcher

**Table 5.52**  
**Returns to scale of Sample Units as per Translog production Function**

Rts	
Large	1.81
Medium	1.61
Small	0.66
Very small	0.16
Whole industry	0.98

Source: Computed by the researcher

The estimated translog function for the sample units is available in Table 5.51. From the analysis it is seen that material is significant in large units, and raw material and labour in small units. Compared with the Cobb Douglas approach the relative role played by the raw material is evident in translog production function

estimates also. Regarding the whole model, Table 5.51 the translog production function shows decreasing returns to scale (0.97). The estimated result of returns to scale of sample units as per Translog production function is given in Table 5.52. Table shows that large and medium units have increasing returns to scale. For the small, very small and whole sample units the returns to scale is decreasing.

But a very concrete opinion can be derived only if these estimates are compared with the state level data or national level estimates. But such estimates based on translog production function are hardly available and hence comparisons can not be made.

In this chapter we have examined the economics of the various sample units of toilet soap production in Kerala in terms of capital structure, value of inputs including labour, value of output, profit and value added. The analysis of capital structure shows that among the different sample units the capital structure of large and medium units is important. Raw material cost constitutes the major share in the total cost of production. The variables like value of output, profits and Value added output show an increasing trend for most of the sample units. Total factor productivity indices of the whole sample by the direct and Kendrick method shows that the trends in productivity of the toilets soap production in Kerala is increasing. The productivity analysis also shows that the large unit is more productive than the medium, small and very small units. Production function approach (Translog production function) shows that large and medium units have increasing returns to scale where as small and very small units have decreasing returns to scale. The analysis also helped to compare the economics of different units and judged large unit as a better performing unit compared to others. This was evident from the behaviour of structural ratios and productivity analysis. The trends in economic analysis should be reflected in financial performance, because the economic analysis and financial performance are closely related. This is attempted in the next chapter.

## CHAPTER VI

# FINANCIAL PERFORMANCE OF TOILET SOAP PRODUCTION IN KERALA

Against the background of the economic performance of the sample units, presented and discussed in the earlier chapters, we try to examine in this chapter, the financial performance of these units with the help of financial ratios – the most efficient and powerful conventional tool for financial analysis. The economic analysis gives a crude direction to the behaviour of financial performance. Simple wisdom suggests that these two should move in the same direction. The basic purpose of financial analysis is to assess objectively the performance of a firm on a number of aspects such as its resourcefulness and ability to earn a fair return on its investment, its ability to meet current obligation effectively, its ability to raise new funds and to withstand possible setback from internal and external sources and so on.

Financial analysis is an evaluation of both a firm's financial performance and its prospects for the future<sup>1</sup>. Comparison of the data in the current period with those of the past years is very useful in judging whether there is an improvement in the business or other wise<sup>2</sup>. Financial analysis is the process of identifying the financial strength and weakness of the firm by properly establishing relationship between the items in the balance sheet and the profit and loss account<sup>3</sup>. In other words, financial analysis is a process of evaluating relationships between various components to obtain a better understanding of firm's position and performance<sup>4</sup>. For analyzing the financial data and interpreting them in a systematic manner, tools such as comparative financial and

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<sup>1</sup> J. K Shin and Joel G. Siegel (1998). Theory and problems of financial management. Tata MC Graw – Hill publishing company Limited, New Delhi .

<sup>2</sup> ManMohan S. N. Goyal (1973) Principles of Management Accounting, Shahitya Bhavan. Agra .

<sup>3</sup> Pandey I.M (1986). "Management Accounting" Vikas Publishing House, New Delhi..

<sup>4</sup> Metcalf, R W and Titard, P. L. (1976). Principles of Accounting W. B. Saunders, Philadelphia..

operating statements, common size statements, trend analysis, average analysis, ratio accounting and fund flow statements are commonly used.

## 6.1 COMPOSITION OF CURRENT LIABILITIES.

Financial analysis is broadly spread over the sources of funds and its utilization. Among the sources of funds the most important item is current liabilities which consists of sundry creditors, bank loans, and other loans. Uses of funds (investment in Assets) are equally important like sources of funds, because if the available funds are not judiciously deployed, any firm may incur losses. In the succeeding paragraphs an attempt is made to examine the composition of current liabilities and current assets of various sample units of toilet soap production industry in Kerala during 1995-2004 as in Table 6.1 to Table 6.4.

**Table 6.1**  
**Current Liabilities in Large Unit During 1995-2004**  
**(Rs. In Lakhs)**

Year	Bank Loans	Sundry Creditors	Other loans	Interest	Total
1995	27.07 (83.50)	3.92 (12.09)	0.5 (1.54)	0.93 (2.87)	32.42 (100.00)
1996	41.47 (71.80)	12.33 (21.35)	0.5 (0.87)	3.46 (5.99)	57.76 (100.00)
1997	38.63 (57.26)	26.04 (38.60)	0.5 (0.74)	2.29 (3.39)	67.46 (100.00)
1998	16.64 (41.65)	17.06 (42.70)	0.5 (1.25)	5.75 (14.39)	39.95 (100.00)
1999	34.82 (68.91)	11.58 (22.92)	0.5 (0.99)	3.63 (7.18)	50.53 (100.00)
2000	40.72 (73.21)	11.22 (20.17)	0.5 (0.90)	3.18 (5.72)	55.62 (100.00)
2001	7.7 (35.80)	11.94 (55.51)	0.5 (2.32)	1.37 (6.37)	21.51 (100.00)
2002	34.28 (50.95)	29.99 (44.57)	0.5 (0.74)	2.51 (3.73)	67.28 (100.00)
2003	48.85 (45.09)	53.24 (49.14)	0.5 (0.46)	5.75 (5.31)	108.34 (100.00)
2004	47.72 (68.05)	17.02 (24.27)	0.5 (0.71)	4.88 (6.96)	70.12 (100.00)

Figures in bracket percentage to total) Source: Compiled by the Researcher

**Table 6.2****Current Liabilities in Medium Unit during 1995-2004 (Rs. In Lakhs)**

Year	Bank Loans	Sundry Creditors	Other loans	Total
1995	0.95 <i>80.81</i>	0.20 <i>17.47</i>	0.02 <i>1.72</i>	1.17 <i>100.00</i>
1996	1.15 <i>84.87</i>	0.20 <i>14.48</i>	0.01 <i>0.65</i>	1.35 <i>100.00</i>
1997	1.28 <i>84.48</i>	0.23 <i>15.23</i>	0.00 <i>0.28</i>	1.52 <i>100.00</i>
1998	1.30 <i>84.54</i>	0.23 <i>14.93</i>	0.01 <i>0.53</i>	1.54 <i>100.00</i>
1999	1.41 <i>83.94</i>	0.25 <i>15.19</i>	0.01 <i>0.87</i>	1.68 <i>100.00</i>
2000	1.42 <i>84.88</i>	0.24 <i>14.11</i>	0.02 <i>1.01</i>	1.67 <i>100.00</i>
2001	1.40 <i>83.86</i>	0.25 <i>15.21</i>	0.02 <i>0.93</i>	1.67 <i>100.00</i>
2002	1.42 <i>84.71</i>	0.24 <i>14.14</i>	0.02 <i>1.14</i>	1.67 <i>100.00</i>
2003	1.45 <i>86.01</i>	0.22 <i>13.33</i>	0.01 <i>0.67</i>	1.69 <i>100.00</i>
2004	1.47 <i>85.94</i>	0.23 <i>13.48</i>	0.01 <i>0.58</i>	1.71 <i>100.00</i>

Figures in italics percentage to total

Source: Compiled by the Researcher

**Table 6.3****Current Liabilities in Small Units during 1995-2004 (Rs. In Lakhs)**

Year	Bank Loans	Sundry Creditors	Other loans	Total
1995	0.56 <i>71.08</i>	0.17 <i>21.07</i>	0.06 <i>7.85</i>	0.79 <i>100.00</i>
1996	0.54 <i>70.11</i>	0.16 <i>21.22</i>	0.07 <i>8.66</i>	0.76 <i>100.00</i>
1997	0.55 <i>69.92</i>	0.17 <i>21.28</i>	0.07 <i>8.80</i>	0.79 <i>100.00</i>
1998	0.60 <i>71.34</i>	0.18 <i>20.87</i>	0.07 <i>7.79</i>	0.84 <i>100.00</i>
1999	0.58 <i>72.43</i>	0.16 <i>19.84</i>	0.06 <i>7.73</i>	0.80 <i>100.00</i>
2000	0.61 <i>73.21</i>	0.16 <i>19.75</i>	0.06 <i>7.04</i>	0.83 <i>100.00</i>
2001	0.62 <i>72.48</i>	0.17 <i>20.38</i>	0.06 <i>7.14</i>	0.85 <i>100.00</i>
2002	0.63 <i>72.96</i>	0.17 <i>20.08</i>	0.06 <i>6.96</i>	0.86 <i>100.00</i>
2003	0.67 <i>75.51</i>	0.16 <i>18.33</i>	0.05 <i>6.15</i>	0.88 <i>100.00</i>
2004	0.67 <i>77.52</i>	0.14 <i>16.49</i>	0.05 <i>5.98</i>	0.86 <i>100.00</i>

Figures in italics percentage to total

Source: Compiled by the Researcher

**Table 6.4****Current Liabilities in Very Small Units during 1995-2004 (Rs. In Lakhs)**

Year	Bank Loans	Sundry Creditors	Other loans	Total
1995	0.29 <i>78.09</i>	0.06 <i>17.11</i>	0.02 <i>4.79</i>	0.37 <i>100.00</i>
1996	0.27 <i>78.54</i>	0.05 <i>15.35</i>	0.02 <i>6.12</i>	0.34 <i>100.00</i>
1997	0.25 <i>78.43</i>	0.04 <i>13.71</i>	0.03 <i>7.86</i>	0.32 <i>100.00</i>
1998	0.30 <i>78.17</i>	0.06 <i>16.72</i>	0.02 <i>5.11</i>	0.38 <i>100.00</i>
1999	0.32 <i>77.58</i>	0.07 <i>16.88</i>	0.02 <i>5.54</i>	0.41 <i>100.00</i>
2000	0.33 <i>74.23</i>	0.08 <i>19.06</i>	0.03 <i>6.71</i>	0.44 <i>100.00</i>
2001	0.34 <i>77.63</i>	0.07 <i>14.83</i>	0.03 <i>7.54</i>	0.44 <i>100.00</i>
2002	0.33 <i>74.02</i>	0.10 <i>21.15</i>	0.02 <i>4.83</i>	0.45 <i>100.00</i>
2003	0.35 <i>72.32</i>	0.10 <i>21.54</i>	0.03 <i>6.14</i>	0.48 <i>100.00</i>
2004	0.36 <i>70.31</i>	0.12 <i>23.06</i>	0.03 <i>6.63</i>	0.52 <i>100.00</i>

Figures in italics percentage to total

Source: Compiled by the researcher

From Tables 6.1, 6.2, 6.3, 6.4, it is clear that the current liabilities of sample units consist of sundry creditors, bank loans and other loans. During 2001, in the large units the major share of current liabilities is from the sundry creditors (55.51 per cent). The medium units were excessively depending on bank loans for funds in 2003, accounting for 86.01 per cent of the total current liability. The dependence of small units on bank loans increased from 71.08 per cent in 1995 to 77.52 per cent in 2004. In the case of large units, bank loans, as a source of fund decreases from 83.50 per cent in 1995 to 68.05 per cent in 2004. In the case of very small units, bank loans constituted 70.31 per cent, sundry creditors 23.06 per

cent and other loans 6.63 per cent of the total current liabilities. The per unit total current liabilities in large, medium, small and very small units increased from Rs. 32.42 lakh to Rs. 70.12 lakh, Rs. 1.17 lakh to Rs. 1.71 lakh, Rs. 0.79 lakh to s. 0.86 lakh and Rs. 0.37 lakh to Rs. 0.52 lakh over a period of ten years. Generally speaking, in the case of large and very small units the share of bank loans in the total current liabilities decreases and that of sundry creditor increases from 1995 to 2004. On the other hand the share of bank loans of medium and small increases and that of sundry creditors and other loans decreases from 1995 to 2004.

## **6.2 COMPOSITION OF ASSETS**

Table 6.5 to Table 6.8 represents the composition of total assets in the sample units. As seen in tables, in the large, medium, small and very small units, major share of the funds is invested in the current assets. But the share of total current assets in the total investment of all these units increased except the large unit from 1995 to 2004. In the initial year nearly 90 per cent of total funds in large unit is used in current assets and only 10 percent in fixed assets. The ratio of fixed assets to current assets came about 1:9 in the large unit. In the medium units fixed asset constituted 33.21 per cent in 1995 declined to 7.24 per cent in 2004. In the case of small and very small units also the tendency of current assets is to increase and that of fixed assets is to decrease throughout the years. Too much of fixed assets may lead to a situation of shortage of working assets due to poor liquidity. From Table 6.5 to 6.8, it is evident that in all units, current assets constitute the major form of use of funds.

**Table 6.5****Composition of Assets in Large unit during 1995-2004 ( Rs. in Lakhs)**

Year	Current Assets	Fixed Assets	Total Assets
1995	175.71 <i>90</i>	19.31 <i>10</i>	195.02 <i>100</i>
1996	175.77 <i>90</i>	20.71 <i>10</i>	196.48 <i>100</i>
1997	176.38 <i>91</i>	16.39 <i>9</i>	192.77 <i>100</i>
1998	220.97 <i>90</i>	25.38 <i>10</i>	246.35 <i>100</i>
1999	277.83 <i>90</i>	30.91 <i>10</i>	308.74 <i>100</i>
2000	240.07 <i>90</i>	28.11 <i>10</i>	268.18 <i>100</i>
2001	258.16 <i>90</i>	27.92 <i>10</i>	286.08 <i>100</i>
2002	241.14 <i>85</i>	41.43 <i>15</i>	282.58 <i>100</i>
2003	176.21 <i>82</i>	39.81 <i>18</i>	216.03 <i>100</i>
2004	195.18 <i>86</i>	32.72 <i>14</i>	227.90 <i>100</i>

Figures in italics percentage to total

Source: Compiled by the Researcher

**Table 6.6****Composition of Assets in Medium Units during 1995-2004 (Rs. in Lakhs)**

Year	Current Assets	Fixed Assets	Total Assets
1995	4.22 <i>66.79</i>	2.10 <i>33.21</i>	6.32 <i>100.00</i>
1996	4.98 <i>73.25</i>	1.82 <i>26.75</i>	6.79 <i>100.00</i>
1997	4.20 <i>72.44</i>	1.60 <i>27.56</i>	5.80 <i>100.00</i>
1998	4.80 <i>75.64</i>	1.54 <i>24.36</i>	6.34 <i>100.00</i>
1999	5.55 <i>79.29</i>	1.45 <i>20.71</i>	7.00 <i>100.00</i>
2000	6.49 <i>83.27</i>	1.30 <i>16.73</i>	7.79 <i>100.00</i>
2001	5.73 <i>82.70</i>	1.20 <i>17.30</i>	6.92 <i>100.00</i>
2002	6.78 <i>86.11</i>	1.09 <i>13.89</i>	7.88 <i>100.00</i>
2003	7.72 <i>89.52</i>	0.90 <i>10.48</i>	8.63 <i>100.00</i>
2004	10.18 <i>92.76</i>	0.80 <i>7.24</i>	10.98 <i>100.00</i>

Figures in italics percentage to total

Source: Compiled by the Researcher

**Table 6.7****Composition of Assets in Small Units during 1995-2004 (Rs. in Lakhs)**

Year	Current Assets	Fixed Assets	Total Assets
1995	1.42 <i>66.40</i>	0.72 <i>33.60</i>	2.13 <i>100.00</i>
1996	1.48 <i>69.97</i>	0.63 <i>30.03</i>	2.11 <i>100.00</i>
1997	1.40 <i>68.76</i>	0.64 <i>31.24</i>	2.04 <i>100.00</i>
1998	1.46 <i>71.12</i>	0.59 <i>28.88</i>	2.06 <i>100.00</i>
1999	1.37 <i>71.96</i>	0.53 <i>28.04</i>	1.91 <i>100.00</i>
2000	1.51 <i>75.62</i>	0.49 <i>24.38</i>	2.00 <i>100.00</i>
2001	1.53 <i>77.06</i>	0.46 <i>22.94</i>	1.99 <i>100.00</i>
2002	1.55 <i>78.37</i>	0.43 <i>21.63</i>	1.97 <i>100.00</i>
2003	1.56 <i>78.57</i>	0.43 <i>21.43</i>	1.99 <i>100.00</i>
2004	1.54 <i>79.29</i>	0.40 <i>20.71</i>	1.94 <i>100.00</i>

Figures in italics percentage to total

Source: Compiled by the researcher

**Table 6.8****Composition of Assets in Very Small Units during 1995-2004 ( Rs. in Lakhs)**

Year	Current Assets	Fixed Assets	Total Assets
1995	0.68 <i>72.93</i>	0.25 <i>27.07</i>	0.93 <i>100.00</i>
1996	0.66 <i>74.87</i>	0.22 <i>25.13</i>	0.88 <i>100.00</i>
1997	0.67 <i>75.29</i>	0.22 <i>24.71</i>	0.89 <i>100.00</i>
1998	0.69 <i>77.89</i>	0.20 <i>22.11</i>	0.89 <i>100.00</i>
1999	0.74 <i>85.38</i>	0.13 <i>14.62</i>	0.86 <i>100.00</i>
2000	0.80 <i>84.32</i>	0.15 <i>15.68</i>	0.95 <i>100.00</i>
2001	0.75 <i>84.79</i>	0.13 <i>15.21</i>	0.88 <i>100.00</i>
2002	0.73 <i>85.57</i>	0.12 <i>14.43</i>	0.85 <i>100.00</i>
2003	0.83 <i>85.38</i>	0.14 <i>14.62</i>	0.97 <i>100.00</i>
2004	0.88 <i>86.89</i>	0.13 <i>13.11</i>	1.01 <i>100.00</i>

Figures in italics percentage to total

Source: Compiled by the Researcher

Current assets will be in the form of sundry debtors, inventories of raw materials, finished goods including semi finished products, deposits and advances, cash in hand and bank balances as given in Table 6.9 to Table 6.12

**Table 6.9**

**Composition of Current Assets of Large Unit during 1995-2004 ( Rs. in Lakhs)**

Year	Sundry debtors	Closing stock	Advance & Deposits	Cash in Hand & Book	Total
1995	41.83	76.01	52.90	4.97	175.71
	<i>23.80</i>	<i>43.26</i>	<i>30.11</i>	<i>2.83</i>	<i>100.00</i>
1996	19.55	77.05	57.46	31.70	185.77
	<i>10.52</i>	<i>41.48</i>	<i>30.93</i>	<i>17.07</i>	<i>100.00</i>
1997	31.09	63.62	59.15	22.51	176.38
	<i>17.63</i>	<i>36.07</i>	<i>33.54</i>	<i>12.76</i>	<i>100.00</i>
1998	43.18	72.48	62.75	42.57	220.97
	<i>19.54</i>	<i>32.80</i>	<i>28.40</i>	<i>19.27</i>	<i>100.00</i>
1999	105.02	60.59	71.81	40.40	277.83
	<i>37.80</i>	<i>21.81</i>	<i>25.85</i>	<i>14.54</i>	<i>100.00</i>
2000	62.80	89.63	66.39	21.25	240.07
	<i>26.16</i>	<i>37.34</i>	<i>27.65</i>	<i>8.85</i>	<i>100.00</i>
2001	58.26	78.32	74.56	47.02	258.16
	<i>22.57</i>	<i>30.34</i>	<i>28.88</i>	<i>18.21</i>	<i>100.00</i>
2002	54.08	61.88	84.26	40.93	241.14
	<i>22.43</i>	<i>25.66</i>	<i>34.94</i>	<i>16.97</i>	<i>100.00</i>
2003	42.45	64.50	65.56	3.70	176.21
	<i>24.09</i>	<i>36.61</i>	<i>37.20</i>	<i>2.10</i>	<i>100.00</i>
2004	55.95	72.08	64.83	2.32	195.18
	<i>28.67</i>	<i>36.93</i>	<i>33.21</i>	<i>1.19</i>	<i>100.00</i>

Figures in italics percentage to total

Source: Compiled by the researcher

**Table 6.10****Composition of Current Assets of Medium Units during 1995-2004 (Rs. in Lakhs)**

Year	Sundry debtors	Closing stock	Advance & Deposits	Cash in hand & book	Total
1995	1.32	1.34	0.22	1.34	4.22
	<i>31.27</i>	<i>31.77</i>	<i>5.16</i>	<i>31.80</i>	<i>100.00</i>
1996	1.32	1.69	0.23	1.74	4.98
	<i>26.51</i>	<i>33.92</i>	<i>4.62</i>	<i>34.96</i>	<i>100.00</i>
1997	1.33	2.05	0.19	0.62	4.20
	<i>31.74</i>	<i>48.85</i>	<i>4.63</i>	<i>14.79</i>	<i>100.00</i>
1998	1.49	2.22	0.25	0.83	4.80
	<i>31.15</i>	<i>46.24</i>	<i>5.31</i>	<i>17.30</i>	<i>100.00</i>
1999	1.66	2.38	0.26	1.25	5.55
	<i>29.89</i>	<i>42.88</i>	<i>4.76</i>	<i>22.46</i>	<i>100.00</i>
2000	1.82	2.52	0.27	1.88	6.49
	<i>28.05</i>	<i>38.78</i>	<i>4.24</i>	<i>28.93</i>	<i>100.00</i>
2001	1.66	2.73	0.29	1.05	5.73
	<i>28.95</i>	<i>47.66</i>	<i>5.06</i>	<i>18.33</i>	<i>100.00</i>
2002	1.32	3.43	0.30	1.74	6.78
	<i>19.45</i>	<i>50.54</i>	<i>4.39</i>	<i>25.62</i>	<i>100.00</i>
2003	1.65	3.78	0.31	1.98	7.72
	<i>21.37</i>	<i>48.89</i>	<i>4.07</i>	<i>25.67</i>	<i>100.00</i>
2004	2.30	4.09	0.33	3.47	10.18
	<i>22.59</i>	<i>40.13</i>	<i>3.20</i>	<i>34.09</i>	<i>100.00</i>

Figures in italics percentage to total

Source: Compiled by the Researcher

**Table 6.11****Composition of Current Assets of Small Units during 1995-2004 ( Rs. in Lakhs)**

Year	Sundry debtors	Closing stock	Advance & Deposits	Cash in hand & book	Total
1995	0.26 <i>18.49</i>	0.70 <i>49.60</i>	0.17 <i>11.83</i>	0.28 <i>20.08</i>	1.42 <i>100.00</i>
1996	0.27 <i>18.24</i>	0.73 <i>49.29</i>	0.17 <i>11.57</i>	0.31 <i>20.90</i>	1.48 <i>100.00</i>
1997	0.27 <i>19.40</i>	0.70 <i>49.58</i>	0.17 <i>11.95</i>	0.27 <i>19.08</i>	1.40 <i>100.00</i>
1998	0.27 <i>18.11</i>	0.73 <i>50.17</i>	0.17 <i>11.61</i>	0.29 <i>20.12</i>	1.46 <i>100.00</i>
1999	0.27 <i>19.75</i>	0.67 <i>48.79</i>	0.17 <i>12.10</i>	0.27 <i>19.36</i>	1.37 <i>100.00</i>
2000	0.26 <i>17.33</i>	0.78 <i>51.93</i>	0.16 <i>10.80</i>	0.30 <i>19.94</i>	1.51 <i>100.00</i>
2001	0.28 <i>17.95</i>	0.76 <i>49.50</i>	0.17 <i>10.84</i>	0.33 <i>21.70</i>	1.53 <i>100.00</i>
2002	0.25 <i>16.00</i>	0.80 <i>51.41</i>	0.17 <i>10.92</i>	0.34 <i>21.67</i>	1.55 <i>100.00</i>
2003	0.24 <i>15.26</i>	0.84 <i>53.83</i>	0.17 <i>10.94</i>	0.31 <i>19.97</i>	1.56 <i>100.00</i>
2004	0.24 <i>15.78</i>	0.80 <i>52.19</i>	0.17 <i>11.26</i>	0.32 <i>20.76</i>	1.54 <i>100.00</i>

Figures in italics percentage to total

Source: Compiled by the researcher

**Table 6.12****Composition of Current Assets of Very Small Units during 1995-2004 (Rs. in Lakhs)**

Year	Sundry debtors	Closing stock	Advance & Deposits	Cash in hand & book	Total
1995	0.08	0.39	0.11	0.10	0.68
	<i>11.10</i>	<i>57.84</i>	<i>16.05</i>	<i>15.01</i>	<i>100.00</i>
1996	0.07	0.40	0.10	0.10	0.66
	<i>9.94</i>	<i>61.10</i>	<i>14.49</i>	<i>14.47</i>	<i>100.00</i>
1997	0.08	0.41	0.07	0.11	0.67
	<i>11.88</i>	<i>61.68</i>	<i>10.08</i>	<i>16.36</i>	<i>100.00</i>
1998	0.10	0.42	0.08	0.09	0.69
	<i>14.89</i>	<i>60.76</i>	<i>11.51</i>	<i>12.83</i>	<i>100.00</i>
1999	0.06	0.45	0.09	0.13	0.74
	<i>8.36</i>	<i>61.34</i>	<i>12.12</i>	<i>18.17</i>	<i>100.00</i>
2000	0.09	0.48	0.10	0.14	0.80
	<i>10.94</i>	<i>59.36</i>	<i>11.90</i>	<i>17.81</i>	<i>100.00</i>
2001	0.06	0.43	0.10	0.16	0.75
	<i>7.84</i>	<i>57.35</i>	<i>13.62</i>	<i>21.19</i>	<i>100.00</i>
2002	0.07	0.40	0.09	0.17	0.73
	<i>9.92</i>	<i>54.48</i>	<i>12.34</i>	<i>23.27</i>	<i>100.00</i>
2003	0.08	0.46	0.12	0.17	0.83
	<i>10.08</i>	<i>55.54</i>	<i>14.41</i>	<i>19.97</i>	<i>100.00</i>
2004	0.09	0.50	0.12	0.17	0.88
	<i>10.46</i>	<i>56.27</i>	<i>13.88</i>	<i>19.39</i>	<i>100.00</i>

Figures in italics percentage to total

Source: Compiled by the Researcher

Major share of current assets is comprised of closing stock (around 35 per cent) in the large unit. Sundry debtors increased from Rs. 41.83 lakh in 1995 to Rs. 105.02 lakh in 1999. Advance and deposits increased from 52.90 lakh to the maximum Rs. 84.26 lakh in 2002.

In the medium units major share of current assets was in cash in hand and book (31.80 per cent) and closing stock (31.77 per cent). The current assets in the most liquid form i.e. in the form of cash in hand and book increased to 34.09 per cent in 2004. The share of sundry debtors and advance and deposits decreased from 31.27 per cent to 22.59 per cent and 5.16 per cent to 3.20 per cent from 1995 to 2004. The share of sundry debtors and closing stock in the current assets of small units was 15.78 per cent and 52.19 per cent respectively in 2004. Advance and deposits constituted only a meagre share in the units during the period. Major share of current assets of very small units was in the form of semi finished and finished goods (closing stock) 56.27 cent followed by cash in hand and book. (19.39 per cent), and advance and deposits (13.88 per cent in 2004).

### **6.3 FINANCIAL RATIO ANALYSIS**

In the above paragraphs we have examined the composition of current liabilities (source of funds) and current assets (use of funds). The discussion on the composition never reveals the financial efficiency. To evaluate financial performance, the accepted way is a tool called ratio analysis. A ratio is a numerical value calculated by dividing one number by another, and it can be written as numbers, or per cents. A single ratio has essentially no value, and a set of ratios has value only if they can be compared or bench marked to other ratios. Mere calculation of the ratios is not enough. We have to assess the performance of the firm on the basis of the ratios by their proper and careful interpretation. In this connection the most vital information we need is about the standard values of the ratios with which the computed ratios can be compared to derive the inferences. Ratio analysis is a powerful tool for unraveling the underlying reasons

for the financial structure, conditions and trends of business. Such an analysis helps in spotting reasons behind better or poor performance, and in finding out significant deviations from any average or relatively applicable standards<sup>5</sup>. Absolute standards are the values of the ratios which are accepted as desirable regardless of the type of company, the nature of business, age of the company, business goal, and other such dimensions.

Ratio analysis describes the significant relationships that exist between figures shown in the balance sheet, in the profit and loss account, in budgetary control system or in any other part of accounting organization<sup>6</sup>. A single ratio alone will not give the entire picture, but they do tend to give indications, which cumulatively assist considerably to appraise the financial position and operation of the organization<sup>7</sup>. Ratio analysis is relevant in assessing the performance of a firm in respect of liquidity position and operating efficiency – efficiency in the management and utilization of its assets and over all profitability of a firm.

Financial ratios represent the figures in which the net result of the financial position and problems is concentrated. It helps in forecasting, planning and co-ordinating the various segments of the enterprise. “Financial ratios are for a business enterprise like blood pressure, pulse rate, and temperature are for an individual. They are symptoms where by the state of health of the enterprise may be determined. An analysis of these ratios will reveal whether the financial condition of the enterprise is very strong, good, partly good, questionable or poor<sup>8</sup>.

Ratio analysis has the limitation of not considering the non-monetary factors such as general economic climate, government and management policies, even though these have a vital influence on the financial strength of the enterprise. Further, the comparison is difficult as the formulae for calculating each ratio is not

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<sup>5</sup> Erich A. Gekfert, Richard D. Irwin, (1957) “Techniques of financial Analysis” Home Wood p. 257

<sup>6</sup> Batty, J, Management Accountancy (1963) MC Ponal d a Evans, London. P-125.

<sup>7</sup> Harold Bierman (1969) “Financial Accounting Theory”. (First edition). The Mac Million company, New York p. 255.

<sup>8</sup> Foulke, Roy, (1961), A Practical Financial statement Analysis. Mc Grow Hill, New York p.136.

exact measures of financial situation as the balance sheet and profit and loss account are based on accounting conventions, personal judgements and recorded facts. Therefore they are to be regarded only as pointers to answer significant questions<sup>9</sup>.

In this study, financial analysis using different ratios has been done in order to get more insight into the financial position of the sample units with respect to liquidity, inventory management, cash management, operational performance and assets utilization,. The ratios are classified according to their purposes.

Liquidity management of the sample units is analyzed using the working capital, current ratio, quick assets ratio and turn over of current assets ratio. Ratio of inventory to current assets verifies the effectiveness of inventory management and cash to current assets ratio verifies the effectiveness of cash management. Operational performance is measured using profit ratio, operating ratio and bifurcated operating ratio. The different solvency ratios namely, assets turnover ratio, net fixed capital turnover ratio, and working capital turn over ratio evaluate the efficiency of units to manage and utilize assets.

#### **6.4 LIQUIDITY MANAGEMENT**

The term liquidity means the ability of the firm to meet its current obligation. Owing to the close relationship of working capital with the current day-to-day activities of the organization, the study of its management is important. Net current assets or working capital is the difference between current assets and current liabilities. The skill in managing the working capital leads to the efficient use of funds and minimizes the risk of loss. The amount of working capital can be used as a measure of firm's liquidity. Firms having large amount of working capital have the greater ability to meet its current obligations<sup>10</sup>. Inability to meet the current liability affects the creditability as well as its credit rating. Continuous

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<sup>9</sup> Helfert E.A. (1972). *Technique of Financial Analysis* Richard D Irwan Inc, Homewood Illinois, p. 124.

<sup>10</sup> Pandey, IM (1986). *OpCit.* p.105.

default on the part of the business leads to commercial bankruptcy, which may lead to its sickness.

**Table 6.13**

**COMPOSITION OF WORKING CAPITAL OF SAMPLE UNITS DURING THE PERIOD (1995 - 2004)**

(Rs in lakhs)

Year	Large unit			Medium units			small units			Very Small Units		
	Current assets	Current Liabilities	Working Capital	Current assets	Current Liabilities	Working Capital	Current assets	Current Liabilities	Working Capital	Current assets	Current Liabilities	Working Capital
1995	175.71	32.42	143.29	4.22	1.17	3.05	1.42	0.79	0.63	0.68	0.37	0.31
1996	185.77	57.76	128.01	4.98	1.35	3.63	1.48	0.76	0.71	0.66	0.34	0.32
1997	176.38	67.46	108.92	4.20	1.52	2.68	1.40	0.79	0.61	0.67	0.32	0.35
1998	220.97	39.95	181.02	4.80	1.54	3.26	1.46	0.84	0.62	0.69	0.38	0.31
1999	277.83	50.53	227.30	5.55	1.68	3.88	1.37	0.80	0.57	0.74	0.41	0.33
2000	240.07	55.62	184.45	6.49	1.67	4.82	1.51	0.83	0.68	0.80	0.44	0.36
2001	258.16	21.51	236.65	5.73	1.67	4.05	1.53	0.85	0.68	0.75	0.44	0.31
2002	241.14	67.28	173.86	6.78	1.67	5.11	1.55	0.86	0.69	0.73	0.45	0.28
2003	176.21	108.34	67.87	7.72	1.69	6.04	1.56	0.88	0.68	0.83	0.48	0.35
2004	195.18	70.12	125.06	10.18	1.71	8.48	1.54	0.86	0.67	0.88	0.52	0.37

Source: Compiled by the researcher

As per Table 6.13, the working capital of the large unit increased from Rs. 143.29 lakh in 1995 to Rs. 227.30 in 1999 marking an increase of 1.58 times. The working capital was the highest in 2001 (236.65 lakh). This is an indication

towards over capitalization. In the medium units, the working capital ranged between Rs. 3.05 lakh in 1995 and Rs. 8.48 lakh in 2004. In the case of small unit the increase in working capital from 1995 to 2004 is very small. Among the sample units of the toilet soap industry, the very small units have the lowest working capital. It was less than one lakh in all years except 1997, 2000, 2003 and 2004, (See Table 5.18) Smaller amount of working capital indicates the inability of the firm to meet its current obligations. The ability of an industry to meet its current obligations with a margin of safety is judged on the basis of the two liquidity ratios – (1) Current ratio (2) quick assets ratio. It measures the ability of a firm to meet its short term financial strength/solvency. For an efficient financial management, a proper balance between the two requirements, liquidity and profitability, is necessary.

#### 6.4.1 Current Ratio

The current ratio is the proportion of current assets to current liabilities. It is a measure of solvency and an index of the working capital available to the firm<sup>11</sup>.

Current Ratio =  $\frac{\text{Current assets}}{\text{Current Liability}}$  is expressed as an integer and provides for a

rough measure of a firm's ability to meet its current obligation. It indicates the availability of current assets in Rupees for each one Rupee of current liability. An ideal current ratio is 2:1 or a figure around two means the current liabilities are sufficiently covered by current assets. The higher the current ratio, the greater the margin of safety. If the current ratio of the firm is less than one which is a real danger signal to the firm since the standard ratio is two.

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<sup>11</sup> Sukla, R.C and T. S. Grehal, "Advanced Accounts" - Sultan Chand and company Limited, New Delhi..

Table 6.14

## Current Ratio of the sample units during 1995-2004

Year	Large unit			Medium units			small units			Very Small Units		
	Current assets	Current Liabilities	Current Ratio	Current assets	Current Liabilities	Current Ratio	Current assets	Current Liabilities	Current Ratio	Current assets	Current Liabilities	Current Ratio
1995	175.71	32.42	5.42	4.22	1.17	3.60	1.42	0.79	1.80	0.68	0.37	1.86
1996	185.77	57.76	3.22	4.98	1.35	3.69	1.48	0.76	1.93	0.66	0.34	1.94
1997	176.38	67.46	2.61	4.20	1.52	2.77	1.40	0.79	1.77	0.67	0.32	2.08
1998	220.97	39.95	5.53	4.80	1.54	3.12	1.46	0.84	1.74	0.69	0.38	1.83
1999	277.83	50.53	5.50	5.55	1.68	3.31	1.37	0.80	1.70	0.74	0.41	1.79
2000	240.07	55.62	4.32	6.49	1.67	3.88	1.51	0.83	1.82	0.80	0.44	1.80
2001	258.16	21.51	12.00	5.73	1.67	3.42	1.53	0.85	1.80	0.75	0.44	1.70
2002	241.14	67.28	3.58	6.78	1.67	4.06	1.55	0.86	1.80	0.73	0.45	1.61
2003	176.21	108.34	1.63	7.72	1.69	4.58	1.56	0.88	1.77	0.83	0.48	1.74
2004	195.18	70.12	2.78	10.18	1.71	5.97	1.54	0.86	1.78	0.88	0.52	1.71

Source: Compiled by the Researcher

As seen in Table 6.14 during the period 1995 to 2004, the current ratio of large unit show high fluctuation. It was very low in 2003 (1.63) and very high in 2001 (12.00), due to more than 50 per cent reduction in total liability. (See Table 6.1) compared to the previous year 2000, the liability position reduced from Rs. 55.62 lakhs to Rs.21.51 lakhs in 2001. The current ratio ranged between 3.60 and 5.97 in the medium units over a period of ten years. The current ratio in the small units was greater than one in all years. Current ratio standards vary widely from industry to industry, but generally some excess of current assets over current

liabilities; beyond a ratio of 1.50 is expected<sup>12</sup>. Here in the case of all the sample units large, medium, small and very small, the current ratio was above 1.50, which shows a signal of sufficiency in resources available to satisfy current liabilities. The rise in the ratio in certain years also suggests that the current assets are increasing more proportionately than increase in liabilities. The higher the ratio, the better from the point of creditors. But from the point of view of management it may be quite unwise to build up excessive liquid assets particularly surplus cash lying idle. The firm would be losing profits from such liquid assets. So there is a very likelihood of a trade off between liquidity and profitability after a certain range.

#### **6.4.2 Quick Assets Ratio or Acid Test Ratio**

Current ratio has the defect of treating a rupee of cash equivalent to a rupee of inventory. But actually it is not so. The quick assets or acid test ratio is a much more refined measure of the industry's liquidity. This ratio establishes a relationship between quick or liquid assets and current liabilities. An asset is liquid if it can be converted into cash immediately or reasonably so on without a loss of value. Quick assets ratio is found out by dividing the total of quick assets by the total of current liabilities. The quick assets here include sundry debtors, recoverable advances and deposits and cash and bank balances. Generally a quick ratio of 1:1 is considered to represent a satisfactory current financial condition<sup>13</sup>.

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<sup>12</sup> Costales, S.B & Geza Szurovy (1994). The guide to understanding financial statements MC Graw Hill, inc, New York, p. 59.

<sup>13</sup> Miller, Donald L, The meaningful interpretation of financial statement, American Management Association, New York, 1966, p. 24.

**Table 6.15**  
**Quick Asset Ratio of sample units during 1995-2004**

Year	Large unit			Medium units			small units			Very Small Units		
	Quick assets	Current Liabilities	Quick Ratio	Quick assets	Current Liabilities	Quick Ratio	Quick assets	Current Liabilities	Quick Ratio	Quick assets	Current Liabilities	Quick Ratio
1995	99.71	32.42	3.08	2.88	1.17	2.46	0.71	0.79	0.90	0.29	0.37	0.78
1996	108.71	57.76	1.88	3.29	1.35	2.44	0.75	0.76	0.98	0.26	0.34	0.75
1997	112.75	67.46	1.67	2.15	1.52	1.42	0.71	0.79	0.89	0.26	0.32	0.80
1998	148.49	39.95	3.72	2.58	1.54	1.68	0.73	0.84	0.87	0.27	0.38	0.72
1999	217.24	50.53	4.30	3.17	1.68	1.89	0.70	0.80	0.87	0.29	0.41	0.69
2000	150.44	55.62	2.70	3.97	1.67	2.38	0.73	0.83	0.87	0.33	0.44	0.73
2001	179.84	21.51	8.36	3.00	1.67	1.79	0.77	0.85	0.91	0.32	0.44	0.72
2002	179.27	67.28	2.66	3.36	1.67	2.01	0.75	0.86	0.87	0.33	0.45	0.73
2003	111.71	108.34	1.03	3.95	1.69	2.34	0.72	0.88	0.82	0.37	0.48	0.77
2004	123.10	70.12	1.76	6.10	1.71	3.58	0.73	0.86	0.85	0.39	0.52	0.75

Source: Compiled by the Researcher

Among the sample units the ratio was found highest in large unit during 2001 (8.36:1). In the medium units the quick assets ratio was around two throughout the reference period. The quick assets ratio was less than one in the conventional standard of 1:1 in the case of the small and very small units (See Table 6.15). Thus the testing device for the working capital position shows a favourable status of the toilet soap industry in Kerala.

#### 6.4.3 Turn Over of Current Assets Ratio

The relationship between sales and current assets gives a picture of working capital utilization. The better the management of assets, the larger the amount of sales. The turnover of current assets ratio is employed to evaluate the efficiency with which the firm manages and utilizes its assets. These ratios are called turnover ratios, because

they indicate the speed with which assets are being converted or turned over into sales. A proper balance between sales and assets generally reflects that assets are managed. High turnover ratios are usually associated with good asset management and low turnover ratios with bad asset management Table 6.16 shows the current assets turnover of large, medium, small and very small units.

**Table 6.16**  
**Turnover of Current Assets Ratio of the sample units during 1995-2004**

Year	Large units			Medium units			Small units			Very Small units		
	Sales	Current Assets	Ratio	Sales	Current Assets	Ratio	Sales	Current Assets	Ratio	Sales	Current Assets	Ratio
1995	570.72	175.71	3.25	3.42	4.22	0.81	0.87	1.42	0.61	0.42	0.68	0.62
1996	502.19	185.77	2.70	3.95	4.98	0.79	0.92	1.48	0.62	0.44	0.66	0.66
1997	428.16	176.38	2.43	3.34	4.20	0.80	0.88	1.40	0.63	0.40	0.67	0.60
1998	644.01	220.97	2.91	4.18	4.80	0.87	0.95	1.46	0.65	0.44	0.69	0.63
1999	792.09	277.83	2.85	5.37	5.55	0.97	0.99	1.37	0.72	0.46	0.74	0.62
2000	780.22	240.07	3.25	4.45	6.49	0.69	0.93	1.51	0.61	0.48	0.80	0.59
2001	892.19	258.16	3.46	4.62	5.73	0.81	0.97	1.53	0.63	0.38	0.75	0.50
2002	918.30	241.14	3.81	5.00	6.78	0.74	0.91	1.55	0.59	0.42	0.73	0.58
2003	851.97	176.21	4.83	5.41	7.72	0.70	0.95	1.56	0.61	0.44	0.83	0.53
2004	866.57	195.18	4.44	6.22	10.18	0.61	0.98	1.54	0.64	0.49	0.88	0.55

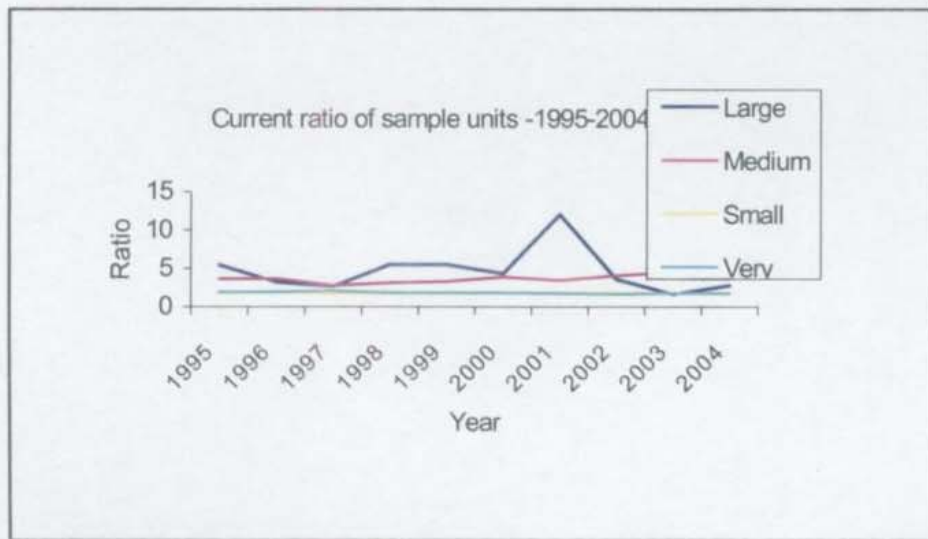
Source: Compiled by the Researcher

From the table it is clear that the turn over of current assets in the large unit increased from 3.25 in 1995 to 4.44 in 2004. This is a sign of better utilization of assets. The utilization of current assets in 2004 was very low in medium units. This is because the increase in current assets is greater than increase in sales. In the case of small units, the current asset ratio is high in 1999, due to the increase in sales over the previous year. Over the period the increase in sales was 112.6 per cent and current assets increased by 108.4. This indicates the improvement in

utilization of current assets. In the case of very small units, the turnover decreased from 0.62 in 1995 to 0.55 in 2004. This is not a sign of improvement.

The liquidity position of the sample units from 1995-2004 can be seen in the following figures (6.1 to 6.3)

**Figure 6.1**



**Figures 6.2**

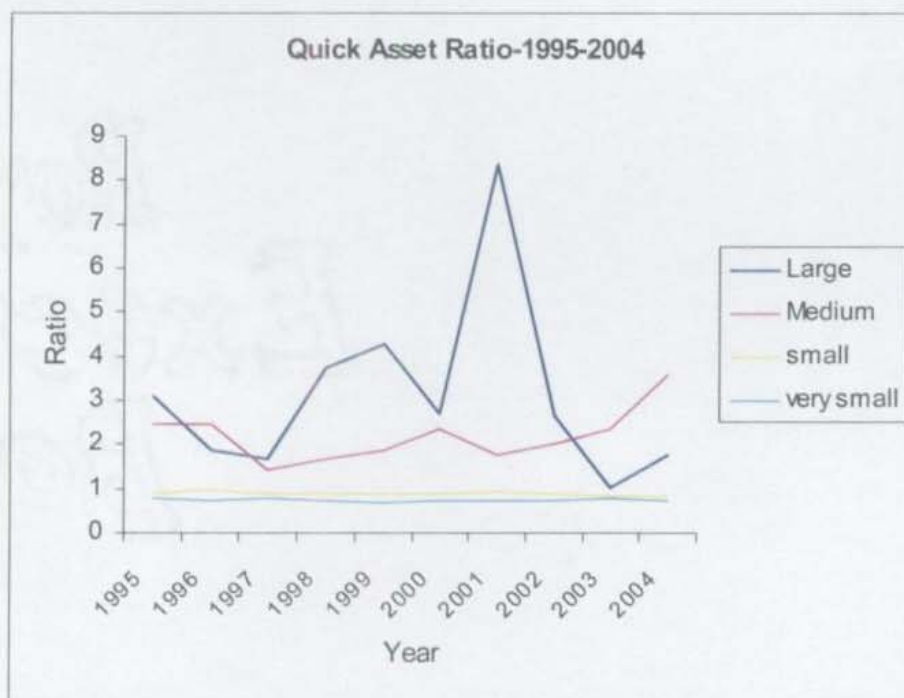
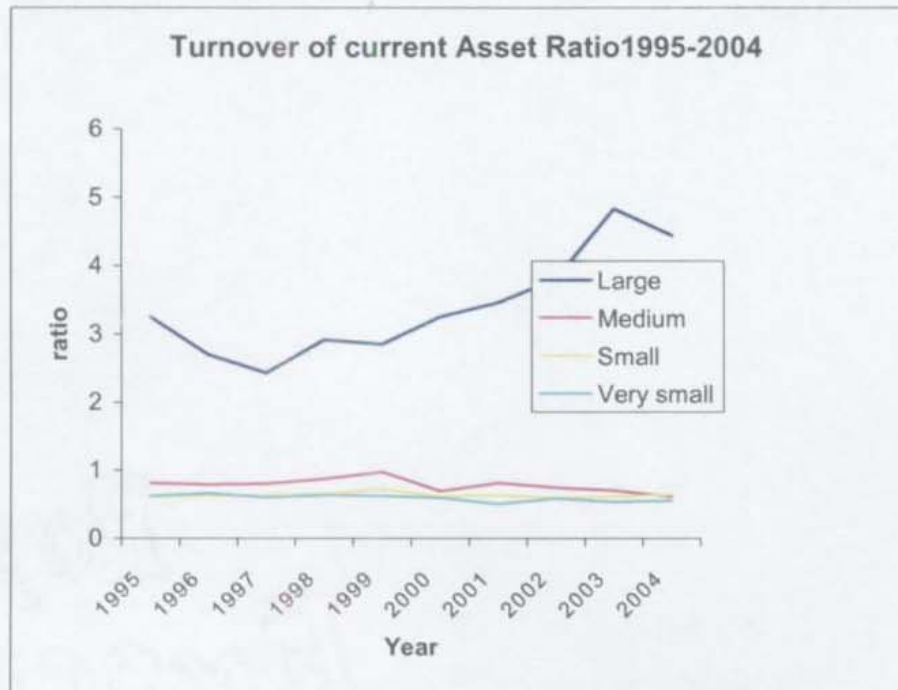


Fig. 6.3



## 6.5 INVENTORY MANAGEMENT

Inventories are the stock of value of raw materials, consumables, work in progress, finished goods in which the funds of the concern have been invested. Efficiency in the management of inventories, leads to minimization of cost of production, efficiency in their use and in maximization of owner's wealth. The effectiveness of inventory management can be measured by the ratio of inventory to current assets.

### 6.5.1 Ratio of Inventory to Current Assets.

In order to increase the ratio of inventory to current assets, the firm has to keep only minimum inventory. This ratio shows how rapidly the inventory is turned over into receivable high sales. Generally a high inventory turnover is indicative of good inventory management and a lower inventory turnover suggests an inefficient inventory management. A low inventory turnover implies excessive inventory levels – and this reflects dull business, over investment in inventory. The ratio of inventory to current assets may help to dictate the balance of investment in various inventory components.

**Table 6.17**  
**Inventory to Current Asset Ratio of Sample Units during 1995-2004**

Year	Large Units			Medium Units			Small Units			Very Small Units		
	Inventory	Current Assets	Ratio	Inventory	Current Assets	Ratio	Inventory	Current Assets	Ratio	Inventory	Current Assets	Ratio
1995	76.01	175.71	0.43	1.34	4.22	0.32	0.70	1.42	0.50	0.39	0.68	0.58
1996	77.05	185.77	0.41	1.69	4.98	0.34	0.73	1.48	0.49	0.40	0.66	0.61
1997	63.62	176.38	0.36	2.05	4.20	0.49	0.70	1.40	0.50	0.41	0.67	0.62
1998	72.48	220.97	0.33	2.22	4.80	0.46	0.73	1.46	0.50	0.42	0.69	0.61
1999	60.59	277.83	0.22	2.38	5.55	0.43	0.67	1.37	0.49	0.45	0.74	0.61
2000	89.63	240.07	0.37	2.52	6.49	0.39	0.78	1.51	0.52	0.48	0.80	0.59
2001	78.32	258.16	0.30	2.73	5.73	0.48	0.76	1.53	0.49	0.43	0.75	0.57
2002	61.88	241.14	0.26	3.43	6.78	0.51	0.80	1.55	0.51	0.40	0.73	0.54
2003	64.50	176.21	0.37	3.78	7.72	0.49	0.84	1.56	0.54	0.46	0.83	0.56
2004	72.08	195.18	0.37	4.09	10.18	0.40	0.80	1.54	0.52	0.50	0.88	0.56

Source: Compiled by the Researcher

Ratios in Table 6.17 give an idea about the investment of working capital inventories. The ratio of inventory to current assets in the large unit decreased from 0.43 in 1995 to 0.37 in 2004. As seen in Table 6.17 the per cent of inventory to current assets of every rupee ranges from 32 per cent to 49 per cent in medium units and 50 per cent to 54 per cent in small units for the period 1995-2003. Compared to other sample units, the ratio was the highest in very small units. It was high in 1997 (0.62) and declined later on. Higher ratios show an unfavourable liquidity position.

## 6.6 CASH MANAGEMENT

The objective of cash management is to make the most effective use of funds and to accelerate the inflow and decelerate the outflow of cash. A high cash balance ensures prompt payment but adversely affects profitability.

### 6.6.1 Ratio of Cash to Current Assets

Ratio of cash to current assets gives an idea regarding current operation of the business. The cash ratio measures the absolute liquidity of the business. As shown in Table (6.18) – in large unit the ratio of cash to current assets was high with about 19 per cent in 1998, but declined later and was only 1 per cent in 2004. In the medium units, the per cent of the cash balances increased from 32 per cent in 1995 to 34 per cent in 2004. High liquidity was maintained by all units except the large, due to the increase in cash and bank balances.

**Table 6.18**

**Ratio of Cash to Current Assets of the Sample Units during 1995-2004**

Year	Large Units			Medium Units			Small Units			Very Small Units		
	Cash	Current Assets	Ratio	Cash	Current Assets	Ratio	Cash	Current Assets	Ratio	Cash	Current Assets	Ratio
1995	4.97	175.71	0.03	1.34	4.22	0.32	0.28	1.42	0.20	0.10	0.68	0.15
1996	31.70	185.77	0.17	1.74	4.98	0.35	0.31	1.48	0.21	0.10	0.66	0.14
1997	22.51	176.38	0.13	0.62	4.20	0.15	0.27	1.40	0.19	0.11	0.67	0.16
1998	42.57	220.97	0.19	0.83	4.80	0.17	0.29	1.46	0.20	0.09	0.69	0.13
1999	40.40	277.83	0.15	1.25	5.55	0.22	0.27	1.37	0.19	0.13	0.74	0.18
2000	21.25	240.07	0.09	1.88	6.49	0.29	0.30	1.51	0.20	0.14	0.80	0.18
2001	47.02	258.16	0.18	1.05	5.73	0.18	0.33	1.53	0.22	0.16	0.75	0.21
2002	40.93	241.14	0.17	1.74	6.78	0.26	0.34	1.55	0.22	0.17	0.73	0.23
2003	3.70	176.21	0.02	1.98	7.72	0.26	0.31	1.56	0.20	0.17	0.83	0.20
2004	2.32	195.18	0.01	3.47	10.18	0.34	0.32	1.54	0.21	0.17	0.88	0.19

Source: Compiled by the Researcher

So far we have examined the three issues relating to the performance of an organization which includes liquidity management, inventory management and cash management.

## **6.7 OPERATIONAL PERFORMANCE**

Operational performance is the next component for measuring the performance of an organization. It will reveal the total health of a firm and also its capacity to perform day today operation and make profit. For this purpose three ratios are computed namely gross profit ratio, operating ratio and bifurcated operating ratio. Analysing the figures contained in the financial statements we can expose the strengths and weakness of a business undertaking.

### **6.7.1 Gross Profit Ratio**

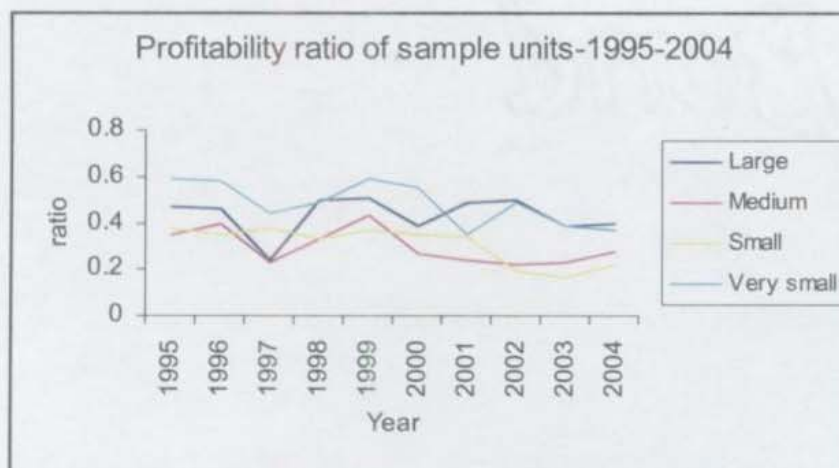
As the name indicates, this ratio tells a story about the firm's profitability. It is a simple and widely used index of assessing business efficiency of a firm. It is usually interpreted as the difference between the total expenses involved and the total revenue accruing from its sales. Gross profit Ratio shows the efficiency of the firm in producing and selling its products. The efficiency of management is measured by the profitability of the business. The greater the profitability, the more the efficiency. Gross profit ratio indicates the degree to which selling prices of goods per unit may decline without resulting in losses on operations for the firm. Even though there is no rigid standard to this ratio, normally 25 per cent to 30 per cent margin is anticipated. As seen in Table 6.19 the gross profit ratio of the large unit indicates a favourable situation. In the medium units the gross profit ratio is high in 1999 (43 per cent) but started to fall after that. In the case of small units, the gross profit was very low in 2003 (17 per cent). In the case of very small units, Gross profit was high in earlier years, but started to decline after 2001. The low profitability of the sample units of toilet soap industry may be due to unfavourable purchasing and mark up policies, instability of management, marked reduction in selling price not accompanied by proportionate decrease in cost of goods, and excessive competition.

**Table 6.19**  
**Gross Profit Ratio of Sample Units during 1995-2004**

Year	Large Units			Medium Units			Small Units			Very Small Units		
	Gross Profit	Sales	Gross Profit Ratio	Gross Profit	Sales	Gross Profit Ratio	Gross Profit	Sales	Gross Profit Ratio	Gross Profit	Sales	Gross Profit Ratio
1995	270.48	570.72	0.47	1.20	3.42	0.35	0.33	0.87	0.38	0.25	0.42	0.59
1996	228.80	502.19	0.46	1.57	3.95	0.40	0.32	0.92	0.35	0.25	0.44	0.58
1997	103.80	428.16	0.24	0.76	3.34	0.23	0.34	0.88	0.38	0.18	0.40	0.44
1998	321.22	644.01	0.50	1.37	4.18	0.33	0.31	0.95	0.33	0.21	0.44	0.49
1999	404.13	792.09	0.51	2.29	5.37	0.43	0.36	0.99	0.37	0.27	0.46	0.59
2000	305.59	780.22	0.39	1.20	4.45	0.27	0.32	0.93	0.35	0.26	0.48	0.55
2001	435.63	892.19	0.49	1.10	4.62	0.24	0.33	0.97	0.34	0.13	0.38	0.35
2002	463.31	918.30	0.50	1.08	5.00	0.22	0.17	0.91	0.19	0.21	0.42	0.49
2003	328.05	851.97	0.39	1.27	5.41	0.23	0.17	0.95	0.17	0.17	0.44	0.39
2004	345.53	866.57	0.40	1.72	6.22	0.28	0.21	0.98	0.22	0.18	0.49	0.37

Source: Compiled by the Researcher

**Figure 6.4**



### 6.7.2 Operating Ratio

Table 6.20 shows the operating profit earned by the firm per rupee of sales. The ratio expresses the relationship between cost of goods sold and other operating expenses to sales. For manufacturing concern, operating ratio is expected to touch a level of 75 per cent to 85 per cent. In the large units, the ratio increased from 53 per cent in 1995 to 76 per cent in 1997. But in 2004, it was only 60 per cent. Regarding the medium units, it was less than 75 per cent in all

years except 1997, 2001, 2002 and 2003. The quantum of expenditure incurred in producing and selling of goods in the small units increased more than 76 per cent in 2002, 2003 and 2004. In the case of very small units, throughout the years the ratio was less than 75 per cent. Higher operating ratio shows less favourable situation because it would leave a smaller margin to meet the other needs of the units. From our analysis we can conclude that toilet soap production units except medium and small have better profitability ratios.

**Table 6.20**

**Operating Ratio of Sample Units during 1995-2004**

Year	Large Units			Medium Units			Small Units			Very Small Units		
	Cost	Sales	Ratio	Cost	Sales	Ratio	Cost	Sales	Ratio	Cost	Sales	Ratio
1995	300.24	570.72	0.53	2.22	3.42	0.65	0.54	0.87	0.62	0.17	0.42	0.41
1996	273.39	502.19	0.54	2.38	3.95	0.60	0.60	0.92	0.65	0.18	0.44	0.42
1997	324.36	428.16	0.76	2.58	3.34	0.77	0.54	0.88	0.62	0.22	0.40	0.56
1998	322.79	644.01	0.50	2.81	4.18	0.67	0.64	0.95	0.67	0.22	0.44	0.51
1999	387.96	792.09	0.49	3.08	5.37	0.57	0.62	0.99	0.63	0.19	0.46	0.41
2000	474.63	780.22	0.61	3.25	4.45	0.73	0.61	0.93	0.65	0.22	0.48	0.45
2001	456.56	892.19	0.51	3.52	4.62	0.76	0.64	0.97	0.66	0.25	0.38	0.65
2002	454.99	918.30	0.50	3.91	5.00	0.78	0.73	0.91	0.81	0.21	0.42	0.51
2003	523.93	851.97	0.61	4.14	5.41	0.77	0.79	0.95	0.83	0.27	0.44	0.61
2004	521.04	866.57	0.60	4.49	6.22	0.72	0.77	0.98	0.78	0.31	0.49	0.63

Source: Compiled by the Researcher

### 6.7.3 Bifurcated Operating Ratio

The above discussed operating ratio will give only a broad indication since the aggregate is only considered. But to get a more clear picture a disaggregate

analysis using various components of cost is usually followed. Bifurcated operating ratio is used for this purpose.

**Table 6.21**

**Bifurcated Operating Ratio of Sample Units during 1995-2004**

Year	Large Units			Medium Units			Small Units			Very Small Units		
	Raw material & Fuel Cost to Sales	Salary and Wages to Sales	Other Establishment Cost to Sales	Raw material & Fuel Cost to Sales	Salary and Wages to Sales	Other Establishment Cost to Sales	Rawmaterial & Fuel Cost to Sales	Salary and Wages to Sales	Other Establishment Cost to Sales	Rawmaterial & Fuel Cost to Sales	Salary and Wages to Sales	Other Establishment Cost to Sales
1995	0.38	0.07	0.08	0.38	0.19	0.07	0.35	0.23	0.04	0.23	0.16	0.02
1996	0.36	0.09	0.09	0.37	0.17	0.07	0.36	0.25	0.05	0.20	0.19	0.03
1997	0.55	0.10	0.11	0.46	0.23	0.09	0.34	0.24	0.04	0.28	0.23	0.04
1998	0.34	0.07	0.09	0.39	0.20	0.08	0.36	0.25	0.06	0.30	0.18	0.03
1999	0.35	0.07	0.07	0.33	0.18	0.06	0.35	0.23	0.05	0.22	0.14	0.04
2000	0.46	0.07	0.08	0.42	0.23	0.08	0.31	0.26	0.08	0.24	0.16	0.06
2001	0.35	0.09	0.07	0.43	0.24	0.09	0.38	0.22	0.07	0.34	0.25	0.06
2002	0.34	0.09	0.07	0.44	0.24	0.10	0.43	0.28	0.09	0.30	0.14	0.07
2003	0.44	0.09	0.08	0.42	0.24	0.11	0.42	0.32	0.08	0.36	0.17	0.08
2004	0.44	0.08	0.08	0.41	0.22	0.10	0.41	0.28	0.09	0.36	0.20	0.08

Source: Compiled by the Researcher

Table 6.21 depicts the bifurcated operating ratio of the sample units. The ratio of raw material and fuel cost to sales in the large units, increased from 38 per cent in 1995 to 55 per cent in 1997; it was around 44 per cent in 2003 and 2004. The Bifurcated operating ratio with respect to establishment cost did not increase much over the years, it ranges from 7 per cent to 11 per cent. The Bifurcated operating ratio of labour cost on an average was 10 per cent during the period. In the medium units the ratio of both input cost and labour cost increased over the

years (38 per cent to 46 per cent, 19 per cent to 24 per cent). While the Bifurcated operating ratio of other establishment cost increased from 7 per cent in 1995 to 11 per cent in 2003. It was only 10 per cent during 2004. The raw material cost and fuel cost to sales in the small units increased from 35 per cent in 1995 to 41 per cent in 2004. It was high (43 per cent) during 2002. The ratio of salaries and wages to sales also increased from 0.23 in 1995 to 0.28 in 2004. The ratio of other establishment cost is increasing from 0.04 to 0.09 over the period of ten years. In the very small units, like other sample units of toilet soap production, the operating ratio of raw material is more (36 per cent in 2004), followed by labour, (20 per cent in 2004), indicating their influence on sales. Bifurcated Operating ratio suggest not a very favourable climate for toilet soap production units except for the large. This may be due to other factors also. To examine this dimension, the extent of asset utilization with the help of three conventional ratios, asset turnover ratio, fixed capital turnover ratio and working capital ratio were also attempted.

## **6.8 ASSETS UTILIZATION**

The funds are invested in various kinds of assets to generate sales and profit. Normally the better the management of assets, the larger the amount of sales. Activity ratios are employed to evaluate the efficiency with which the company manages and utilizes its assets. Activity or turnover or performance ratios involve a relationship between sales and various assets and presume that there exists an appropriate balance between sales and various assets.

### **6.8.1 Assets Turnover Ratio**

Assets turnover ratio indicates the efficiency with which the firm utilizes its assets. In the large unit, the turnover ratio increased from 3.51 in 1995 to 7.91 in 2003, then declined to 5.49 in 2004 (as per Table 6.22). A high ratio reflects better use of tangible assets. The ratio was higher than two, the normal value from 1995 to 2004 indicating overtrading of fixed assets (Table 6.22). In medium units, the ratio was less than one for all years except in 1999. The ratio in the small units

was also low, though it has made improvement since 1998, indicating a tendency towards better utilization of assets during the period. In the very small units, the turnover ratio was less than one for all years except 1999 and 2002 (1.01 per cent and 1.05 per cent). A low ratio shows a symptom of idle capacity ie excessive investments.

**Table 6.22**  
**Asset Turn over Ratio of Sample Units during 1995-2004**

Year	Large Units			Medium Units			Small Units			Very Small Units		
	Net Sales	Net Assets	Ratio	Net Sales	Net Assets	Ratio	Net Sales	Net Assets	Ratio	Net Sales	Net Assets	Ratio
1995	570.72	162.60	3.51	3.42	5.15	0.66	0.87	1.34	0.65	0.42	0.56	0.74
1996	502.19	148.72	3.38	3.95	5.44	0.73	0.92	1.35	0.68	0.44	0.54	0.81
1997	428.16	125.31	3.42	3.34	4.28	0.78	0.88	1.25	0.70	0.40	0.57	0.70
1998	644.01	206.40	3.12	4.18	4.80	0.87	0.95	1.22	0.78	0.44	0.51	0.86
1999	792.09	258.21	3.07	5.37	5.33	1.01	0.99	1.10	0.90	0.46	0.45	1.01
2000	780.22	212.56	3.67	4.45	6.12	0.73	0.93	1.17	0.80	0.48	0.51	0.94
2001	892.19	264.57	3.37	4.62	5.25	0.88	0.97	1.14	0.85	0.38	0.44	0.85
2002	918.30	215.30	4.27	5.00	6.21	0.80	0.91	1.11	0.81	0.42	0.40	1.05
2003	851.97	107.69	7.91	5.41	6.94	0.78	0.95	1.10	0.86	0.44	0.50	0.88
2004	866.57	157.78	5.49	6.22	9.27	0.67	0.98	1.07	0.91	0.49	0.50	0.97

Source: Compiled by the Researcher

### 6.8.2 Fixed Capital Turnover Ratio

This ratio reflects the efficiency of fixed capital utilization. It establishes the relationship between net sales and fixed assets. As seen in Table 6.23, in the large unit the ratio increased from 29.56 in 1995 to 31.96 in 2001. In the case of medium units the ratio increased from 1.63 in 1995 to 7.82 in 2004. This gives an indication that there is overtrading on its assets. Fixed capital investment was low in small and very small units.

**Table 6.23****Fixed capital Turnover Ratio of Sample Units during 1995-2004**

Year	Large Units			Medium Units			Small Units			Very Small Units		
	Sales	Fixed Capital	Ratio	Sales	Net Fixed Capital	Ratio	Sales	Net Fixed Capital	Ratio	Sales	Net Fixed Capital	Ratio
1995	570.72	19.31	29.56	3.42	2.10	1.63	0.87	0.72	1.21	0.42	0.25	1.66
1996	502.19	20.71	24.25	3.95	1.82	2.18	0.92	0.63	1.45	0.44	0.22	1.97
1997	428.16	16.39	26.12	3.34	1.60	2.09	0.88	0.64	1.38	0.40	0.22	1.82
1998	644.01	25.38	25.38	4.18	1.54	2.71	0.95	0.59	1.59	0.44	0.20	2.23
1999	792.09	30.91	25.63	5.37	1.45	3.70	0.99	0.53	1.85	0.46	0.13	3.60
2000	780.22	28.11	27.76	4.45	1.30	3.42	0.93	0.49	1.91	0.48	0.15	3.19
2001	892.19	27.92	31.96	4.62	1.20	3.86	0.97	0.46	2.12	0.38	0.13	2.80
2002	918.30	41.43	22.16	5.00	1.09	4.56	0.91	0.43	2.12	0.42	0.12	3.42
2003	851.97	39.81	21.40	5.41	0.90	5.99	0.95	0.43	2.23	0.44	0.14	3.07
2004	866.57	32.72	26.49	6.22	0.80	7.82	0.98	0.40	2.43	0.49	0.13	3.66

Source: Compiled by the researcher

### 6.8.3 Working Capital Turnover Ratio

This ratio between sales and the working capital is analyzed to test the efficiency with which net working capital is utilized. A higher ratio indicates better utilization of working capital, but there may be a situation where the ratio is higher or lower as a result of under capitalization or over capitalization of operations.

**Table 6.24**

**Working Capital Turnover Ratio Sample Units during 1995-2004**

Year	Large Units			Medium Units			Small Units			Very Small Units		
	Sales	Working Capital	Ratio	Sales	Working Capital	Ratio	Sales	Working Capital	Ratio	Sales	Working Capital	Ratio
1995	570.72	143.29	3.98	3.42	3.05	1.12	0.87	0.63	1.39	0.42	0.31	1.33
1996	502.19	128.01	3.92	3.95	3.63	1.09	0.92	0.71	1.29	0.44	0.32	1.37
1997	428.16	108.92	3.93	3.34	2.68	1.25	0.88	0.61	1.44	0.40	0.35	1.15
1998	644.01	181.02	3.56	4.18	3.26	1.28	0.95	0.62	1.52	0.44	0.31	1.40
1999	792.09	227.30	3.48	5.37	3.88	1.39	0.99	0.57	1.74	0.46	0.33	1.39
2000	780.22	184.45	4.23	4.45	4.82	0.92	0.93	0.68	1.37	0.48	0.36	1.33
2001	892.19	236.65	3.77	4.62	4.05	1.14	0.97	0.68	1.42	0.38	0.31	1.22
2002	918.30	173.86	5.28	5.00	5.11	0.98	0.91	0.69	1.32	0.42	0.28	1.52
2003	851.97	67.87	12.55	5.41	6.04	0.90	0.95	0.68	1.40	0.44	0.35	1.23
2004	866.57	125.06	6.93	6.22	8.48	0.73	0.98	0.67	1.45	0.49	0.37	1.33

Source: Compiled by the Researcher

In large units the ratio increased from 3.98 in 1995 to 12.55 in 2003, then it declined to 6.93 in 2004. In medium units the working capital turnover ratio was more than one in all years except 2000, 2002, 2003 and 2004. AS per Table 6.24 the small and very small units have a working capital ratio greater than one. From the analysis it is clear that the performance of large unit is better than the other units of toilet soap production in Kerala.

The various ratios, computed in this chapter revealed the trends in the financial performance of the toilet soap production in Kerala. The magnitude of ratios sounds to the financial health of the units. From the analysis it is clear that

financially, the toilet soap production unit is performing satisfactorily and the performance of large unit is better than the other sample units.

The financial performance of the sample units judged on the basis of financial ratios related to liquidity management, inventory management, cash management, asset utilization and profitability proved that the financial health of the units are satisfactory. The performance of the large unit is better than the other sample units- medium, small and very small units. In our economic analysis the performance of toilet soap production unit as a whole is satisfactory. But the performance of large unit is better than the other sample units. In a broader sense, the major inferences of this chapter agree with the inferences in the previous chapter. These two chapters examined the performance of the toilet soap industry from two closely related angles. When the performance is not up to the expected level, naturally there may be reasons behind that. An attempt is made to identify these problems and constraints faced by the Toilet soap production in Kerala in the succeeding chapter.

## CHAPTER – VII

# PROBLEMS OF TOILET SOAP INDUSTRY IN KERALA

The Keralites are very much particular about their cleanliness as well as their appearance. So soaps and detergents form one of their basic needs and have an age old tradition. Increase in the purchasing power of the people and rise in the level of education and a high standard of living have given a thrust to the cleanliness of people. This has resulted in an ever increasing demand for the toilet soaps. The consumption of soap rose steadily and Kerala provides a good market for the soap products. It is really unfortunate that though the per capita consumption of toilet soap is higher in Kerala, it is lagging behind most of the other states in production. Even though the soap industry as a consumer good industry occupies an important place in the industrial set up of an economy, it is seen that the development of the industry in the state has not been adequate enough to meet the situation. Hence an attempt is made in this chapter to examine the problems and constraints faced by the toilet soap production in Kerala during the period 1995-2004. It brings out the problems in the light of the survey conducted by the researcher. It is observed that each unit is hit by some problem or the other depending on its size and structure.

The toilet soap production units in Kerala suffer from a number of handicaps and face many problems. Some arise due to their small size, uneconomic operation, marketing, financial and technological difficulties, while others may be ascribed to lack of adequate governmental support and half hearted implementations of policies and programmes. Some of the major problems identified with the toilet soap production units in Kerala are grouped in to general industrial problems and specific problems of soap industry.

## **7.1 GENERAL PROBLEMS**

- a) Financial problems
- b) Production and technical problems
- c) Labour problems
- d) Organizational problems
- e) Infrastructural problems
- f) Marketing problems
- g) Legal problems
- h) Government policy

### **7.1.1 Financial Problems**

Finance acts as a lubricant in the process of growth of an industry. Financial constraints are faced by almost all the firms and the shortage of finance or capital is considered to be the most important factor responsible for a host of problems faced by them. Due to the paucity of their own capital, toilet soap production units mainly depend on borrowed capital (long term and short term) from banks, sundry creditors etc. Although the firms received assistance from banks and sundry creditors to the extent of 71.99 per cent by large units in 2006, 17.87 by medium units, 18.61 per cent by small units and 24.31 per cent by very small units of their total capital is not sufficient for their smooth running. Large units have access to the capital market and get the required credit, but small units do not have much of such facilities. Owing to the problem of security most of the units could not attain sufficient finance from commercial banks. The important problems encountered by the units in dealing with financial agencies are security,

delay in sanction, insufficient financing, high rates of interest, and cumbersome procedures.

Working capital to buy raw materials and stores, to pay wages, to hold stocks of goods etc is, the heart of a business and if it becomes weak, the business can hardly prosper (Kulshrestha<sup>1</sup>). It was revealed in the survey that majority of the units suffer from paucity of working capital, and inordinate delay in getting working capital from the commercial banks.

The modernization process is needed for producing quality products. But huge investment is necessitated for adopting modern technology in the process of production. It is only due to the effort of Research and Development that old products give way to the new ones which strike a better balance between the lower costs and better quality. In order to exploit the full potential with all the benefits from their increased production, the toilet soap production units should use its R & D ability and equipment to process these oils, saponify them in order to recover glycerine and supply semi-finished soap in the form of noodles for the production units. The resources needed to be spent on Research and Development (R & D) constitutes an important barrier to the innovation and growth. Non availability of adequate finance, and lack of financial support from the government, commercial banks and other financial agencies hinder the process of modernization.

### **7.1.2 Production and Technical Problem**

A major production problem faced by the toilet production units is the non availability or inadequate supply of scarce/improved raw materials. Almost 80 per cent of the firms surveyed suffered from raw material problem. The ability of purchasing raw materials from the right place in the right quantity and in right time is essential for the success of any enterprise. The main raw material used by

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<sup>1</sup> Kulshrestha N.K. (1972). Analysis of financial statement of paper industry in India, Aligargh Navman Prakasham. 1<sup>st</sup> edition, p.81.

these units are industrial oils like rice bran oil, mowrha oil, neem oil, castor oil, coconut oil etc, and any fluctuation in their prices especially upward revision has an eroding impact of functioning of these units. The nearly 100 per cent hike in the price of industrial oils forced the units to close their operations. The units could not produce goods at a reasonable cost due to the high charges that they have to pay for accruing raw materials. Difficulty in procuring raw materials can be overcome by the big units if they buy the needed materials from distant markets, make bulk purchases and keep adequate stocks and ensure regular supply of inputs. But the smaller units can buy only from the local market. The significance of the raw materials in the production of toilet soaps can be gauged from its percentage share in the total cost of production which constitutes more than 55 per cent of total cost of production. Prices of minor oils spiraled mainly due to the diversion of non edible oils, which were reserved exclusively for the soap units till then to the Vanaspati industry. The resulting domestic shortages are further aggravated by the failure of the government to go for timely imports.

More than 80 per cent of the sample units suffer from technological obsolescence. Inefficient material handling is also in prevalence. The lack of production planning control led to an increase in the inventories. The amount of capital invested in plant and machinery of the sample units are very meager, and it can be said that once they established they do not spend much for improvement in the plant machinery and consequently frequent breakdown occurred in the production process.

### **7.1.3 Labour Problem**

Labour plays a key role in industrial development in spite of the application of machinery and equipment. The problems associated with labour is their migratory nature. Besides these low productivity of labour, over staffing, poor labour relations, inefficient handling of labour problems, high wages and lack of

trained and skilled labour, there are other issues related with labour as the major input.

The analysis of the data provided by the sample units shows that the share of labour cost in total cost of different units has been increasing during the period 1995-2004. The percentage share of labour cost in total cost has increased for all the units during the period 1995-2004. The analysis proves that the labour productivity is further deteriorating with respect to toilet soap production, which reflects diseconomies of scale. More clearly productivity of labour can be low because of the failure of the management to take timely renovation in the plants and equipments, incompetence of labour and indifference to work commitment.

#### **7.1.4 Organisational Problems**

The small scale toilet soap production units that exist in Kerala are mostly of proprietorship in type. It is pointed out that most of the units failed due to managerial reasons. The manager/proprietor in most of the sample units does the administrative work and also acts as a labourer in the firm. The firm has only one manager and he, apart from supervising production, contacts the suppliers, arranges transportation, marketing, sales, etc. and hence effective supervision and coordination is difficult. Insufficient and unscientific management practices are reflected in the choice of technology, faulty and inadequate maintenance of plant, delay in the supply of raw materials and high input prices.

From the discussion with the proprietor manager, the researcher could conclude that the attitude of the soap manufactures in Kerala is not to pursue with vigour the object for which registration has been obtained. After the registration these units are not informing, the authorities matters regarding production, employment, value added and even closures. Most of the units failed due to managerial inefficiency.

From the study we observed that the units in the lowest investment slab come under the self employed category. The entrepreneur in such category assumes a dual role of going both as an investor and also a worker. Apart from proprietors, partners are working for the unit in this category. Salaries and other managerial expenses are lower because more of these units are managed directly by the entrepreneurs. They employed minimum number of staff. As shown by the study, since the number of permanent workers is limited, many of the indirect benefits are saved by the units.

### **7.1.5 Infrastructure Problems**

To facilitate the execution of economic transaction, services and facilities like energy – power, fuels, telecommunication services, transport – roads, ports, civil aviation, airports urban environmental infrastructure water, sanitation, efficient disposal are essential. Quality infrastructure increases productivity, brings down the production cost and gives a thrust to development. In Kerala there is lack of infrastructure support and availability. The investment in infrastructure has not been effectively streamlined to meet the goals of economic development and to sustain its benefits. The entrepreneurs of toilet soaps pointed out the problem of low voltage, frequent interruption in supply of power, cyclical load shedding, formal and informal power cuts as the factors that lead to unutilized capacity. The survey also revealed that the delay in supply of raw materials arose mainly due to the defective transportation system.

### **7.1.6 Marketing Problem**

The major problem of the toilet soap production units in Kerala is their inability to effectively market their products. The ability to produce is a necessary condition for the success of a firm, but the factor that guides and decides the fate of any enterprise is the market force. Sales become difficult when there occurs lack of demand, heavy competitive market, and fluctuations or variation in prices

(Narasimhan<sup>2</sup> (1990). Among the marketing problems faced by industries, lack of standardization, poor quality, poor bargaining power, poor finish, lack of knowledge in marketing, are also important (Vepa<sup>3</sup>).

The specific bottlenecks identified in the marketing of toilet soaps are lack of demand and instability in the demand for toilet soaps because of poor quality, stiff competition from multinationals, lack of finance for proper marketing, research and advertisement and higher cost of production.

The main marketing problem of toilet soap production is the poor quality of products and multiplication of units engaged in the production of one and the same type of products. When one unit producing a particular product is found successful more and more units are established producing the same commodity. This will ultimately result in that stage in which the new as well as the old units find it difficult to manage the units successfully.

The sample units have experienced the problem of lack of demand for their products due to heavy competition from multinationals. These units cannot compete with them in any area, ie. technology, market, production and management. The multinational units can employ costly and sophisticated factors of production, which make their products qualitatively superior and lower down the production cost. The entrepreneurs of the sample units find it difficult to counter the publicity campaign of the large established companies. The problem of marketing is further aggravated in the case of units managed by single manufacturer. Small units often fail to meet tough competition from the low cost products of large industrial units.

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<sup>2</sup> Narasimhan, V.R.(1990. "The mJOR factors behind sickness in small sector". The Hindu, Madras, April 12, pp.20-21.

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The firms experience high cost of production due to fluctuations in prices of raw materials. They price their products with reference to the market price of similar products, unable to take into consideration the cost of production while pricing the products.

Thus the biggest problem for the toilet soap production units in Kerala is the lack of assured market. This unit has to depend on the local market. It has neither the ability nor the expertise to ascertain the market gaps and to reach them in time at competitive terms. Lack of proper marketing organizations thus prevents the producers from getting remunerative prices for their products. The units could not afford to spend large amounts of money required for proper marketing research since their resources are limited.

#### **7.1.7 Government Policy**

It is well established that one of the factors responsible for the slow industrialization of the Kerala State is the lopsided industrial policy of the state governments. The toilet soap production is also not free from this hypothesis. The very high rate of dormancy suggests the lack of care and nourishment from the part of the government.

#### **7.1.8 Legal Problems**

Economic activity is affected to a great extent by the quality of institutions supporting it. Legal institutions among them are by far the most important one. Both empirical as well as theoretical research has been done to gauge the effect of insolvency on economic efficiency in general and the financial sector in particular. Political responsibility reflects on the inefficient performance of legal institution in Kerala.

## 7.2 SPECIFIC PROBLEMS OF SOAP PRODUCTION

Major problems of toilet soap production units in Kerala on the basis of survey evidence are the following:

1. Units depended largely on borrowed capital: faced inordinate delay in getting working capital from commercial banks.
2. The liabilities of these units were high because of the delay in getting payments from customers and high inventory cost.
3. The large investment in sundry debtors as shown by the balance sheet of units reveals that there is delay in collection of debts.
4. Lack of resources lead to inadequate investment in the plant and machinery and weak research and development.
5. Units faced the problem of frequent break down in their plant and machinery, which was further intensified because of the lack of timely repair and maintenance and non replacement of spares.
6. Fluctuations in the price of raw materials adversely affected the profitability of the units. Shortage of raw material lead to low capacity utilization and delay in marketing demand.
7. The raw material problem was further aggravated by inadequate infrastructure facilities. High transportation cost in the supply of raw materials led to financial contingencies.
8. The major labour problem faced by the units is low labour productivity rather than high cost.

9. The toilet soap production units followed unscientific and inefficient management practices leading to expensive shut downs and production losses.
10. Power shortage also created problems in the units – low voltage, frequent interruption in supply of power, load shedding etc led to unutilized capacity.
11. Coming to the market side, these units faced stiff competition and suffered lack of demand because of inferior quality and inability to meet specific requirements. So the toilet soap production unit has to depend on the local market.
12. Gross profit of the units is not satisfactory. The producers are not able to make enough profit due to high cost of production, and defective tax structure.
13. The legal institutions are not performing well. These are legal hurdles that prevent the smooth running of production units.
14. The problem of toilet soap production in Kerala is further aggravated under lopsided industrial policy of the state. The lack of care and nourishment from the part of the government led to high rate of dormancy and sickness.

In this chapter we tried to identify the factors hindering the performance of toilet soap production in Kerala. It is observed that each unit is hit by some problem or the other depending on its size. So far the study has tried to examine the economic performance, financial performance and problems of toilet soap production units in Kerala with the help of sample data. The major findings emerged are presented in the forthcoming concluding chapter.

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The specific bottlenecks identified in the marketing of toilet soaps are lack of demand and instability in the demand for toilet soaps because of poor quality, stiff competition from multinationals, lack of finance for proper marketing, research and advertisement and higher cost of production.

The main marketing problem of toilet soap production is the poor quality of products and multiplication of units engaged in the production of one and the same type of products. When one unit producing a particular product is found successful more and more units are established producing the same commodity. This will ultimately result in that stage in which the new as well as the old units find it difficult to manage the units successfully.

The sample units have experienced the problem of lack of demand for their products due to heavy competition from multinationals. These units cannot compete with them in any area, ie. technology, market, production and management. The multinational units can employ costly and sophisticated factors of production, which make their products qualitatively superior and lower down the production cost. The entrepreneurs of the sample units find it difficult to counter the publicity campaign of the large established companies. The problem of marketing is further aggravated in the case of units managed by single manufacturer. Small units often fail to meet tough competition from the low cost products of large industrial units.

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Thus the biggest problem for the toilet soap production units in Kerala is the lack of assured market. This unit has to depend on the local market. It has neither the ability nor the expertise to ascertain the market gaps and to reach them in time at competitive terms. Lack of proper marketing organizations thus prevents the producers from getting remunerative prices for their products. The units could not afford to spend large amounts of money required for proper marketing research since their resources are limited.

#### **7.1.7 Government Policy**

It is well established that one of the factors responsible for the slow industrialization of the Kerala State is the lopsided industrial policy of the state governments. The toilet soap production is also not free from this hypothesis. The very high rate of dormancy suggests the lack of care and nourishment from the part of the government.

#### **7.1.8 Legal Problems**

Economic activity is affected to a great extent by the quality of institutions supporting it. Legal institutions among them are by far the most important one. Both empirical as well as theoretical research has been done to gauge the effect of insolvency on economic efficiency in general and the financial sector in particular. Political responsibility reflects on the inefficient performance of legal institution in Kerala.

## 7.2 SPECIFIC PROBLEMS OF SOAP PRODUCTION

Major problems of toilet soap production units in Kerala on the basis of survey evidence are the following:

1. Units depended largely on borrowed capital: faced inordinate delay in getting working capital from commercial banks.
2. The liabilities of these units were high because of the delay in getting payments from customers and high inventory cost.
3. The large investment in sundry debtors as shown by the balance sheet of units reveals that there is delay in collection of debts.
4. Lack of resources lead to inadequate investment in the plant and machinery and weak research and development.
5. Units faced the problem of frequent break down in their plant and machinery, which was further intensified because of the lack of timely repair and maintenance and non replacement of spares.
6. Fluctuations in the price of raw materials adversely affected the profitability of the units. Shortage of raw material lead to low capacity utilization and delay in marketing demand.
7. The raw material problem was further aggravated by inadequate infrastructure facilities. High transportation cost in the supply of raw materials led to financial contingencies.
8. The major labour problem faced by the units is low labour productivity rather than high cost.

9. The toilet soap production units followed unscientific and inefficient management practices leading to expensive shut downs and production losses.
10. Power shortage also created problems in the units – low voltage, frequent interruption in supply of power, load shedding etc led to unutilized capacity.
11. Coming to the market side, these units faced stiff competition and suffered lack of demand because of inferior quality and inability to meet specific requirements. So the toilet soap production unit has to depend on the local market.
12. Gross profit of the units is not satisfactory. The producers are not able to make enough profit due to high cost of production, and defective tax structure.
13. The legal institutions are not performing well. These are legal hurdles that prevent the smooth running of production units.
14. The problem of toilet soap production in Kerala is further aggravated under lopsided industrial policy of the state. The lack of care and nourishment from the part of the government led to high rate of dormancy and sickness.

In this chapter we tried to identify the factors hindering the performance of toilet soap production in Kerala. It is observed that each unit is hit by some problem or the other depending on its size. So far the study has tried to examine the economic performance, financial performance and problems of toilet soap production units in Kerala with the help of sample data. The major findings emerged are presented in the forthcoming concluding chapter.

## CHAPTER VIII

### SUMMARY AND CONCLUSIONS

The regional economy of Kerala is internationally popular for its unique development experience, which is often known as the Kerala model development. In the paradoxical development pattern of Kerala's economy, a very high standard of living, even comparable to some developed economies co-exists with a very low per capita State Domestic Product (SDP). The most important reason for the low level of per capita State Domestic Product in state is the poor performance of commodity producing sectors like Industry and Agriculture. The studies made on industrialization in Kerala re-assured the state's industrial backwardness and put forward different hypotheses for this lag. Kerala with a share of 3.43 per cent of the total population, accounted for only 2.19 per cent of the Gross Output and Gross Value Added (GVA) in the factory sector of Indian industry. Kerala's share in the fixed capital of the all India factory sector was still lower at 1.69 per cent. This evidence makes it clear that Kerala is still an industrially backward state in the country.

What is wrong with Kerala's Industrialization is that in Kerala, planners framed the strategy of industrial development emphasizing large investments in the capital goods sector to maximize the long run growth of the economy as a whole. Over the years, the industrial strategy of Kerala failed to bring desirable results on employment and poverty fronts. The pace of industrialization has not been and is still inadequate to meet the needs of growing population. As capital goods industries have limited scope, it is better to depend on consumer goods industries to elevate industrial efficiency in Kerala. As a consumer good industry the toilet soap industry has much scope to prosper in Kerala, as Keralites give

more importance to cleanliness. The demand for soaps become inexhaustible in Kerala, due to the spread of education, high standards of living and increased. But production of soaps is lagging behind. This mismatch between demand and supply leads to the uneconomic operations of many of the production units. To revive the industry and to tackle its problems effectively, knowledge of the present structure is indispensable. Hence this study is an attempt to examine the performance (economic and financial) of the toilet soap production units in Kerala with the following objectives.

To examine the economics of toilet soap production in Kerala.

To evaluate the financial performance of toilet soap production in Kerala.

To identify the major problems and constraints confronted by the toilet soap production units in Kerala.

In order to study the stated objectives, data are collected with the help of pre tested schedule from 10 units from small scale sector which spread over 4 groups namely (1) large (2) Medium (3) Small and (4)very small units, on the basis of investment in land and building, plant and machinery are drawn from across the state, for a ten year period (1995-2004). The methodology adopted for the study is both descriptive and analytical. The economics of the toilet soap production is studied in detail with the examination of capital structure, inputs used including labour, value of output, profit, and value added. Structural ratios and productivity indices are also computed. Inorder to check factor use efficiency and factor contributions, Cobb Douglas and Translog production functions are also fitted to the sample data. Financial performance is evaluated with the help of financial ratios.

Inorder to fill the research gap a review of literature of the studies on Industrialization was made in the second chapter.

As a prelude to examine the objectives of the study, the industrial development in Kerala and the growth performance of soap industry at the global, national, and state levels are discussed in the third and fourth chapters respectively. The discussion assured the industrial backwardness of the state and also claimed that as a consumer goods industry, soap industry has to play a significant role in the industrial development of the state aiming at speedy industrialization, in the era of liberalization.

## **Findings**

### **8.1 Units**

Out of the total 10 units surveyed, 80 per cent were set up before 1980. The majority of sample units are currently under individual proprietorship, and very few under partnership.

### **8.2 Capital Structure**

Among the sample units we may infer that the capital structure of large and medium units is significant.

Significant changes have not taken place in the composition of fixed capital in small and very small units.

An increasing tendency for the units to store materials and stock of goods has been observed.

The productive capital of large and medium units is better than the small and very small units. The decrease in the productive capital of other units strengthens the view that once established, they do not incur much expenditure for any of the fixed capital items.

### **8.3 Employment**

Regarding employment, the rate of growth has been slow and fluctuating. The employment pattern shows that there exists permanent and temporary employment.

### **8.4 Cost of Production**

The cost of production consists of raw materials and stores, wages and salaries, other operating cost and power and fuel cost. There is significant escalation in the cost of toilet soap production over the years which is consistent with other industries also. In the entire sample units the cost of raw materials constitutes the major share. The cost of raw materials which forms more than fifty per cent on an average of the total cost is mainly responsible for the increase in total cost. Among the units raw material cost is maximum in large units (72 per cent). Next to raw material cost, labour is yet another crucial problem. Cost of labour has increased in absolute terms over the years due to the provision of social security measures. Decline in the shares of labour cost in medium units is mainly due to labour displacement and female labour absorption. The role of fuel cost is nominal in the entire sample units of toilet soap production in Kerala.

### **8.5 Value of Output**

The value of Output shows some notable increase over the period of time. Among the sample units, the growth in value of output of large unit is more significant. It may be due to the operation of economies of large scale production. But as the information on output is exclusively in value terms, precise inference can not be drawn as it may happen due to price escalation.

### **8.6 Profit**

The prosperity of the industry depends on the margin of profit earned. There are fluctuations in the behaviour of gross profit over the reference period. Among the sample units, large unit is more profitable. Generally profitability of

units is reducing due to price variations of raw materials, reduction in sales or increase in cost of production. The selling price is determined in the market considering the local factors and the cost of production.

### **8.7 Value Added**

The trends in value added are significant in recent years in the context of liberalization. Across the units, the value addition except the large is very marginal in nature. Gross value added decreases due to underutilization of capacity, inputs supply bottlenecks, market fluctuations etc.

### **8.8 Structural Ratios**

The structure of sample units was examined with the help of selected ratios and the findings emerged are:

1. Fixed capital to invested capital ratio and fixed capital to productive capital ratio show that the capital intensity was high in the earlier years, but gradually declined for the medium, small and very small units over the years. But high ratio of large units in the later years show that capital intensity is high in large units. This was due to certain attempts for modernization. Fixed capital output ratio declining for all units except large also further illustrated the fall in the capital intensity of the units.
2. The continuous increase in the cost of inputs was revealed by the input output ratio. Input output ratio indicates high turnover for unit of input used. Rise in input output ratio shows a rise in the cost of output. The ratio shows that cost of inputs has risen.
3. Value added input ratio and value added output ratio declined over the years indicating low input use efficiency. The ratio fluctuated over the years also.
4. The declining value added output ratio in the medium, small and very small units shows the low contribution made by these units. For the large units alone there was a substantial increase in contribution.

5. Input per worker, increased over the years. It is only part of the economic changes that have taken place in the country over the years.

From the structural ratio analysis, we can infer that among the sample units, the large unit of toilet soap production is performing better than the medium, small and very small units. And its behaviour is different from the behaviour of other units also.

## **8.9 Trends in Productivity**

The term productivity is broadly meant to cannot the input use efficiency of a production process or economic activity. Total Factor Productivity (TFP) for the entire sample units using direct method shows an increasing trend. The Kendrick indices on the other hand revealing that TFP for the entire units increasing up to 2001.

TFP is greater in large and very small units than in the medium and small units. The large unit has a higher growth rate of (0.22) than the whole sample (0.18)

Increase in productivity is not because of mere labour and capital input efficiency but due to other factors like size of the establishment, rate of growth of industry, absence of trade unionism, self employed nature of production etc. which are left unaccounted for. On the basis of empirical results of the present study, we can conclude that trend in productivity of toilet soap production units in Kerala is increasing.

## **8.10 Production Function Approach**

The significant inputs influencing the output of the toilet soap production are examined with the help of Cobb Douglas and Translog production function ,treating value of output as dependent variable, and working capital, wages and salaries, and raw material cost as independent variables. The respective coefficients being  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$ . For medium and

small units the raw materials cost is significant in influencing the output. All the three factors have positive influence on the output. The major contributor is raw material, closely followed by labour. For the very small units, labour was the only significant factor influencing the output. On the basis of Cobb Douglas production function approach, we can conclude that units producing toilet soap in Kerala are subjected to decreasing returns to scale except the large one. Considering the sample units, the better performing unit is the large unit – which is operating under increasing returns as per both production functions.

### **8.11 Financial Performance**

Financial performance of the toilet soap production was evaluated with the help of financial ratios.

### **8.12 Source and uses of funds**

Major source of funds identified in the toilet soap production units is current liabilities. There is large increase in the current liabilities of large units, and only marginal increase in the current liabilities of medium, small and very small units over the years.

In the case of large and very small units, the share of bank loans in the total current liabilities decreases and that of sundry creditors increases from 1995-2004. On the other hand the share of bank loans of medium and small units increases and that of sundry creditors and other loans decreases over the period of ten years.

In the case of all units current assets constitute the major form of use of funds. Major share of investment of the sample units is in current assets than fixed assets. Of the current assets, inventory occupies a major share.

## 8.13 Ratio Analysis

Ratio analysis is done to evaluate efficiency with respect to liquidity management, inventory management, cash management, operational performance and asset utilization.

### 8.13.1 Liquidity Management

Firm's liquidity is measured in terms of working capital. The larger the working capital, the greater the ability of the firm to meet the current obligation. The working capital of sample units show fluctuations throughout the reference period.

In all the toilet soap production units the current ratio is above the standard level of 2:1. This shows the sufficiency in the resources available to satisfy current liabilities. Current assets are increasing more than proportionately than the increase in liabilities. Too higher ratio shows excessive liquidity.

Among the sample units, the current ratio is the highest (12.00) and the lowest (1.63) in the large unit, in the year 2001, and 2003 respectively. This may be due to the take over of the large unit by Vipro 2001 onwards.

Generally a quick asset ratio of 1:1 is considered to represent a satisfactory current financial condition. The ratio is the highest in large unit (8.36:1) in 2001 and the lowest (less than one) in small and very small units.

The turnover of current assets ratio showed sign of improvement in the utilization of assets in recent years. A high turn over ratio reflects better management of assets and larger amount of sales. The ratio was very high in large and small and low in medium and very small units. The liquidity position as a whole was found to be more favourable in large unit than in the medium, small and very small units.

### **8.13.2 Inventory Management**

Efficiency in the management of inventories leads to minimisation of cost of production. Effectiveness of inventory management can be measured by the ratio of inventory to current assets. High ratio is an indicative of good inventory management and lower inventory turnover suggests an inefficient inventory management. Low inventory reflects dull business and over investment in inventory. High ratio shows unfavourable liquidity position. The ratio is high in the case of very small units. It is not due to the over stock of goods but due to the low investment in current assets which leads to an unfavourable liquidity position.

### **8.13.3 Cash Management**

A high cash balance ensures prompt payment, but adversely affects profitability. Ratio of cash to current assets is high in all sample units except in the large unit.

### **8.13.4 Operational Performance**

The total health of a firm and also its capacity to undertake day today transactions and make profit is revealed in terms of gross profit ratio, operating profit ratio and the bifurcated operating profit ratio.

Gross profit ratio shows the efficiency of the firm in producing and selling its products. The greater the profitability the more will be the efficiency. (25 to 30 per cent being the margin). The ratio shows a favourable position of large unit compared to the other. The ratio is high in medium units (1999), it is very low in small units during 2003 (0.17). In the case of very small units the ratio is high in earlier years and very low (0.37) in 2004, due to the higher cost of production and severe competition.

Operating ratio shows operating profit earned by the firm per rupee of sales – i.e. relationship between cost of goods sold and other operating expenses to sales. Operating ratio is expected to touch a level of 75 per cent to 85 per cent.

Higher operating ratio shows less favourable situation because it would leave a smaller margin to meet the other needs of the units. Among the sample units, the operating efficiency of the large unit and very small units is better than others.

Bifurcated operating ratio shows disaggregate analysis of various components of the cost of production of the sample units. It shows the influence of raw material cost on output. In the case of large unit raw material cost increased from 38 per cent in 1995 to 55 per cent in 1997, then decreased to 44 percent in 2004. In the case of medium units the raw material cost is high in 1997 46 per cent. The raw material cost in small and very small units is in between 31 to 43, and 20 to 36 over the years respectively. Next to raw material cost, labour cost, and other establishment cost, indicating its influence on sales. The operational performance does not suggest a favourable position.

#### **8.13.5 Assets Utilization**

The extent of asset utilization is examined with the help of activity ratios, like assets turnover ratio, fixed capital turnover ratio and working capital turn over ratio. These three conventional ratios show the balance between sales and assets.

Asset turnover ratio shows efficiency with which the firm utilizes its assets. High ratio reflects better use of tangible assets. In the case of large units the ratio ranges between 3.51 to 7.91. The low assets turnover ratio in other sample units shows a symptom of idle capacity or excessive investments.

Fixed capital turnover ratio reflects the efficiency of fixed capital utilization. The ratio is very high in the large unit (around 30). The ratio is very low in small units. The fixed capital investment is low in all the units except the large.

Working capital turnover ratio shows the efficiency with which net working capital is utilized. Higher ratio indicates better utilization of working capital. In the case of large units the working capital turnover ratio has increased

over the years from 3.98 to 12.55. In the case of medium units the ratio declined after 2002. The high working capital turnover ratio in the large unit reflects an inadequacy of net working capital accompanied by low turnover of inventories. In the case of small and very small units, the working capital turn over ratio is fluctuating as a result of undercapitalisation.

On the basis of computation of different financial ratios, we can conclude that the over all financial position of large unit is better compared to the medium, small and very small units of toilet soap production units in Kerala.

The empirical evidence of the survey (both economic and financial) validates our hypothesis that the toilet soap production in Kerala is productive and and toilet soap production in Kerala is profitable.

#### **8.14. PROBLEMS IDENTIFIED**

The analysis of the problems and constraints faced by industry in general and in particular among the different sample units on the light of the survey evidences revealed that each unit is hit by some problem or the other.

##### **8.14.1 General Problems**

###### **a. Financial Problem**

The progress of toilet soap production units is hindered by the shortage of finance. The large, medium, small and very small units largely depend on borrowed capital. It is evident from the fact that the supply of credit has not been commensurated with their needs associated with the fixed and working capital. Owing to the problems of security, delay in sanction, high rate of interest and cumbersome procedures, the sample units suffered from financial inadequacy. The financial situation was further aggravated by the increased investment on inventory. The non availability of adequate finance hindered the process of modernization.

## **b. Production and Technical Problems**

The toilet soap production sample units especially, the medium, small and very small units suffered from the technological obsolescence and scarcity of raw materials. The low capital investment in plant and machinery led to the frequent breakdowns of the machines and this was intensified because of the lack of timely repairs. The method of production, in 90 per cent of the sample units surveyed, is old and inefficient. The result is low productivity, poor quality of products and high costs. Most of the units suffered from raw material problem. They have to meet high raw material cost and inordinate delay in the supply. This forced the entrepreneurs to go for bulk orders. This increased inventory led to the financial contingencies also. This was further aggravated by the fluctuations in the price of raw materials.

## **c. Labour Problems**

The problem of high labour cost, which is stated as a major problem in the state hindering the progress of industries, is not seen to be empirically significant in the toilet soap production units. But the labour productivity trends reveal that the productivity is reasonably low in the state. The scope of employment for skilled persons is low because of the nature of the process of production. Since the number of permanent workers is small, the labour absorption capacity of the sample units is limited.

## **d. Organizational Problems**

The organizational structure is an important factor for the success of any industry. Effective planning, efficient supervision, and coordination is difficult in the toilet soap production unit as they are mostly of proprietorship type. Insufficient and unscientific management practices are reflected in the choice of technology, faulty and inadequate maintenance of plant, delay in the supply of raw materials, high input prices and shut downs.

#### **e. Infrastructural Problems**

There is absence of sufficient infrastructure facilities. The low productivity and high production cost seen in the toilet soap production units are mainly due to lack of infrastructure within the state. The inadequate and inefficient power supply lead to the increased capacity underutilization in soap producing units. The defective transportation system also leads to the delay in supply of raw materials. In the absence of communication facilities, the small producers of toilet soaps, are unable to get the realistic scenario of market prices, the taste, the preference, domestic demand, export potentials etc.

#### **f. Marketing Problems**

The problem of marketing is likely to be a serious handicap for the toilet soap production units in Kerala. The bottle necks identified in the marketing of toilet soaps are lack of demand because of low scale of production, inferior quality, poor product standardization, stiff competition from technically more efficient units, lack of finance for marketing research and advertising, lack of market information, quality variation, and delays involved in getting payments and high inventory cost.

#### **g. Legal Problems**

Legal institutions, which support the economic activity in Kerala, are inefficient, due to the political instability. So in many matters, the toilet soap manufacturers in Kerala, face legal hurdles in the way of smooth running of their business.

#### **h. Government Policy**

The problems faced by the toilet soap industry are further aggravated by the lopsided industrial policy of the state government. There is high rate of dormancy and sickness, due to the lack of incentives and support provided by the

government. In the case of toilet soap manufactures, the role of government is no more “an enabler” – in the production and distribution of toilet soaps.

#### **8.14.2 Specific problems of soap industry**

The specific problems identified are large amount of borrowed capital, delay in getting payments from customers, high inventory cost, inadequate investment in plant and machinery, break down of machinery, fluctuation in the price of raw materials, legal hurdles, stiff competitions etc.

#### **Conclusions**

From the analysis of both Economic and financial performance of toilet soap production in Kerala, we conclude that the performance of toilet soap production as a whole is satisfactory. On the basis of economic performance in terms of productivity analysis by Direct and Kendrick methods we conclude that TFP of sample units in toilet soap production is increasing. The production function also shows that the returns to scale, according to Cobb Douglas production function, is increasing for the large unit and decreasing in all other-medium, small and very small units. The translog production function have an increasing returns to scale in the case of large (1.81) and medium (1.61)units. Financial performance of the sample units by using financial ratios established that most of the units satisfied the ratios above the standard levels. The proposed hypotheses is accepted and we concluded that soap production units are economically and financially sound in most of the units. The large unit is the better performing unit than medium, small and very small units. Thus the empirical evidence of the survey (both economic and financial) validates our hypotheses that the toilet soap production in Kerala is productive, toilet soap production in Kerala is profitable.

## Suggestions

In the light of problems highlighted in the study, it is understood that there are cumulative factors stand in the way of toilet soap production in Kerala. In order to tackle these problems and so as to strengthen the units the following suggestions are recommended.

1. From our study it is clear that the soap industry is totally neglected by the government. There exist no effective units of soap production in the government sector. The owners of the sample units opined that the government's attitude towards them is not supportive. The Government must provide supporting policy measures to promote the toilet soap production units.
2. In our study it is found that the economics of soap production was adversely affected by the raw material problem. Raw material cost being the most important cost in the soap production, government can wisely think of giving subsidy or other concessions to raw material. So that the cost of production can be curtailed.
3. It is high time to modernize and update the technology of soap production units. This requires finance and also the will and dedication from the part of the unit owners. So provisions should be made for skill upgradation and for the use of modern techniques.
4. The study highlighted the financial commitments of the soap manufacturers in Kerala. Hence the government and commercial banks may resort to various policy measures to extent sufficient finance at reasonable cost.
5. A prerequisite for industrial and total development of the state is a well developed infrastructure. Infrastructural facilities are inadequate for the development of soap production units. Improvement in these facilities should be done in time. Hence investment may be diverted towards infrastructure development.

6. The unit owners reported that the tax rate is high in the state. An appropriate measure to strengthen the soap production will be to bring down the tax rate and also to declare tax holiday.
7. In recent years, the state government is interested in starting vocational education. More courses useful to the soap manufacturers in Kerala is to be started to improve the quality of their products
8. Production is determined by the market. Adequate marketing facility should be provided for the successful working of the units. Provisions should be made for market information. In order to improve the marketing of soap products in Kerala organized market should be set up by removing intermediaries.
9. The soap producers in Kerala has to face stiff competition in these days of globalisation. So adequate measures should be made to withstand the impact of globalization by improving technology and quality of the soaps in Kerala.
10. The soap manufacturers of Kerala mainly meet local demand. This is mainly due to their poor publicity. Thus publicity through media and exhibition can be used to popularize their products.
11. Research and development can be used for reducing the cost of production and improving the quality of the soap. Innovative R& D should be introduced for raw materials and finished products, attractive packing materials, high speed packing machines so as to enhance productivity and there by to reduce the cost.

### **Areas for Future Research**

No research is complete in all aspects. But a dedicated and serious research will help to identify further research gaps which can be persuaded by the future researchers. This researcher also could identify a few gaps and they are listed below for the benefit of future researchers.

- a) During the course of the survey the researcher experienced considerable difficulties in getting information. Further the quality of data was also doubtful. To overcome this problem researchers can resort to cross section studies covering very large sample instead of using time series information used in the present study. Cross section studies will throw further light on the problem.
- b) The present study relates to the economics of toilet soap production in Kerala only.. There is scope for more detailed study of soap industry comparing with the multinational units.
- c) There are chances for conducting studies on various aspects of soap industry – in terms of demand analysis, market analysis and competition etc.
- d) In these days of globalization, we can also make study of the impact of globalization on soap production in Kerala.



**APPENDIX I****Annual Survey of Industries****COMMODITY CLASSIFICATION**

363 -

36307 – Soap, Toilet (excluding baby soap)

## APPENDIX II

### NAME AND ADDRESS OF TOILET SOAP PRODUCTION UNITS SURVEYED

#### LARGE UNIT

1	S.V. Products	-	Chettiparambu, Irijalakuda, Thrissur
<b>MEDIUM UNITS</b>			
1	Star Soaps	-	Mananthavady, Wynad
2	Radha's Soap Works	-	Asram, Kollam
3	Pyari Soap works	-	Chambakara, Ernakulam
<b>SMALL UNITS</b>			
1.	Vilma Rani Soap	-	Mappayur, Kozhikode
2	I.V. Soap Works	-	Kokkalai, Thrissur
3	Binesh Soap Works	-	Chumkara, Alapuzha
<b>VERY SMALL UNITS</b>			
1.	M.K. Soap Works	-	Vadakara, Kozhikode
2.	Bismi Soap Work	-	Mullakara, Thrissur.
3.	Supreme Soap	-	Keezhillam, Ernakulam

### APPENDIX III

## ECONOMICS OF TOILET SOAP PRODUCTION IN KERALA

### RESEARCH (CONFIDENTIAL)

(No information will be disclosed or used for any purpose other than research).

#### Unit Profile

1. Name and address of the unit :
2. Year of establishment :
3. Location of the unit : Panchayat / Municipality / Corporation  
(others specify)
4. Type of ownership : Proprietorship / partnership / Ltd.  
Co./Others (specify)
5. Name of the owner / managing partner

#### 6. Educational back ground of the owner

Non-technical		Technical	
1	P.G <input type="checkbox"/>	1	P.G. <input type="checkbox"/>
2	Degree <input type="checkbox"/>	2	Degree <input type="checkbox"/>
3	PDC <input type="checkbox"/>	3	Diploma <input type="checkbox"/>
4	SSLC <input type="checkbox"/>	4	Others <input type="checkbox"/>

#### 7. Training experience in running the business

(1)	Technical training	
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(2)	Business Experience	
(3)	Other experience	

**8. Business back ground of owner**

(1)	For the first time in business	
(2)	Belongs to a business family	
(3)	Family doing same business	
(4)	Family doing other business	

**9. How many time have the ownership been transferred since the factory was started?**

Year of transfer	Type of ownership		Reasons
	Before	After	

**10. Motivation for starting the unit**

(1)	Government incentive	
(2)	Own incentive	
(3)	Profit or Income	
(4)	Others	

11. Brand name of the product if any .....

12. Capital Structure (Fixed Assets)

Item	Installed Capacity	Year of purchase	Description	Net Book value	Rent paid
Land					
Building					
Plant					
Machinery					

Capital Structure (Long term Funds)

Item	1995	1996	1997	1998	1999	2000	2001	2202	2003	2004
Share Capital										
Loans										
a) government										
b) Others										
Deposits										
Other fund (specify)										

Capital Structure (Current Liability)

Item	1995	1996	1997	1998	1999	2000	2001	2202	2003	2004
Bank Loans										
Creditors										
Pvt. Loans										
Other loans (specify)										

**Capital Structure (Addition, Replacement, Improvement etc.)**

Year	Nature of addition	Replacement	Improvement	Cost

**Capital Structure (Current Assets)**

Item	1995	1996	1997	1998	1999	2000	2001	2202	2003	2004
Stock of Raw materials										
Semifinished goods										
Finished goods										
Debtors										
Cash Balance										
Others (specify)										

**XIII. Materials and Fuels**

Item	Unit rate	1995	1996	1997	1998	1999	2000	2001	2202	2003	2004

**XIV. Details of production**

Items	Unit rate	1995		1996		1997		1998		1999		2000		2001		2202		2003		2004	
		Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V

## XV. Installed capacity of production

Item	Unit rate	Maximum Capacity					Utilised capacity				
		1995	1996	1997	1998	1999	2000	2001	2002	2003	2004

State reasons for underutilization of capacity in the order of severity

- (1) lack of market
- (2) shortage of power.
- (3) lack of finance
- (4) labour problem.
- (5) Shortage of raw material
- (6) Technical reasons
- (7) Any other specify

## XVI. Sales Details

- (1) Brand name of the product
- (2) What are your channels of distribution?  
(Direct / by agents / other specify)
- (3) Do you have any arrangement for accounting for or replacing for damages during handling? Give details.
- (4) Customers reaction in the quality of products sold.  
Not known / poor / good
- (5) Who are the main competitors for your products?  
(Other small firms / medium / large / imports)

(6) What is the nature of competition?

(Intense / No competition)

(7) Who are the main customers?

Household / Retailers.

(8) How payments are received?

[Cash / Cheque / Any other (specify)]

Sales per year

Items	1995		1996		1997		1998		1999		2000		2001		2002		2003		2004		
	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	

Net work of sales (Percentage)

Item	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Within the district										
State (other districts)										
Other State (specify)										
1										
2										
3										
4.										
Exports										

## XVII Manpower Data

1) Average number of working days a year

Month	Working days	No. of workers		
		Male	Female	Casual
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

2) Normal working hours

3) Rest intervals

4) Give details of shifts (if any)

5) Labour details

Type of workers	No.	Wage rate	D.A	ESI	PF	Others (specify)
Permanent						
a) Skilled						
b) Unskilled						
Temporary						
a) Male						

b) Female						
Casual						
a) Male						
b) Female						

6) Amenities provided for workers

Item	Yes/No	Details (if any)
Medical		
Canteen		
Recreation		
Co-operative society		
Others (specify)		

7) Working conditions

- a) Casual leave/year
- b) Paid holidays/year
- c) Earned leave/year
- d) Maternity leave
- e) Sick leave/year
- f) Rest period/year
- g) Others (specify)

## 8) Union activities

Name of Union	Year of starting	No. of members	Total workers in the factory

## XVIII Problems of the Unit

### Managerial

- a) Educational qualification of the manager
- b) Work experience of the manager
- c) Training in management
- d) Current issues, steps taken to solve it.
- e) Nature of labour problems.
- f) Others (if any)

### Financial

- a) Whether there was any delay in getting term loans from the financial institutions//banks.
- b) Are / were you satisfied with the attitude of the bank in granting term / working capital loans?

Yes / No. if No, what is your suggestions to improve it.

- c) Whether there was any delay in payment by customers.

Yes / No. – If yes, specify the delay in months.

## Raw material

- (a) Do you feel the problems of scarcity of raw materials (yes / No)
- (b) How is the quality of raw materials (Not known /Poor / Good)
- (c) Other problems, if any

## Technical

- (a) Is the infrastructure conducive to your unit.  
Yes / No – If no indicate problems faced.
- (b) Is electric power supply reliable? (Yes / No)
- (c) Do you think that the technology/mechanism became obsolete?  
(yes/No). If yes did you take any steps to introduce new  
technology?
- (d) Could you repair and maintain your plant and machinery in time?  
(Yes / No) if No how much is the delay?
- (e) How frequent repair is required?
- (f) Others (If any)

## Economic problems

- (a) Location
- (b) Production
- (c) Demand
- (d) Nature of market
- (e) Price
- (f) Product diversification
- (g) Others (if any)

## Environmental problems

- (a) Health of workers
- (b) Pollution
- (c) Impact on ruralization / urbanization.

## Transport problems

		Road	Rail	Others
(a)	High Cost			
(b)	Lack of vehicles			
(c)	Others (if any)			

## Any other problems

Specify :

## XIX. Industrial relations

- (a) Do you give balance sheet to your workers? Yes / No.
- (b) Have you entered into any agreement with the labor union regarding, job security bonus etc? Yes / No

## XX Follow up programmes

- (a) How do you like attending courses offered by institution like SISI, KITCO etc?  
Very much like / like / don't like.
- (b) Do you feel that consulting experts can improve your qualities or quantity of production? Yes / No

(c) How do you think about the position of Kerala soap industry compared to the same in other states?

- (i) Quality
- (ii) Cost
- (iii) Design
- (iv) Profits
- (v) Worker's Satisfaction

**XXI Any specific issues which invites attention.**

**XXII Few suggestions.**

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NB 5585



**APPENDIX I****Annual Survey of Industries****COMMODITY CLASSIFICATION**

363 -

36307 – Soap, Toilet (excluding baby soap)

## APPENDIX II

### NAME AND ADDRESS OF TOILET SOAP PRODUCTION UNITS SURVEYED

#### LARGE UNIT

1	S.V. Products	-	Chettiparambu, Irijalakuda, Thrissur
<b>MEDIUM UNITS</b>			
1	Star Soaps	-	Mananthavady, Wynad
2	Radha's Soap Works	-	Asram, Kollam
3	Pyari Soap works	-	Chambakara, Ernakulam
<b>SMALL UNITS</b>			
1.	Vilma Rani Soap	-	Mappayur, Kozhikode
2	I.V. Soap Works	-	Kokkalai, Thrissur
3	Binesh Soap Works	-	Chumkara, Alapuzha
<b>VERY SMALL UNITS</b>			
1.	M.K. Soap Works	-	Vadakara, Kozhikode
2.	Bismi Soap Work	-	Mullakara, Thrissur.
3.	Supreme Soap	-	Keezhillam, Ernakulam

### APPENDIX III

## ECONOMICS OF TOILET SOAP PRODUCTION IN KERALA

### RESEARCH (CONFIDENTIAL)

(No information will be disclosed or used for any purpose other than research).

#### Unit Profile

- 1. Name and address of the unit :
- 2. Year of establishment :
- 3. Location of the unit : Panchayat / Municipality / Corporation  
(others specify)
- 4. Type of ownership : Proprietorship / partnership / Ltd.  
Co./Others (specify)
- 5. Name of the owner / managing partner

#### 6. Educational back ground of the owner

Non-technical		Technical	
1	P.G <input type="checkbox"/>	1	P.G. <input type="checkbox"/>
2	Degree <input type="checkbox"/>	2	Degree <input type="checkbox"/>
3	PDC <input type="checkbox"/>	3	Diploma <input type="checkbox"/>
4	SSLC <input type="checkbox"/>	4	Others <input type="checkbox"/>

#### 7. Training experience in running the business

(1)	Technical training	
-----	--------------------	--

(2)	Business Experience	
(3)	Other experience	

**8. Business back ground of owner**

(1)	For the first time in business	
(2)	Belongs to a business family	
(3)	Family doing same business	
(4)	Family doing other business	

**9. How many time have the ownership been transferred since the factory was started?**

Year of transfer	Type of ownership		Reasons
	Before	After	

**10. Motivation for starting the unit**

(1)	Government incentive	
(2)	Own incentive	
(3)	Profit or Income	
(4)	Others	

11. Brand name of the product if any .....

12. Capital Structure (Fixed Assets)

Item	Installed Capacity	Year of purchase	Description	Net Book value	Rent paid
Land					
Building					
Plant					
Machinery					

Capital Structure (Long term Funds)

Item	1995	1996	1997	1998	1999	2000	2001	2202	2003	2004
Share Capital										
Loans										
a) government										
b) Others										
Deposits										
Other fund (specify)										

Capital Structure (Current Liability)

Item	1995	1996	1997	1998	1999	2000	2001	2202	2003	2004
Bank Loans										
Creditors										
Pvt. Loans										
Other loans (specify)										

**Capital Structure (Addition, Replacement, Improvement etc.)**

Year	Nature of addition	Replacement	Improvement	Cost

**Capital Structure (Current Assets)**

Item	1995	1996	1997	1998	1999	2000	2001	2202	2003	2004
Stock of Raw materials										
Semifinished goods										
Finished goods										
Debtors										
Cash Balance										
Others (specify)										

**XIII. Materials and Fuels**

Item	Unit rate	1995	1996	1997	1998	1999	2000	2001	2202	2003	2004

**XIV. Details of production**

Items	Unit rate	1995		1996		1997		1998		1999		2000		2001		2202		2003		2004	
		Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V

## XV. Installed capacity of production

Item	Unit rate	Maximum Capacity					Utilised capacity				
		1995	1996	1997	1998	1999	2000	2001	2002	2003	2004

State reasons for underutilization of capacity in the order of severity

- (1) lack of market
- (2) shortage of power.
- (3) lack of finance
- (4) labour problem.
- (5) Shortage of raw material
- (6) Technical reasons
- (7) Any other specify

## XVI. Sales Details

- (1) Brand name of the product
- (2) What are your channels of distribution?  
(Direct / by agents / other specify)
- (3) Do you have any arrangement for accounting for or replacing for damages during handling? Give details.
- (4) Customers reaction in the quality of products sold.  
Not known / poor / good
- (5) Who are the main competitors for your products?  
(Other small firms / medium / large / imports)

(6) What is the nature of competition?

(Intense / No competition)

(7) Who are the main customers?

Household / Retailers.

(8) How payments are received?

[Cash / Cheque / Any other (specify)]

Sales per year

Items	1995		1996		1997		1998		1999		2000		2001		2002		2003		2004	
	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V

Net work of sales (Percentage)

Item	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Within the district										
State (other districts)										
Other State (specify)										
1										
2										
3										
4.										
Exports										

## XVII Manpower Data

1) Average number of working days a year

Month	Working days	No. of workers		
		Male	Female	Casual
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

2) Normal working hours

3) Rest intervals

4) Give details of shifts (if any)

5) Labour details

Type of workers	No.	Wage rate	D.A	ESI	PF	Others (specify)
Permanent						
a) Skilled						
b) Unskilled						
Temporary						
a) Male						

b) Female						
Casual						
a) Male						
b) Female						

6) Amenities provided for workers

Item	Yes/No	Details (if any)
Medical		
Canteen		
Recreation		
Co-operative society		
Others (specify)		

7) Working conditions

- a) Casual leave/year
- b) Paid holidays/year
- c) Earned leave/year
- d) Maternity leave
- e) Sick leave/year
- f) Rest period/year
- g) Others (specify)

## 8) Union activities

Name of Union	Year of starting	No. of members	Total workers in the factory

## XVIII Problems of the Unit

### Managerial

- a) Educational qualification of the manager
- b) Work experience of the manager
- c) Training in management
- d) Current issues, steps taken to solve it.
- e) Nature of labour problems.
- f) Others (if any)

### Financial

- a) Whether there was any delay in getting term loans from the financial institutions//banks.
- b) Are / were you satisfied with the attitude of the bank in granting term / working capital loans?

Yes / No. if No, what is your suggestions to improve it.

- c) Whether there was any delay in payment by customers.

Yes / No. – If yes, specify the delay in months.

## Raw material

- (a) Do you feel the problems of scarcity of raw materials (yes / No)
- (b) How is the quality of raw materials (Not known /Poor / Good)
- (c) Other problems, if any

## Technical

- (a) Is the infrastructure conducive to your unit.  
Yes / No – If no indicate problems faced.
- (b) Is electric power supply reliable? (Yes / No)
- (c) Do you think that the technology/mechanism became obsolete?  
(yes/No). If yes did you take any steps to introduce new  
technology?
- (d) Could you repair and maintain your plant and machinery in time?  
(Yes / No) if No how much is the delay?
- (e) How frequent repair is required?
- (f) Others (If any)

## Economic problems

- (a) Location
- (b) Production
- (c) Demand
- (d) Nature of market
- (e) Price
- (f) Product diversification
- (g) Others (if any)

## Environmental problems

- (a) Health of workers
- (b) Pollution
- (c) Impact on ruralization / urbanization.

## Transport problems

		Road	Rail	Others
(a)	High Cost			
(b)	Lack of vehicles			
(c)	Others (if any)			

## Any other problems

Specify :

## XIX. Industrial relations

- (a) Do you give balance sheet to your workers? Yes / No.
- (b) Have you entered into any agreement with the labor union regarding, job security bonus etc? Yes / No

## XX Follow up programmes

- (a) How do you like attending courses offered by institution like SISI, KITCO etc?  
Very much like / like / don't like.
- (b) Do you feel that consulting experts can improve your qualities or quantity of production? Yes / No

(c) How do you think about the position of Kerala soap industry compared to the same in other states?

- (i) Quality
- (ii) Cost
- (iii) Design
- (iv) Profits
- (v) Worker's Satisfaction

**XXI Any specific issues which invites attention.**

**XXII Few suggestions.**