An Appraisal of Small Scale Industry In Tamil Nadu

By

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CHAPTER-I

INTRODUCTION

I. INTRODUCTION

India is the second biggest country in terms of population, with more than 65 per cent of population in its six lakhs villages and more than half of them in the object of poverty. The important pressing problems faced by the Indian economy are, the incidence of unemployment and under-employment, increase in national income in i creating the shortage of consumer goods, accelerating the economic growth by making an optimum use of natural and human resources, promoting balanced regional development and relieving the present execessive pressure on land (Jagdish Sinha, 1981). The main objectives of the programmes for the development during the plans were, to create large scale employment opportunities, promote decentralisation, and dispersal of industries, develop agrobased and ancillary industries. Realising the basic objectives, the Government of India has initiated a positive programme for the development of industrial sector with particular reference to Small Scale Industries. Since then, the Government has initiated actions for their quick growth and development.

Small Scale Industries have important social and economic significance. They are relatively labour intensive and often generate more indirect jobs per unit of invested

capital than the larger firms. It is argued (Sadasiva Reddy, 1983) that smaller the size of industries and their dispersal over a wider area, their comparatively smaller demand for infrastructure facilities and the simpler processes make for a smaller environmental risk. In India, the small firms provide parts and sub assemblies to large firms at considerably low unit cost. The Small Scale Sector is a powerful tool for a more equitable distributionof national income and development of efficient decentralised sector.

The Small Scale Industrial Sector occupies an important position in the economy of the country having made a valuable contribution to economic growth in terms of national income, production employment and foreign exchange earnings. Small Scale Units constituted about 90 per cent of the total registered units accounted for about 38 per cent of total industrial output and 14.1 per cent of the total value added by all manufacturing units. Also, it contributed 10 per cent total employment provided by all manufacturing units. It provided employment to 70 lakhs persons and contributed 15 per cent to foreign exchange earnings (Kailash Chopra, 1983).

During the last thirty years of planning era, the government of India had invested a substantial outlay for the development of Small Scale Sector. The investment was

Rs. 5.2 crores during the I Plan and it had increased to Rs. 545 Crores during the IV Five Year Plan. The Central and State Governments render a comprehensive range of services like technical, economic, counselling, extension of credit at concessional rates of interest etc. As a consequence of the measures taken, the Small industries had grown at a rapid rate. For instance, the number of registered units had increased from 2.16 lakhs to 3.26 lakhs during 1977-78. The value of output had increased from Rs. 26 million to Rs. 7.57 billion. There is an impressive growth in the export earnings from 7 to 17 per cent.

Tamil Nadu deserves its place in the industrial map of the country. There are over 42,000 units in this state engaged in a variety of industrial activities varying from simple consumer items to sophisticated products like electronic components, T.V.Sets etc. The small industries sector accounted for about 8.9 per cent of the state income and the sector registered 6.4 per cent growth rate in the number of registered units. With the establishment of District Industries Centre in 1978, the pace of Industrial Development of the sector has been faster. The number of persons employed had been recorded at 1,39,124 (Perumalsamy, 1985).

To set up the tempo of industrial growth and to achieve balanced development are the basic objectives of the State

Industrial Policy. Tamil nadu is one of the states where a comprehensive programme for the development of S.S.I. Sector is in operation. The Second Five Year Plan fully appreciated the problems of unemployment and under employment and since then, the Government's policy towards S.S.I. Sector has undergone a welcome change to promote this sector, banks have also been directed to give them priority in the allocation of credit. To encourage the healthy development of S.S.I. Units along modern lines, industrial estates have been established. The S.S.I. sector also enjoys good organisational support at both national and state levels.

The ASI, SIDCO, DIC, Educational Institutions and individuals have studied the various dimensions of S.S.I. units in India and Tamil Nadu. The Surveys and studies reveal that the S.S.I. Sector plays a crucial role in the development of the economy in terms of its contribution to national income, employment generation, balanced regional growth etc.

It is in this context, the present study is undertaken to appraise the S.S.I. Sector in Tamil Nadu. The objectives of the study were to:

1. assess the performance of S.S.I. sector in terms of growth in number, production, capital and employment;

2. examine the relationship between factor inputs and output;

3. find out the growth in the production, employment and capital and

4. to estimate the production function.

The study specifically tested the hypothesis that the value of production is not influenced by factor inputs, capital and labour.

CHAPTER-II

REVIEW OF LITERATURE

II. REVIEW OF LITERATURE

The literature relating to the study on "Small Scale Industry in Tamil Nadu" is reviewed under the following heads:

I. Small Scale Industry in India:
   a) Growth in number and production;
   b) Statewise distribution of industries;
   c) Export performance of Small Scale Industry;
   d) Small Scale Industry under plans;
   e) Credit assistance to Small Scale Industry;
   and f) Problems of Small Scale Industry.

II. Related Studies.

I. Small Scale Industry in India:

a) Growth in number and production: Development of modern Small Scale Industries has been one of the most significant aspects of Industrial Development in the country.

The growth of Small Scale Industrial units in India in terms of units, employment, output and capital are given in Table 2.1.

TABLE 2.1

GROWTH OF SMALL SCALE INDUSTRIAL UNITS IN INDIA IN SELECTED YEARS

S.No.	Year	1961	1971	1980	Growth rate
1.	Number of units (in lakhs)	35.78	281.90	799.63	1.25%
2.	Fixed capital (Rupees in Crores)	270.58	697.00	1,482.96	1.26%
3.	Employment (in lakhs)	21.59	36.70	69.82	1.13%
4.	Gross Output (Rupees in Crores)	1,426.50	4,860.00	20,934.00	1.39%
5.	Export(Rupees in Crores)	..	765.80	1,689.00	1.4 %

Source: Development Commissioner, Small Scale Industry, Small Industries Development Organisation, Report, Ministry of Industry, Government of India.

The number of units had grown at a rate of 1.25 per cent, the fixed capital had grown at a rate of 1.26 per cent and the employment had grown at a rate of 1.13 per cent. The gross output and exports of Small Scale Industry have grown at a rate of 1.39 per cent and 1.4 per cent respectively.

The details of value of production of Small Scale Industry in India in selected years are given in Table 2.2.

TABLE 2.2

THE VALUE OF PRODUCTION ON SMALL SCALE INDUSTRY IN INDIA IN SELECTED YEARS

Rs. in Crores

Year	Registered units	Un-registered units	Total
1974	4,932	4,270	9,202
1975	5,742	5,260	11,002
1976	6,700	5,700	12,400
1977	7,570	6,430	14,000
1978	8,500	7,200	15,700
Growth rate	..	..	8.97%

Source: I Report, 1978-79 and 1979-80. Small Industries Development Organisation, Ministry of Industry, Government of India.

It is clear from the table that the value of production had increased continuously in all the years.

There is a remarkable growth in the value of production by 8.97 per cent.

b) State-wise distribution of industries: The statewise distribution of Small Scale Industries is given in Table 2.3.

TABLE 2.3

STATEWISE DISTRIBUTION OF SMALL SCALE INDUSTRIES

S.No.	State/U.T.	As on 03.12.1980
1.	Andhra Pradesh	22,958
2.	Assam	3,132
3.	Bihar	20,937
4.	Gujarat	27,790
5.	Himachal Pradesh	5,433
6.	Haryana	17,685
7.	Jammu and Kashmir	5,966
8.	Karnataka	16,970
9.	Madhya Pradesh	31,302
10.	Maharashtra	35,251
11.	Manipur	2,511
12.	Meghalaya	327
13.	Kerala	16,970
14.	Nagaland	203
15.	Orissa	8,036
16.	Punjab	33,532
17.	Rajasthan	23,930
18.	Tamil Nadu	30,397
19.	Tirupura	1,096
20.	Uttar Pradesh	33,364
21.	West Bengal	74,847
22.	Sikkim	25
23.	Andaman and Nicobar	73
24.	Arunachal Pradesh	145
25.	Chandigarh	948
26.	Dadra and Nagar Haveli	114
27.	Delhi	11,006
28.	Goa	1,496
29.	Lakshadweep	N.A.
30.	Mizoram	471
31.	Pondicherry	982
	Total	4,27,424

Source: Small Industries Development Organisation. Reports, Ministry of Industries, Government of India.

The largest concentration of registered Small Scale units in Maharashtra (over 35,000) followed by punjab (33,532), U.P.(33,364) and M.P.(31,302). Tamil Nadu stands in the fifth place in terms of units of Small Scale Industries with 30,397 units.

c) Exports Performance of Small Scale Industry: Table 2.4 gives the details of export performance of Small Scale Industry in India.

TABLE 2.4

EXPORT PERFORMANCE OF SMALL SCALE INDUSTRY IN INDIA

Year	Total Exports from India (Rs. Crores)	Total Exports from Small Scale Industries (Rs.in Crores)	Percentage share Small Scale Industries in total exports
1971 - 72	1,608	155	9.6
1972 - 73	1,971	306	15.5
1973 - 74	2,523	538	15.6
1974 - 75	3,329	538	16.5
1975 - 76	4,043	629	15.6
1976 - 77	5,146	766	14.9
1977 - 78	5,404	845	15.6
1978 - 79	5,726	942	16.5
1979 - 80	6,347	1,140	17.9

Source: Reports. 1978-79 and 1979-80. Small Industries Development Organisation, Ministry of Industry, Government of India.

There has been a considerable increase in exports from Small Scale Industrial Sector. The export from Small Scale Industry had increased from 9.6 per cent in 1971 to 17.9 per cent in 1980.

d) Small Scale Industry under Plans: The details of plan outlays of Small Scale Industries are given in Table 2.5.

TABLE 2.5

PLAN OUTLAY FOR SMALL SCALE INDUSTRY IN INDIA

(Rs. in crores)

S.No.		First Plan	Second Plan	Third Plan	Three Annual Plans	Fourth Plan	Fifth Plan	Revised draft Sixth Plan 1978 - '83
1.	Total Plan Outlays	1,960	4,672	8,577	6,625	15,779	40,641	71,000
2.	Village and Small Scale Industries	42	187	241	128	243	606	1,410
3.	Small Scale Industries/ Industrial Estates	5.2	56.0	113.1	53.5	96.2	139.5	535.00
4.	2 as % of 1	2.1	4.0	2.8	1.9	1.5	1.5	2.0
5.	3 as % of 1	0.3	1.2	1.3	0.8	0.6	0.3	0.7

Source: Drafts (Five Year Plans and Annual Plans), Government of India.

The five year plans allocated increasingly larger amounts for the development of Small Scale Industries. During the II and III Plan, the plan allocation was very high for Small Scale Sector.

e) Credit Assistance to Small Industry: Shift from the commercial banking to social banking has been an important development in the banking system in India during recent years. They were required to pay special attention to the credit needs to priority sector in which Small Scale Industries are included. In the context of revitalising the 20 Point Economic Programme, the role of banks in providing increased assistance to the priority sector has increased.

Bank Credit for Small Scale Industries increased by nearly 400 per cent between 1970 and 1977. The limits sanctioned increased by 165 per cent. It is therefore, evident that there has been a significant growth in the provision of bank finance to Small Scale Industries in the era of nationalisation.

Small Scale industries has been accorded special emphasis in the 6th plan. As such 45 per cent of the total outlay had been allotted to priority sector.

The R.B.I. sample survey of Small units financed by the banks had shown that institutional credit within bank financed units accounted for 70.9 per cent of the total borrowings of Small Scale Industries.

Industrial Development Bank of India:IDBI:- IDBI assistance to Small Scale Industries in the form of re-financing facilities provided for commercial banks, State Financial Institutions, and Co-operative Bank at concessional rates of interest. IDBI has set up 2 funds, Technical Assistance fund and Special Development Fund. Technical assistance funds provided assistance for research and development in special industrial fields. The Special Development Funds had enabled IDBI to introduce a special refinance scheme for rehabilitation of Small tiny and village entrepreneurs.

Credit Guarantee Scheme:- The Deposit Insurance and Credit Guarantee Corporation (D.I.C.G.C.) was introduced by R.B.I. for providing guarantee to commercial banks and other financial institutions against possible losses which they might incur in the process of lending to small scale units. The scheme provides a guarantee upto 75 per cent of the amount in default.

f) Problems of Small Scale Industry:- The Small Scale Industries have certain problems which have to be tackled(Kasthuri, 1980). These relate to

i) Infra-structure facilities: Development of infrastructure facilities such as roads, and railways, power, communication network etc. are the pre-requisites for setting up a new industrial units. In many places,

particularly those away from cities and towns such facilities are lacking. That is one reason why a large number of Small Scale Industries are concentrated in and around large metropolitan cities where there is also concentration of large manufacturing units.

ii) Supply of raw materials:- Small industries face problems in getting adequate raw materials such as seteel, aluminium, copper and certain chemicals.

iii) Finance: The bank and financial institutions are already extending concessional finance to small scale industries. However, no enduring solution has yet been found to meet their needs of capital, which is still largely arranged through friends and relatives. The institutional lacunae is obvious.

iv) Modernisation: Modernisation of small units is important for their efficient working as also to make them competitive in the domestic as well as in export markets. Modernisation would ensure - all-round progress of Small Scale Units in respect of product development, adoption of modern manufacturing and management techniques, product diversification, quality improvement, cost reduction etc.

Small Scale Industries, particularly ancillaries

have to keep pace with research and development. However, it is unlikely that even the best of ancillaries have adequate and upto date knowledge of various technological parameters involved.

v) Marketing: One of the biggest problems of the Small Scale Industries is that of marketing and it has come in sharp focus in recent years. This is so because small units with their limited resources are unable to bring into operation a consistent package of various marketing skills like advertising product attributes, physical distribution etc.

The major problems faced by the Small Scale Industries in the field of marketing are as follows:

i) Lack of wide market

ii) Lack of adewuate knowledge about the market both national and international

iii) Lack of testing facilities in order to check quality and ensure quality control and standardisation of products

iv) Lack of resources for advertising

v) Organised network of sales outlets do not exist to take care of the selling problems of small scale unit.

Another problem faced by Small Scale Industries is that the rates of interest charged by commercial banks on their short-term lendings are very high(10-12 per cent).

II. Related Studies:

a) Industrial sickness in Small Scale Sector: K.K.Sexena has conducted a study on "Industrial sickness in small scale sector" in 1985.

Industrial sickness, particularly in small scale industries is increasing day by day. It has been a subject matter for a large number of studies by various agencies associated, directly (or) indirectly with the industrial development in the country. The number of units classified as sick, according to Reserve Bank's report were 64,388 involving bank funds to the tune of Rs. 627 crores at the end of June 1983 which is around 14 per cent of total credit to Small Scale Industrial Sector.

The criteria used to identify the sick units were:

a) Capacity utilization below 50 per cent in comparison to highest capacity utilized during preceding five years.

b) Erosion of network by more than 50 per cent

c) Clorusre of the unit for period of more than six months.

Findings of the study: The causes of sickness of the industries as revealed by the study were:

1. Fifty two per cent of the selected units were sick due to mismanagement.

2. Twenty eight per cent were sick units due to lack of market demand and

3. Fourteen per cent were sick units due to technical reasons.

b) Location of Small Industry: A Research Study: This study is a product of the Small Industry Extention Training Institute, Hyderabad in 1973. The major findings were:

1. There did not exist any significant relationship between the structural pattern and the size of the town.

2. The location was influenced largely by the factors as demand for the products, marketing facilities, social and infra-structure facilities and nearness to raw materials.

3. The incentives and subsidies offered have not played a significant role in the concentration of industries in certain localities.

c) Small Scale Sector - Growth Rate - A General Survey: SIDCO - 1976: According to a study on the 'Role of Small Scale Industries in the national economy' conducted by the Small Industries Development Corporation, the share of the Small Scale Industry in the total production was more than 40 per cent.

The employment potential of the Small Scale Industries was also very much higher than that of large

industrial sector. Small Scale Industries in the factory sector alone provided employment to 2 million persons. In the non-factory sector the established employment was 15.6 million persons. The value of production in the Small Scale Industry in 1976 was at Rs. 67,000 million, as against Rs. 57,420 million in 1975.

The survey also revealed a study rise in the exports of Small Scale Industries from Rs. 1,550 million in 1972-73 to Rs. 5,560 million in 1974-75 and Rs. 6,000 million in 1975-76. The contribution of the Small Scale Industries to the total volume of India's exports had been at 15 per cent in 1975-76.

d) Small Industires - Extent of idle capacity in the Small Scale Industry in Tamil Nadu: This study has been conducted by T.C. Mohan in 1976.

A study of idle capacity in Small Scale Industries in Tamil Nadu has been undertaken as part of the All India Census and it revealed that out of 16,000 units, about 1,500 units (or) about 10 per cent of the units were found to be working below 20 per cent of their capacity.

Reasons for idle capacity as revealed by the study were:

1. Storage of indigenous raw materials,
2. Storage of imported raw materials,

3. Inadequate finance,

4. Lack of demand and

5. Obsolete equipments.

e) Entrepreneurship in Small Industry in Madurai City and its environs: This study has been conducted by R. Subrahmaniam in 1978 to find out the influencial factors on enterpreunership.

The following were the findings of the study:

1. Entrepreneurial characteristics had influenced the entrepreneurship.
2. The economic structure in terms of proprietorship, new establishments manufacturing concerns were someother factors.
3. Inter firm support also influenced the entrepreunership.
4. The supporting facilities have also influenced the entrepreneurship.

f) Incentives and their impact on efficiency of Small Scale Industry: This study has been conducted by V.C.Sandesra in 1982 to find out the efficiency of Small Scale Units in India.

The fiddings are given below:

1. The sample units have performed well in terms of labour productivity, more wage and capital productivity.
2. The sample units had shown a substantial growth rate in capital, total assets and value of production.

CHAPTER-III

METHODOLOGY

III. METHODOLOGY

The methodology adopted in the current study on "An Appraisal of Small Scale Industry in Tamil Nadu" is described under the following heads:

1. Selection of the Area;
2. Sources of Data;
3. Tools of Analysis; and
4. Definition of terms used

1. Selection of the Area:

Tamil Nadu is one of the industrially advanced states in India. The contribution of Industrial Sector to State's income had gone up from 12.70 per cent to 26.9 per cent during the last two decades. The position of Small Scale Units had increased from 3,000 units in 1961 to 33,883 units in 1980 and this worked out to 7.9 per cent of the total number of units in India. The total number of persons employed had been 1,39,124. The total value of production was Rs. 336.2 crores. With the establishment of District Industries Centres in 1978, the pace of development of Small Scale Sector has been faster. But the value of production has evidenced a reduction, and hence, the performance of S.S.I. in Tamil Nadu is taken up for indebth analysis.

2. Sources of Data:

The data relating to the current study were collected from secondary sources. Information on the value of production, employment, capital, number of units of different industries under small scale sector were collected from both official and non-official sources. These information for Tamil Nadu were collected from the following sources:

i) Tamil Nadu - An Economic Appraisal published by Finance Department, Government of Tamil Nadu (1976 to 1983).

ii) Industrial profile of Tamil Nadu published by District Industry Centre.

iii) India - A Reference Manual. Government of India Publication (1976 to 1983).

iv) Relevant journals and magazines like margin, economic and political weekly, Economic Trend etc. were also referred to.

3. Tools of Analysis:

The percentage of fixed and working capital to total capital, sales of production to value of production, Product-wise percentages to total value of production, Product-wise labour employment to total employment were worked out. For estimating the production function, the

unrestricted cobb-Douglas production function was used. This is given by the form:

$$Y = AK^{\alpha} L^{\beta}$$

where Y - value of product

K - Capital employed

L - Labour employed

α - Capital Coefficient

β - Labour Coefficient

A - Initial Coefficient

This production function method is used to estimate the degree of relationship between Capital, labour and output as it is a widely accepted method. The law of returns can also be found out from the component values of capital and labour.

4. Definition of Terms:

a) Capital Coefficient = $\frac{\text{Value of Output}}{\text{Value of fixed capital}}$

b) Labour Coefficient = $\frac{\text{Value of Output}}{\text{Number of workers}}$

c) Working Capital Coefficient = $\frac{\text{Value of Output}}{\text{Value of working capital}}$

d) Capital-labour ratio = $\frac{\text{Value of Capital}}{\text{Number of workers}}$

for estimating growth rate the following formula was used.

$$\text{Growth rate} - r = (x_n - x_o)^{1/t}$$

where $t = n - 1$

x_n = value in n^{th} year

x_o = value in the initial year

The results of the analysis are presented and discussed in the subsequent chapter "Results and Discussions".

$$\text{Growth rate} - r = (x_n - x_o)^{1/t}$$

where $t = n - 1$

x_n = value in n^{th} year

x_o = value in the initial year

The results of the analysis are presented and discussed in the subsequent chapter "Results and Discussions".

CHAPTER-IV

RESULTS AND DISCUSSION

IV. RESULTS AND DISCUSSION

The results of the analysis carried out are discussed under the following heads:

1. Growth in number of units;
2. Capital structure;
3. Employment;
4. Production and sales;
5. Productivity and
6. Production function.

1. Growth in number of Units:

In an economy where job j seekers are growing and job creation is not keeping pace, the S.S.I. Sector assumes much relevance in view of its great potential for employment generation. The Central and State Governments have been directing concerted efforts towards the development of this sector on a priority basis. The number of items reserved for SSI units is also raised to 882. Towards generating industrial activity in the backward areas, the Government provides technical and financial aid through its agencies like SIDCO, SIPCOT, TANSI etc.

The details of the number of registered units in Tamil Nadu are given in Table 4.1

TABLE 4.1

GROWTH OF SMALL SCALE INDUSTRIES (REGISTERED UNITS)

S.No.	Years	Number of Registered Units
1.	1976 - 77	18,956
2.	1977 - 78	18,789
3.	1978 - 79	22,164
4.	1979 - 80	27,886
5.	1980 - 81	34,553
	Growth Rate	11.18%

There is a continuous increase in the number of registered units at a rate of 11.18 per cent. In 1978, the DICs were established since then, the number of units are rapidly increasing. During this period the total plan outlay for this sector has doubled and this may also be a reason for the development of the sector.

The details of number of industry groupwise registered units (18 product groups) are furnished in Table 4.2.

TABLE 4.2

DETAILS OF INDUSTRY GROUPWISE REGISTERED UNITS

S.No.	Industry(Product-wise)	1976-77	1977-78	1978-79	1979-80	1980-81
1.	Food production	1,448 (7.6387)	1,367 (7.2755)	1,688 (7.6160)	2,146 (7.6956)	3,079 (8.9109)
2.	Tobacco and its products and beverages	145 (0.7649)	126 (0.6706)	181 (0.8166)	196 (0.7029)	242 (0.7004)
3.	Cotton textiles	759 (4.0040)	849 (4.5186)	992 (4.4757)	1,225 (4.3939)	1,920 (5.5567)
4.	Wool, silk, synthetic, fibre textiles	106 (0.5592)	83 (0.4417)	195 (0.8798)	240 (0.8606)	496 (1.4355)
5.	Jute, Hemp, meste textiles	5 (0.0264)	1 (0.0053)	7 (0.0316)		
6.	Textile products	1,519 (8.0133)	1,136 (6.0461)	1,333 (6.0143)	1,527 (5.4759)	1,884 (5.4525)
7.	Wood and its product, furnitures fixtures	634 (3.3446)	607 (3.4290)	760 (3.4290)	1,067 (3.8263)	1,204 (3.4845)
8.	Paper and its product and printing	1,499 (7.9078)	1,596 (8.4943)	1,983 (8.9469)	2,431 (8.7176)	2,613 (7.5623)
9.	Leather and fur products	453 (2.3897)	404 (2.1502)	528 (2.3822)	641 (2.2986)	822 (2.3790)
10.	Rubber, Plastic, Petroleum and coal products	1,211 (6.3885)	1,166 (6.2058)	1,280 (5.7751)	1,479 (5.3037)	1,732 (5.0126)

S.No.	Industry(Product-wise)	1976-77	1977-78	1978-79	1979-80	1980-81
11.	Non-metallic mineral products	889 (4.6898)	829 (4.4122)	1,228 (13.2287)	1,711 (6.1357)	2,245 (6.4973)
12.	Chemical and its products	2,349 (12.3919)	2,385 (12.6936)	2,932 (13.2287)	4,282 (15.3554)	5,682 (16.4443)
13.	Basic metals and alloys	840 (4.4313)	913 (4.8592)	1,061 (4.7870)	1,209 (4.3355)	1,252 (3.6234)
14.	Metal products	4,341 (22.9004)	3,645 (19.3996)	3,774 (17.0276)	4,970 (17.8226)	5,592 (16.1838)
15.	Machinery and machine tools	1,079 (5.6921)	1,292 (6.8764)	1,455 (6.4745)	1,804 (6.4692)	2,503 (7.2439)
16.	Electrical machinery and apparatus	421 (2.2209)	487 (3.6404)	563 (3.7538)	698 (3.4498)	897 (2.9722)
17.	Transport equipment and Parts	617 (3.2549)	684 (3.6404)	832 (3,7538)	962 (3.4498)	1,027 (2.9722)
18.	Other manufacturing industries	641 (3.3815)	1,219 (6.4878)	1,392 (6.2805)	1,298 (4.6567)	363 (1.0506)
	Total	18,956	18,789	22,164	27,886	34,553

Figures in parantheses indicate percentages to totals.

It may be seen that with more than 5,000 units the metal product industry and chemical products claim the largest coverage followed bypaper and paper products. There is no much change in the structure of S.S.I.units. Though the traditional industries like textile, sugar, food products etc. are expanding, the new thurst is on engineering, chemicals, mineral and automobile fields. These industries are supplying ancillaries and spare parts to the growing large scale industries. The industrial estate in Guindy, electronics industry near Madras, and Hozur are successful in developing the S.S.I. Units in backward areas.

2. Capital Structure:

The details of capital components of S.S.I. units are given in Table 4.3.

TABLE 4.3

CAPITAL STRUCTURE OF SSI UNITS 1976 - 81

(Rupees in lakhs)

S.No.	Year	Fixed capital	working capital	Total capital
1.	1976 - 77	10,509 (53.2479)	9,227 (46.7521)	19,736 (100)
2.	1977 - 78	7,915 (52.5779)	7,139 (47.4226)	15,054 (100)
3.	1978 - 79	7,544 (55.0336)	6,164 (44.9664)	13,708 (100)
4.	1979 - 80	11,669 (60.3080)	7,680 (39.6920)	19,349 (100)
5.	1980 - 81	14,829.6 (57.3)	11,046.36 (42.7)	25,875.96 (100)
Growth Rate		8.1%	6.5%	8.9%

Figures in parantheses indicate percentages to totals

There is no much variation in the percentages of fixed capital to total capital in all the years. This ranges between 53 and 60. During 1977-79, there is a drop in the total capital investment. The SIDCO plays a crucial role in the development of the SSI Sector. It has certain objectives like provision of infrastructure facilities, procurement and distribution

of raw materials, implementation of package incentives, money assistance to sick units etc. The credit made available by the banks has gone up by 33 per cent during these years. This is an important reason for the increase in the capital investment in the S.S.I. Units since 1977 - 78.

The fixed capital increases at a rate of 8.1 per cent, working capital by 6.5 per cent, and the total capital increases by 8.9 per cent.

The details of industry group-wise capital investment are given in Table 4.4.

TABLE 4.4

INDUSTRY GROUPWISE CAPITAL IN SMALL SCALE UNITS

S.No.	Industry	1976-77	1977-78	1978-79	1979-80	1980-81
1.	Food products	2,084.56 (10.56)	1,832.69 (12.1744)	1,569 (11.4312)	1,900.70 (9.823)	1,848.0 (7.4176)
2.	Tabacco and its prdoucts beverages	194.55 (0.98)	195.82 (1.3008)	385 (2.8085)	197.33 (1.0198)	183.1 (7.0760)
3.	Cotton Tedtiles	942.06 (4.77)	649.14 (4.3121)	563 (4.1070)	942.56 (4.8713)	3,640.2 (14.678)
4.	Wool, silk, synthetic, zinc and others	90.41	54.32	184	..	295.5 (1.1498)
5.	Jute, Hemp, Musta textiles	10.03 (0.050)	0.37 (0.0224)	..	186.62 (0.9644)	
6.	Textile products	1,550.26 (7.8)	491.04 (3.2619)	807 (5.887)	1,155.71 (5.9729)	2,134.0 (8.2470)
7.	Wood and its product furnitures	211.72 (1.07)	223.94 (1.4876)	219 (1.5976)	428.87 (2.2164)	487.0 (1.8820)
8.	Paper and its product and painting	1,523.44 (7.7)	1,411.80 (9.3784)	1,950 (14.2252)	1,969.45 (10.1784)	9,860 (3.8104)
9.	Leather and fur products	1,473.14 (7.4)	1,790.07 (11.8913)	546 (3.9830)	1,174.27 (6.0688)	5,523 (21.3441)

S.No.	Industry	1976-77	1977-78	1978-79	1979-80	1980-81
10.	Rubber, Plastic, Petroleum and coal	974.74 (4.9)	878.63 (5.8366)	607 (4.8657)	1,131.31 (5.8468)	1,055.4 (4.0786)
11.	Non metallic mineral products	374.70 (1.8)	385.71 (2.5622)	539 (3.9320)	751.60 (3.8844)	1,199.6 (4.6359)
12.	Chemical and its product	2,276.11 (11.53)	1,996.00 (13.2592)	2,089 (15.2392)	2,500.34 (12.9222)	3,932.1 (15.1961)
13.	Basic metal and alloys	1,136.41 (5.7581)	1,150.44 (11.3489)	990 (7.2206)	1,756.79 (9.0794)	1,940.4 (74.9885)
14.	Metal products	1,585.30 (8.0327)	1,708.42 (11.3489)	1,476 (10.7674)	2,236.07 (11.5564)	6,556 (25.336)
15.	Machinery and machine tools	3,874.68 (19.6329)	1,053.59 (7.0014)	600 (4.377)	1,236.08 (6.3882)	2,475.8 (9.56795)
16.	Electrical machinery and apparatus	644.12 (3.626375)	437.59 (2.9068)	294 (2.1447)	710.62 (3.6726)	6,045 (23.3614)
17.	Transport equipment and Parts	509.47 (2.5814)	535.15 (3.5549)	601 (4.3843)	743.45 (3.8422)	2,563.8 (9.9080)
18.	Other manufacturing industries	280.56 (1.4215)	258.51 (1.7172)	186 (1.3568)	327.90 (1.6946)	1,031 (3.9843)
	Total	19,735.56	15,053.61	13,708	19,349.17	25,875.96

Figures in Parantheses indicate percentages to totals.

Increase in the level of capital investment is one of the indicators of the development of any industry. The Government of Tamil Nadu is tkking efforts to develop the S.S.I. Units on modern lines. Since the establishment of Industrial estates and District Industries Centres, the place of development is faster with modernisation. Table 4.4 shows that there is an increase in total capital investment in all the industry groups over the years. Metal and metal products (25 per cent) chemical and chemical products (15 per cent) textile products (8 per cent) and cotton textiles (14 per cent) are the group of industries with high capital investment constituting 60 per cent of the total capital investment of all the S.S.I. Units.

3. Employment:

The details of employment in the S.S.I. Units are given in Table 4.5.

TABLE 4.5

EMPLOYMENT IN S.S.I. UNITS 1976 - 81

S.No.	Year	Number of persons employed	Percentage of growth
1.	1976 - 77	1,25,760	..
2.	1977 - 78	1,18,452	6
3.	1978 - 79	1,39,124	17.4
4.	1979 - 80	1,59,191	14.4
5.	1980 - 81	1,77,929	11.7
	Growth Rate	15.1%	

The S.S.I. industries are labour intensive industries. This is evident from the table as there is an impressive growth rate in the employment of labour by 15.1 per cent.

Table 4.6 gives the details of industry groupwise employment.

TABLE 4.6

INDUSTRY GROUP-WISE EMPLOYMENT

S.No.	Industries	1976-77	1977-78	1978-79	1979-80	1980-81
1.	Food Products	9,465 (8.2692)	12,135 (10.2446)	21,529 (15.4746)	24,636 (15.4757)	30,377 (16.8827)
2.	Tobacco and its products, beverages	10,504 (9.177)	1,780 (1.5027)	17,038 (12.2466)	1,795 (1.1275)	20,592 (11.4445)
3.	Cotton Textiles	6,033 (5.2708)	4,355 (3.6765)	3,987 (2.8657)	6,688 (4.2012)	13,779 (7.6580)
4.	Wool, Silk, synthetic fibre textiles	442 (0.3861)	472 (0.3984)	1,131 (0.8129)	..	1,835 (1.0198)
5.	Jute, Memp, Mesta textiles	38 (0.0331)	8 (0.0067)	..	947 (0.5948)	
6.	Textile Products	8,743 (7.6384)	4,326 (3.6521)	4,545 (3.2668)	6,365 (3.9983)	7,899 (4.39006)
7.	Wood and its product, furnitures, fixtures	2,264 (1.9779)	2,347 (1.9813)	3,036 (2.1822)	3,896 (3.443)	5,859 (3.2562)
8.	Paper and its products and printing	7,642 (6.6765)	7,086 (5.9821)	7,722 (5.5504)	9,189 (5.7723)	7,711 (4.2555)
9.	Leather and few products	4,150 (3.625)	3,971 (3.3524)	1,116 (0.8021)	2,695 (1.6929)	2,984 (1.6584)

contd...

S.No.	Industries	1976-77	1977-78	1978-79	1979-80	1980-81
10.	Rubber, plastic, petroleum, coalproducts	4,289 (3.7471)	4,572 (3.8597)	3,383 (2.4316)	4,220 (2.6509)	4,627 (2.5715)
11.	Non-metallic mineral product	4,262 (3.723)	3,765 (3.172)	6,092 (4.3788)	10,405 (6.5361)	10,985 (6.1051)
12.	Chemical and its products	36,817 (32.1658)	41,324 (34.8867)	39,870 (28.6578)	57,580 (36.1741)	35,867 (19.9339)
13.	Basic metal and alloys	4,451 (3.8886)	4,668 (3.9408)	4,619 (3.3200)	4,781 (3.0033)	4,433 (2.4637)
14.	Metal products	1,253 (1.0947)	12,736 (10.7520)	13,143 (9.4469)	11,448 (7.1913)	17,159 (9.5365)
15.	Machinery and machine tools	6,601 (5.7670)	6,697 (5.6537)	4,625 (3.3243)	6,876 (4.3193)	8,322 (4.6251)
16.	Electrical machinery and apparatus	2,610 (2.2802)	2,212 (1.8674)	1,372 (0.9861)	2,451 (1.5396)	3,354 (1.8640)
17.	Transport component and parts	2,815 (2.4593)	2,890 (2.4398)	3,100 (2.2282)	3,111 (1.9542)	2,474 (1.3749)
18.	Other manufacturing industries	2,081 (1.181)	3,108 (2.6238)	2,816 (2.0240)	2,102 (1.3204)	1,672 (0.9292)
	Total	1,14,460	1,18,452	1,39,124	1,59,191	1,79,929

Figures in parantheses indicate percentages to totals.

In the provision of employment, industry groups reporting relatively high levels are chemical and chemical products (the percentage ranges between 19 to 38), food and beverages (between 9 and 16 per cent) followed by textile products with 5 to 7 per cent. There is a decline in the employment level in all the industries in all the years except the metal products industries. These industries nearly cover 30 per cent of the total employment in SSI Units.

4. Production and Sales:

The details of value of production and sales are given in Table 4.7.

TABLE 4.7

VALUE OF PRODUCTION OF SMALL SCALE INDUSTRIES(1976-81)

(Rupees in lakhs)

S.No.	Year	Value of production	Sales
1.	1976 - 77	35,224.72	39,787.58
2.	1977 - 78	33,619.69	..
3.	1978 - 79	32,574.25	N.A.
4.	1979 - 80	45,805.25	43,319.00
5.	1980 - 81	59,218.02	58,810.00
	Growth Rate	26.9%	11.7%

The total value of production increases by 20.9 per cent. There is a drop in the value of production during 1978 - 79, as the Tamil Nadu Economy had to face the depression in the industrial ffont. The growth rate in the value of sales is less (11.7 per cent). In spite of the efforts taken by SIDCO in marketing the products, the sales perfoymance is not impressive.

The industry group-wise value of production figures are given in Table 4.8.

TABLE 4.8

INDUSTRYWISE VALUE OF PRODUCTION

(Rupees in lakhs)

S.No.	Industries	1976-77	1977-78	1978-79	1979-80	1980-81
1.	Food production	5,462.70 (15.5081)	5,990.56 (17.8186)	6,057 (18.5917)	6,619.83 (14.4521)	13,275.28 (22.4194)
2.	Tabacco and its products beverages	874.15 (2.4816)	793.83 (2.3612)	1,451 (4.4537)	1,452.14 (3.1702)	1,907.19 (3.2208)
3.	Cotton textiles	1,924.98 (5.4648)	1,630.88 (4.8509)	1,382 (4.2419)	2,016.05 (4.4013)	5,166.77 (8.725)
4.	Wool, silk, synthetic fibre textiles	183.07 (0.5222)	64.24 (0.1910)	456 (1.3996)		
5.	Jute, Hemp, Mesta Textiles	9.61 (0.0272)	1.65 (0.0049)	..	365.77 (0.7985)	1,108.86 (1.8726)
6.	Textile product	3,646.60 (10.3523)	1,183.06 (3.5189)	1,850 (5.6785)	4,200.61 (9.1705)	4,567.72 (7.7140)
7.	Wood and its products, furnitures and fixtures	297.17 (0.8436)	294.19 (0.8750)	351 (1.0775)	432.11 (0.9433)	685.06 (1.1569)
8.	Paper and its products, printing	1,858.00 (5.2747)	1,908.39 (5.6744)	1,999 (6.1358)	2,349.22 (5.1287)	2,619.86 (4.4244)
9.	Leather and fur products	5,572.05 (15.8186)	5,097.40 (16.1619)	1,560 (4.7883)	2,983.49 (6.5134)	1,858.71 (3.1390)

contd...

S.No.	Industries	1976-77	1977-78	1978-79	1979-80	1980-81
10.	Rubber, plastic, petroleum and coal products	1,767.63 (5.0181)	1,420.85 (4.2262)	1,481 (4.5458)	2,056.69 (4.4900)	2,634.64 (4.4494)
11.	Non-metallic mineral products	490.38 (1.3921)	439.71 (1.3078)	1,175 (4.6066)	4,579.01 (9.9966)	1,474.17 (2.4896)
12.	Chemical and its products	6,186.93 (17.5641)	6,986.83 (20.7819)	7,665 (23.5274)	9,686.41 (21.1469)	8,592.81 (14.5117)
13.	Basic metals and alloys	1,757.37 (4.989)	2,208.34 (6.5685)	2, 529 (7.7626)	2,181.20 (4.7618)	3,631.56 (6.1330)
14.	Metal products	1,804.22 (5.122)	2,322.99 (6.9096)	2,476 (7.5999)	3,303.40 (7.2118)	4,724.90 (7.9791)
15.	Machinery and machine tools	1,382.64 (3.9251)	1,324.50 (3.9396)	753 (2.3113)	1,149.23 (2.5089)	2,388.15 (4.0331)
16.	Electrical machinery and apparatus	1,049.18 (2.9785)	827.05 (2.4600)	557 (1.7096)	1,314.76 (2.8703)	2,911.48 (4.9169)
17.	Transport equipment and parts	547.88 (1.5553)	860.29 (2.5588)	523 (1.6053)	587.15 (1.2818)	674.19 (1.1385)
18.	Other manufacturing industries	409.25 (1.1618)	264.93 (0.7880)	314 (0.9638)	528.18 (1.1530)	991.68 (1.6747)
	Total	35,224.72	33,619.69	32,579	45,805.25	59,213.02

Figures in parantheses indicate percentages to totals.

It is clear from the table that food products and chemical products are the group of industries contributing more to the total value of porduction. In all these years, there is an increase in the value of production in the food production (15 to 22 per cent) The Chemical products registered an increase from 17 per cent to 21 per cent. During 1980 - 81, the percentage has declined to 14 per cent. There is no much variation in the percentages of value of production of other industries. The food products and chemical products have high percentages to total value of production as there is always a growing demand for food particularly processed food products and also, the chemical products are demanded more by the other large scale industries.

5. Productivity Coefficients:

To appraise the performance of S.S.I. Units and the extent of utilisation of resources, productivity coefficients can be used. These coefficients will help to find out the economic viability of the S.S.I.Units. Some productivity coefficients are given in Table 4.9.

TABLE 4.9

PRODUCTIVITY COEFFICIENTS OF S.S.I. UNITS IN TAMILNADU

Year	Capital labour ratio	Output labour ratio	Output capital ratio	Output fixed capital ratio	Output working capital ratio
1976 - 77	15,690	28,010	1.7848	3.3519	3.8176
1977 - 78	12,710	28,380	2.2333	4.2476	4.7093
1978 - 79	9,850	23,410	2.3763	4.3179	5.2846
1979 - 80	12,150	28,770	2.3673	3.9254	5.9642
1980 - 81	14,540	33,280	2.2885	3.9931	5.3610
Growth rate	5.8%	8.5%	0.8%	0.9%	

There is a decline in the capital labour ration in all the years indicating, the labour intensive type of technique used in the industry. The labour productivity is continously increasing implying the efficient use of labour resource. Capital productivity also shows an increasing trend. One of the characteristic features of developing economy is the existence of high capital output ratio. But the S.S.I.units are labour intensive, and the capital requirement is less in this sector as it is evident from the output capital ratios. The capital output ratios in terms of fixed capital shows a different trend. During 1977-81 the capital productivity is decreasing indicating the inefficient use of capital resources. One of the reasons for the

drop in the level of production during this period may be attributed to this decline in the productivity of capital resources.

6. Production Function:

To test the law of returns operating in the S.S.I. Units in Tamil Nadu and to find out the degree of relationship between the factor inputs and value of output, an unrestricted Cobb-Doughles Production Function of the form

$$y = A K^{\alpha} L^{\beta}$$ was fitted (Appendix I).

The data on fixed capital investment, employment and value of production for the year 1979-80 for the Seventeen industry groups is considered for the production analysis. There is substantial increase in the value of production during this period (from Rs. 32,579 lakhs to Rs. 75,805 lakhs). So, to find out the cause for this increase in terms of technical parameters, the year 1979-80 is considered for this analysis. The details of fixed capital, labour employed and value of production are given in Table 4.10.

TABLE 4.10

DETAILS OF FIXED CAPITAL, LABOUR EMPLOYED AND VALUE OF PRODUCTION

S.No.	Industry	Fixed Capital (K) Rs. in lakhs	No. of employees (L)	Value of production (Y) Rs. in lakhs
1.	Food products	1,052.87	24,636	6,619.83
2.	Tabocco and its products beverages	98.28	1,695	1,452.14
3.	Cotton Retailes	629.83	6,688	2,016.05
4.	Wool, Silk, Synt -Fibers,Hemp and mesta	101.69	947	365.77
5.	Textile products	555.39	6,365	4,200.61
6.	Wood and its product, furnitures, fixtures	253.41	3,896	432.11
7.	Paper and its product and printing	1,424.13	9,189	2,349.22
8.	Leather and fur products	344.10		
9.	Rubber, plastic, petroleum and coal products	719.19	4,220	2,056.69
10.	Chemicals and its products	1,347.71	57,586	9,686.41
11.	Non-metallic mineral products	523.78	10,405	4,579.01
12.	Basic metal and alloys	1,089.04	4,781	2,181.20
13.	Metal products and parts	1,275.73	11,448	3,303.40
14.	Machinery and machine Tools	1,026.36	6,876	1,149.23
15.	Electrical machinery and apparatus	502.03	2,451	1,314.76
16.	Transport equipment and parts	510.84	3,111	587.15
17.	Other manufacturing products	214.52	2,102	528.18
	Total	11,668.90	1,59,191	45,805.25

The Cobb-Doughlass Production function fitted to the data on fixed capital, labour employed and value of production gives the following equation.

$$Y = 1.0013\ K^{0.0871}\ L^{0.5404}$$

$t = 0.086^{**}$ $\quad t = 5.339^{*}$

$R^2 = 0.66$

* - Significant at 1 per cent level
** - Not significant

The sum of the exponents of K and L is 0.6275 indicating the operation of the law of diminishing returns in the industry. In other words, a simultaneous increase of one unit of capital and labour is expected to increase the output by less than proportionately. Labour has a high exponent value at 0.5404 indicating the significant contribution of labour to output and capital has a less value with 0.0871 indicating the insignificant contribution of capital to output. This fact was proved by the productivity Coefficients also.

CHAPTER - V

SUMMARY AND CONCLUSION

V. SUMMARY AND CONCLUSION

The current study on the Appraisal of the Small Scale Industry in Tamil Nadu was an attempt to assess the performance of S.S.I. units in Tamil Nadu in terms of capital investment, employment, production and productivity. The data collected from Industrial profile of Tamilnadu and Tamil Nadu Economic Appraisal was analysed with percentages, ratios and regression lines. The major findings of the analysis are presented below:

I. Growth in Number:

1. There was a growth in the number of units by 11.18 per cent.
2. The chemical and metal products had claimed the largest coverage with 5,000 units.
3. The structure of the industry had not changed.

II. Capital Investment:

4. The percentage of fixed capital tottotal capital had varied between 60 and 53.
5. The working capital had a range between 53 per cent and 47 per cent.
6. The fixed capital had grown at a rate of 6.1 per cent and working capital by 6.5 per cent.

7. The metal production, chemical and textile products had 60 per cent of the total investment.

III. Employment:

8. The employment had grown at a rate of 15.1 per cent.

9. There was a decline in the percentage of industry groupwise employment except the metal and metal products group.

10. The metal products industry had 30 per cent of employment of labour.

IV. Production Sales:

11. The value of production had increased at a rate of 20.9 per cent.

12. The growth rate in the value of sales had shown 11.7 per cent.

13. Chemical and food products had contributed more to the total value of production.

14. The value of production in the food products industry groups had increased from 15 per cent to 22 per cent and chemical products had increased from 17 per cent to 21 per cent.

V. Productivity Coefficients:

15. The capital labour ratio had increased by 5.8 per cent.

16. Labour productivity had increased at a rate of 8.5 per cent.

17. Capital productivity also had recorded an increas by 0.8 per cent.

18. The productivity indices proved the economic operational and technical viability of the Small Scale Units in Tamil Nadu.

VI. Production Function:

19. The industry was working under conditions of law of diminishing returns.

20. Labour had a high elasticity with 0.5404.

21. Capital had a low elasticity with 0.0871.

22. Labour had significantly contributed to the value of production than the capital investment.

Conclusion:

Judged from the crucial factors of employment potential, value of production and capital investment, it can be concluded that the chemical products and metal products industry groups contribute to significantly the development of S.S.I. Sector in Tamil Nadu.

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APPENDICES

APPENDIX I

ESTIMATION OF PRODUCTION FUNCTION

$$Y = AK^{\alpha} L^{\beta}$$

$$\log Y = \text{Log } A + \alpha \log K + \beta \text{ Log } L$$

$$B = \frac{(\Sigma ly)\ \Sigma k^2 - (\Sigma ky)\ (\Sigma kl)}{\Sigma k^2\ \Sigma l^2 - (\Sigma Rl)^2}$$

$$\hat{\alpha} = \frac{(\Sigma RY)\ (\Sigma l^2) - (\Sigma ly)\ (\Sigma Rl)}{\Sigma k^2\ S l^2 - (\Sigma Rl)^2}$$

$$\hat{A} = \bar{Y} - \bar{\alpha}\ \bar{R} - \hat{\beta}\ \bar{l}$$

$$R^2 = \frac{\alpha \Sigma YK + \hat{\beta}\ \Sigma Yl}{\Sigma Y^2}$$

$Y = (Y - \bar{Y})$
$l = (L - \bar{L})$
$R = (K - \bar{K})$

$$SE\hat{\alpha} = \sqrt{var^2 \hat{\alpha}}$$

$$var\hat{\alpha} = \sigma_u^2 \frac{l^2}{\Sigma l^2\ \Sigma R^2 - (\Sigma lK)^2}$$

$$SE_B = \sqrt{Var\hat{\beta}}$$

$$Var\hat{\beta} = \sigma_u^2 \frac{R^2}{\Sigma l^2\ \Sigma R^2 - (\Sigma lK)^2}$$

$$\sigma_u^2 = \Sigma Y_2 (1 - R^2)$$