

6.1. Introduction

The industrial sector is a driver of economic growth. Industrial sector is important in terms of its contribution to Gross State Domestic Product (GSDP) and employment. This sector which is vital in stimulating growth of the economy is closely interconnected with primary and tertiary sectors through its forward and backward linkages. The percentage share of secondary sector in GSDP at constant prices during 2004-05 in the State was about 22 per cent and manufacturing (registered and unregistered) shared 72 per cent of the total income originating within the secondary sector.

Industrial policy initiatives in the State are designed in the backdrop of the increasing multifaceted globalization of production systems, especially, in terms of technology transfers and development of physical infrastructure for higher growth. Recognising the importance of industry, Tamil Nadu formulated the dynamic New Industrial Policy 2003 and evolved strategies to make the State a leading industrial destination in India. The New Industrial Policy has

its focus on optimal use of resources, upgradation of managerial skills and administrative, technical improvement and modernisation in the fields of manufacturing and infrastructure sectors for higher growth in Tenth Five Year Plan Period. In the Information Technology sector, the State is a leader. Chennai has become a hub of software industry. Besides Information Technology, the State has made strident progress in automobile sector and is poised to record significant growth in the Textile Sector in view of the abolition of the Textile Quota regime.

6.2. Industrial Scenario Tamil Nadu vis-a-vis All India

Tamil Nadu is at the top in terms of number of factories. It ranked second in providing employment and third in fixed and productive capital, gross value of output and net value added by contributing towards National Income. In terms of number of factories, the percentage share of Tamil Nadu to all India was 15.28 per cent, 11.25 per cent of employment, 9.56 per cent of gross value of output and 8.76 per cent of net value added during 2002-03.

Table 6.1. Tamil Nadu in All India : By Select Characteristics : ASI

Sl. No.	Characteristics	All India			Tamil Nadu's (Share %)		
		2000-01	2001-02	2002-03	2000-01	2001-02	2002-03
1.	Number of Factories	131268	128549	127957	15.69 (1)	14.71 (1)	15.28 (1)
2.	Fixed Capital (Rs.crores)	399604	431960	444759	9.37 (3)	8.31 (3)	9.78 (3)
3.	Productive Capital (Rs.crores)	504813	532366	544880	9.30 (3)	8.61 (3)	9.54 (3)
4.	Employment (Lakh Nos.)	79.88	77.50	79.36	14.22 (2)	14.14 (2)	11.25 (2)
5.	Gross Value of Output (Rs.crores)	926902	962457	1130561	11.17 (3)	9.80 (3)	9.56 (3)
6.	Net Value Added (Rs.crores)	143621	144302	172340	11.51 (3)	10.13 (3)	8.76 (3)

Note : Figures in brackets indicate the position of Tamil Nadu among the States at National level.
Source : Central Statistical Organisation, New Delhi.

6.3. Industrial Production

The industrial growth as measured by the Index of Industrial Production was encouraging in the State during 2004-05. The performance of industry during the review year showed a spectacular rebound and registered a growth rate of 8.2 per cent. The positive growth in all the three sub-sectors was contributing to a higher industrial growth though electricity clocked at 3.0 per cent only. The manufacturing sector having the highest weight in IIP witnessed a growth of 8.7 per cent. Since there is a close linkage between agriculture and industry, the growth is mutually reinforcing in each sector. Industrial production at the National level was also at 8.2 per cent during 2004-05. The manufacturing sector registered a growth of 9.0 per cent followed by mining 4.4 per cent and electricity 5.2 per cent.

robust growth rate was displayed by other eight sub groups viz. rubber, plastic, petroleum and coal products (27.3%), basic metals and alloys (17.0%), wool, synthetic and fibre textiles (15.3%), leather products (14.3%), metal products and parts except electrical machinery (12.3%), chemical and chemical products (12.8%), transport equipment and parts (11.9%), beverages, tobacco and tobacco products (11.0%), and moderate growth by four sub-groups viz. non-metallic mineral products (7.6%) paper and paper products (6.5%), other manufacturing industries (4.7%) and food products (4.3%) . However, cotton textiles (-5.2) and textile products other than mills (-37.4%) witnessed deceleration during the review year.

Table 6.2. Index of Industrial Production - TN and All India
(Index Base Year : 1993-94 = 100)

Tamil Nadu								
Year / Weight	Mining (1.27%)		Manufacturing (92.01%)		Electricity (6.72%)		General (100.00%)	
	Index	Growth Rate (%)	Index	Growth Rate (%)	Index	Growth Rate (%)	Index	Growth Rate (%)
2002-03	142.8	6.3	127.9	2.4	161.0	0.3	130.3	2.4
2003-04	158.0	10.6	130.3	1.9	164.4	2.1	132.9	2.0
2004-05	171.2	8.4	141.6	8.7	169.4	3.0	143.8	8.2
All India								
Year / Weight	(10.47%)		(79.36%)		(10.17%)		(100.00%)	
2003-04	146.9	5.2	196.6	7.4	172.6	5.1	189.0	7.0
2003-04	146.7	5.1	196.3	7.2	172.5	5.0	188.7	6.9
2004-05	153.4	4.4	214.2	9.0	181.5	5.2	204.5	8.2

Source : 1. Tamil Nadu : Department of Economics and Statistics, Chennai - 6.
2. Central Statistical Organisation, New Delhi.

During the year 2004-05, a disaggregated analysis of manufacturing group of industrial sector at two-digit level shows that as many as 13 sub-groups with a total weight of 69.02 per cent had registered a positive growth against eight sub-groups in the previous year of 2003-04. Among them, robust growth rate was exhibited by machinery and equipment other than transport equipment (41.3%). The

6.4. Major Industries of Tamil Nadu

6.4.1. Information Technology

As per NASSCOM, the Southern States continue to account for more than half of the country's total export of software. During 2004-05 Karnataka, Tamil Nadu and Andhra Pradesh combined together accounted for 59.6 per cent of India's total software exports of Rs.78230 crores. Tamil Nadu was the second largest software exporter in the country next only to Karnataka sharing 13.72 per cent in 2004-05.

Table 6.3. Growth of Software / Hardware Industry in Tamil Nadu

Year	Software Industry		Hardware Industry	
	No. of units	Value of exports (Rs. crores)	No. of units	Value of exports (Rs. crores)
1993-94	10	2.4000	-	-
1999-2000	601	1914.00	8	399.82
2000-01	766	3116.00	12	575.65
2001-02	865	5223.00	10	482.43
2002-03	934	6315.51	11	698.25
2003-04	992	7621.25	10	251.75
2004-05	1095	10730.30	13	357.05

Source : Software Technology Parks of India, Chennai and SPC Note.

Table 6.4. Software Export - Southern Leading States

(Rs.Crores)

State	2003-04	% share	2004-05	% share
Karnataka	18100	31.08	27600.00	35.28
Tamil Nadu	7621.50	13.09	10730.30	13.72
Andhra Pradesh	5025.10	8.63	8270.00	10.57
All India	58240.00	100.00	78230.00	100.00

Source : 1. Economic Times dated 13.5.04 & Concerned State's STPI.

6.4.2. Manufacturing & engineering industry

The manufacturing industry is one of the vibrant sectors of the state economy and contributes significantly to the industrial output. The manufacturing industry broadly covers manufacture of machinery and equipment, transport parts, basic metal and alloy industries, metal products and repair of capital goods. Tamil Nadu's share of the industrial output is around 11 to 12 per cent of the country's output and 15 per cent of the country's exports excluding software exports. Tamil Nadu accounts for about 17 per cent of India's software exports.

6.4.3. Automobile industry

The share of Tamil Nadu in all India production of automobiles and heavy vehicles is rather significant. Automobile industry plays a crucial role in the State economy and has been one of the key driving factors, contributing 8 per cent to State GDP and giving direct employment to 2,20,000 people. Tamil Nadu accounts for about 21 per cent of passenger cars, 33 per cent of commercial vehicles and 35 per cent of automobile components produced in India. Exports from Tamil Nadu are

Table 6.5. Status of manufacturing & engineering industry

Sectors	No. of Factories in numbers	Fixed Investment in numbers	Industrial Output Rs. in Crores	Employment Workers In numbers
Metal Products & Parts	708	177	783	17655
Basic Metals & Alloys Manufacture of machinery and equipments (other than transport)	581	711	1891	216281
Transport Equipment and parts	1649	949	4247	68521
Repairs of Capital Goods	548	982	3448	65625
Repairs of Capital Goods	757	69	300	10146
Total	4,243	2,888	10,699	3,78,228

Source: Directorate of Economics and Statistics, Chennai - 600 006.

about US \$ 240 million, constituting 27.5 of total exports from India. Major automobile manufacturers like Ford, Hyundai, HM-Mitsubishi, Ashok Leyland, TAFE, etc. have their manufacturing base in Tamil Nadu.

6.4.4. Leather industry

The growth of the leather industry in the state of Tamil Nadu is due to the large tannery base established here over the last two centuries. Currently, the annual turn over of the industrial sector including tanneries, shoe factories, garment and leather goods making units is Rs.4,500 crores, of which Rs.2,750 crores is the income from export. During 2000-2001, export of leather and leather products reached Rs.9,000 crore as against a foreign exchange of Rs.6,952 crores during 1999-2000. According to the Tamil Nadu New Industrial Policy 2003, the state accounts for 70 per cent of leather tanning capacity in India and 38 per cent of leather footwear and components. The exports from Tamil Nadu are valued at about US \$ 762 million, which accounts for 42 per cent of Indian leather exports.

6.4.5. Paper industry

Tamil Nadu is an important paper producer in the country. Paper production in the State for the period of 2004-05 was 3.97 lakh tonnes registered a growth of 6.77 per cent as against the corresponding period of the proceeding year, sharing 14.90 per cent of paper production at the National level. Compared with the major paper produced States, Tamil Nadu is placed second next to Andhra Pradesh. Tamil Nadu News Prints Papers Ltd., a Public Sector Undertaking of Tamil Nadu is manufacturing news prints, printing and writing papers having high sales performance. This paper industry entered into a tie up arrangements with six sugar mills to use bagasse on substantial basis. It has maintains '**zero stock balance**' and earning highest profit among the SPU's over the years.

6.4.6. Chemical & Plastic industry

The Chemical industry in India accounts for a turnover in excess of Rs.48,000 crores and is one of the fastest growing sectors of the economy. The sector contributes 13 per cent to the State's GDP and constitutes 8 per cent of the total exports of the country.

6.4.7. Textile industry

The textile industry occupies a prominent place in the economy in terms of its contribution to industrial output, generation of employment and earnings of foreign exchange. The textile industry in the State until recently faced hardships like general recession in the textile sector, fluctuation in the market trend, inadequate quality of cotton supply, paucity of funds and technological existence of obsolescence in many items and WTO induced post quota market changes. Consequently, the textile industry recorded modest growth.

As on 2004-05 (April - January) the spun yarn production in the State was in the order of 1053.2 thousand tonnes and 71.6 million sq.mts. of mill made fabrics registered a growth of 9.06 per cent and

Table 6.6. Performance of Textile Mills

Parameter	Tamil Nadu		
	2001-02	2002-03	2003-04
1. Number of Textile Mills	850 (45.70)	858 (45.76)	834 (46.67)
a. Spinning	827	838	814
b. Composite	23	20	20
2. Installed Spinning Capacity (lakh spindles)	150.68 (35.94)	155.22 (36.12)	154.58 (41.14)
3. No. of Looms Installed (000' nos.)	6.46 (5.26)	6.08 (5.09)	6.87 (7.73)
4. Yarn Production (Million Kgs.)	1139.53 (36.75)	1164.80 (37.80)	1172.38 (38.42)
5. Cloth Production (Million Sq. Mts.)	96.99 (6.27)	77.48 (5.18)	67.16 (4.68)
6. No. of Workers (lakh nos.)	1.99 (19.92)	1.99 (19.84)	1.95 (19.96)

Note: Figures in brackets indicate percentage share of Tamil Nadu to all India

7.47 per cent respectively as compared to the corresponding period of previous year.

6.4.8. Handlooms and power looms

The handloom sector in the State is the single largest cottage industry providing livelihood to a large number of rural people and promoting export earnings. The handloom sector and its related economic activities generate gainful employment for more than 4.29 lakh weaver households and 11.64 lakh weavers in the State. As on 28.02.05, 2.11 lakh handlooms were functioning in Tamil Nadu under 1247 Handloom Weavers Co-operative Societies which are existing mostly in rural and semi-urban areas where handloom weavers are concentrated. Out of 1247 Handloom Weavers Co-operative Societies, 1169 are Cotton Weavers Co-operative Societies and the remaining 78 are Silk Weavers Co-operative Societies.

The Handloom Weavers Co-operative Societies produced 1083.26 lakh metres of handloom clothes valued at Rs.559.72 crores in 2004-05 (upto 28.02.05) which was higher than Rs.467.61 crores in 2003-04. For the corresponding period, the value of sales was realised at Rs.696.58 crores against Rs.574.67 crores and the number of profit-making Handloom Weavers Co-operative Societies had also increased to 601 from 527.

Out of 16.66 lakh power looms functioning in India, Tamil Nadu houses 4.00 lakh looms accounting for a share of 24 percent next to Maharashtra and Gujarat, of which 3.34 lakhs were registered both under Co-operative fold and private sector. There were 132 Power loom Weavers Co-operative Societies functioning with 28376 looms during 2004-05 (upto 28.02.05) and had produced 1037.20 lakh metres of clothes valued at Rs.166.43 crores. These societies mainly produce the cloth required for the scheme of "Free Supply of Uniforms to School Children and Free Distribution of Sarees and Dhoties Scheme"

6.4.9. Sugar industry

Sugar Industry in Tamil Nadu is an important agro-based industry. It plays a vital role in the economic development of the State and particularly in rural areas. The Sugar Industry provides large scale direct employment to several thousands and indirect employment to several lakhs of farmers and agricultural laborers in the rural areas who are involved in cultivation of sugarcane, harvesting, transport and other services. There are 34 Sugar mills in Tamil Nadu, of which 16 are in cooperative sector and 18 in the private sector.

6.4.10. Fertiliser industry

The total number of fertiliser industries in the State had declined to 12 during 2003-04 with the exit of two phosphate industries. The installed capacity of these industries had also marginally declined to 13.02 lakh tonnes from the previous level of 13.07 lakh tonnes. However, on the production front, there was a slight improvement over the previous year because both nitrogenous and phosphatic industries marginally improved in their production performance. The production of fertiliser industries in the

**Table 6.7 Performance of Fertiliser Industry :
Tamil Nadu**

Parameter	Tamil Nadu		
	2001-02	2002-03	2003-04
Number of Plants	15	14	12
Nitrogenous	5	4	4
Phosphate	10	10	8
Installed Capacity (Lakh Tonnes)	13.35 (8.25)	13.07 (7.45)	13.02 (7.43)
Nitrogenous	8.55	8.31	8.35
Phosphate	4.80	4.76	4.67
Production (Lakh tonnes)	9.59 (6.60)	9.10 (6.32)	9.39 (6.62)
Nitrogenous	6.41	6.31	6.51
Phosphate	3.18	2.79	2.88
Capacity Utilisation (%)	71.8	69.6	72.1
Nitrogenous	75.0	75.9	78.0
Phosphate	66.3	58.6	61.7

Note: Figures in brackets indicate percentage share of Tamil Nadu to all India

State witnessed a growth of 3.19 per cent in the reviewing year and production increased from 9.39 lakh tonnes in 2003-04 from 9.10 lakh tonnes in 2002-03. In contrast, at the National level the fertiliser production declined to 141.74 lakh tonnes in 2003-04 from 144.09 lakh tonnes in 2002-03 registering a negative growth of 1.63 per cent.

6.4.11. Cement industry

The production performance of cement industry in the State is encouraging. The operational efficiencies of cement industries have improved because of concerted efforts taken by major industries through the process of mergers and acquisition of small and medium ones.

6.4.12 Small- Scale Industries (SSIs)

The SSI sector occupies a pivotal place for its contribution to industrial production, employment generation, export and State income. During 2004-05, 15083 SSI units were given permanent registration and total number of SSI increased to 4.89 lakh SSI units with an investment of Rs. 14397.31 cores and employment to 35.26 lakh persons produced Rs.99496.77 crores worth of output. The State shared 4.13 per cent of SSI units, 24.94 per cent of output and 12.09 per cent of employment at the national level. As on 28.02.05, Rs. 7523.22 lakhs were sanctioned to 18127 educated unemployed youths under the PMRY Scheme.

Table 6.8 Performance of Cement Industry in Tamil Nadu

Sector / Category	Installed Capacity		Production		Capacity Utilisation (%)	
	2003-04	2004-05(P)	2003-04	2004-05	2003-04	2004-05
Private Sector	136.64	136.64	114.32	117.94	84	86
Public Sector	9.00	9.00	8.59	8.06	95	90
Total	145.64	145.64	122.91	126.00	84	87
- Tamil Nadu						
- All India	1440.99	1440.99	1174.36	1255.58	81	87

*Source : 1. Tamil Nadu Cement Corporation Ltd., Chennai - 2.
2. CMIE Monthly Review of Tamil Nadu, May 2005.*

During 2004-05 the cement production in the State increased to 126 lakh tonnes from 122.91 lakh tonnes for the period of 2003-04 registering a growth of 2.52 per cent and the capacity utilization was realised at 87 per cent. Tamil Nadu has a share of 10.1 per cent in the total capacity and contributed 10.04 per cent to total cement production at the National level during 2004-05.

6.5. Environmental concern

6.5.1. Industrial Effluent Discharge

There are more than 3000 industrial units in Tamil Nadu which have been classified under the highly polluting or 'red' category. The total effluent generated is about 6 lakh litres per day of which more than 5 lakh litre (85 percent) is generated by large industries. About 400 units discharge

Table. 6.9. Performance of Small Scale Industry

Parameter	Tamil Nadu			All India*		
	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05
Number of Registered SSI Units (Lakhs)	4.49	4.75	4.89	109.49	113.95	118.53
Investment in Fixed Capital (Rs. Crores)	12569.24	13291.50	14397.31	N.A.	N.A.	N.A.
Value of Output (Rs. Crores)	89781.00	94939.80	99496.77	311993	357733	399020
Employment (Lakh Nos.)	31.42	34.18	35.26	260.13	271.36	282.82

Note : All India - Registered and Unregistered Units.
Source : 1. Department of Industries and Commerce, Chennai - 5.
2. Economic Survey, GOI, New Delhi.*

directly into rivers. Of particular concern are the nearly 1000 tanneries which are located in Vellore, Kancheepuram, Dindigul and Erode districts. The effluents have caused serious problems in the Palar basin. Similarly, there are a large number of textile bleaching and dyeing units in Tiruppur, Erode, and Karur, which contaminates the Noyyal, Amaravathy and other water bodies².

There are five main industrial complexes in Tamil Nadu: Manali/Ennore, Ranipet, Cuddalore, Mettur and Tuticorin which have chemical, petro-chemical and other industries. These complexes have also become environmental hotspots. There are cement units, distilleries, sugar, sago, paper, dairying, electroplating, chemical and fertilisers (Agro chemicals), mining industries, ores/mineral processing industries and a variety of other industries which are water consuming and also generate large quantities of effluent. Some of the industries have also provided the treated effluent for irrigation with some degree of success. However, other industries, particularly a pulp plant faced serious problems when the effluent used for irrigation contaminates the surrounding wells².

6.6. Policy Initiatives

6.6.1. Information Technology Policy Initiatives

Tamil Nadu has comparative advantage in skilled and educated manpower, good educational institutions, reasonably good infrastructure, and lower costs of operation. The presence of an international airport and seaport has helped the growth of the information technology industry in Tamil Nadu. Tamil Nadu was the first Indian State to announce a comprehensive information technology policy and later set up a task force with representatives from government, industry and academia to oversee its implementation. It was also the first State to establish an information technology department within the government. The main objectives of the information technology policy of 1997 are as follows

- ❑ To encourage and accelerate the growth of hardware and software industries and associated sources in the State and to remove the bottlenecks for starting and running such units.
- ❑ To increase both domestic and export earnings of software and hardware sectors in the State.
- ❑ To update and develop manpower skills required for the information technology industry by facilitating training, to accelerate the use of information technology in schools, colleges and educational institutions with a view of providing skills and knowledge to the youth to make them fit for employment in this sector.
- ❑ To upgrade the quality of life of the citizens of the State by facilitating access to consumer application of information technology.

The policy also mentions the existing incentives (tax concessions and subsidies) as well as the new infrastructure initiatives such as information technology parks, telecom services/information backbone and the venture capital fund for development of the information technology industry in the State. With respect to human resource development, the policy initiatives include the setting up of training institutions, computer training in schools, etc., the present government announced a new information technology policy in 2002. The Major objectives of the new policy are as follows:

- ❑ To establish Tamil Nadu as the destination of choice for IT investments, particularly with regard to IT enabled services and business process outsourcing.
- ❑ To upgrade the quality of life for the citizen through e-governance and IT application in government.
- ❑ To empower people in the rural areas so as to bridge the digital divide.
- ❑ To develop research and development initiatives.
- ❑ To promote the use of Tamil in Information Technology.

The government also announced several fiscal, administrative, and physical incentives as part of the policy².

6.6.2. IT Enabled Services (ITES) Policy 2005

The Government of Tamil Nadu unveiled ITES Policy on 9th September 2005. The basic objectives of the policy are:

1. To get the maximum global ITES investments to Tamil Nadu;
2. To develop Human Resources specific to ITES Sector;
3. To create world class infrastructure for IT & ITES and an enabling framework for protection of intellectual property and data;
4. To generate employment and other ITES opportunities in major cities in Tamil Nadu;
5. To provide a conducive environment for the sector by reducing regulations and increasing Opportunities. This policy seeks to establish the State as the global ITES capital and consolidate its leadership position by leveraging the inherent strengths of the State. The highlights of the Policy includes enacting legislation to entire data security, customer privacy and deal with IT related violations in general and encouraging establishment of Information Technology Enabled Services (ITES) Parks in tier-2 and tier-3 cities.

6.6.3. Industrial Policy 2003

The Tamil Nadu's New Industrial Policy - 2003 seeks to create an environment to facilitate the flow of substantial capital both domestic and foreign, for infrastructure building and to provide for second generation reforms based on labour and fiscal reforms. The Industrial Promotion & Business Deregulation Statute would be enacted to provide for single window approvals and State and District level simplification of procedures. An Infrastructure Development Board would

be established and an Infrastructure development enabling law enacted which would spell out policy and procedure for involvement of private sector investment in various areas. An Infrastructure Development Fund with initial corpus of Rs.200 million would be created. The specific focus area for infrastructure development includes upgradation of airports, seaports and major traffic corridors. TNEB would enhance its generation capacity by 30% from existing 8250 MW by March 2007 to make available power of good quality and adequate quantity on tap. The Policy also provides that apparel parks, agri export zones and special parks would be promoted. A special economic zone (SEZ) Policy has already been formulated.

6.6.4. Corporate Investment in Tamil Nadu

As per the RBI study report on Corporate Investment, Tamil Nadu is placed at a comfortable position in attracting corporate investment in 2004-05. It reveals that the growth of fixed capital expenditure in private corporate sector in the State is gaining momentum. There is a remarkable pick up in the investment activities of major sectors like infrastructure, engineering, chemicals, metal products, textiles etc. There is a good flow of investment into infrastructure projects, the State has boosted its share to 10.2 per cent in 2004-05 with an estimated investment of Rs. 9929 crores covering 110 projects.

6.6.5. Foreign Direct Investment

Foreign Direct Investment has had a direct and positive impact on industrial growth. Strengthening, modernising and reinforcing of infrastructural facilities, such as highways to airports and seaports, railways and proposed IT-express ways and communication facilities are the primary target for attracting private investment in the industrial and power sectors in the State. As a result, the State has achieved a tremendous progress in attracting Foreign Direct Investment. The pro-active transparent policy,

**Table 6.10. State-wise Foreign Direct Investment
(From August 1991 to April 2004)**

Sl. No.	State	No. of Approvals			Amount of FDI approved (Rs. crores)	% to total
		Total	Technical	Financial		
1.	Maharashtra	4847	1309	3538	51660.07	17.62
2.	Delhi	2678	304	2374	35308.88	12.05
3.	Tamil Nadu	2621	613	2008	25101.57	8.56
4.	Karnataka	2492	496	1996	24163.69	8.24
5.	Gujarat	1210	558	652	18846.75	6.43
	All India	25655	7599	18056	293109.68	100.00

Source : Secretariat for Industrial Assistance, GOI.



Rs.22582.64 crores. The present level of FDI into the State has been in the order of Rs.10800.70 crores as per data/feedback reported to Tamil Nadu Industrial Guidance & Export Promotion Bureau with gainful employment for 38783 persons can not be overlooked.

Out of 25655 industrial approvals with Rs.293109.68 crores of FDI at the National level between January 1991 and April 2004, the State had 2621 approvals and attracted Rs.25101.57 crores of FDI accounting for 8.56 per cent. Tamil Nadu ranked third next to Maharashtra and Delhi.

6.6.6. Industrial Development

Development of Industries is an integral part of development besides being an imperative. The industrial development is being fostered by the following promotional agencies with their unique objectives.

availability of world-class infrastructure, conducive industrial atmosphere and abundant supply of skilled and technical manpower have enabled the State to be one of the fore-runners in attracting Foreign Direct Investment.

The total number of FDI approvals granted between the period August 1991 and August 2004 for the State of Tamil Nadu was at 2656 with cumulative total investment of

Table 6.11. Promotional Agencies

Agency	Main Objectives	Activities
(1)	(2)	(3)
1. TIDCO	1. Promotes industrialisation through public-private partnership.	As on 2004-05, it has over year commissioned as joint ventures more than 100 projects. 27 projects are at various stages of development.
	2. Promotes infrastructure projects such as	1. TIDEL Park Taramani for Bio-technology Research and Development facility. 2. Tamil Nadu Industrial Park (Rubber) - Kanniyakumari. 3. Tanflora Infrastructure Park-Hosur. 4. Six Lane IT Express way, Old Mamallapuram Road. 5. Special Economic Zone, Ennore. 6. Winery Unit, Cumbum.

Agency	Main Objectives	Activities
(1)	(2)	(3)
	3. Promotes other projects like	<ol style="list-style-type: none"> 1. Export oriented project for manufacture of Glass Fibre Fabrics and Geo-textiles at Srivilliputhur. 2. Modern Textile Processing Unit, Erode. 3. World Class Convention Centre - a Multipurpose Hall at Chennai Trade Centre, Nandambakkam.
2. SIPCOT	1. Developing, Marketing, Maintaining Industrial Complexes / Parks / Growth Centres for promoting Medium and Large Scale Industries.	As on 28.2.05, SIPCOT had acquired 21689 acres of land for Industrial Development out of it 7400 acres were allotted for 1227 units Developed 27 complexes / parks / growth centres in 12 districts.
	2. Infrastructure Development Schemes	<p>SIPCOT is implementing</p> <ol style="list-style-type: none"> a. Government of India Schemes such as <ol style="list-style-type: none"> 1. Food Park - Nilakottai 2. Apparel Park - Irungattukottai 3. Leather Cluster - Ambattur 4. Coir Cluster - Salem & Dharmapuri b. Government of Tamil Nadu Schemes such as <ol style="list-style-type: none"> 1. Eco-Enterprises Park, Nilakottai. 2. Integrated Knowledge Industry Towash at Siruseri Information Technology Park. 3. Hazarduous Industrial Waste Disposal Project at Melakottaiyur.
	3. Upgradation of existing Industrial at Estates.	For upgrading Ranipet and Hosur Industrial Complexes by incurring expenditure of Rs.450 lakhs and Rs.610 lakhs respectively.
3. TIIC	1. Promoting and Developing Small Scale Industries.	Financial assistance upto Rs.800 lakhs by way of term loan to small and medium industries. TIIC has assisted 4193831 units during the last two years and during the years 2004-05 it has sanctioned an amount of Rs.438.40 crores and generating employment to 33528 persons. It operates Refinance Scheme for Technology Development and Modernisation (RTDM) and Technology Upgradation Fund (TUF) for modernising SSI units. Order Equipment Finance Scheme 7 units benefited to the extent of Rs.2.11 crores and Modified Credit Linked Capital Subsidy Scheme of Technology Upgradation Fund Scheme (CLCSS-TUFS) 19 units had availed Rs.20.11 crores in 2003-04.
	2. New Anna Marumalarchi Thittam	TIIC is the nodal agency for this Thittam in the State to promote SSI units in 335 blocks with minimum capital investment of Rs.1 crore per block. As on 28.2.05, 213 projects at the cost of Rs.138.43 crores have commenced production and giving employment opportunities to 8335 persons of which 5638 are women.
4. TANSIDCO	1. Promotes and develop Small Scale Industries by developing Industrial Estates.	As on 2004-05 it has developed 41 industrial estates and manages 35 Government Industrial Estates on Agency Terms. It has also developed 4972 industrial plots, constructed 4222 sheds and 1841 tiny sheds.

Agency	Main Objectives	Activities
(1)	(2)	(3)
	2. Industrial Parks for Women.	Out of five industrial parks for women, two parks viz. Thirumullaivayal and vashvanthankottai were completed.
	3. Raw material distribution.	Upto Feb 2005. Scarce new materials viz. iron and steel (19727 Mts.) wax (1114 Mts.) printing paper (143 Mts.), potassium chlorate (33 Mts) were distributed to the needy SSI units to the worth of Rs.66.10 crores.
	4. Techno Parks	To establish three Techno-Parks during 2004-05 for Tiny Entrepreneurs in the semi-urban areas, lands are identified at Vinnamangalam, Mayiladuthurai and Theni.

Source : Policy Note, 2005.

6.7. TNPCB initiatives

6.7.1. Water Pollution Control

Water pollution is being prevented and controlled by enforcing the Water Prevention and Control of Pollution Act 1974 as amended in 1988. The TNPCB categorizes the polluting industries into three, viz., Red, Orange and Green with reference to seriousness of water pollution. Under 'red' category, there are 17 industrial concerns which are prone to adverse environmental spill over. Under these 17 concerns of highly polluting industries, there are 191 plants as on 31.3.2004 and the details are presented below¹.

Table 6.12. Categories of Highly Polluting Industries as on 31.3.2004

Sl.No.	Category	No. of Industries
1.	Aluminium	1
2.	Caustic Soda	3
3.	Cement*	16
4.	Copper Smelter	1
5.	Distillery	15
6.	Dyes & Dye Intermediate	1
7.	Fertilizer	7
8.	Integrated Iron & Steel	1
9.	Tanneries	62
10.	Pesticides	1
11.	Petrochemicals	5
12.	Basic Drugs & Pharmaceutical	16
13.	Pulp & Paper**	5
14.	Oil Refinery	3
15.	Sugar	38
16.	Thermal Power Plant	16
17.	Zinc Smelter	0
	Total	191

* - 200 Tonnes per day & above; **-Tonnes per day & above
Source : The Tamil Nadu Pollution Control Board.

The industries which are highly polluting the atmosphere have to obtain letters of consent to establish' and 'consent to operate'. Till 31.12.04, the Board had issued 4,822 letters of consent to establish industries and 22,663 letters of consent to operate under the Water Act.

6.7.2. Water quality monitoring

Water quality ensures health and human effectiveness. For attaining high water quality the Board is constantly watching the inland water quality through two major programmes, namely Monitoring of Indian National Aquatic Resources System and Global Environmental Monitoring System. The water quality of rivers, namely, Cauvery, Thamiraparani, Palar, Vaigai and lakes of Udhamandalam, Kodaikannal and Yercaud comes under the first category whereas water quality in Cauvery basin at Mettur, Pallipalayam, Musiri and ground water monitoring at Musiri comes under the second programme¹.

6.7.3. Common Effluent Treatment Plants (CETPs)

Leather industry creates emission of high incidence of pollution affecting the water quality in the neighbourhood but also tells upon the ambience. In order to arrest the

effluents of waste from the leather industries, the Board has been directing the leather industry to come under the fold of Common Effluent Treatment Plants. In addition to the leather industry, textiles, dyeing, hotels and lodges are also bound to generate adverse externality. For coping with the incidence of pollution of varying proportion, the Board has established 33 Common Effluent Plants in different places. Establishment of the Common Effluent Treatment Plant impacted on the reduction in the quantum of pollution. The Common Effluent Treatment Plant constructed in Nagalkeni near Pallavaram is showcasing the effective role of the TNPCB in abatement of water pollution¹.

Table 6.13. Establishment of CETPs in different sectors

Sl. No.	Sector	No. of CETPs formed	No. of CETPs under operation
1.	Tanneries	24 Schemes	14 Schemes
2.	Textile Bleaching & Dyeing	25 Schemes	18 Schemes
3.	Hotels & Lodging houses	1 Scheme	1 Scheme
	Total	50 Schemes	33 Schemes

Source : The Tamil Nadu Pollution Control Board, 2005.

6.7.4. Cleaner Technology

Technologies adopted by industrial units are one of the sources from which the pollution of various types stems. In order to motivate the highly polluting industrial units to go

in for cleaner technological options, the Board has taken various steps towards achieving the objectives. With active support and encouragement, industrial units in Tamil Nadu have switched over to cleaner technologies such as adoption of membrane cell instead of mercury cell in caustic soda manufacturing, adoption of dry process instead of wet process to reduce air pollution in cement factories, adoption of double conversion and double absorption technology in sulphuric acid manufacturing, gas carburizing instead of cyanide salt in heat treatment and cyanide free electroplating. The distillery units have responded to move towards zero effluent discharge by adopting bio-composting of effluents with press mud of sugar industry. Pulp and Paper industries are encouraged to go in for elemental chlorine free bleaching to reduce the formation of organo chlorides including dioxins. Industries consuming ozone depleting substances are systematically changing to environment friendly compounds¹.

6.8. References

1. Economic Appraisal 2003-04, 2004-05, Evaluation and Applied Research Department, Government of Tamil Nadu.
2. Tamil Nadu Development Report, 2005, Planning Commission, Government of India.