CHAPTER - III

PROFILE OF THE STUDY AREA
Tiruchirappalli District

Tiruchirapalli, also pronounced as Trichinopoly under British rule is situated on the banks of the Kaveri river, centrally located in the Indian state of Tamil Nadu.

The name of the town, Tiruchirapalli, originated as a tribute (thiru in Tamil means respected) to a Jain monk called "Chira": “Tiruchirapalli” means “the town of
respected Chira”. It also means 'Thiru ShriRanganathan Palli', which means "the place where Shri Ranganatha reclines". 'Thiru' means respected, 'Shri Ranganathan' denotes Lord Ranganatha of Srirangam (the famous temple town that is part of Trichy city) and 'Palli' means reclining posture of the Lord.

History

Tiruchirapalli has many historic temples, monuments, churches and mosques,. It was an important town in the days of the later Cholas, Nayaks as well as during the early days of the British East India Company.

One famous landmark in Tiruchirapalli is the Rock Fort - a huge outcrop of rock. There is a Ganesha temple on top, which was also used as a military fort by the nayaks for some time. The Rock Fort is a 83 m high rock which is the only outcrop in the otherwise flat land of the city. On top of the rock is the Ucchi Pillayar Koil, a temple dedicated to Vinayaka, from where one can enjoy a panoramic view of Tiruchirapalli. For this reason, the city is also called the Rock City. On the southern face of the rock are several beautifully carved cave temples of the Pallava period.

Tiruchirappalli district has an area of 11,075 square kilometres. It is bounded to the north by Namakkal district, to the northeast by Perambalur district, to the east by Thanjavur district, to the southeast by Pudukkottai district, to the south by Sivaganga and Madurai districts, to the southwest by Dindigul district, to the west by Karur district, and to the northwest by Namakkal district.
Transport
Bus services

Trichy is well connected to various parts of Tamil Nadu, by private and public bus services. One can get buses from Trichy to almost any part of the state, due to its geographical location in the centre of Tamil Nadu.

On the road infrastructure front, with the completion of highway projects in Tamil Nadu state, Trichy will be having four track highways from the city branching to destination Chennai, Madurai and Tanjore.

Railway

Trichy is the hub of Southern Railway's operation to connect this central part of Tamil Nadu to various parts of India, notably regions in Kerala, Andhra Pradesh, Bengal, Maharastra, Karnataka, Delhi, and Madhya Pradesh. Trichy Railway Junction has five branches leading to Madurai, Rameswaram, Erode, Tanjore and Chennai. After the completion of all ongoing gauge conversion projects in Tamil Nadu, Trichy is set to become one of the busiest Railway Junctions. The railway station has 7 platforms.

Airport

Trichy has an international airport about seven kilometres from the city, which operates flights to Indian cities, territories, and neighbouring countries (Sri Lanka, Singapore). Nowadays, flights are operated to Gulf countries such as Sharjah, Fujairah, and Ras al-Khaimah (United Arab Emirates), and to Kuwait. Plans are being made to upgrade it to a full international airport. The Process of enriching the Airport
has already been started aiming to make it into a Full fledged operational international airport in the next three Years.

**Education**

Considered an educational town, Tiruchirapalli has schools and colleges which are hundreds of years old. Prominent among the educational institutions in Tiruchirapalli are Bharathidasan university, the National Institute of Technology and the Government Law College. Bharathidasan Institute of Management, a top-20 Indian B-school is also located in Tiruchirapalli, adjacent to NIT-T. K.A.P.V. Medical College is located close to the Central Bus Stand. Eminent scholars like our President Dr. A.P.J. Abdul Kalam studied at St. Joseph's College in Trichy. R.Venkataraman (former Indian President) studied at National College in Trichy.

**Industries**

There are some major industrial houses in Trichy. A few among them are BHEL (Bharat Heavy Electricals Limited), Ordnance factory, Railway workshop and Dalmia cements. The plant of BHEL in Trichy, manufactures high pressure boilers.

A number of small scale industries have also sprung up in Trichy, mostly around Thuvakudi. Leather tanneries are located on the way to Pudukottai. Viralimalai, considered a industrial suburb on Madurai road has the factories of TVS, India bus body building unit, Cethar Vessels, MM Forgings. One can also find agro-based industries around Trichy city, especially along Karur road and Chennai.

Manachanallur, famous for its numerous rice mills supplying polished rice all over Tamil Nadu and outside is located about 7 km from Main Gaurd gate.
Trichy Tourism

The spectacular Rockfort temple, the landmark of the city, is on the South bank of the Kaveri. It is perched on a massive rocky outcrop with an altitude of 83 m above sea level. The Thayumanaswamy temple, dedicated to Lord Shiva (the destroyer in the Hindu trinity), is situated halfway to the top. It has a 100-pillar hall and a Vimana covered with gold.

The Sri Ranganathaswamy temple (Srirangam), situated 6 km north of the city, is among the most revered shrines dedicated to Lord Vishnu in South India, and is the largest temple complex in the world. Shrouded in a haze of coconut palms in the north, the temple is built on an island in the middle of the Kaveri and covers an area of 2.5 km. Enclosed by seven rectangular walled courtyards, this temple has 21 gopurams, the largest of which was completed in 1987 and measures 73 m in height. Srirangam is connected to the mainland by a bridge. The temple is replete with excellent carvings and numerous shrines dedicated to various gods.

The Jambukeshwara temple (Thiruvanaikavil), dedicated to Lord Shiva, is situated just 2 km east of Srirangam and houses five concentric walls and seven gopurams. Legend has it that an elephant once worshipped the Lord under the holy Jambu tree, and hence the name Jambukeshwara. The principal deity is the Shiva lingam, almost submerged in water, which flows from the subterranean spring in the sanctum sanctorum.

The Samayapuram Mariamman temple is located 12 kms north of the city junction on Trichy-Chennai. The Maariamman temple is one of the most visited shrines in Tamilnadu, dedicated to Maariamman, a manifestation of the primeval
energy Shakti as the mother Goddess. Mariamman is believed to be a form of Shakti associated with prosperity and health. Local beliefs associate the deity with cures for diseases such as smallpox and chickenpox.

Samayapuram was a local capital of the Vijayanagar rulers in the vicinity of Tiruchirappalli, and was known as Vikramapuram. Other temples in and around the city include Vayalur Subramniya temple, Anbil and Thiruvalarai Vishnu temples, Uraiur Nachiyar temple, Thiruppaingeeli Siva temple, and Gunaseelam Vishnu temple. The architecture of St. Joseph's College Church situated within St. Joseph College Campus is awe inspiring.

**Demographics**

Tiruchirappalli district consists of eight taluks namely, Thuraiyur, Thottiyam, Musiri, Manachanallur, Lalgudi, Srirangam, Manapparai and Tiruchirappalli.

The total population of Tiruchirappalli district is 2418366 of which male population is 1208534 and female population is 1209832. The total rural population 1279204 of which male population is 638617; female population is 640587. So far as urban population is concerned, totally there are 1139162, which comprises of male population having 569917 and female population having 569245 (Tamil Nadu Census, 2001).

**Bharat Heavy Electricals Limited (BHEL)**

BHEL manufactures over 180 products under 30 major product groups and caters to core sectors of the Indian economy viz., power generation & transmission, industry, transportation, telecommunication, renewable energy, etc. The wide
network of BHEL’s 14 manufacturing divisions, four power sector regional centres, over 100 project sites, eight service centres and 18 regional offices, enables the company to promptly serve its customers and provide them with suitable products, systems and services.

BHEL is the largest engineering and manufacturing enterprise in India in the energy-related / infrastructure sector, today. BHEL was established more than 40 years ago, ushering in the indigenous heavy electrical equipment industry in India - a dream that has been more than realized with a well-recognized track record of performance. The company has been earning profits continuously since 1971-72 and paying dividends since 1976-77.

BHEL has already attained ISO 9000 and all the major units/divisions of BHEL have been upgraded to the latest ISO 9001-2000 version quality standard certification for quality management. All the major units/divisions of BHEL have been awarded ISO 14001 certification for environmental management systems and OHSAS-18001 certification for occupational health and safety management systems.

**Power Generation**

Power generation sector comprises of thermal, gas, hydro and nuclear power plant business. As of 31-03-2005, BHEL supplied sets accounting for 74780 MW or nearly 65 per cent of the total installed capacity of 1,15, 356 MW in the country, as against nil till 1969-70. BHEL has proven turnkey capabilities for executing power projects from concept to commissioning. It possesses the technology and capability to produce thermal sets with super critical parameters up to 1000 MW unit rating and gas turbine-generator sets of up to 250 MW unit rating. Co-generation and combined-
cycle plants have been introduced to achieve higher plant efficiencies. To make efficient use of the high-ash-content coal available in India, BHEL also supplies circulating fluidized bed combustion boilers for thermal plants.

The company manufactures 220/235/500 MW nuclear turbine-generator sets. Custom made hydro sets of Francis, Pelton and Kaplan types for different head-discharge combinations are also engineered and manufactured by BHEL. In all, orders for more than 850 utility thermal, hydro, gas and nuclear sets have been placed on the company as on date. The power plant equipment manufactured by BHEL is based on contemporary technology comparable with the best in the world and is also internationally competitive.

**Renewable energy**

Technologies that can be offered by BHEL for exploiting non-conventional and renewable sources of energy include: wind electric generators, solar photovoltaic systems, stand alone and grid-interactive solar power plants, solar heating systems, solar lanterns and battery-powered road vehicles. The company has taken up R & D efforts for development of multi-junction amorphous silicon solar cells and fuel cells based systems. BHEL also undertakes projects in the area of distributed power covering small hydro and gas engines based generation systems.

**International business**

BHEL has over the years established its references in over 60 countries of the world. These references encompass almost the entire range of BHEL products and services, covering Thermal, Hydro and gas based turnkey power projects, besides a
wide variety of products like transformer, compressors, valves and oil field equipment and insulators. The company is taking a number of strategic business initiatives to fuel further growth in overseas business.

Table - 3.1
Financial information of BHEL
(Rs. in Crores)

<table>
<thead>
<tr>
<th>Details</th>
<th>2004 – 05</th>
<th>2005 – 06 (Provisional)</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover</td>
<td>2273</td>
<td>3608</td>
<td>60</td>
</tr>
<tr>
<td>Value added / employee</td>
<td>7.58 lakh</td>
<td>36800</td>
<td>32</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>160</td>
<td>358</td>
<td>124</td>
</tr>
</tbody>
</table>

Source: BHEL Annual Report 2005-06.

The increased activity of BHEL over the years is evident from the Table. The total turnover in value terms increased from Rs.2273 crores in 2004-05 to Rs.3608 crores showing an increase of 60 per cent. The trend with reference to profit before tax shows notable performance. The profit before tax in 2005-06 was Rs.358 crores in increase from Rs.160 crores in 2004-05 depicting a growth of Rs.124 per cent. The favourable progress in turnover has also made an improvement in the value addition per head.

Human Resource Development Institute

BHEL has envisioned becoming “A world class engineering enterprise committed to enhancing stakeholder value”. The force behind realization of this vision and the source of our competitive advantage is the energy and ideas of 44,000 strong highly skilled and motivated people. The Human Resource Development
Institute situated in Noida is a cornerstone of BHEL learning infrastructure, along with Advanced Technical Education Centre (ATEC) in Hyderabad.

The greatest strength of BHEL is its highly skilled and committed 42,600 employees. Every employee is given an equal opportunity to develop himself and grow in his career. Continuous training and retraining, career planning, a positive work culture and participative style of management - all these have engendered development of a committed and motivated workforce setting new benchmarks in terms of productivity.

**BHEL Small and medium Industries Association (BHELSIA)**

During 1975-1976, the then central government introduced 1% excise duty as mandatory for obtaining excise license for all small scale industries. A group of entrepreneurs doing sub-contracting to M/s. BHEL, Trichy joined together to obtain a court stay against the implementation of the 1% excise duty. This was the beginning of coming together of the members and thus BHELSIA was formed in 1975-1976. The group elected P.M.A. Lathif as the founder president.

The main objective of the BHELSIA was to negotiate the annual rate contract with BHEL and to discuss various technical points through the meetings.

The period was hit by industrial recession and lack of orders. The office bearers met the then President of India Sri R. Venkataraman, then Prime Minister V.P. Singh & Industry Minister Sri R.V. Paswan at New Delhi and presented a memorandum highlighting the problems faced by the small-scale industries at Trichy.
Apart from co-ordination with BHEL, the association was actively engaged with the ESI regional director, inspector of factories to discuss the problems faced by the units.

BHELSSIA had taken up the matter of higher registration charges for SIDCO land and higher water charges with SIDCO and they were resolved satisfactorily to the benefit of members. The period saw the active association of BHELSSIA with BHEL Trichy in solving the difficulties and problems faced by the member units through numerous meetings.

A number of changes in the operating rate schedules, which were being requested for a long time, had been accomplished. An interaction with the then chief general manager of SIDBI, Chennai was arranged for the benefit of members. Seminars in industrial safety, training classes for workforce with active participation of CII, REC and TREC – STEP conducted. The period also saw the association being involved in discussions with the tractor trailer association for reduction in transport cost.

There was interaction with the bank officials through customer meet, discussions with NSIC, SIDBI for the benefit of the members. One of the most important events of this period was the construction of the office building for BHELSSIA and registering the association as BHELSSIA / Tiruchi. Auditing the association accounts was introduced and life membership certificates were issued to members. Apart from the above the period saw hectic activity with BHEL in the form of six technical committee meetings for solving many of the problems faced by members.
Ten member units were registered with EPF/ESI through the association. Redressal of sick units was taken up with BHEL and the bank. Face to face meetings were organised with ESI officials to highlight the problems faced by the member units and the association started bulk clearance of cheques especially during busy seasons.

With the changed business environment, BHEL Trichy also engaged BHELSIA in its transformation process and all members were termed partners in progress. BHEL had set up four main task force committees with BHELSIA which were instrumental in the smooth transition and de bottlenecking the existing procedures.

*Information technology task force:* B2B was introduced in full swing with active feedback and co-operation from BHELSIA resulting in knowledge updating and networking of all members.

*Quality task force:* Transparency in the process of vendor evaluation, selection of the best sub contractor and the formation of reward and punishment committee with BHELSSIA were the keen achievements.

*Material Taskforce:* It eases out the process PO material collection and improvement in the offcut management were implemented.

*Technology taskforce:* Introduction of CO₂ welding and product development were undertaken. Apart from the above co-ordination with BHEL, the association had conducted blood donation / grouping camps in member units, had arranged for interaction with regional director of ESI for redressal of member grievances. BHELSSIA played a very crucial role in reducing the ACCD charges levied by the
TNEB from Rs.300 to Rs.800 per horsepower along with TANSTIA resulting in refund for members who had paid the excess amount.

Over a period of time, technology and expertise were gained in doing job work of thermal power plant components. World class technology has helped them grow into highly capable of manufacturing base for fabrication. BHELSIA has been the source of support and inspiration to its members all along. It has made continuous efforts to upgrade the members in all fronts. Lot of work has gone in for the betterment and development of our members.

BHELSIA has taken a direction to change and help members to grow from a job worker to a world class product and system supplier. To change the mindset of the members, it has been conducting Management Development Programmes periodically. The strengths have been highlighted and showcased to major industries and they are getting enquiries from lot of them. This has created new openings and markets. DST and TREC-STEP have given an assistance of Rs.6 lakhs in 2004-05 and 20 lacs for the year 2005-06 for conducting development programme.

ISO Initiatives

Quality and systems are the watchwords in business today. Certifying for ISO 9001-2000 and bench marking the units are the need of the hour. Arranging consultants, negotiating with certifying bodies, conducting internal auditor’s course, enabled the units to smoothly get the certification.
BIDASS

BIDASS (BHEL Small Scale Industries Development and Services Society) was formed first as a network cluster in early 80s under Section 25 of Companies Act, 1956. It is excellently managed and has achieved a turnover of Rs.17 crores last year and this year it will be achieving Rs.25 to 30 crores. It purchases consumables in bulk at competitive rates and distributes it to members with a very small service charge. The cost of consumables was brought down by 20-30 per cent in addition to ensuring timely availability.