Innovation and IT in India
(Bangalore Case Study)

By
Deepak K Sareen
National Expert Researcher
SOFTWARE & SERVICES:
INDIA'S EMERGENCE AS THE NUCLEUS OF GROWTH AND DEVELOPMENT

- India's IT exports continue to grow phenomenally. In fact, no other sector has grown at such a rapid pace as IT has. In fact, it has brought vibrancy in the growth of other sectors too. Today, India’s share in the world software and services market has increased to 2.4% in 2003-04.

TRANSFORMING INDIA FROM MILLION DOLLAR BABY TO BILLION DOLLAR IT GIANT

- From a meager 105 USD Mn in 1989, India’s Software / Services exports have jumped to 17.21 USD billion in 2004-05. On an average, the growth has been plus 30% in the last few years. The growth momentum which started in late 90s, still continues. Indian Software & Services industry is innovating itself to go up the value chain in a big way to position itself significantly in the global markets including US, UK, etc and sustain the lead.

SUCCESS ON THE DOOR STEPS:
QUALITY LEVEL ACHIEVEMENTS ON THE HIGH

- Today the world recognizes India as an important source of high-quality IT manpower. 75 out of total 116 SEI CMM level 5 certified companies worldwide are Indian. Further, over 300 Indian computer software and services have already obtained ISO 9000 or CMM level 2 certification. One third of the e-commerce start-ups in the Silicon Valley continue to be by Indians. Over half of the Fortune 500 companies are outsourcing their software requirements to India. India has now emerged as the hub of the sun-rise knowledge-based and technology-driven industries such as information technology, bio-technology, bio-informatics, telecommunications, aerospace.

India has already received recognition as the outsourcing hub of ITES / business process outsourcing services, cost-effective medical lab, diagnostic, and health services, dental services, automotive parts and ancillaries etc in the world.
TOP MULTINATIONALS AND FORTUNE 500 COMPANIES ARE SOURCING THEIR SOFTWARE REQUIREMENT FROM INDIA

- MOTOROLA
- LUFTHANSA
- AT&T
- GENERAL MOTORS
- ALCATEL
- FUJITSU
- TEXAS
- Etc.

INDIA - PROVIDING IT SOLUTIONS GLOBALLY

MOTOROLA
LUFTHANSA
AT&T
GENERAL MOTORS
ALCATEL
FUJITSU
TEXAS
Etc.

INDIA - THE GROWING IT SUPER POWER

- Today, India has emerged as a nation with the most cost competitive technical work force which is conducive to foreign investment environment.
- It has a very stable democratic political system working over the last 50 years of independence. The huge pool of talented technical workforce is its biggest USP.
- The Government has been consistently reinforcing its commitment to the IT industry with its simple and industry friendly policies.
- With the availability of all factors of production: land, labour capital and entrepreneurship, India is emerging as a major dynamic IT outsourcing hub in the world.
- As a result, India’s high tech landscape is fast changing.
INDIA - ADVANTAGES

- VAST BASE OF SKILLED, ENGLISH-SPEAKING MANPOWER
- HIGH PACE OF GROWTH
- QUALITY
- WIDE EXPOSURE
- OFFSHORE DEVELOPMENT
- APPROPRIATE TRAINING – 232 ADVANCED TRAINING INSTITUTES
- GOVERNMENT SUPPORT POLICY MEASURES

INDIA – PROVIDING IT SOLUTIONS GLOBALLY
SERVING OVER 125 COUNTRIES ACROSS THE GLOBE
MAJOR FACTORS CONTRIBUTING TO INDIA’S IT SUCCESS INCLUDE

- Development of Appropriate Infrastructure
- Telecom Infrastructure
- FDI Flow
- IT Education
- Central and State Government Policy Initiatives

BANGALORE ACCOUNTS FOR MORE THAN 36% OF INDIA’S GLOBAL IT SOFTWARE AND SERVICES INCLUDING IT ENABLED SERVICES (ITES) / BPO EXPORTS. THAT IS WHY BANGLORE HAS BEEN SELECTED FOR THE CASE STUDY ON INNOVATION AND IT IN INDIA.
BANGALORE

- The capital, principal administrative, cultural, commercial and high tech industrial city of Karnataka.
- The IT capital of India
- Bangalore enjoys a pleasant and equable climate throughout the year
- The Garden city of India
- Modern day cosmopolitan lifestyle

BANGALORE
ENVIRONMENT & LIFESTYLE

- Along with its salubrious climate, its warm and courteous people with a cosmopolitan outlook, Bangalore offers that foreign tech investors want in terms of environment and life style to which they are used for years in their home country. Bangalore offers everything one can expect from a world city in terms of everyday conveniences as well as the overall quality of life.

- This once quaint little cantonment town has undergone a remarkable metamorphosis and has emerged as the fastest growing city in Asia.
BANGALORE
ENVIRONMENT & LIFESTYLE

- The city is teeming with restaurants, pubs, clubs, health spas, amusement parks, supermarkets, theatres, cinemas, shopping malls, discotheques, and “necessities” of a modern day cosmopolitan lifestyle

- Bangalore city region has constantly been in a flux and creating more and more facilities for after office pastime and leisure so that the IT professionals can re-wind and de-stress themselves so as to equip them mentally and physically for the next day for finding solutions to intricate business problems

INFRASTRUCTURE
MAIN IT CLUSTERS

The main IT clusters are:

- Software Technology Parks of India (STPI), Bangalore;
- International Tech Park Ltd. (ITPL), Bangalore
- Electronic City
### MAJOR IT INDUSTRY CLUSTERS & CENTERS OF EXPORT

<table>
<thead>
<tr>
<th>SOUTHERN INDIA</th>
<th>NORTHERN INDIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>BANGALORE</td>
<td>NEW DELHI</td>
</tr>
<tr>
<td>CHENNAI</td>
<td>NOIDA</td>
</tr>
<tr>
<td>HYDERABAD</td>
<td>GURGAON</td>
</tr>
<tr>
<td>COIMBATORE</td>
<td>JAIPUR</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WESTERN INDIA</th>
<th>EASTERN INDIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUMBAI</td>
<td>KOLKATA</td>
</tr>
<tr>
<td>PUNE</td>
<td>BHUBANESHWAR</td>
</tr>
<tr>
<td>AHMEDABAD</td>
<td></td>
</tr>
</tbody>
</table>

---

**STPI - OVER 40 CENTERS ACROSS INDIA**
SOFTWARE TECHNOLOGY PARKS OF INDIA, BANGALORE

- STPI – Bangalore was started in 1991 with Rs. 2.5 crore investment by the Ministry of IT (formerly known as Department of Electronics). Today, the investment in the Network Operation Centre is in excess of Rs. 40 crores as this is due to greater level acceptance by the customers of STPI. It has a microwave network with 140 radios providing services to about 400 customer projects.

- Nortel, one of the major telecom equipment suppliers in the world, – has located their hub in the STPI – Bangalore since 1997, and presently, the relationship enjoyed is unique, and the network services rendered are of premium quality.

- The Network Operations Center has an area of 8000 sq. ft. There is implementation of every technology one can think of – Frame Relay, ATM, ISDN, VSAT, FIBRE, Microwave and others.

- The entire STPI system is run on intranet based process meeting ISO 9001 standards. On the internet, STPI maintains a very healthy quality of service.

SOFTWARE TECHNOLOGY PARKS OF INDIA, BANGALORE

- Today, STPI, Bangalore counts among the premier and oldest ISPs in the country. Notably, since STPI-Bangalore was the first center where internet was brought up, Bangalore has the distinction of being the first city of communication service in India.

- Depending upon the growing demand of the IT industry, the bandwidth operated from STPI has been increased from time to time. They have more than 18 carriers to multiple countries across the world.

- In tune with the IT industry requirement, STPI-Bangalore has established a large Earth Station facility and VSAT Hub of ERNET.

- In August 2000, a cyber Park – Technology Incubation Centre was set up in Bangalore to promote the growth of the IT sector.
**BENEFITS OF SOFTWARE TECHNOLOGY PARK (STP) SCHEME**

They include:

- 100% duty free imports
- 100% foreign equity permitted
- 100% corporate Income Tax exemption till 2010
- Excise duty exemption & reimbursement of Central Sales Tax (CST).
- Dedicated Data Communication links
- Single window clearance
- Custom bonding and export certification

Similar benefits are also available for IT software and services units located in SEZs/FTZs/HTPs etc.

**INTERNATIONAL TECH PARK, BANGALORE**

The International Tech Park, Bangalore, offers a superb business advantage to corporates seeking a foothold in India. The futuristic park has been built to exacting international standards supported by the state of the art infrastructure. Amidst a refreshing and aesthetically appealing environment, the park offers a one stop solutions integrating office, production, commercial, residential and recreational needs in a single location.

This park has been built to suit the requirements of international high-tech companies in the field of information technology, software development, electronics, telecommunication, research and development financial services and other non-polluting high tech industries.
Electronics City is an industrial park spread over 330 acres exclusively meant for electronics industries. It houses more than a hundred industries, including IT industry, leaders such as Motorola, Infosys, Siemens, ITI, Wipro etc.

It provides incubation facilities and datacom services. Electronics Trade and Technology Development Center provides quality human resources.

This area is maintained by Keonics which provides all the necessary infrastructure.

In addition there are more than 80 private IT parks in Bangalore and other cities of Karnataka.
There are a number of privately operated world class business centres such as under in Bangalore city region:

- **DBS Business Centre, Bangalore**
  This centre is the finest choice for all multi-nationals coming into Bangalore and is the largest business centre in Asia – with choice of private or open offices, executive suites and conference facilities. It is centrally air conditioned and with generator back. All communication (including voice mail and DID) and support infrastructure is available.

- **Globelink Executive Centre, Koramangala**
  This Centre includes the professional INSTA-Office at Koramangala, Cabins, Communication facilities etc.

In addition, other Business Centres include Glenridge Executive Centre, ABC Services – Executive Centre, Brauners Buisness Centre, PAN ASIA Business Services, St. Marks Business Centre, D.J. Business Centre, Golden Square Business Centre etc.

---

**MASSIVE INFRASTRUCTURE EXPANSION PROGRAMME**

In tune with the requirement of the industry, trade and commerce, the Govt. of Karnataka has embarked on a massive infrastructure expansion programme aimed at providing industry with world class facilities at competitive prices. Some of the major projects on the fast track of implementation are:

- Bangalore International Airport at Devanahalli
- Bangalore Mysore Expressway
- Bangalore Mass Rapid Transit system
- Upgradation of Minor Airports
- Upgradation of existing roads and laying of new ones on BOT/BOOT basis.
- Special Economic Zone at Hassan.
FDI Flow

Given below is a list of sources of FDI flow to Karnataka through multinational companies who have already set up their respective software and services and system development centres:

- USA
- Japan
- UK
- Germany
- France
- Holland
- Sweden
- China

LEADING GLOBAL IT OPERATORS FROM BANGALORE

Bangalore IT clusters have become popular and are home to an array of IT multinational majors such as:

INTEGRATED CHIP DESIGN

- Texas Instrument
- Siemens
- AMD
- Philip
- Analog Services
- National Semi-Conductors
- Intel
LEADING GLOBAL IT OPERATORS FROM BANGALORE

COMMUNICATION SOFTWARE

- Lucent Technologies
- Nortel
- Siemens
- Motorola
- Cisco Systems
- Kyocera
- Sony

SYSTEM SOFTWARES

- Microsoft
- Oracle
- Novell
- Sun Microsystems
- Digital / Compaq
- Hewlett & Packard
- Network Associates
LEADING GLOBAL IT OPERATORS FROM BANGALORE

R & D CENTRES

- Google
- Yahoo
- Textron
- Bose
- Schneider Electric

In the case of the BPO sector, the following names are well known:

- Sykes
- Axa Business Service
- Ernst & Young
- Swiss Shared Services
- Siemens Shares Services
- DSL Software
- Accenture
- G S Services (goldman Sachs)
LEADING GLOBAL IT OPERATORS FROM BANGALORE

In the captive support sector, the following names are worth mentioning:

- Dell
- Global –e-Business
- HSBC
- GE Capital
- Phoenix Global (Metalife)
- Fidelity

LEADING GLOBAL IT OPERATORS FROM BANGALORE

In the case of the technology support sector, the following companies are operating from these clusters:

- Digital Global Soft
- First Ring
- ADDR
- Aveva
- Manhattan
EXPANSION OF INFRASTRUCTURE AND IT CLUSTER FACILITIES IN NEIGHBOURING CITIES

During the interactive discussions with ICT units in Bangalore it reveals that based on IT industry needs, the city infrastructure and IT cluster facilities are being expanded regularly to encourage Indian IT industries to invest more and more in Bangalore and promote FDI flow from overseas. IT stakeholders, Central, State Govt. as well as local Municipal authorities assess the demand and supply situation of the infrastructure, plan and create additional facilities to meet the market needs. This has also trail blazing effects in neighbouring city regions such as:

- Hassan
- Hubli and Dharwad
- Raichur
- Mysore
- Tumkur
- Mangalore
- Belgaum
- Manipal

Where additional infrastructure is being created to take the pressure and momentum of dynamic growth in Bangalore dynamic city region.

CREATION OF EMPLOYMENT OPPORTUNITIES

With more and more IT companies setting up their software and services development centres, Bangalore has become the undisputed IT nerve centre of ASIA. In fact, Bangalore is fuelling the new phenomenon of “Reverse brain drain” with IT professionals flocking here from all the world.

There are about 4000 IT software and services firms in India. More than 1 million IT professionals / personnel are engaged in the IT software sector.

According to data available, the total number of IT companies in Bangalore during 2004-05 was 1200, and 1,15,000 professionals were on the roll.
### GROWTH IN EXPORTS OF COMPUTER SOFTWARE & SERVICES (INCLUDING ITES) 1998-99 TO 2004-2005

![Graph showing growth in exports from 1998-99 to 2004-2005](image)

### SOFTWARE EXPORTS FROM KARNATAKA

<table>
<thead>
<tr>
<th>Year</th>
<th>Value of Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002-03</td>
<td>Rs. 12,350 crore (US$ 2,552 million)</td>
</tr>
<tr>
<td>2003-04</td>
<td>Rs. 18,100 crore (US$ 4,022 million)</td>
</tr>
<tr>
<td>2004-05</td>
<td>Rs. 27,600 crore (US$ 6,272 million)</td>
</tr>
</tbody>
</table>

The export growth during 2004-05 over 2003-04 figures was 52%.

As compared to India’s global software and services / ITES export of US$ 17.191 billion, during 2004-05, Bangalore alone contributed 36.48%.
India - Providing IT Solutions Globally

India's Global Continentwise Exports During 2004-05

- America - 63%
- Europe - 23%
- Asia - 5%
- Japan - 4%
- Rest of the world - 5%

Segmentwise Exports During 2004-05

- Enterprise application - 52%
- Technology Software - 33%
- ITES / BPO - 13%
- Others - 2%

Export of ITES / BPO Sector

- 2003-04 - Rs. 2237 crores (US$ 497 million)
- 2004-05 - Rs. 3500 crores (US$ 795 million)

The export growth recorded during 2004-05 over the previous year was 57%.

Over 40% of the Bangalore’s software exports are in the high technology areas: IT access networks, optical networks, video broadcasting, Bluetooth, WAP, 3-G, Wireless applications, VOIP, ATM Switches, SDH etc.
Bangalore’s pre-eminent position on the industrial and business map of India is based on several factors. Karnataka state is rich in natural resources, and known for its salubrious topography effect. It has a strong resource base of highly educated people, backed by an extensive educational infrastructure comprising world-renowned schools, colleges, institutes of higher learning, research and development centres.

The State of Karnataka is widely recognised as an important centre of learning and has:
- 12 Universities
- 98 Engineering colleges
- 107 medical colleges
- 916 General colleges
- 184 polytechnics
- 188 ITIs; and
- other training institutions

In addition, Bangalore can boast of premier institutions such as:
- Indian Institute of Management, Bangalore (IIM-B).
- Indian Institute of Science (IISc).
- Indian Institute of Information Technology, Bangalore (IIT-B)
- Institute of Bioinformatics and Applied Biotechnology, Bangalore (IBAB)
- Defence Research & Development Organisation (DRDO)
- ISRO Satellite Centre (ISRO)
- ISRO Telemetry Tracking and Command Network (ISTRAC),
- Indian Institute of Astrophysics.
In addition, Bangalore can boast of premier institutions such as:

- Raman Research Institute
- Centre for Artificial Intelligence and Robotics
- Centre for Airborne Systems Studies and Analyses
- Jawaharlal Nehru Centre for Advanced Scientific Research (JNCAR)
- Microwave Tube Research and Development Centre
- Bharat Electronics Complex
- Gas Turbine Research Institute
- National Institute of Advanced Studies (NIAS)
- CSIR Centre for Mathematical Modelling and Computer Simulation (CMMACS)

**LEARNING AND EDUCATIONAL SUPPORT INSTITUTIONS AND INFRASTRUCTURE**

Analysis and talks with IT industries and IT software product and design development centres in Bangalore reveal that all these education and research institutions play a significant role in supplying the high quality of IT, design, research and development oriented manpower, which act as a catalyst in development of innovative systems management in the IT industry in Bangalore in particular and Karnataka in general.

It is understood during the interactive meetings with IT companies in Bangalore, that large IT companies are setting up their own specialised IT training centres for their own IT professionals for requisite skill development to meet the new challenge of the ever changing global ICT market scenario. Besides, foreign language training centres are being set up in Bangalore city region for teaching Japanese, Chinese, French and Spanish languages.
Besides, Karnataka has always been at the forefront of industrial growth in India. With its inherent capabilities coupled with its enterprising citizens, Bangalore in particular and Karnataka in general provide the ideal choice for investment opportunities. Some advantages include:

- Superior human resources which includes trained technical manpower in engineering, management and basic sciences;
- High level of research and development facilities and research institutions located in Karnataka.
- Favourable climate and habitat.
- Excellent communication facilities and accessibility provided by broad gauge railways, airport, national highways etc.

GOVERNANCE SYSTEM

Karnataka is the first state to announce IT policy in the year 1997. This policy has acted as an important catalyst for the growth of IT industry in the State. As a result, IT industry has got an added boost. The type and nature of business are rapidly expanding. Bangalore is becoming the centre for more and more companies in sophisticated IT products and services. The value addition from IT professionals of Bangalore is getting at the higher end of the spectrum. Thanks to Moore's Law, the cost of technology is dropping and technology is advancing exponentially. Thus, the prices of the new products are dropping and the same products are becoming more intelligent. The IT usage is becoming more widespread and relevant.

The Millennium BPO Policy of the Govt. of Karnataka was released at the India Business Roundtable in New York, USA on 5th Sept. 2002.
AN INFORMATION GUIDE FOR ESTABLISHING IT INDUSTRIES IN KARNATAKA

To assist information technology, industrial promoters in establishing companies in Karnataka, the Deptt. of IT, Govt. of Karnataka has compiled information from various agencies and Govt. departments to develop an IT Brochure – a Guide for Establishing Industries in Karnataka.

This guide includes information about Govt. policies regarding foreign investment; forms for establishing a company; software technology parks schemes for establishing companies; description of how to obtain Govt. permits and licences; venture capital funding mechanisms; labour, Govt. incentives for IT companies; Karnataka Udyog Mitra; Karnataka Information Technology and Biotechnology Services (K-BITS); and a list of agencies to be contacted for establishing a company.

HOW CAN ONE SET UP AN IT COMPANY IN KARNATAKA

Karnataka Udyog Mitra will consider the proposal for starting new industries; and will provide escort services for identification of land; getting Govt. clearances, approvals and licences by charging a nominal fee. One the clearance and approvals are obtained, the Karnataka IT and Biotechnology Services (K-BITS) will issue an approval certificate based on which the industry will be set up. After setting up the industry, the company should be registered with the Directorate of IT and Biotechnology (DIT).

Once the new company is registered with the DIT, a Certificate will be issued, and the company will be entitled to concessions and incentives pertaining to entry tax, sales tax, and rebates on the costing land, among others.
The Karnataka Govt. offers special assistance, incentives, and concessions for the IT industries which have investments in fixed assets upto Rs. 100 crores. The explosive growth of IT in Karnataka has been helped in no small measure by the progressive policies and investor friendly attitude of the Govt. Some of the benefits which the Govt. offers include

**ENTRY TAX EXEMPTION**

IT industries will be exempt from payment of Entry Tax on Computer hardware, Computer peripherals and other capital goods including captive power generation sets during the implementation stage which can be extended upto 5 years from the date of commencement of implementation of the project.

**POWER TARIFF CONCESSIONS**

- Software industries will be treated as industrial (and not commercial) consumers and electricity tariff applicable to the industrial consumers will be levied on such industries.
- Software industries, which need electrical power upto 5 KVA, will be permitted to be established without any local restrictions and will be made eligible for all incentives and concessions.
- As continuous uninterrupted and quality power supply is one of the prime requirements of sustenance and growth of Information Technology industries, these industries will be given priority in the sanctioning and servicing of power. The IT industries will also be exempt from power-cuts without any time limit.
- Captive power generation sets installed by the Information Technology industry will be eligible for the following incentives:
  - Total exemption from payment of electricity tax without any time limit.
Karnataka State Pollution Control Board has simplified the procedure for seeking clearances under the Air Act and the Water Act for the Software companies that use captive DG Sets.

IT companies taking up expansion, diversification, and modernisation get concessions on registration charges.
Because of various policy initiatives taken by the Central and local state Govts, Bangalore city region offers a world class infrastructure, availability of niche human resources at internationally competitive wage level, pleasant work culture and environment supported by concentration of high tech IT and R & D Institutions. Besides, the city has a cosmopolitan nature. Due to all these factors, Bangalore city region has seen a major technology boom, and it has emerged as the major IT outsourcing hub in the world.

Bangalore city region is now home to more than 250 high tech companies such as IBM, Texas Instruments, Hewlett Packard, Intel, Motorola, Cisco Systems, Novell, Sony, Nissan, Sharp, British Aerospace, British Telecom, Bosch, Siemens, SAP, Daimler Benz, Bull, Alcatel, Nortel Networks, Pieco, Ericsson etc. including India’s home grown IT giants like Wipro, Infosys, TCS etc. Consequently, Bangalore is now called the “Silicon Valley” of India.

Because of Govt. investor friendly incentives and attitude, Bangalore city region has grown in diverse industrial activities, and is now a base for 10,000 small, medium and large scale industries. However, it is the IT and software and services industry which has raised its status as the 4th largest technology cluster in the world.

**E-GOVERNANCE**

- Karnataka’s IT policy focuses on using e-governance as a tool and delivering a government that is more pro-active and responsive to its citizens.

- Various Department of the Karnataka Government have introduced electronic means and computerise their activities and take IT to the masses. Each Government Department is conducting several departmental activities in e-governance.

- Several efforts for implementing Government projects using electronic means are being carried out, under the umbrella of the Karnataka Government’s IT policy.
The Department of IT, Govt. of Karnataka has been undertaking various activities to promote Bangalore as the international high tech IT software and services outsourcing hub, and flow of FDI in the IT sector in the state. Their promotional activities include:

- Organisation of interaction meetings between Indian IT firms and visiting foreign IT delegations to Bangalore;
- Organisation of participation of State of Karnataka in various IT events taking place in the world; and
- Organisation of IT.Com Exhibition in Bangalore, every year which is visited by a large number of foreign buyers from all over the world.

- GOVT INDUSTRY CO-OPERATION INITIATIVE HAS RESULTED IN SETTING UP ELECTRONICS AND COMPUTER SOFTWARE EXPORT PROMOTION COUNCIL IN NEW DELHI, BANGALORE, CHEENI, KOLKATA ETC.
Electronics and Computer Software Export Promotion Council (ESC) - an autonomous organisation under the Department of Information Technology, Ministry of Communications and Information Technology, Govt. of India has been undertaking a series of activities to promote India’s export of electronics & computer software and services including ITES/BPO services in India and abroad which include, among others:

- Organisation of an international networking event and exhibition called INDIASOFT in February each year in India which is visited by IT buyers/delegates from more than 60 countries in the world;
- Organisation of participation of Indian IT firms in international exhibitions such as CeBIT in Hannover, Outsourcing World in London, ICCM in USA, WESCON in USA, Outsourcing World in New York, Embedded Technology Fair in Yokohama, GITEX, Dubai, CommunicAsia/Enterprises IT in Singapore, etc. to name a few;
- Inviting IT buyers delegations to India under the MAI programme of the Department of Commerce, Govt. of India to coincide with various Buyer Seller Meets (BSMs) in Bangalore, Chennai, Hyderabad, Mumbai/Pune, and New Delhi/Gurgaon etc; and
- Dissemination of IT market leads and intelligence, enquiries, live contacts of buyers etc. through its monthly bulletin called “ELSOFTEX” etc.

This apart, ESC’s Regional office in Bangalore is assisting IT firms in Bangalore in particular and Karnataka in general through its various trade promotional activities.
Corporations resident in India (whether owned by Indians or non-residents) are taxed on their worldwide income arising from all sources.

Non-resident Corporations are essentially taxed on the income earned from a business connection in India or from other Indian sources. A Corporation is deemed to be resident in India if it is incorporated in India or if its control and management is situated entirely in India.

If a tax treaty exists between India and the country in which the tax payer is resident, the provisions of the treaty or the Act, whichever is more beneficial, will apply to the tax payer.

Foreign Corporations are subject to a basic tax rate of 40% enhanced by a 2.5% surcharge. Further, the tax payable by all the Corporations is enhanced by an education cess at the rate of 2% on the tax payable, inclusive of surcharge.
LIABILITY FOR INCOME TAX OF NON-RESIDENTS

Non-residents are taxed on the following income:

- Accruing or arising in India
- Received in India; and
- Deemed to accrue or arise in India through a business connection, through or from an asset or source of income in India, or through the transfer of a capital asset situated in India (including a share in a company incorporated in India or from other specified sources).

Individuals are considered as “non-residents” if they do not meet either of the following criteria:

- They stay in India for 182 days or more during the tax year (1st April to 31st March).
- They stay in India for 60 days or more during the tax year, and have stayed in India for at least 365 days in aggregate during the preceding four tax years.
LIABILITY FOR INCOME TAX OF NON-RESIDENTS

Expatriate employees of a foreign enterprise are not subject to tax, subject to the satisfaction of the following conditions:

- The enterprise is not engaged in a trade or business in India;
- The employee did not stay in India for more than 90 days (generally extended under tax treaties to 183 days) in a tax year.
- The compensation paid is not liable to be deducted by the employer from his taxable income in India.

India has taxation treaties with a large number of countries for avoidance of double taxation.

VISA AND REGISTRATION REQUIREMENTS

Foreign nationals can secure visas to enter India in the applicable categories such as under:

<table>
<thead>
<tr>
<th>Nature of Visa</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment Visa</td>
<td>Persons intending to take up employment</td>
</tr>
<tr>
<td>Business Visa</td>
<td>Visiting India on business</td>
</tr>
<tr>
<td>Entry Visa</td>
<td>Other purposes not covered elsewhere (including accompanying facilities of foreign nationals)</td>
</tr>
</tbody>
</table>
RESIDENTIAL PERMIT

• All foreign nationals are required to register with the local immigration authorities called the Foreign Regional Registration Office (FRRO) within 14 days from their date of arrival, if their visas are valid for longer than 6 months. A foreign national holding a visa valid for 6 months or less who stays in India beyond the period of validity must register within 14 days after 180 days from the date of arrival in India subject to holding a visa for the extended period.

WORK VISAS FOR FAMILY MEMBERS

• Entry visas are issued to accompanying family members of individuals visiting India on business or for employment.

INTER-CORPORATE TRANSFEREE VISAS

These visas are granted to inter-corporate transferees on fulfilment of the criteria prescribed in this connection.

Analysis and discussions with the IT industries in Bangalore city region about the support and co-operation being extended by different Govt. and Non-Govt. agencies in Bangalore in particular and Karnataka in general reveal that the industry is appreciative of the Govt’s industry and investor friendly attitude and co-operation, and they feel that the industry, trade, all stakeholders, Govts, and Non-Govt agencies together have made Bangalore city region as dynamic, and ever-evolving with the need of the hour, and thus, have made it the major IT outsourcing hub in the world.
Banking and Finance plays a vital role in evolution of entrepreneurship, leadership and innovation of an integrated system management in technology oriented industries. Bangalore in particular and Karnataka in general offers strong financial support to entrepreneurs through several state govt institutions like KSIDC, KITVEN AND KSFC and Govt. of India financial institutions such as IDBI, IFCI, SIDBI, NABARD and ICICI. 4 of the country’s major nationalised banks, namely, Corporation Bank, State Bank of Mysore, Canara Bank and Vijaya Bank as well as one of India’s largest private banks, Vysya Bank, have their headquarters in Karnataka. Besides, World’s leading banking corporations like Citibank, Bank of America, Standard Charter Bank, HSBC, Deutsche Bank, Bank Muscat, Nova Scotia and several others have set their branches etc.

**KARNATAKA INFORMATION TECHNOLOGY VENTURE CAPITAL FUND (KITVEN), BANGALORE**

The primary object of KITVEN is to provide long-term funds to I.T. based units. The investment will be in the range of Rs. 25.00 lakhs to Rs. 150.00 lakhs with 5 to 7 years period. The investment may be in the following form:

1. Preference Shares - Redeemable / Convertible
2. Debentures - Convertible / Non-Convertible
3. Conditional Loans
4. Conventional Loans

The fund will enter into a Partnership Agreement with the promoter specifying the terms and conditions, funding partners etc.

Besides, SIDBI Capital Venture Fund provides Venture Capital to new IT start ups.
The stock exchange market plays a distinct role in raising capital for the entrepreneurs. Bangalore has its own stock exchange known as the Bangalore Stock Exchange Ltd. It is a self-regulatory organisation located in the “Silicon Valley” of India itself. The Exchange is managed by a Council of Management of members nominated by Securities Exchanged Board of India (SEBI), public representatives, elected members, and Executive Director. The Exchange set up in 1963 now enjoys number 1 position in South India.

Success breeds success. Success stories of home grown IT icons and legends like Wipro, Infosys, etc. and their fastest growth and migration from a SME level to giant multi-national companies, together with a combination of a variety of other local factors of production as well as growth oriented industry friendly enabling Govt. policy framework tend to create a favourable ambience for growth of a new generation of entrepreneurship and leadership in the high tech IT software and services sector in Bangalore and its neighbouring cities whose indomitable spirit, passion and genius is creativity, integration with the global IT trend and technology, development of matching skill sets, value added IT service verticals which their international customers require now, and will need in future; and orientation of IT service supply model to suit the customers’ requirements.

As a result, Bangalore boasts of having as many as 32 SEI-CMM certified IT companies as against the tally of 63 SEI-CMM certified IT companies all over India and 87 SEI-CMM certified IT companies all over the world.
ENTREPRENEURSHIPS

Because of this genre of new entrepreneurship and leadership, Bangalore is recognised the world over as the “IT Capital of India.” In 1998, News Week magazine ranked Bangalore among the world’s “Hottest Tech Cities”. Business Week placed Bangalore among the “Global Hot Spots of the 21st Century”.

Further, the United Nation’s Human Development Report-2000 recognises Bangalore as the fourth leading hub of technological innovation, ahead of many cities in USA, Europe, Japan, China and South East Asia.

BANGALORE’S OVERALL RANK AS IT DESTINATION

A recent research study based on various parameters ranks Bangalore as under:

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Overall Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>India’s top tech cities</td>
<td>1</td>
</tr>
<tr>
<td>Zonal stack up in India</td>
<td>1</td>
</tr>
<tr>
<td>Manpower availability</td>
<td>1</td>
</tr>
<tr>
<td>Environment &amp; life style</td>
<td>1</td>
</tr>
<tr>
<td>ICT Infrastructure availability and usage</td>
<td>1</td>
</tr>
</tbody>
</table>
To sum up, the following factors have contributed significantly to change the high tech landscape of India and the dynamic city region of Bangalore:

- IT vision and policy initiatives of the Govt. of India in general and Govt. of Karnataka in particular;
- Creation of ICT infrastructure, IT and Electronics clusters such as Software Technology Parks of India, International Tech Parks, Electronic city.
- Setting up of privately operated world class business centres.
- Incubation facilities in STPIs.
- Govt of India industry friendly foreign investment policy and programme.
- Learning and education support institutions and infrastructure.
- Setting up of technical and scientific research institutions.

- Setting up of premier business management schools of international repute.
- Setting up of CSIR Centre for Mathematical modelling and computer simulation.
- Industry user friendly Central and State Governance systems.
- State Govt’s single window clearance and simplified procedure.
- Central Govt’s tax benefits.
- State level incentives such as entry tax exemption, power tariff concession, quick clearance from Pollution Control Board, concessions on company registration charges etc.
Availability of all the factors of production: Land, high tech manpower, capital and highly motivated local entrepreneurship

Access to venture capital fund through Karnataka Information Technology Venture Capital Fund (KITVEN), SIDBI Capital Venture Fund;

Access to Bangalore Stock Exchange, leading banking and financial institutions in Karnataka.

Success stories of home grown IT giants such as Infosys, Wipro, TCS, HCL Technologies, Satyam etc.

Salubrious climate and environment, recreation and pastime facilities and availability of necessities of a modern day cosmopolitan lifestyle such as restaurants, pubs, clubs, health spas, supermarkets, shopping malls, theatres/cinemas, art galleries, museums, golf courses, race courses, swimming pools, billiard clubs etc.

Warm and courteous people of Bangalore with a cosmopolitan outlook.

Above all, working together of the industry, trade, academica, and both the Central and State Govts. has contributed to make Bangalore to be ranked as the fourth leading hub of technological innovation, ahead of many cities in USA, Europe, Japan, China and South East Asia, according to the United Nation’s Human Development Report – 2000.
CONCLUDING REMARKS

In the foregoing paragraphs, I have presented how over a period of 466 years i.e. from 1537 till 2005, a massive metamorphosis has taken place from a primary agro-based economy to a modern high tech economy.

- It is a radical evolution indeed, and the process of change-over has been facilitated by the far-sighted policy initiative taken and the enabling market conditions created in every stage of evolution whether it is creating the right kind of infrastructure and clusters;

- whether it is setting up the right of schools, general colleges, technical/engineering institutions, ITIs, management schools, R&D research institutions;

- whether it is focussing the right kind of cultural environment and life style;

- whether it is evolving a right kind of integrated innovative systems management and enlightened entrepreneurship to encourage creativity, research and development, business and revenue growth generation and at the same, expansion of technology, knowledge and requisite skill spectrum to be at par with the ups and downs of the global economy, the industry, trade, academica and both the Central and State Govts. have worked in tandem.

This has made Bangalore not only a dynamic city region per se but a world wide recognised brand name.
ACKNOWLEDGMENT

- Govt. of India Database / IT Dept.
- Govt. of Karnataka Database / IT Dept.
- STPIs
- International Technology Park, Bangalore.
- Ernst & Young
- IT Software & Service Firms in Bangalore, Noida, New Delhi, etc. whom I interviewed.
- Besides, those who provided inputs and leads for my case study.