Growth (and Decline!) of Information Technology (IT) Industries Vs Landuse and Infrastructure in Chennai City – India

S.P. Sekar

Assistant Professor, School of Architecture and Planning, Anna University, Chennai 600 025, INDIA

E-Mail: spsekar@vsnl.com or spsekar@hotmail.com

1. INTRODUCTION:

Information Technology (IT) broadly consists of activities relating to the collection of products and services that turn data into useful, meaningful, and accessible information. The information technology industry has several major facets: computer hardware, software and services other than information media (radio, TV, etc.). In relation to its versatile use in city planning, it constitutes a quiet activity in a relatively small space with comparatively high economic return. It, therefore, immensely deserve to be located in relatively more advantageous sites. IT industrial activities in India are of three types: One, the Software (SW) oriented, Second, Hardware (HW) related and Third, for Training Institutions (TI). Resource needs, locational preferences and infrastructure for these activities diverse and differ from each other, within amongst IT hubs located across the country. As per the NASCOM study 2001, the competing IT activities are concentrated in Mumbai (25 percent), Chennai (about 21 percent), Bangalore (about 18 percent) and Hyderabad (about 15 percent). All these metros try to retain and append their association with the IT development. Governments in these metros, are encouraging location of additional IT industries, facilitating unconstrained private and government support for investment. These IT industries, at the beginning started quietly in few spots, but later started engulfing other land and building uses mostly in prime locations. This has given rise to new pattern of development. IT industries having higher economic returns, locational decisions of IT people and IT investment, which allowed the IT industries to occupy the buildings and lands in prime locations and made the displacement of other activities. It had also influenced in pulling associated commercial and other service activities. While on boom, most of these IT industries, especially those looking for export, start clustering to avail the advantage of complimenting support of centralized infrastructure such as satellite up-link, Optical Fibre Cable (OFC) access, etc. These clusters, now poised to develop as the corridors of IT development. The IT development is a "Pulsar" on Chennai City and there were no such single development as that of IT industries that had brought in so much of physical, social and economic impact on the city's socio – economic fabric. After watching this, in order to utilize the development potentials, the government of Tamil Nadu (GTN) already had come-up with an IT policy. Much of the physical developments envisaged by this policy, had already taken place. Meanwhile, the worldwide IT recession had come as an anti-climax to these developments, and the impact is felt in Chennai too. Is it a planning question as to *"what to do with the already developed IT corridors? What would happen to all these efforts that have been put in of planning strategy while developing these corridors, or what would happen if IT boom is to revive? Or how to utilize the already created IT infrastructure in case the IT does not revive?"*

2. TRENDS OF IT INDUSTRIAL DEVELOPMENT IN CHENNAI

2.1 IT firms in Chennai

 Chennai metropolis is located in the north eastern part of Tamil Nadu in India. It has an area of 170 sq. km. with a registered population of about five million as of 2001. Chennai Metropolitan Area (CMA), which is delineated for the purpose of planning and development under the Town and Country Planning Act 1971 covers an area of 1177 sq.km. and holds a

population of about seven million in 2001. As per the techno-economic analysis of the IT firms and their employees in 2001, there were 1164 IT firms in Chennai. It consists of 590 Software (SW), 261 Hardware (HW), 101 Maintenance and Distribution Firms (MDF), and 294 Training Institutions (TI)Table 2.1

TABLE NO.2.1 - NUMBER OF IT FIRMS IN CHENNAI - 2001
(Classification By Type And Management)

Types	G	MNC	I&L	P&P	TOTAL firms	Total Employees
Software (SW)	2%	10%	38%	50%	590	14273
Hardware (HW)	0%	1%	24%	75%	261	3566
Maint. and Distribution Firms(M&D)	2%	0%	18%	80%	101	567
Training Institutions (TI)	1%	4%	25%	75%	294	2002
				TOTAL	1164	20408

(G - Government, MNC -Multinational Company, I & L - Indian Corporations and Limited Liability Companies, P&P - Partnership and Proprietary Companies)

The employees' classification based on type of profession is also presented in the above table. Among the employees category, Software accounts for about 70 percent followed by the Maintenance and Distribution, for about 20 percent.

2.2. Spatial Distribution of IT firms

Spatially looking, the IT firms characterize some nodality with some area preferences. Agglomeration of Software firms is seen in the areas of T.Nagar, Teynampet, Nungambakkam, Greams road, Mylapore and Gopalapuram with a maximum concentration in T.Nagar with about 125 Software firms. It is also to be seen that there are firms with multi-location in characteristics, indicating that they focus in Software development, Training, Maintenance and Distribution. Spatially at city level it has shown some amount of nodality with some locational preferences.
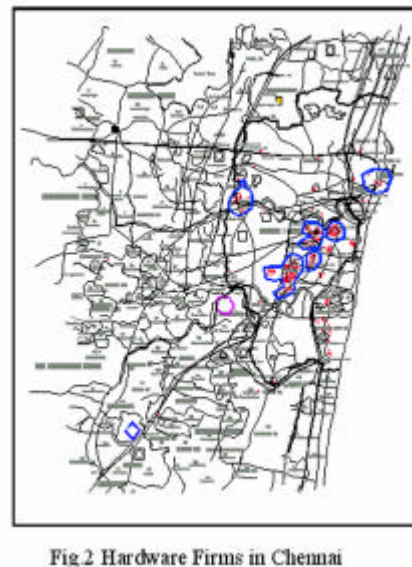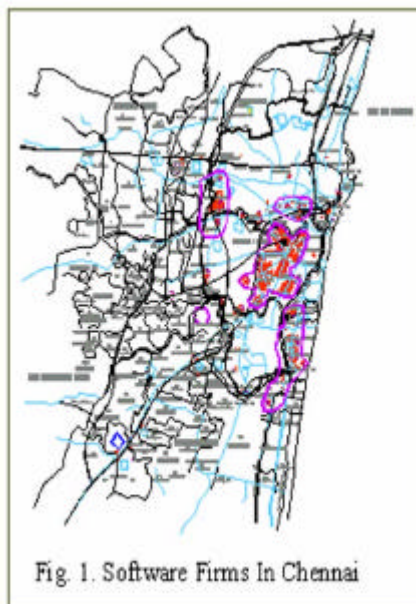

Fig. 1. Software Firms In Chennai

Fig.2 Hardware Firms in Chennai

Fig. 3. M & D Firms in Chennai

Fig 4. TI Frims in Chennai

This distribution has planning implications. Software firms, first started in places like T.Nagar, Teynampet and Nungambakkam had the focus in accessibility for employees and trainees. Most of these firms were housed in existing buildings by swapping the commercial or residential uses.

2.3. Age, Gender distribution:

It is interesting to note that the age distribution of employees of IT industries in Chennai (for that matter in any of the IT metros of India) has skewed towards youngsters with more than 90 percent of them being below 25 years of age. Table 2.2

Table 2.2 – Age and Gender Distribution- 2001

AGE GROUP (IN YEARS)	MALE %	FEMALE%	BOTH%
<25	38.8	66.9	57.5
25-39	58.2	30.1	39.5
40>	3.0	3.0	3.0
TOTAL	100.0	100.0	100.0

Most of them are from other states, mainly North India. Being at the earlier stage of life, having comparatively very high income their demand and life style are different from that of others. Their demands include luxury accommodation with modern amenities. Their mobility pattern, use of vehicles and parking spaces are also more demanding in nature. This had an effect in their work and living places had to have more car parking areas that is only possible in selected locations. In these places, there is a hike in general rental value of the built space.

2.4. Floor area Occupancy rate and rental value of the IT industries in Chennai

Though the mere number over space of the IT firms represents some spatial pattern (2.2), its distribution by size represented by floor area shows the intensity of development.

Hardware firms occupy relatively lesser floor area, whereas Software firms occupy larger floor area. Table 2.3 and Fig. 5 and Fig. 6

Fig. 5. Floor area of Software Firms ... among The Firms In Chennai – 2001

(in percentage)

Area In Sq.mt	Software				Hardware				Maintenance and Distribution				Training Institutions			
	G	MNC	I&L	P&P	G	MNC	I&L	P&P	G	MNC	I&L	P&P	G	MNC	I&L	P&P
5-10	0	0	0	20	0	0	0	20	0	0	0	10	0	0	0	20
10-50	0	0	20	40	0	0	20	40	0	0	25	60	0	0	40	30
50-100	0	0	20	30	0	0	20	30	0	0	60	20	0	100	50	40
100-500	50	25	50	6	50	25	50	6	100	0	15	10	100	0	7	10
500-1000	50	50	5	4	50	50	5	4	0	0	0	0	0	0	3	0
1000>	0	25	5	0	0	25	5	0	0	0	0	0	0	0	0	0

It has forced the hike in residential rental values of preferred locations. It is observed that many firms opted to move to their own buildings only if they reached a threshold earning level. Such firms prefer to expand by shifting to multi-storied, multi-user complex with well-maintained infrastructure facilities. (For instance, Cyberabad near Hydrabad and Bio-City near Chennai). As a result the sub-urban areas are getting pressurized. The preferred modes of acquisition of IT firms are shifted from leased to ownership. Space per employee of Software firms is between 5 to 7.5 sq.mt.

Table No.3.7 - Tenure of Accommodation of Firms in Chennai -2001

TYPE	Occupancy Status	G %	MNC %	I&L %	P&P %
SW	Own	100	0.8	48	25
	Rental	0	24.2	52	75
	Leased	0	75	0	0
HW	Own	0	0	46	24
	Rental	0	25	54	76
	Leased	0	75	0	0
M&D	Own	0	0	5	5
	Rental	100	0	74	80
	Leased	0	0	21	15
TI	Own	0	0	5	10
	Rental	100	100	60	85
	Leased	0	0	35	5

3. PLANNING IMPLICATIONS AND DEVELOPMENT OPTIONS

If one tries to draw the trend based on what is so far happening in IT industry in Chennai, it would point to the requirement of an IT firm's spatial distribution policy. These firms, for many reasons, started in a highly commercial or dense residential locations (2.4). This itself leads to the choking of already congested road. It also escalated the rental and land values of these areas. These firms had good earnings, which coincided with the state government policy to develop IT park with exclusive infrastructure. For instance, the "TIDEL PARK" of Chennai started with 1 million sq.ft. (0.1 million sq. mt.) of built space in July 2000 and the total area was booked in advance before the completion. Seeing the overwhelming demand, the State government had gone for developing another park of similar size in the nearby site, and it was also booked in advance before the construction. This ground truth speaks of the demand for centralization of IT firms for want of specific infrastructure facilities such as information super highways etc. elsewhere.

3.2. Proposal for Mega IT area in Chennai

The Chennai Metropolitan Development Authority (CMDA) as an authority to guide the development of Chennai Metropolitan Area (CMA) at the instance of Tamil Nadu state government conducted a study to propose development of the IT oriented activities. National Association for Software and Service Companies (NASSCOM) and M/s Richard Ellis and Co. had also done studies on the IT development proposals for Chennai. In essence, these proposals aimed at developing large IT parks in advantageous locations in terms of having better physical environment that is needed for these firms and having better accessibility like highways Airport link etc. They are also aimed at decongesting the core commercial and residential areas of the core city. It is estimated by CMDA through a study that the total population likely to settle in the IT hubs is about 0.1 million in 2003 and, about 0.22 million in 2011. This is based on the assumption that 20 percent of the total employees would be single (2.3), and those with the family, having household size of 4.5 persons, and 70 percent of the total IT and allied population would be settling in the IT hubs. Based on this, it is estimated that about 4 million sq.mt. of land area is need for the IT hub by the year 2011.

3.3. Planning Implications of IT recessions

Recession had hid IT industries, while the IT industrial development was proposed to take-off as mega IT hubs in Chennai. Though the economic impact is visible right now in terms of employment lay-off, their effect on the physical development is yet to be seen. Major investment like "TIDEL PARK" is already in place and, many of the IT giants had developed the site and building in the proximity of TIDEL PARK. In a major shift, an IT firm has already come-up forward to offer its built space for lease. If this trend continues, then

what would happen to the very costly built-up space and its exclusive IT infrastructure? Had the development been allowed in the older part of the city in the existing buildings, then it would have recovered fast by re-deploying them for the original use *vis a vis* commercial, residential or office use. Or the new developments that are related to IT could have been tuned to that extent that it could be still used for non-IT use. Or the buildings could have been designed as modulated blocks which enables them to use it for non – IT use. It could be an emerging area like Bio-technology which need almost similar physical built-up space but with specific location and accessories.

Reference:

1. UNCRD (1990) Critical Success factors – Key to the use of Information System / Technology in Local / Regional Planning, United Nation Center for Regional Development (UNCRD), Nagoya, Japan

2. UNCRD (1990) Information System / Technology for Urban and Regional Planning in Developing Countries, United Nation Center for Regional Development (UNCRD), Nagoya, Japan.

3. NASSCOM (2001) Information Technology Industries in India, National Association for Software and Service Companies (NASSCOM), Mumbai, India

4. King John Leslie and Kenneth L. Kraemer, Computer and Communication Technologies: Impacts on the Organization of Enterprise and the Establishment and Maintenance of Civil Societies, National Academy of Science, USA, (http://www.nap.edu/readingroom/books/esi/index.html).

5. Day John and Robert R Miller, Computerization and use of Internet in Developing Countries, IFC, Discussion Paper Number 35, International Finance Corporation. (http://www.ifc.org/DEPTS/OPS/ECON/PUBS/DP35/DP35.html).

6. - Sekar S.P. (2001) " Marching Towards Cyber City – A Planning Perspective", 37th International IsoCaRP Congress, 13-20th September, The Netherlands, The International Society of City and Regional Planners (IsoCaRP)