

# Factors Affecting Urban Land Value in Indian Cities - Chennai City as a Case Study

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**Abstract** - The escalating land value has brought immense pressure for development in most parts of the Indian cities within the city limits and its agglomeration areas. The increase in the value is found mainly along the major economic growth corridors which in turn further inevitably increased the land price in the core areas of the city. Chennai the fourth most densely populated Indian city is undergoing this intense pressure for development in housing, industrial and commercial sectors. The land value of the city is mainly directed by the economy, urban sprawl, location, land use, infrastructure availability and land scarcity in the city. The paper analyses all the factors affecting land value and concludes the importance of land value analysis in city development.

**Keywords** – Land Value, Location, Land Scarcity, Economy

## I. INTRODUCTION

The rapid urbanization in India has made cities as the central foci for India's future development. By 2030 from 2008, there will be a population rise by 250 million with about 10 million to 11.4 million new people to accommodate in Indian cities every year [1]. Tamilnadu is one of the prime state in the country has nearly 48% urban population with 33 cities having more than one lakh population as per 2011 census. It is predicted that in the next decade Chennai may become a megalopolis city. If we take the real estate scenario about 80% of the development is residential and remaining 20 % comprises of the offices, public spaces, institutions, etc. This growth in both residential and commercial sectors increased land utilization in the available vacant plots and underutilized lands. This change has indirectly increased the land value in and around the city. The factors that influence land prices are accessibility, location, urbanization level, growth trend, land use and development approval [2]. Further the inherent value, Floor area ratio, Black market and changes in interest rate determines land value of an area [3]. This paper analyzes the various factors affecting land value for Chennai city and the importance of land value analysis in city development.

## II. BACKGROUND OF THE STUDY AREA

Chennai is located in the southern part of the India situated on the shores of the Bay of Bengal in Tamilnadu state. Chennai Metropolitan Area (CMA) covers 1,189 km and comprises the Chennai city corporation, 16 Municipalities, 20 Town Panchayats and 214 Village Panchayats in 10 Panchayat Unions. Chennai city extends to an area of 176

square kilometers segregated as 155 wards in 10 zones as per the 2011 census. In many ways Chennai like other metro cities is a globalization "hot spot" which attracts considerable foreign direct investment and economic transformations [4]. The city has a heterogeneous occupation developed mostly in the industrial, tertiary and informal sectors. The economic development has created variation in land values in and around the city. A pressure for development in the vacant land and underutilized land is created because of this increase. This change has further increased urban sprawl and pushing of the city corporation limit to an area of 426 square kilometers with 200 wards at present.

## III. THE FACTORS AFFECTING LAND VALUE IN CHENNAI

### A. Economic Growth and Urban Sprawl

After 1990 there has been a massive change in the economy of India due to privatization, foreign direct investments, liberalization of trade and industries and better management [5]. The contribution of urban which was 58 % of overall GDP in 2008 may increase to 70 % by 2030 [1]. The economic growth in the Tamilnadu state has been tremendous over the years due to industrial sectors set up in major cities like Chennai, Coimbatore, Trichy, Madurai, etc. Chennai city and its agglomeration covers 25 % of the states population and shares 39 % of the states GDP. Fig.1 shows that the growth is prominent within the city and along the major transportation corridors with various industrial developments.

Most of the agricultural lands were converted in plots due to high demand for industrial and residential developments. In the process of urbanization Chennai metropolitan area agricultural land was encroached and decreased from 40,991 ha in 1991 to 22,130 ha in 2004 [6]. The growth of the Chennai metropolitan area triggered by the economic activities along the major corridors GST, OMR, NH4, NH205 and NH45. The north Chennai dominates with oil refinery and coal hub, west with the electronic hub, southwest as Automobile hub and south as the Education and IT hub. A well managed growth has to be planned with effective utilization of land in the city and its agglomeration area for a better living in the future.

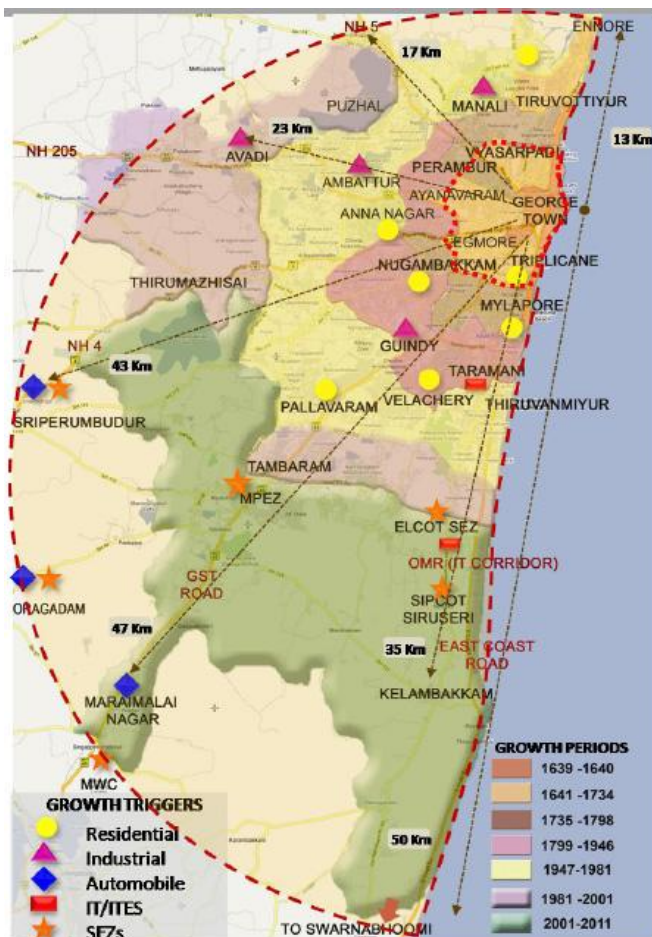


Figure 1: Growth of Chennai [7]

The guideline value as per 2007 in the Chennai Metropolitan area ranges from 250 Rupees per square feet to 6000 Rupees per square feet. The maximum land value is found along the GST road, OMR and ECR. The main reason for this change is due to the nearness to workplaces and new infrastructure developments [8]. There was an increase of land value is found in these areas due to increase in residential and new commercial developments to support the

industries. This rising land value in outskirts inevitably increased the market price of the property within the city too.

### B. Increasing Population and Changes in Land use

The population growth within the city has saturated because the land value is too high and new settlements are formed on the outskirts has increased the price both inner and outer city. Table 1 show even though the rate of growth has decreased due to urban sprawl the density of population and the absolute population has been increasing in the city. Table 2 gives the land use for Chennai city from 1973 to 2006 and the proposed use for the year 2026. The second master plan has proposed the density of 33000 persons per square kilometer for the city. The plan further changed the residential areas to primary residential and mixed residential. Agriculture land is distributed to other uses. These changes in land use have increased the commercial values of the plot.

Table 1: Population Growth in Chennai city (Source: Census of India)

Year	Population	Decadal Growth rate	Density of population (Sq.km.)	Extent (Sq.km.)
1981	32,76,622	-	18617	176.00
1991	38,43,195	17.29 %	21836	176.00
2001	43,43,645	13.02 %	24680	176.00
2011	46,81,087	6.8%	26,553	176.00

### C. Location

Location of an area plays a major role in the value of the land. A land which located within the city without any encumbrance will be higher than the land in the peripheral areas due to the easy accessibility to various physical and social infrastructures. Where ever the major roads are available the land value is high. Some of the areas like Boat club road, Poes garden, etc. have highest land value due to the presence of very high income groups. For a case study the fastest growing Velachery ward in the city is considered.

Table 2: Land Use Changes for Chennai City [9]

Land use	1973		2006		Proposed Land use 2026		
	Extent in Hectare	%	Extent in Hectare	%	Land use	Extent in Hectare	%
Residential	7788	44.46	9523	54.25	Primary Residential Zone	5916.35	33.58
					Mixed Residential Zone	2426.90	13.78
Commercial	820	4.68	1245	7.09	Commercial Zone	714.24	4.05
Institutional	3045	17.38	3243	18.48	Institutional Zone	2868.97	16.28
Industrial	893	5.10	908	5.17	Industrial Zone	691.83	3.93
					Special and hazardous Industrial use zone	130.67	0.74
Open space and Recreational	920	5.25	366	2.09	Open space & Recreation Zone	1000.65	5.68
Agriculture	-	-	99	0.57	Agricultural use Zone	-	-
Non Urban	-	-	82	0.47	Non Urban	113.31	0.64
Others	4052	23.13	2087	11.89	Other (Vacant, Forest, Hills, Low lying, Water bodies etc.,)	3754.79	21.31
Total	17518	100	17553	100	Total	17617.70	100

The price of land for square feet varies from 12000 Rupees to 3000 Rupees. Since Ambedkar colony is along the lake area and low income group the land value is at a lower side of 3000 rupees per square feet. The Velachery

main road and Taramani main road connects the major corridors OMR road and Mount road has the highest land value of 12000 rupees per square feet. In the entire city this variation is persistent due to the road width, maintenance,



water body, low income areas, slum areas, etc. Hence the context of an area is one of the major factors for determining

the land value.

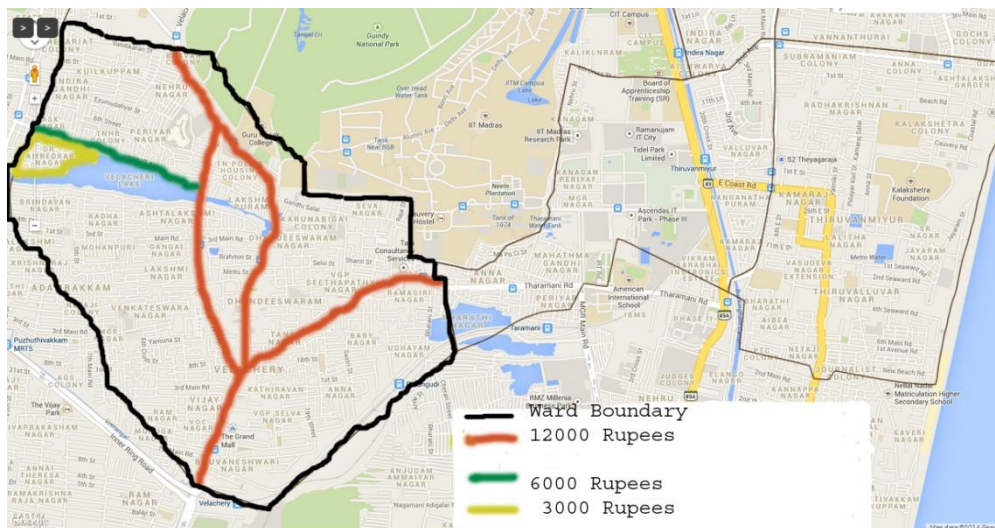


Figure 2: Land value variation in Velachery ward

#### D. Availability of Infrastructure

The land value changes based on the availability of infrastructure facilities provided by the urban local bodies, urban development authorities and other service providing agencies for facilities like road, transport, communication, water supply, sanitation, electricity, etc. The city limit since coming under the Chennai Corporation, all the facilities provided better than the suburban area. Fig. 3 clearly shows that areas within the city like Velachery, Adyar and near the periphery like Tambaram, Porur are having better attractiveness index than the suburban areas. Thus the availability of infrastructure has a great impact on the variation in land value, between the areas within the city and suburban.



Figure 3: Location attractiveness index [10]

#### E. Land Scarcity

The density of population which relates to the built up area shows most of the areas in the city is having more than the average. From the census 2011 data the highest density of population is found in the old settlements like

George Town, Old Washermanpet, Saidapet, Triplicane and the Mylapore area. In some of the areas the density exceeds even beyond 1000 persons per hectare. Fig. 4 shows the availability of land has been diminishing within the city due to this high population density over the years. This scarcity has created pressure on the land required for amenities to support residential use like the public uses, institutions and social infrastructures and thus increased the land value more in the city.

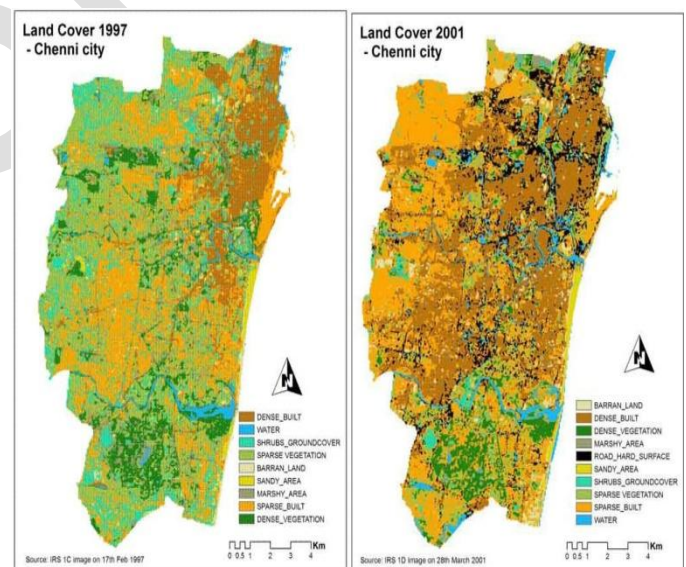


Figure 4: Chennai City land cover during 1997 and 2001 [11]

#### F. Floor Space Index

Floor space index (FSI) is the ratio between the total built up area and the plot area. The Chennai metropolitan authority allows an FSI limit up to 1.5 within the city to restrict the growth. Even though professionals and developers say the FSI has to be increased due to high land value, the reality shows that an increase of FSI from 1.5 to 2 may increase the land value to about 30% in that area [12].

## IV. CONCLUSION

The post economic changes after 1990 boomed the entire economy of large cities in India. This economic growth attracted the migrants from other areas increased the population and pushed the city limits. This paper shows the interrelationship between urban growth and land value. The land value increased due to the urban sprawl and thus inevitably raising the land value in the many areas to the highest level. This change further increased the pressure for development in the core areas of the city and in turn the land value. The other factors like location, land scarcity, availability of infrastructure, land use change also have a great influence for the variation in land value. Since the land value triggers the growth of the city leading various urban problems, a careful analysis of the various factors is mandatory. For any development the land value and its influencing factors have to be verified for preparation of plans, projects and policies to achieve a comprehensive solution for the city.

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