

A Study on Economic Analysis of Urban Land Use Pattern in Thanjavur

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ABSTRACT

Urban land use is a measure of physical manifestation of socio-economic, cultural, political and environmental forces shaping the use of land in urban areas. In general, urban land is used for various purposes but the most common types of uses include residential, commercial, industrial, recreational, transportation, public and semipublic uses. This paper aims at analyzing trends and the changes in urban land use pattern in Thanjavur Municipal Corporation. An analysis of factors influencing urban land use pattern changes, factors determining urban land value and factors towards regulating urban land use would deserve due to attention in the present study.

1. INTRODUCTION

The economic factors of demand and supply of urban land also play a significant role in this process of land use pattern. The pattern of land use in any urban area is a replication of competition for sites between various uses operating through the process of demand and supply. Similar patterns of land use emerge in different urban areas because of competition between different potential users for given sites. The person who is willing to pay the largest sum for a site is likely to be the person who will eventually occupy and use it. By this mechanism, sites in an urban area will tend to be used for that purpose from which the user makes the greatest net gain from alternative uses of that site. This would result in the highest and best use for that land.

In most cities however, residential use always covers between 50-60 percent comprising houses of various kinds ranging from detached houses, duplexes, condominiums, block of flats and bungalows to tenement houses of single rooms. The proportions of the area coverage by different land uses are influenced by many factors, which include socio- economic, physical and environmental, technical infrastructure, government policies and laws. Commercial uses include areas used for activities such as market places, shops, shopping complexes, offices and exhibition centres. As some of these specific uses are planned for in some urban areas, some grow out of the spontaneous needs of the community in a residential area. The provision of access roads both pedestrian and vehicular usually lead to the up spring of blocks of offices and shopping complexes along the access routes. This phenomenon is very much noticeable all over metropolitan areas. Industrial land use provides for existing and future manufacturing establishments as well as other related uses such as warehouses and industrial areas of the metropolitan.

Institutional land uses include areas prepared for the major institutions of government at all levels including federal, state and local. These include schools, hospitals, police, post office, cemeteries, places of worship and barracks. According to FAO (1995), land use concerns the

function or purpose for which land is used by the population; it can be defined as “the human activities that are directly related to land, making use of its resources or having an impact on them.” For a given area at a given spatial level, land use is described by specifying the mix and particular pattern of land-use types, the aerial extent and intensity of use associated with each type, the land tenure status, as well as natural and physical characteristics.

2. REVIEW OF LITERATURE

Manju et al (2011) reported that in Delhi, India built-up area witnessed an overall increment of 16.86% of the total city area of 1490 km² during 1997 to 2008. This area mainly came from agriculture land, waste land, scrub-land, sandy areas and water bodies. In comparison the increment in forest cover of 0.5% is very small. Total area of water bodies has reduced by 52.9% in the same period. To increase the quality of life in an urban environment, it is essential to preserve and manage natural land use classes through appropriate urban planning.

Ramachandra et al (2004) reported that along the Mangalore-Udupi highway in India, it was found that the percentage change in built-up area over a period of nearly thirty years was 145.68% and by 2050 the built-up area in the region would rise to 127.7 km², which would be about 106% growth in the change in built-up area to the current sprawl of 61.7 km² over the region. Sprawls change in Salem city situated in Salem District of Tamilnadu, India was identified and quantified for 1973- 2010. It was found that the Old Suramangalam Cluster or North West Cluster extends from Andipatti to Burns Colony.

Singh and Kumar (2012) reported that urban expansion is a major cause of land use changes. During last some decades India has witnessed rapid and uncontrolled urban expansion due to progress in industries, trade and population increase. The anticipation of services and opportunities in cities fuels this growth. When the population increases due to migration, in the outer part of the city, urban sprawl is taking its toll on the natural resources at an alarming place. Land development has been out of control and the construction on land has kept expanding blindly, especially in the marginal areas of these cities. The rural and urban fringe is most rapidly changing element in the urban landscape mapping; land use/land cover of the rural urban fringe in a timely and accurate manner is thus of great importance for urban land use planning and sustainable management of land resources (Sulochana, 2005).

3. STATEMENT OF THE PROBLEM

Urban land use is a measure of physical manifestation of socio-economic, cultural, political and environmental forces shaping the use of land in urban areas. In general, urban land is used for various purposes but the most common types of uses include residential, commercial, industrial, recreational, transportation, public and semipublic uses. This paper aims at analyzing trends and the changes in urban land use pattern in Thanjavur Municipal Corporation. An analysis of factors influencing urban land use pattern changes, factors determining urban land value and factors towards regulating urban land use would deserve due to attention in the present study.

4. METHODOLOGY

OBJECTIVES

- To study the trends in urban land use pattern changes in Thanjavur Municipal Corporation.
- To examine the factors influencing urban land value in Thanjavur Municipal Corporation.

HYPOTHESIS

H1: There is no significant association between demographical characteristics of the respondents and their views on factors determining urban land use changes.

SAMPLING

The study was conducted in Thanjavur Municipal Corporation. Data were collected through well structured interview schedule. The data was collected from 100 respondents are selected and living within the municipal boundaries. The respondents are identified from the ward councilor, representing different occupational groups. In this study only households who have resided more than 20 years in the same locality are selected as sample. It is observed that most of the households have resided in a particular locality during the last 5-10 years. The land use changes can be observed only by the households who have stayed in a particular locality for a period of more than 20 years.

DATA COLLECTION

The relevant secondary data are collected from the office records of local planning authority and the Thanjavur municipal corporation concerned. The primary data are collected from the respondents in their residence with the help of interview schedule method. The respondents extended full cooperation in successful data collection. By and large the responses are good and fair.

DATA ANALYSIS

The collected data are classified and tabulated with the help of computer programming. The cross tabulation for secondary data analysis is done by taking Thanjavur municipal corporation as independent variable and land use pattern as dependent variable. In the case of primary data analysis, the demographic characteristics of the respondents are taken as independent variables and variables relating to factors, determining urban land use changes, changes in urban land use pattern in Thanjavur municipal corporation, factors determining urban land value in Thanjavur municipal corporation and measures to regulate the urban land use are taken as dependent variable.

5. RESULTS

$$\text{AND } C.V = \frac{\sigma}{x} \times 100$$

DISCUSSION

The growth of residential area in Thanjavur Municipal Corporation was 2425.32 hectares in 2002 and it increased to 4540.00 hectares in 2012, indicating 5.84 per cent annual growth in the

period of analysis, showing 22.96 per cent growth rate variation, consequent upon rapid increase in residential land from 2008 to 2012. Thanjavur district have increased their residential land area from 3633.52 hectares in 2002 to 6580.94 hectares in 2012, indicating a growth of 4.07 per cent per year with the growth rate fluctuation of 20.62 per cent. The growth of residential area in Thanjavur Municipal Corporation is due to conversion of agricultural land in to housing plots, consequent upon urban migration and also growth of urban population. The growth of commercial area in Thanjavur Municipal Corporation was 62.15 hectares in 2002 and it increased to 145.00 hectares in 2012, indicating 8.01 per cent annual growth in the period of analysis, showing 30.10 per cent growth rate variation, consequent upon rapid increase in commercial land use from 2007 to 2012.

6. SUMMARY AND FINDINGS

The respondents have high level rating on urban land use changes with reference to decline in public space and facilities, extension in suburbs increase in land price, establishment of more government institutions, concentration on waste land and increase in business investment. The respondents have moderate level rating on urban land use changes with reference to development and rebuilding, expansion of city area, enlarging city development in residential area, expansion of real estate business, conversion of agricultural lands into housing plots in sub urban areas, increase in rental value, spatial planning, neighborhood growth, rural-urban migration, development of housing apartment and public accessibility to work place school, store and recreational facilities. The respondents have low level rating on urban land use changes with reference to extension of road facilities, functional attraction, physical growth of city, encroaching public land for dwelling purposes, rapid development of city, access to services, increase in household income and infrastructure development.

The result of caste wise analysis reveals that the forward caste respondents rank the first in their overall rating on factors determining urban land use changes, backward caste respondents the second, most backward caste respondents the third, and scheduled caste respondents the last. The result of occupational wise analysis reveals that government employee respondents rank the first in their overall rating on factors determining urban land use changes, private employee respondents the second, business group respondents the third, professional group respondents the fourth and wage labour group respondents the last.

The result of income wise analysis reveals that highest income group respondents rank the first in their overall rating on factors determining urban land use changes, respondents in the income group Rs.15000-20000 the second, respondents in the income group Rs.10000-15000 the third, respondents in the income group Rs.5000-10000 the fourth and lowest income group respondents the last.

The result of education wise analysis reveals that post graduate level educated respondents rank the first in their overall rating on factors determining urban land use changes, under graduate level educated respondents the second, higher secondary level educated respondents the third, secondary level educated respondents the fourth and primary level educated respondents the last. The result of sex wise analysis reveals that the female respondents lag behind male respondents in their perceptions on factors determining urban land value.

The result of occupation wise analysis reveals that the professional group respondents rank the first in their overall rating on overall suggestive measures to regulate the urban land use, government employee respondents the second, business group respondents the third, private employee group respondents the fourth and wage labour respondents the last. The result of income wise analysis reveals that the highest income group respondents rank the first position in their overall rating on overall suggestive measures to regulate the urban land use, respondents in the income group Rs.15000-20000 the second, respondents in the income group Rs.10000-15000 the third, respondents in the income group Rs. 5000-10000 the fourth and lowest income group respondents the last.

The result of education wise analysis reveals that the post graduate level educated respondents rank the first in their overall rating on overall suggestive measures to regulate the urban land use, under graduate level educated respondents the second, higher secondary level educated respondents the third, secondary level educated respondents the fourth and primary level educated respondents the last. The result of sex wise analysis reveals that the female respondents lag behind male respondents in their measures to regulate the urban land use.

The findings of respondents' views on factors determining urban land value indicate the following facts. The respondents rate the high level factors determining urban land value with reference to distance to the city centre, environmental quality surroundings, functional essential in terms of public vehicles, track lines and road functions, rural-urban migration and development of institution complex. The respondents rate the moderate level factors determining urban land value with reference to difference between government rate and market place due to growing market demand urban land, general inflection, length of distance to work place, relative distance to other support activity, willing to pay more amount toward buying land in preferring location and growing demand for urban commercial land. The respondents rate the low level factors determining urban land value with reference to access to road and transport, access to educational and health institutions, good quality of ground water availability, distance to local shopping centre within the area, land scarcity in the city, growing demand for urban residential land, remoteness from the central place, functional attraction in terms of distance from city centre and distance to the nearest public transportation.

The result of caste wise analysis reveals that the forward caste respondents rank the first in their overall rating on factors determining urban land value, backward caste respondents the second, most backward caste respondents the third and scheduled caste respondents the last. The result of education wise analysis reveals that the primary level educated respondents rank the first position in their overall rating on factors determining urban land value, secondary level educated respondents the second, higher secondary level educated respondents the third, under graduate level educated respondents the fourth and post graduate level educated respondents the last.

7. CONCLUSION

It could be seen clearly from the above discussion that urban land use pattern has been rapidly changing in Tanjavur District. It is due to recent development in commercial and business activities, consequent upon privatization, liberalizations and globalizations. It could be noted that land areas around the urban fringe area are significantly changed particularly hundreds of

hectars of cropped areas are converted in to housing colonies and also agriculture lands are converted in to business land use, commercial land use and recreational land use. This clearly shows that urbanization is inherent process in the modern developing era. It is evident from the result of the study that many social cultural, economic, commercial and business factors are responsible for land use changes. Further the urban land value has been increased at many fold level due to heavy demand for urban land. The land value at the heart of the urban area is remarkably high owing to concentration of large number of key business activities and commercial activities. Hence there is need to regulate the urban land use pattern particularly to prevent the environmental pollution and congestion through appropriate policy measures.

8. REFERENCES

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