CHAPTER VI

GROWTH OF RESIDENTIAL AND NEIGHBOURHOOD AREAS

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GROWTH OF RESIDENTIAL AND NEIGHBOURHOOD AREAS

6.1 Early Development of the Residential Area and Neighbourhood:

The work of Burgess (1925) indicates that the residential units near CBD get converted into smaller functional units, like, offices, market area, industries etc., hence only the working class residential area alone remains, while the middle class residential areas get shifted away, as private houses and flats.

Hoyt (1939) has pointed out that once the centre develops with urban activities, the residential area or light manufacturing area, could extend itself by new growth in its outer area. The flexibility of change is dependent on the transport facility. He has shown as to how fashionable residential districts had migrated outwards between 1900 and 1936 among the thirty American cities.

Haris and Ullman (1945) have shown the nature of growth of an urban area from the centre into residential zones etc. Housing certainly in terms of surface area, is the most important of city land uses. Only at the city centre it is usually superseded by other uses. Residential land is, of course by no means homogenous. There is the very obvious
tendency for the ages of houses to decline outwards. The higher value of residences are away from industrial and other nuisance, such as noise, smoke, smells and traffic. Lower value houses are near work spot, industries etc.

Savani, N.V. (1966) has worked on over urbanization, the rapid urbanization before economic development, housing development with urban growth, standard of housing and future demand for better housing facilities etc. Albaum Melvin (1973) has shown the shift of housing area with the increase of population from crowded area to less crowded area.

Majority of cities in developed countries have a trend not only towards large scale peripheral sprawl but also towards residential relocation into surrounding rural environments. This kind of development is not necessarily an expansion of further urbanization and where it has occurred, it may even serve to depress slightly the real degree of urbanization by allocating truly urban families to census divisions that are officially classed as non-urban in type. On the other hand, at best one of the consequences of such decentralization may be to promote further urbanization, albeit on a fairly limited scale. Those who move are from higher income groups, and who generate demands for services of many kinds. Some services will be provided locally which will lead to work opportunity for the existing labour force and create new dimension areas. Jones, R. (1975).
In congested urban areas, the development of an urban infrastructure and housing units, have not kept pace with the fast growth of cities and urban-industrial agglomeration, the last few decades. Chronic housing shortage and inadequate utilities and public services are common problems. The urgent need for redevelopment and urban renewal is too often neglected Scholler, P. (1975).

All these have shown the place of residential area in an urban centre and the outward spread as the centre grows in dimension. Hence in this chapter it has been attempted to analyse the residential growth in Coimbatore city and its impact on the environment.

The occupation of the areas by specific communities were responsible for the growth of those residential areas in Coimbatore city. Their contribution to the growth of the area was such that, the local administrators allocated those areas to them. Thus it is interesting to indicate the specific areas under these communities. The Christian Missionaries were also responsible for the development of certain residential areas around the churches, established by them. Thus, in this section an attempt has been made to trace the development from 1805.

Coimbatore municipality was noted for its efficiency in administration, which also added to the fast growth. There
were the local and migrated communities living in different parts of Coimbatore. The local administrators allowed them to occupy the areas. The Kempallis, Devangas, Kammas, Othchekkes, Bether Checklers, Pariyans and Brahman have had their own separate sites to start separate residential colonies. Of the communal sites, the extension for Brahmins called park town on the Sathyamangalam road, opposite the central jail, is perhaps the most striking and contains more than one hundred garden houses, each house standing on its own quarter acre plot with an open space all round. It was the first large extension scheme for Coimbatore and so far the best built and is being added towards the north and west. Another extension called Thadagam extension is the biggest, which was later named as R.S.Puram, consisted of 350 acres. This lies between Forest College and Agricultural College, in the north. The area is still being filled with residential and other buildings. The Cox street and gray town connecting Avanashi road, near Uppilipalayam are private extensions and the approval of plans were done by the local administration.

As early as 1805 there was no remarkable feature, as the residential area, though there were about 2000 houses, as a total. Coimbatore gained the rank as a town with 6,784 houses only by 1881. The houses were built with good hygiene and facilities. When Coimbatore became the headquarters of
the district, some more administrative buildings were added such as Collector office, Treasury, Court and Engineering office. More officials were added in the local administration too. The central jail in the east acted as one unit accommodating 1221 inmates. The Christian Missions were also responsible for the establishment of buildings like Chapel, Churches, etc. This gradually lead into the development of houses and school building under each mission. For instance there were Roman Catholic Mission, French Mission and London who had their share in the building of some areas. The development was in the form of trade, education and industrial units, which occupied the available spaces, with respective buildings.

In 1911 the city gained characteristic feature with buildings. The city attained the appearance of a town with broad streets, substantial shops, communication facilities, public buildings, factories etc. In 1931, it was proposed to start a cement industry at Madukkarai, 10.08 kms. from the city. This influenced the growth to some extent. The residential area expansion was gradually increasing.

The city area increased to 17.75 sq. kms. in 1951. In 1961 based on the rate of growth the condition for 2001 A.D. was estimated. It was estimated that in 2001 A.D., the population would be twenty lakhs and 45 per cent of the
overall area would be residential and 55 per cent for concomittent use, which go to constitute the city. The gross residential density will be 1214 persons per hectare, i.e., 50 persons per residential acre, in future urbanisable acre will be 367 sq.kms.

Apart from the development of the city, it is essential to look into the nature and development of the neighbourhood areas. The importance and growth of the neighbourhood will some way create a pressure on the city for facilities etc. and thus lead to urban environmental problems. Hence some of the neighbourhood areas which have historical, religious and recreational importance, have also been taken for study in the present work (Vide Fig. 6.1).

Perur lies to the south-west of Coimbatore town at a distance of 5.8 kms. It occupies an area of 6.11 sq.kms. The population was 5,605 in 1971 and according to 1981 census it is 6929. Out of the 1329 persons increase, in the area, the household increase is remarkable. The place gained 211 households. It is a historical as well as a religious centre. It is worth recalling that, once Coimbatore was considered as a village, in Perur. Perur was a village where a saint lived. This gave rise to the development of an education centre in his name. The growth of this institute has given rise to the development of the area with various buildings.
The river Noyil which drainas through this place, has been considered important for religious rites, hence the daily commuters from the city, is also a notable feature. There is an increase of participants in the seasonal festivals, hence the place shows a trend of development.

The present Singanallur - was an urban village given to a Brahmin and called after the Chola King Singamadal. To day it has grown into an important industrial town. The industrial growth here was, as fast as in Coibamatore. This was the Satellite town for a long time. Due to the readjustment of the administrative boundary, Singanallur has been merged with Coimbatore Corporation in 1980. This lies to the eastern section of Coimbatore city. This had a population of 1,12,206 and an area of 52.97 sq.kms, in 1971. Thus it has added a density of 2118.2 persons per sq.km. Till merger into city, it was a township. The household density in 1971 was 494.67 per sq.kms.

Podanur lies to the south of Coimbatore city, 9.8 kms.away. This was the original junction for railway line from east and south. Only later, lines were extended to Coimbatore. Hence the communication line between these places havebeen established early. Podanur is also a railway modal centre. Apart from the railway junction it has varie- ties of industrial activities like paper mill, battery box,
tannery and foundry. All these depend on Coimbatore for other service facilities. The place has an All India Radio Broadcast station. Thus the place itself has a number of functions which gave rise to the development of the area. But, for the other facilities, its dependence on Coimbatore, is an added pressure on the city.

Annur and Sirumugai, which were under Coimbatore taluk have been included into Avanashi taluk.

Thudiyalur lies 9.6 kms. to the north of the city. It has an area of 865 hectares. The population in 1981 is 9,787. Apart from the industrial activities in the surrounding areas, it is known for weekly cattle market. This leads to the movement of people from the surrounding areas through Coimbatore. When the city had limited functions in the north, it did not create any problem. But the increase of traffic and other activities add more problems during these weekly market days. The road to Thudiyalur has an important role as a corridor to all north bound traffic.

The corporation being extended on the north and west have included Telungupalayam, Kumarapalayam and Sanganur, which were neighbourhood areas, before this.

Kuniamuthur was a village to the south of the city, about 5.7 kms. away. In the beginning it had no noteworthy
urban function. Now the area is 23.54 sq.kms. with a population of 34,013. The density is 1447.4 persons per sq.kms. This has developed into an industrially important centre. This important industrial town has created a pressure on the city of Coimbatore.

Ganapathy which is an active industrial town lies to the north of the city. It was the immediate neighbour in the north when Coimbatore was a municipality. When the corporation was formed in 1980 and the city limits were altered, Ganapathy with an area of 7.85 sq.kms. and a population of 21,849 got merged into Coimbatore. After 1960 the increase in the industrial establishments were high, hence this area with its various activities, would create a pressure on the city.

Marudhamalai lies to the west of the city at a distance of 12.6 kms. over the hill. This has a temple which draws pilgrims from all over the country. The hill has a number of springs. These springs were used to prepare aerated water in Coimbatore. The regular visitors to this beautiful hill spot create a lot of pressure on the availability of facilities in the city like transport, lodging facilities etc. Now the Bharathiar University centre has been located at the foot hills. This has created a situation for the expansion of the city towards the foot hills.
The development of various departments of the university, and the staff facilities will, in future, increase pressure on the city.

Mylaripalayam which lies to the west is known for the fruit gardens. Hence dependence for transactions and market is on the city. The spring at Karadimadai attracts visitors, seasonally. This also lies to the west of the city about 12.9 kms. away. Similarly boluvampatti is another place in the forested area on the west. This lies at a distance of 15.7 kms. This covers an area of 3,202.8 hectares. After 1970 the forest is being reduced, giving rise to more urban activities. Thus the places on the west, though have a few functions, their fast growth will be, an added pressure on the city, demanding more facilities.

Peelamedu another industrially important town which was in the north-east direction of Coimbatore, has become part of Coimbatore corporation. This was a small village, almost a hamlet in Sowripalayam and has now become famous because of its two spinning mills, Ranga vilas and Ramakrishna mills, both Indian owned and Indian managed. The management has opened a high school and an industrial school in the village. These have developed and given a considerable dimension of growth.
Karamadai lies on the way to Nilgiris. It is famous for some seasonal festivals during March, which will be attended by quite a number of visitors from all over the district. Hence seasonal pressure for the arrangement of facilities and safety measures, are on the city.

The other neighbourhood areas are Periasickenpalayam, Narasimha Raickenpalayam, Kurudampalayam, Chinnavedampatti, Vilankurichi, Telungupalayam, Kumarapalayam, Pallapalayam, Peruchettipalayam, Kuniamuthur, Kurichi, Vellalore, Perur and Coimbatore (K.M.) were only at the rank of villages in 1961. By 1971, they have gained the rank of towns. This indicates the rapid changes taking place in the neighbourhood areas. Among these Telungupalayam, Kumarapalayam and Coimbatore (K.M.) have become part of Coimbatore corporation after 1960. Hence the growth and development of the neighbourhood area in course of time will become a burden on the city, which is already having its pressure and stress.

6.2 Residential Area Growth of the City:

The chief housing areas within Coimbatore municipality prior to 1927 were two. The one with high density of 197 to 247 houses per hectare was in the heart of the city. The second area was in race course, mostly occupied by Europeans with a low density of 10 houses per hectare.
After 1927, extensive areas were brought under town planning control and a number of detailed planning schemes were notified, and sanctioned in 1933. The municipality laid out the Thadagam extension, on the west. The early introduction of planning control had a very statutory effect on housing development in the city, as the houses developed, in all available spaces. Although all requirements of good planning were not satisfied, the housing areas were laid out, to a regular street pattern with well shaped plots. They also had some extent of reservation for parks and other purposes. Outside the area covered by the planning scheme, was also meant for housing development.

The increase in the new residential extension with R.S. Puram, Tatabad, Race course, Ramnagar etc. have sprung up after 1960, with well built bungalows. Kattoor, Fort, Devangapet, Anupparpalayam, Sukrawarpet, Ukkadam, Bazaar area, Kempatty colony, Peelamedu and Pappanaickempalayam come under old residential area, while Gandhipuram, Tatabad, Saibaba colony, Siddhapudur, Gavundanpalayam and Ganapathy come under new residential area (Table 6.1). The old residential areas are in and around the CBD except Peelamedu and Pappanaickempalayam. The early industrial activity in this area might be the cause for the presence of old residential area (vide Fig. 6.2). All the other residential areas have developed along with the growth of the city. The old residential area
## TABLE 6.1  SPATIAL DISTRIBUTION OF OLD AND NEW RESIDENTIAL AREAS IN COIMBATORE CITY

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of Locality</th>
<th>No. of houses per 1000 population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Old Residential Area</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Fort</td>
<td>149</td>
</tr>
<tr>
<td>2.</td>
<td>Kattoor</td>
<td>133</td>
</tr>
<tr>
<td>3.</td>
<td>Devangapet</td>
<td>174</td>
</tr>
<tr>
<td>4.</td>
<td>Anupparpalayam</td>
<td>100</td>
</tr>
<tr>
<td>5.</td>
<td>Sukrawarpet</td>
<td>158</td>
</tr>
<tr>
<td>6.</td>
<td>Ukkadam</td>
<td>149</td>
</tr>
<tr>
<td>7.</td>
<td>Bazaar area</td>
<td>125</td>
</tr>
<tr>
<td>8.</td>
<td>Kempatti colony</td>
<td>165</td>
</tr>
<tr>
<td>9.</td>
<td>Peelamedu</td>
<td>171</td>
</tr>
<tr>
<td>10.</td>
<td>Pappanaickenpalayam</td>
<td>175</td>
</tr>
<tr>
<td></td>
<td>New Residential Area</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Gandhipuram</td>
<td>184</td>
</tr>
<tr>
<td>2.</td>
<td>Tata Bad</td>
<td>163</td>
</tr>
<tr>
<td>3.</td>
<td>Saibaba colony</td>
<td>180</td>
</tr>
<tr>
<td>4.</td>
<td>Siddapudur</td>
<td>221</td>
</tr>
<tr>
<td>5.</td>
<td>Sanganur</td>
<td>171</td>
</tr>
<tr>
<td>6.</td>
<td>Goundempalayam</td>
<td>161</td>
</tr>
<tr>
<td>7.</td>
<td>Ganapathy</td>
<td>215</td>
</tr>
</tbody>
</table>

*Source: Municipal Settlement Register - 1980.*
developed along with the development of other activities, while the new residential areas developed purely for residential purpose only. Thus the living houses in the new residential area are more.

When the nature of increase of houses is studied, it gives yet another dimension of growth. In 1800 there were only 2000 houses when the town population was 15,000. It has already been indicated that the population till 1941 was at a low rate. Accordingly the increase in the number of houses in the residential area was also small. In 1941 there were 17,629 houses in the city. In 1951 another 1,420 houses were added. In 1961 there were 43,323 houses which went upto 69,303 in 1971. It accounts for an increase of 208.8 per cent. According to 1981 census there were 1,43,069 houses, showing an increase of 106.4 per cent, to the previous year. In 1981 due to the change in the administration, there is an increase in the number of houses. This shows that even though the area has increased still, the density is more than 1000 per sq.km.

Residential area occupied 54.9 per cent of the total area of the town in 1961. There were in all 46,323 houses in 1961. But it has gone up almost by double, in 20 years time. The new residential extension like R.S.Puram, Tatabad, Race course, Ramnagar etc. have sprung up in recent years, that is, between 1960 and 1970, with well built
bungalows. Out of the total houses enumerated in Coimbatore, 22 per cent were of pucca structures, 64 per cent semi pucca and kutcha structures and 14 per cent thatched etc.

Out of 1,43,069 (1981) houses, about 28 per cent are single families and the rest 72 per cent were multi family dwellings. More than 61 per cent of the households live in one roomed houses and 20 per cent in two roomed houses. A number of housing complexes have increased. The newly built houses are in the pattern of having more than one tenant. Even in some of the single housed area, houses are being remodelled into housing complexes, for example at Rammagar and R.S.Puram (Plate III).

6.3 Housing Density Pattern:

The overall density of the city in 1961 was 2091.3 per sq.km. In 1971 the density is still higher, that is 2,512.2 per sq.km. According to 1981 census the density is 1,351.2 per sq.km. The value appears to be less than 1971 because the area has increased considerably.

In order to analyse the housing density of the metropolitan city, the wards have been used as the basic unit for calculation (Appendix V). In 1961 the maximum density was found along the old residential area of Coimbatore. That is along Devangapet and Sukrawarpet areas with more than
400 houses per sq.km. The next higher density is along the Bazaar area and the eastern side of the CBD with 200-300 houses per sq.km. The third higher density is also in the southern section of the bazaar, with a density of 160 to 200 houses per sq.km. The fourth category of density is along the early mill area and at Kempatti colony with 120 to 160 houses per sq.km. The density of 80-120 houses per sq.km. is on either side of the railway line and the Fort area. This may be due to the area, being occupied by more administrative buildings. The eastern extension of Ramanathapuram has less density than the west, because in the western half, the residential area development took place along with the formation of Pankaja mills. The western extreme of the city area being far from the CBD, and, due to the availability of space in the city itself, the density is least, with less than 40 houses per sq.km. Similarly, race course, red field and Puliakulam area are away from the CBD. The race course and red field area are occupied by a few houses but each having a large open space surrounding the house, as garden space. Moreover at this time the demand for space, for residential occupation, was not much. The areas along R.S.Puram, Tatabad, Siddhapudur and the north of Forest college area, were having a few new residential clusters and other urban functional centres.
On the whole the figure 6.3 indicates the areas with high housing density to the low housing density of the city. The highest was to the north of the CBD, where the houses are closely spaced. Most of them are found to be street houses without garden space in the front. These houses were developed before the planning authorities had any control over the housing development. Hence the area having housing density between the categories of 400 and more to 120-160 houses per sq.km. are in and around the CBD area.

Figure 6.4 gives the housing density in 1971. When compared with the 1961 density, an interesting picture of increased pressure of housing density is noticed. The Devangapet area and the area to the south of this had highest density of more than 400 houses per sq.km. in 1961. In 1971, the west and the south western area occupied by Sullivan street, Thomas street and Karuppagounder street area have also come under the maximum density of 400 houses per sq.km. Area under Narakkadai, Mill road, eastern section of Oppankara street have the density of 200 to 300 houses per sq.kms. The area to the north of Bazaar street have become partially less dense because large areas have been occupied by educational institutions like St. Michale, Presentation convent and Union school etc. Hence the area along variety hall road and Nawab Hakim road and Jullikuli street have got filled with residential houses. The area to the east of
Devangapet and along mill road area have gained more housing density. Towards the extreme east, Siddhapudur and Pappanaickenpalayam which were under 40-80 houses density have gained higher density. Similarly Puliakulam area which had the lowest density has gained more density. Only Selvapuram area, Race course and red field area have the lowest housing density. Kam Nagar area, eastern part of K.S.Puram and Tatabad area have gained more housing density. Thus on the whole it is found that in most of the wards the housing density has increased and resulted in the pressure for space within the city (Appendix VI). On the whole the area under less than 40 houses per sq.km. has reduced. The increase in the west fort area is remarkable. That is, increase is from 80-120 houses density to 160-200 houses density. The increase in the housing density indicates a larger area coming into higher housing density and the area under low density is reducing.

6.4 Household Density Pattern:

The spatial pattern of household density in Coimbatore city in 1961 and 1971 have been analysed and compared. In 1961 (Appendix VII) the Devangapet area and the Sukravarpet area had the maximum household density of more than 400 household per sq.km. The next highest of 200 to 320 household is found in the mill area along variety hall road. The household density of 160 to 200 has been found along
Kattoor area, market area and Kempatty colony. The Fort area also comes under this category. The area between Raja street and Bazaar street on either side of the railway line near CBD and the western half of Ramanathapuram have household density of 120 to 160. The area to the south of Big Bazaar street branch, the eastern side of R.S.Puram, Brahmin extension, Oppanakara street area have 80 to 120 density. Western most part of Sai Baba colony, Latbala, Siddapudur, part of Pappanaickenpalayam and east of Ramanathapuram have 40 to 80 density. While Selvapuram, race course, Central jail area, Red fields and Puliakulam area have the least household density of less than 40 (vide Fig. 6.5).

The 1971 ward-wise density (Appendix VIII) pattern indicates an increase in the pressure of household in the city area than 1961. The highest density is over Devangapat and Sukrawarpet like 1961. But more areas have gained the household density of 200 to 320 per sq. km., such as mill road area, eastern section of Oppanakara street, area near Gandhi park, Telugu Brahmin street, Karuppagounder street and Thomas street area. In this mill road area had only 160-200 density and Telungu Brahmin street, Karuppagounder street etc. areas had only 120-160 household in 1961. The increase is rapid. Similarly the areas along the western half of Raja street and eastern extension of Oppanakara street have gained density from the category of 80-120 to the category of
120 to 160 density. The eastern extension of Siddhapudur and Pappanaickenpalayam have gained a greater density. For instance, in 1961 they had 40 to 80 density but in 1971 the density has increased to 120 to 160. The western half of Siddhapudur and the area to the north of Selvapuram gained a density from 40 to 80 category to 80 to 120 category. Fuliakulan has also gained a higher density of household. Selvapuram area, Race course, Red fields have the minimum of less than 40 household per sq.km. The 1981 ward-wise housing and household data have not yet been published, hence a comparative study has been done with the available 1961 and 1971 data. The overall household density for 1981 is 1,354.8 per sq.kms. (Vide Fig. 6.6).

The above, analysis indicates that, as the city grows with urban importance, the residential area also becomes crowded thus exerting pressure on the existing space of the city.

The growth has exerted an increase of household density over the area within the city. An analysis of the household density of the city with the neighbouring urban towns show interesting result of already burdened neighbourhood. The study has been done for 1961, 1971 and 1981.

Figure 6.7 shows the household density of Coimbatore and the neighbouring urban towns in 1961. Among the
neighbourhood places except Ganapathy, Singanallur, Vellalore, Kurichi, Kuniamuthur and Madukkarai all the other immediate neighbourhood were villages. Sulur is the other urban town. Even among these neighbourhood towns, majority towns are on the east and south, hence the impact will be more from this direction. Coimbatore city has the maximum density of over 1600. The next category is considerably low. Ganapathy, Singanallur, Kurichi and Sulur have 200 to 400. Vellalore, Kuniamuthur and Madukkarai have 100 to 200. The central city density is very high. The other towns have less pressure on land and hence, the impact on the city will be less (vide Table 6.2).

**TABLE 6.2  HOUSEHOLD DENSITY OF CITY AND NEIGHBOURHOOD TOWNS - 1961**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Urban Towns</th>
<th>Area in sq.km</th>
<th>No. of Household</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Coimbatore</td>
<td>23.03</td>
<td>57418</td>
<td>2493.18</td>
</tr>
<tr>
<td>2.</td>
<td>Singanallur</td>
<td>15.6</td>
<td>5468</td>
<td>350.51</td>
</tr>
<tr>
<td>3.</td>
<td>Ganapatny</td>
<td>11.7</td>
<td>3313</td>
<td>263.16</td>
</tr>
<tr>
<td>4.</td>
<td>Kuniamuthur</td>
<td>26.00</td>
<td>3894</td>
<td>149.77</td>
</tr>
<tr>
<td>5.</td>
<td>Kurichi</td>
<td>16.90</td>
<td>6216</td>
<td>367.61</td>
</tr>
<tr>
<td>6.</td>
<td>Vellalore</td>
<td>16.12</td>
<td>2877</td>
<td>178.47</td>
</tr>
<tr>
<td>7.</td>
<td>Madukkarai</td>
<td>21.55</td>
<td>2690</td>
<td>124.83</td>
</tr>
<tr>
<td>8.</td>
<td>Sulur</td>
<td>6.5</td>
<td>2290</td>
<td>352.31</td>
</tr>
</tbody>
</table>

Source: Census of India - 1961.
The household density of 1971 gives an interesting feature. Most of the places which were mere villages in 1961 have become towns in 1971. Those places which are close to the city have higher density. Sanganur which was a village in 1961 has not only become a town in 1971 but has the second highest household density. Sulur has also come into this category but it is far away from the city. Similarly Telungupalayam which was a village in 1961 has become a town in 1971 and has the third highest density. Ganapathy which had a density of 200 to 400 in 1961 has gone up to 600 to 800. Kumarapalayam which was a village in 1961 has become a town in 1971 with a density of 400 to 600. Singanallur and Kurichi have gained density from 200-400, to 400-500 category. Kuniamuthur has gained density from 100-200, to 200-400. Periyanaickenpalayam though far away, has a density of 200-400. (vide Fig. 6.8). The villages of 1961, Pallapalayam, Perur, Chettipalayam, Perur, Veerakeralam, Kavundanpalayam, Kurudampalayam, Narasimha Naickenpalayam have become towns and have a density of 100 to 200. Chinnawararpatti, Vilankurichi and Muthukavundanpudur have become towns but have density figure of less than 100. Thus there is a striking increase not only in the position of the places but an increase in the household density too. This indicates the pressure exerted by the increase of household density of the city and by the neighbourhood on the city (vide Table 6.3).
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Urban Towns</th>
<th>Area in sq. km</th>
<th>No. of Household</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Coimbatore</td>
<td>23.47</td>
<td>69303</td>
<td>2952.83</td>
</tr>
<tr>
<td>2.</td>
<td>Singanallur</td>
<td>48.63</td>
<td>24056</td>
<td>494.67</td>
</tr>
<tr>
<td>3.</td>
<td>Kurichi</td>
<td>20.31</td>
<td>8633</td>
<td>425.06</td>
</tr>
<tr>
<td>4.</td>
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<td>5365</td>
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<td>227.82</td>
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<td>Ganaputhy</td>
<td>7.85</td>
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<td>629.55</td>
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<td>3530</td>
<td>164.42</td>
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<td>2923</td>
<td>180.54</td>
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<td>14.</td>
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<td>159.42</td>
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<td>15.</td>
<td>Vilankurichi</td>
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<td>16.</td>
<td>Veerakeralam</td>
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<td>1367</td>
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<td>Perur</td>
<td>7.33</td>
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<tr>
<td>21.</td>
<td>Pallapalayam</td>
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<td>22.</td>
<td>Coimbatore (N.M.)</td>
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<td>581</td>
<td>231.47</td>
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<td>23.</td>
<td>Nuthugoundampalayam railway colony</td>
<td>0.83</td>
<td>12</td>
<td>14.46</td>
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</table>

Source: Census of India - 1971.
Figure 6.9 gives the household density in 1981. There is an alteration in the city area itself. Sanganur, Gamapathy, Sanganallur, Coimbatore rural area, Numanapalayam and Telungupalayam have been merged into city area in 1980. Hence even after the extension of the administrative area, the areas added have not given ample open spaces for residential occupation, but have only brought areas which are already having high density of household. Thus the urban environmental problem of shortage of space and resultant health hazard will be created by these areas. In 1961 (Table 6.4) the corporation area has the maximum density of 800 to 1600. The city had over 1600 in 1971. Though the density is numerically less, added pressure cannot be over looked. Kurichi has 400 to 600. Perianaickenpalayam, Narasimhanaickenpalayam, Kurudampalayam, Kavundanpalayam, Perur, Kuniamuthur, Pallapalayam, Perur Chettipalayam, Madukkarai, Vellalore have 100 to 200. Vilankurichi and Muthu Kavundanpudur have the minimum of, less than 100. The steady increase of the household density indicates the possible impact on urban environmental landscape.

6.5 Growth of Urban Nodes in the Neighbourhood of Coimbatore:

Figure 6.10 gives the chronological growth of urban centres around Coimbatore. Coimbatore city alone was in the
COIMBATORE CITY AND NEIGHBOURHOOD

CHRONOLOGICAL URBAN GROWTH

FIG. 6.19
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Urban Towns</th>
<th>Area in sq.kms.</th>
<th>No. of Household</th>
<th>Density</th>
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<tr>
<td>1.</td>
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<td>143069</td>
<td>1354.82</td>
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<td>2.</td>
<td>Vilankurichi</td>
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<td>59.06</td>
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<td>12.32</td>
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<td>187.01</td>
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<td>Vellalore</td>
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<td>14.</td>
<td>Ferur</td>
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<td>1.32</td>
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<td>9.85</td>
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<tr>
<td>16.</td>
<td>Sulur</td>
<td>10.96</td>
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<td>Pallapalayam</td>
<td>5.60</td>
<td>1275</td>
<td>227.69</td>
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</tbody>
</table>

Source: Census of India - 1981.
rank of urban town, before 1901 all the others were villages. In 1921 Kurichi became a town. In 1941 Kuniamuthur, Vellalore, Singanallur and Sulur became urban towns. In 1961 Ganapathy and Madukkarai became urban towns. In 1971, Periamaiickenpalayam, Narasimhannaickenpalayam, Kurudampalayam, Chinnavedampatti, Vilankurichi, Kavundampalayam, Sanganur, Muthu Kavundampalayam, Telungupalayam, Perur, Coimbatore (Rural) and Perurchettipalayam have come under urban town grade. Nayakkampalayam and Agraahara Samakulam have become urban towns, after 1981.

Figure 6.11 shows the status of urban neighbourhood of Coimbatore. Thudiyalur, Vellakinar, Kurudampalayam, Kuniamuthur and Kurichi have been adjudged as urban nodes. Veerapandi, Periamaiickenpalayam, Irugur and Madukkarai, Perurchettipalayam and Perur have been classified as future urban nodes. A new by-pass road has also been planned connecting these new towns and nodes. The urban centres are intermittent by villages. The rate at which sixteen villages have gained urban position shows the influence of the city. The more the importance gained, by the places in the neighbourhood, the more the burden will be on the metro city of Coimbatore. This will add to the management of problems of the environment.

With all the increase in the household and housing area and also in the increase of urban neighbourhood, the housing
problem in Coimbatore is acute and rent is higher, due to
the importance of the city and the space being filled by
houses at a fast pace. The short fall in housing, can be
assessed, by estimating the number of houses that will be
required to be built, over next five years to ten years
taking immigration. It is difficult to assess exactly the
housing requirements but on a rough assessment 50,000 houses
will be required to be built, to wipe off the present shortage
and to provide for the additional population of about 2.3
lakhs. This does not include buildings which require to be
replaced, nor the joint families which in future require
separate houses, if they choose to live separately. It
could be understood that per year, at least 10,000 houses
would be required, to be built.

Slums are inevitable part of an urban centre
especially, in fast growing urban centre. Similarly slums
are found in areas in the heart of the city and at the newly
developing neighbourhood. There are a number of hutted slums
in different parts of the city. The municipal council under
took clearance and rehabilitation of seven slums, out of
these, three have been taken up at slaughter house area slum,
Balaiyan Thottam slum and Lingaiyan slum. Other slums which
have been taken for improvement are Arunthathiar slum,
Siddhapudur slum, police recruit school area slum and Kempatti
slum. The improvement schemes have been planned but entrusted
to State Housing Board. The State Housing Board at Coimbatore has already taken action to clear or improve these slums. The board has acquired 13.4 hectares (33 acres) of land on both sides of Perur road to house 1,119 surplus families from these slums. The development of these lands, to provide house sites or housing, is in progress. There are seven slums. These are either along the ponds (Kulams) or near industrial areas. They are, railway line slum behind Srinivas theatre, Valankulam slum, Ammankulam slum, Ammankulam Sesanagar, two in Hazanathapuram, Sivapuram and Balaji Nagar, Muthumariammal railway line slum, Kaleeswarar Nagar, Patel road slum, Kumarasamikulam slum, Kalampatti colony, Balaiyanthottam, Valankulam slum, Puliakulam thoppu, Selvapuram slum, Kamala Mill kuttai slum, Slaughter house slum, vincent colony slum and Sanganur west (vide Fig. 6.12). Whenever, there is heavy rain these places are given immediate attention to prevent flood effect as most of them have occupied low lying areas. But this is not a solution to the problem.

Under the slum clearance scheme about 30,000 people in the slums of Coimbatore city, were covered in 1984. There were over 80 slums in Coimbatore corporation limits with a population of 70,175. Six of these slums covering a population of 6,687 were situated on Central Government land. There were 12 slums with a population of 6,938 on private land. It was proposed to negotiate with the private owners,
about the land. Laying of roads, construction of storm
water drains, providing public fountains of drinking water,
putting up street lights and constructions of public conveni-
ences were the important work planned in the slums. However,
at present no civic amenities are there for these slum
dwellers. The ceiling for the expenditure in slums has
been relaxed.

There are slums along the railway line area.
They occupy the available space on the sides. The local
planning authorities find it difficult to vacate them. Hence
they have shifted the responsibility to the Government Housing
board, as the slums need rehabilitation in an orderly manner.
Thus the Corporation Planning Department in 72-73 submitted
the scheme for the improvement of the slums at Kempatty
colony, Lingaiyan thottam and Balaiyan thottam to Coimbatore
Housing Board. Similarly in 74-75 at the power house area
Haripuram and Elangonagar had to be set aside for the slum
dwellers consisting of Municipal scavengers. The early
proposal to improve Lingaiyan thottam and Balaiyan thottam
slum clearance had been implemented.

The State, Town and Country Planning Department
have also drawn plans to reduce the problem by the slums.
According to the reports more public housing agencies were
to be involved in the provision of separate accommodation
to the present dwellers. The above indicates that the slums do create problem in the residential areas and industrial areas. As they cannot be removed various schemes have been drawn to rehabilitate them and improve the living conditions.

The land needed for urban development has been assumed for 1981 and 2001 AD in two stages. For the residential uses, 40 per cent of the developed area and the remaining 60 per cent for other concomitant uses which go to constitute the city. The gross residential density has been assumed to be 60 persons per residential acre (148 persons per hectare). Based on this the estimated urbanizable area for 1981 was 177.55 sq. kms. and 321 sq. kms. in 2001 AD, this includes the area of Coimbatore city. The residential extension along Perur road has been progressive, hence the local planning authorities have set aside a specific area in the west, as a green belt, which is meant for agricultural use only. This could restrict the urban encroachment in this area.

The houses are constructed as single family houses and then converted into multi family houses. This showed the trend of increase and this has to be stopped only through Housing Board undertakings. That is, they have fixed rule to construct within the norms. Even in the allocation of various land use, the residential area gets the maximum which shows the large demand for land, for residential purposes.
6.6 Residential Growth and Environmental Issues:

The growing housing and household density stress the need for restricting the increase. The local planning authorities have various schemes to reduce future problems and also to cater to the need. The policy framework of the government stresses the utilization of the land for the purpose of house building as economically as possible, in order to conserve land for other uses and also not to encroach on the valuable agricultural lands. In order to create an aesthetic look it has suggested the need to interspace the low density development with taller buildings, to relieve the monotony of landscape. Housing project will help to estimate anticipated accommodation and provide for the weaker section of population and slums. These indicate only an increase of density problem. Thus, however it is planned, the growth leads to pressure by increase of density.

The demand for houses are more. Hence to meet the growing need, State Housing Board has been entrusted the construction of houses at Goundenpalyam which was outside the city limit in the north. Here government servants housing complex was constructed, but when the city limit changed this has come into city limit. Schemes for various levels of demand and categories of houses have been prepared. There are schemes to provide for slum dwellers also. Though
the density has increased, the demand is still on the increase, and provision for this demand is a great problem in an urban area.

In 1972-'73 steps were taken to develop roads in red field area, K.S.Puram, Ramnagar, Ramanathapuram and Puliyakulam areas. Apart from this, improvement of houses, provision of market area were also included. At Kempatty colony it was planned to provide park land and open spaces and it was filled with more slums. In 1974-'75 an attempt was made to improve daily market and improve the road connection in the residential areas on the north-east part of Coimbatore. The road along Siddhapudur and Pappanaickenpalayam had to be broadened as the movement had increased.

The Power house area was reserved for industrial use but due to the demand for residential area, this was not used for industry but left for residential occupation. The area occupied by slums were left for their use. A by-pass road was planned to connect this area with Mettupalayam road to reduce traffic flow load. In 1976-'79 it was planned to include seven neighbourhood areas, with the existing city limit. Thus the pressure of the centre was increased. In 1979-'80 there were a number of schemes to improve housing facilities. An industrial market to be started in Singanallur and Kurichi, housing of LIC to the North of Perur road, Police housing in Coimbatore town, wholesale market to be shifted to Peria kulam
site, sub-truck terminal at Ukkadam, commercial complex at various places and schemes to improve the existing residential areas. To enable easy movement of people sub ways have been planned in Gandhipuram near central bus stand, Trichy road opposite government hospital, at Mettupalayam road near super market and in town hall.

There are also proposals for the integrated development of the city with central aid. With available, limited, aid, the shopping complex at Avanashi road, Dr. Nanjappa road and a ground floor shopping area at Arokiasami road were developed. Under these schemes, slums were also improved. There are schemes to start a multi-storeyed shopping complex at Big Bazaar street and shift forest college to Mettupalayam and improve the area for city development. Lorry stands to be located at convenient points to reduce congestion in the city. For example if the lorries are stationed at Ukkadam lorry stand, it will reduce the lorry congestion in the western section of the CBD. But the offices of various lorry companies have been established in the city area. This may reduce the congestion by stationary lorries but will increase the movement of lorries to the stand and their respective offices. That is, it will create increased lorry traffic flow load in areas which are already burdened with other vehicular congestions.
The government and local planning authorities have taken steps to restrict the haphazard increase of the residential area. Still in the beginning city shows areas of haphazard growth. Later every space got filled with buildings, slowly giving rise to less open spaces. The above study indicates that though steps are being taken for restricting the rapid growth, the haphazard growth of residential houses and streets are on the increasing scale.

It is interesting to trace the existing problems in the old, as well as, new residential areas. The filling of available space with house construction is very important. The increase in housing demand is such that single houses with compound have been converted into housing complex. For example at Gandhipuram, Ramnagar and R.S.Puram, many individual houses have been remodelled into multi flat buildings (Plate III).

In R.S.Puram, near forest college, the houses were separate with garden space and open grounds, all round them. These have been filled by the housing board flats. There is no proper provision for sewage drain. Hence the domestic waste has been diverted into storm drain. This has resulted in the flooding of the road junction with stinking drainage water (Plate III). The storm drainage is not enough to carry the sewage water of so many houses hence the road is also
flooded with stagnant water, which breeds mosquitoes.
Various units are in charge of construction of houses. This
has also resulted in problem. The Government Housing Board
has provided dustbins for the flats, which get filled and
overflow but it is not cleared by the municipal corporation
lorries, immediately as they do not come under their control
(Plate III). This shows the erratic growth of housing area
by various agencies which has resulted in problems. The
erratic, fast growing housing areas have increased the mobility
of people within and outside the residential areas. This has
given rise to the establishment of service centres without
even a pucca provision for shops. The pavements, meant for
pedestrians have been used, as mobile snack bars and fruit
stalls. This leads to chain of environmental problems in the
residential areas. For example in R.S.Puram, which was once
considered aristocratic area, is now packed with houses, of
various dimensions. Along Diwan Bhadur road, on the pavement
there are stalls, starting from Pan beeda shop to Parota shops.
This extends upto the bus stop. The other service centres are
cool drink shops, cycle repair shops and shoe repairing
cobblers. There is no space spared for the public to await
for the bus. They wait at the passage way, which hinders
the free movement of traffic on the road.

1The Betel leaves and nuts are prepared with some
speciality. Parota is a preparation from corn flour.
This area had plenty of open spaces but after 1960, the area has been packed with buildings for different services. Thus, the space has been reduced. The road is already burdened with increase of vehicular traffic. It is a well developed area hence further expansion of the passage way of the area is not possible. So, such irregular service centres do create urban environmental problems.

The fruit stall adjoining a maternity home, throws rotten fruits and peels by polluting the atmosphere of the area. The corporation has already been facing problems in clearing refuse in the fast growing city, due to lack of facilities. Hence such wastes get stagnated for some time emitting bad odour. It has been a tough task to vacate them as political interference is also a reason. Gopalapuram area near railway station is a residence-cum-commercial area, with more than 150 film distributors, having their offices. Still the Elementary school located in the area has been neglected. This has no compound. The increase in the housing density has increased the drainage discharge also, and the existing sewage path has not been altered to take the excess, hence they are diverted into the school grounds. Thus the rapid growth of residence with no alteration in the other facilities, show visible urban environmental problems, in Coimbatore city.
In Singanallur the street lights are poor. Due to congestion of houses, in some places, the drinking water and the sewage water are at the same spot. There is solid waste dump in front of the school, in the form of a hillock. Apart from this pig dung is also collected and kept for fertilizer purpose. The old municipal office has been converted into urban welfare office. But the ground opposite, has been used, as public convenience on all days except sunday. On Sunday they are cleared by using antiseptic and deodorant powders and used for weekly shandy. This indicates the direction of growth and the lack of facility which has lead to the use of open space not minding the harm created on the environment. This has created a bad odour in the area. The allocation of space for users have not been done due to fast growth, hence schools are adjoined by Toddy shops and Pork shops. Thus the residential areas are getting filled with houses and service centres without any proper order. The provision of bus services have increased the roadside bus terminus and cinema theatres which add to the existing environmental problems.

To meet the demand and to prevent environmental problems every year improvement plans are made, which is indicated, in this section.

The above study shows the residential landscape of Coimbatore and its neighbourhood. In the recent years,
the development of the residential area has been so great, spatially and in density, they need consideration. The various schemes suggest, the pressure of needs and periodical revision of facilities, which become essential. Not only the residential growth in the city has an impact on the city but the neighbourhood area's residential growth has also added to the existing environmental problem. The fast increase in the occupation of open space indicates that by 2001 A.D., it will also have vertical growth to provide for the mounting demand. The provision of living space alone will not be enough, hence along with living space other infrastructural facilities have to be increased. This will lead to constant indulgence with the urban environment. After a certain stage the solution for the increased environmental problem, is bound to become beyond control.
SINGLE HOUSE IS RECONSTRUCTED INTO MULTI-STORYED ONE.

BUILDING MATERIALS AND SOLID WASTE DUMPS
DEMOLOISHED DEBRIS - A SOLID WASTE

DEMOLOISHED AND CONSTRUCTION MATERIALS OCCUPYING MAIN ROAD
HOUSING BOARD DRAIN DIVERTED INTO STORM DRAIN

Sewage pipe of 11" CTING THE ALL
UNCLEANED SOLID WASTE OF THE HOUSING POOR.