CHAPTER - II

* <u>GROWTH CHARACTER OF STANDARD URBAN AREAS (SUA'S)</u> *

- - 2.1 Areal character of SUA's
 - 2.2 Population change in SUA's
 - 2.3 Population density change in SUA's
 - 2.4 Residential houses change in SUA's
 - 2.5 The change of literacy in SUA's
 - 2.6 Migration of population to SUA's
 - References

City is a complex phenomenon, not only because it is a queer socio-economic structure and an intericate pattern of bricks and morter but also it is dynamic. The city is an everchanging entity, always in flux and, therefore, never complete in its form and pattern. " No town is unchanging in its life and building," (Freeman, 1968, p. 105).

The modern city is a dynamic organism constantly in a process of evolution. This evolution involves both the modification of long established functions and the addition of new functions. It grows by accretion of functions and people by unending migration from rural to urban areas. As the population increases, it demands space. As a result simultaneously spatial growth occurs and the city expands. City increases its area by enchroachment over rural areas, adjacent to its boundary. Thus, city boundary expands in all directions. In the matter of course the city becomes a staggening giant even swallowing smaller villages and towns adjacent to its boundary which in the process of city growth join the urban agglomeration as the suburbs.

In the present chapter an attempt has been made to study the growth character of standard urban areas. As a matter of fact the areal size of Standard Urban Area (SUA) should remain constant as per the norms mentioned in the concept. However, sometime the areal size of SUA also shows some change. In the present study we have tried to find out the reasons for change in the area of SUA. As mentioned in the concept, standard urban areas are rapidly growing areas in respect of their population size. We have tried to find out important demographic characters of SUA's. The study deals with the population change, density of population change, residential housing growth, literacy change, birth and death rate character and the rate of migration in all SUA's in the region.

2.1 AREAL CHARACTER OF SUA'S :

As mentioned in the concept of SUA, the SUA's are the static areas whose boundaries remain unchanged for three census years and there cannot be any change or addition of space or new villages in it. Although it is mention in the concept, still in the real world we find that there is slight change in the spatial dimentions of some SUA's of Maharashtra. If we consider all Maharashtra SUA's together, they indicate a positive change by 11.74 percent over a period of ten years (1971-1981). If this change is classified into rural and urban components, then we find that there is positive change of 7.75 percent in all rural components of SUA's in Maharashtra. On the other hand urban component indicate a positive change of 15.59 percent.

When we found out a positive change in the areal size of the SUA's, we were very much confused because the concept of SUA's does not allow any areal change or addition of new rural or urban component. In our study area, we have considered



five standard urban areas namely Kolhapur, Solapur, Ichalkaranji, Satara and Sangli-Miraj. In these SUA's the total areal size indicates 4.74 percent increase during last decade. Out of this change urban component indicate 18.57 percent positive change and surprisingly in respect of rural component, there is negative change of 24.75 percent.

The detail analysis of the positive change in overall areal increase of standard urban areas has been undertaken. Ultimately we have come to the conclusion that in reality there is no areal change in SUA's, but due to the bifurcation of old villages, new villages have emerged on the canvass of SUA's. For example in Kolhapur SUA, there were eight rural component in 1971 but in 1981 the number has increased to ten. Two new villages Kasarwadi and Sambapur have been added to the rural component of SUA's of Kolhapur, but in the real sence these two villages have emerged out of the big village. 'Top' whose area was 20.74 sq.km in 1971 which has been reduced to 10.74 sq.km in 1981 and new villages cover an area of 10 sq.km. Sometime very little addition in the area of SUA's is observed. It also might be because of some allotment of land to the existing villages from out side villages. We have compared the maps of all five SUA's drawn for 1971 and 1981 and surprisingly there is very little change in all these maps (Fig.2.1 to 2.5).



;



(FIG. 2.2)







Areal change in SUA's of study area :

If we consider all five SUA's of study region and try to find out their changes in area we get clear cut idea about the change in each individual standard urban area. Table 2.1 gives change in area of all five SUA's in the region.

Kolhapur SUA

The area of Kolhapur standard urban area was 144.05 sq. kilometer in 1971 and in 1981 it has changed to 147.63 sq.km showing the growth rate of 2.48 percent. The area of urban component of this SUA was 72.78 sq.km and 67.24 sq.km in 1971 and 1981 respectively showing the 7.61 percent negative change during above period. The area of Kolhapur city has not changed but the area of Gandhinagar town decreased by 92.95 percent. On the other hand the area of rural component was 71.27 sq.km and 80.39 sq.km showing the growth of 12.79 percent during 1971-81.

Inspite of several areal changes in urban and rural component of Kolhapur SUA, we find that in the overall areal size there is only a change of 2.48 percent. This is because when new villages were demarcated, that time some out side area has been included in these villages.

Ichalkaranji SUA

The area of Ichalkaranji standard urban area was 33.78 sq.km in 1971, it was increased to 38.12 sq.km in 1981, showing

Sr. No.	Name of SUA	Area in sq.km (1971)	Area in sq.km (1981)	Growth in %
1	Kolhapur SUA	144.05	147.63	2.48
	a) Urban component	72.78	67.24	- 7.61
	b) Rural component	71.27	80,39	12.79
2	Ichalkaranji SUA	33 .7 8	38.12	12.84
	a) Urban component	18.13	32.80	80.91
	b) Rural component	15.65	5.32	-66.00
3	Satara SUA	25.14	26.58	5.72
	a) Urban component	8.16	8.16	No change
	b) Rural component	16.98	18.42	8.48
4	Sangli-Miraj SUA	190.33	196.52	3.25
	a) Urban component	63.82	87.17	36.98
	b) Rural component	126.51	45.09	-64.34
5	Solapur SUA	97.47	105.22	7.95
	a) Urban component	23.23	25.33	9.04
	b) Rural component	74.24	79.89	7.10
6	All SUA's in South Maharashtra	490.77	514.07	4.74
	a) Urban component	186.12	220.72	18.57
	b) Rural component	304.65	229.24	-24.75
7	All SUA's in Maharas tra	h- 3841.98	4293.07	11.74
	a) Urban component	1954.65	2259.45	15.59
	b) Rural component	188 7. 33	2033.62	7.75

TABLE 2.1 : Change in the areas of SUA's.

12.84 percent positive change. The area of urban component was 18.13 sq.km and 32.80 sq.km in 1971 and 1981 respectively. This shows the highest positive change of 80.91 percent. The area of Ichalkaranji city changed to 40.81 percent. On the other hand the area of rural component was 15.65 sq.km and 5.32 sq.km in 1971 and 1981 showing the negative change of 66 percent.

Satara SUA

The Satara standard urban area was having an area of 25.14 sq.km in 1971 and 26.58 sq.km in 1981. This shows the positive change of 5.72 percent during last decade. There was no change in the area of urban component. It remains constant as 8.16 sq.km. The area of rural component was 16.98 sq.km and 18.42 sq.km showing the positive change of 8.48 percent during 1971-81.

Sangli-Miraj SUA

The area of Sangli-Miraj standard urban area was 190.33 sq.km in 1971 and it has increased to 196.52 sq.km in 1981. This shows the 3.25 percent positive change. The area of urban component was 63.82 sq.km and 87.17 sq.km in 1971 and 1981 respectively, showing the growth of 36.58 percent. The area of Sangli city has changed by 96.02 percent positive and slight change secured in Miraj area. There is no change in the Madhavnagar town area. On the other hand the area of rural component was 126.51 sq.km

and 37.19 sq.km in 1971 and 1981 respectively showing the negative change of 64.34 percent during last decade.

Solapur SUA

The area of Solapur standard urban area was having area of 97.47 sq.km in 1971 and increasing to 105.22 sq. km in 1981 showing the 7.95 percent positive change. The area of urban component was 23.23 sq.km and 25.33 sq.km in 1971 and 1981 respectively showing the 9.04 percent positive change. On the other hand the area of rural component was 74.24 sq.km in 1971 and it has increased to 79.89 sq.km in 1981. This shows the 7.10 percent positive change. The Salagarwadi, Neharunagar and Manjarewadi are new villages included as rural component in 1981. That is why the area of rural component increased.

The study of areal growth of SUA's indicate that there is a more change in Ichalkaranji SUA (Fig.2.6). Comparatively all other SUA's have very little change in their total area. This change in the total area of SUA's occurred because in all these SUA's some new villages have been created out of the areas of old villages in the SUA's and while delimiting their boundaries little area from other villages has been allotted to these new villages. Considering this point we find that there is not much areal change in all SUA's in the study area.

2.2 POPULATION CHANGE IN SUA'S :

As per the concept of SUA the areal size should remain constant but in respect of population size the standard urban



T FIG. 2-6

7

areas are considered to be the centres of potential urban growth. Considering this point, we have tried to study the growth of population in SUA's.

If the data of population living in SUA's is compared for 1971 and 1981 period, we find that in Maharashtra there were 25 standard urban areas in 1971 and 12,241,936 persons were living in these SUA's but in 1981 the number of SUA's has increased to 33 and the population living in these areas was 18,340,924 persons. This clearly shows an increase of 49.82 percent during the period of ten years. In our study area there were five SUA's having a population 1,095,658 persons in 1971. In 1981, the number of SUA's has increased to seven, but only five SUA's have been considered in this study. These five SUA's have a population of 1,474,704 persons showing the growth rate of 34.59 percent.

The growth of population in individual SUA's :

If we try to understand the rate of growth of population in all five SUA's under study, we gate a clearcut idea about the pattern of growth for total, urban and rural components of each standard urban area. The details of growth rate are given in Table 2.2.

Satara SUA

The Satara standard urban area was having a total population of 67,955 persons of which the urban component was having

57

. **R**...

Sr.No.	Name of SUA	Growth in %		
1	Satara SUA	31.72		
	a) Urban component	25.43		
	b) Rural component	305.71		
2	Sangli-Miraj SUA	31.48		
	a) Urban component	33.42		
	b) Rural component	14.13		
3	Solapur SUA	28.20		
	a) Urban component	29.24		
	b) Rural component	- 9.12		
4	Kolhapur SUA	35.18		
	a) Urban component	31.35		
	b) Rural component	76.29		
5	Ichalkaranji SUA	67.37		
	a) Urban component	92.66		
	b) Rural component	-54.63		
6	South Maharashtra SUA	34.59		
	a) Urban component	34.59		
	b) Rural component	24.42		
7	Maharashtra SUA	49.77		
	a) Urban component	49.23		
	b) Rural component	61.45		

.

TABLE 2.2 : Population growth in SUA's.

66,433 population and rural component was having 1,522 population according to 1971 census.

On the other hand in 1981 the figures were 89,511, 83,336 and 6,135 respectively showing a respective growth rate of 31.72, 25.43, and 305.71 percent. The population growth of Satara city is 25.43 percent.

Sangli-Miraj SUA

The total population of Sangli-Miraj SUA was 224,198 persons in 1971 and it was 294,784 persons in 1981 showing the growth rate of 31.48 percent. The population of urban component was 201,597 in 1971 and it was 268,988 persons in 1981 showing the growth of 33.42 percent. On the other hand the population of rural component was 22,601 persons in 1971 and 25,796 in 1981 showing the growth of 14.13 percent. In urban component the population growth in Sangli city, Miraj city and Madhavnagar town has 32.35 percent, 35.88 percent and 25.87 percent respectively.

Solapur SUA

Solapur standard urban area was having a total population of 409,295 persons of which the urban component was having 39,836 persons and rural component was having 10,924 persons according to 1971 census.

On the other hand in 1981 the figures were 524,723, 514,860 and 9,863 respectively showing a respective change of 28.20, 29.24

and -9.12 percent. The population of Solapur city has increased by 28.30 percent during 1971-81.

Kolhapur SUA

The Kolhapur standard urban area was having a population of 292,402 persons of which 267,513 persons were in urban component and 24,889 persons in rural component 1971. On the other hand this population numbers were 395,270, 351,392 and 43,878 as total, urban component and rural component showing the growth of 35.18 percent, 31.35 percent and 76.29 percent respectively in 1981.

There is positive growth in the population of Kolhapur city (31.49%) and Gandhinagar (27.22%) respectively.

Ichalkaranji SUA

The Ichalkaranji standard urban area was having a population of 101,818 persons in 1971 and it has increased to 170,416 persons in 1981. This shows the 67.37 percent positive change during 1971-81. The population of urban component was 87,731 persons and 169,026 persons in 1971 and 1981 showing the growth of 92.66 percent. On the other hand the population of rural component 14,087 persons and 6,390 persons for same years, showing the negative change of 54.63 percent during 1971-81. The population of Ichalkaranji city changed by 52.45 percent positive.

Considering the growth data of SUA's in study area one finds that in most of the urban component the growth rate is



T FIG. 2.7 J

positive (Fig.2.7). Out of all five urban components the Ichalkaranji standard urban area shows very high (92.66%) growth rate of population and the lowest growth rate of urban component is observed for Satara urban component (25.43%). The high growth rate Ichalkaranji urban component is because of merging of Kabnur village in urban component and also due to industrial development. The analysis of rural component indicates very high (305.71%) growth for Satara rural component. As a matter of fact this rural component is a continuous part of Satara city and most of the new residential development of Satara city is found in Satara rural component. There are two rural components namely Solapur and Ichalkaranji where the growth rate of population is negative. It happens because due to merging of major part villages into urban component by way of extending the urban boundaries. In Solapur SUA, Solapur rural has been merged into Solapur city and in Ichalkaranji SUA, Kabnur village merged into urban component.

2.3 POPULATION DENSITY CHANGE IN SUA'S :

The urban areas and urban sprawl shows high density of population as compared to rural areas. However, rural areas included in SUA's also shows rapid changes in the population density because these rural areas are influenced by urban spread. In order to find out whether the rural and urban **areas** of SUA's under study have changed their density of population, we have calculated the density for total, urban and rural parts of standard **u**rban areas under study.

If the data of population density in SUA's is compared for 1971 and 1981 period, we find that in all standard urban areas of Maharashtra, the density of population shows positive change by 34.21 percent during 1971-81. It has positively changed by 29.11 percent in urban components and 51.04 percent in rural components.

Population density change in SUA's of study region :

If we try to understand the rate of growth in population density in all five standard urban areas under study, we get a clearcut idea about the pattern of change for total, urban and rural components of each standard urban area. The details of the change has been given in Table 2.3.

Satara SUA

In Satara standard urban area the density of population was 2703 persons per sq.km in 1971 and it was 3368 persons per sq.km in 1981, showing the positive change of 24.60 percent during 1971-81. The population density was observed 8141 persons and 10,213 persons per sq.km in 1971 and 1981 respectively for urban component showing the positive change of 25.45 percent. The Satara city's density increased by 25.45 percent during same period. On the other hand the density of rural component was 90 persons and 335 persons per sq.km in 1971 and 1981 respectively. This shows the positive change of 272.22 percent.

.

TABLE 2.3 : Change in the population density of SUA's.

.

.

Sangli-Miraj SUA

3

In Sangli-Miraj standard urban area the population density was 1178 persons per sq.km in 1971 and it has increased to 2429 persons per sq.km in 1981. This shows the positive change of 106.19 percent during 1971-81. In urban component the density of population was 3159 persons and 3196 persons per sq.km in same period showing the positive growth of 1.17 percent. The rural component was having a density of population 179 persons and 694 persons per sq.km in 1971 and 1981 respectively showing the positive change of 287.70 percent during same period.

Solapur SUA

The Solapur standard urban area was having density of population 4,199 persons and 4,987 persons per sq.km in 1971 and 1981 respectively. This shows the positive change of 18.76 percent during above period. The density of population in urban and rural component was 17,149 persons and 147 persons per sq.km in 1971. These numbers were changed to 20,326 persons and 123 persons per sq.km in 1981. This shows 17.66 percent positive change for urban component and 16.32 percent negative change for rural component. The density of population in Solapur city changed to 18.76 positively. The density in the rural component decreases due to the merging of Solapur rural into urban component in 1981.

Kolhapur SUA

The density of population in Kolhapur standard urban area was 2,030 persons and 2,677 persons per sq.km in 1971 and 1981, showing the positive growth of 31.87 percent. On the other hand the urban component was having density of 3,6**36** persons and 5,226 persons per sq.km for same years. This also shows the positive change of 42.16 percent during 1971-81. The density of population increased in Kolhapur (31.49%) and Gandhinagar (17.05%). The rural component was having the density of population of 349 persons and 546 persons per sq.km for 1971 and 1981 respectively. This also shows the positive growth of 56.44 percent.

Ichalkaranji SUA

The Ichalkaranji standard urban area was having the density of population of 3014 persons and 4471 persons per sq.km in 1971 and 1981 respectively. This clearly indicate that 48.34 percent positive change during 1971-81. The urban component density was 4839 and 5001 persons per sq.km for same years, showing the 3.34 percent positive change during 1971-81. The Ichalkaranji city's density increased by 22.69 percent. On the other hand the rural component was having 900 persons and 1201 persons in 1971 and 1981 respectively. This also shows the positive change of 33.44 percent.

The observation shows that all SUA's under study, the population is rapidly increasing which has affected the density



of population positively (Fig.2.8). The change is more dominant for Kolhapur and Ichalkaranji SUA's. In Solapur SUA rural component there is negative change due to the merging of Solapur rural into urban component.

2.4 RESIDENTIAL HOUSES CHANGE IN SUA'S :

When urbanisation increases the number of residential houses also increases. In standard urban areas there are various rural components which are developed for urban housing. Naturally, the SUA's change in the development of housing is very high. Particularly it is very high in the rural component as compared to general rural rate of growth of housing.

Considering this fact we have tried to find out the change in the residential housing in standard urban areas.

If the data of residential houses in standard urban areas compared for 1971 and 1981 period, we find that in all SUA's of Maharashtra, there is 58.18 percent positive change in residential houses. It has also changed in urban and rural component of all SUA's in Maharashtra by 56.12 percent and 111.07 percent positively during 1971-81.

If we consider all SUA's of South Maharashtra, there is also positive change by 62.31 percent in residential houses. The urban and rural component has also showing positive change of 63.62 and 41.27 percent during same period.

Residential houses change in SUA's of study region :

The growth in the residential houses in all five standard urban areas under study region shows the pattern of change for total, urban and rural components of each standard urban area. The details of the change has been given in Table 2.4.

Satara SUA

In Satara SUA, there were 11,763 residential houses in 1971 and it has changed to 17,668 in 1981 showing the positive growth of 50.51 percent during 1971-81. The urban component was having 11,557 and 15,978 residential houses for 1971 and 1981 respectively, showing the growth of 38.25 percent. The Satara city was also having same percent change. On the other hand in rural component there were 206 and 1190 residential houses in 1971 and 1981 showing the 708.19 percent growth.

Sangli-Miraj SUA

The total number of residential houses in Sangli-Miraj SUA were 40,738 and 53,723 for 1971 and 1981 respectively. This indicates 31.87 percent positive change. On the other hand these numers were 37,130 and 49,125 for urban component in 1971 and 1981. This also shows 32.30 percent positive change. The positive change also happened in Sangli city (37.74%), Miraj (34.74%) and Madhavanagar (25.78%). The total numbers of residential houses in rural component were 3,608 and 4,598 in 1971 and 1981 respectively showing the 27.43 percent positive change. **69**[·]

Sr. No.	Name of SUA	Number of residential houses (1971)	Number of residential houses (1981)	Growth in %
1	Satara SUA	11,763	17,668	50.51
	a) Urban component	11,557	15,978	38,25
•.	b) Rural component	206	1,190	477.66
2	Sangli-Miraj SUA	40,738	53,723	31.87
	a) Urban component	37,130	49,125	32.30
	b) Rural component	3,608	4,598	27.43
3	Solapur SUA	54,513	89,836	64.88
	a) Urban c om ponent	52,563	88,026	67.46
	b) Rural component	1,950	1,860	- 6.61
4	Kolhapur SUA	38,299	70,285	83.51
	a) Urban component	34,704	62,685	80.62
	b) Rural component	3,595	7,600	111.40
5	I ch alkaranji SU A	17,826	33,240	86.46
	a) Urban component	15,499	31,997	106.44
	b) Rural component	2,327	1,261	-45.81
6	All SUA's in South Maharashtra	163,139	264,752	62.31
	a) Urban component	151,453	247,811	63.62
	b) Rural component	11,686	16,509	41.27
7	All SUA's in Maharashtra	2,167,485	3,429,096	58.18
	a) Urban component	2,085,571	3,256,199	56.12
	b) Rural component	81,914	172,897	111.07

TABLE 2.4 : Change of residential houses in SUA's.

.

.

Solapur SUA

There were 54,513 residential houses in 1971 and this increased to 89,886 in 1981 showing the growth of 64.88 percent during 1971-81. The urban and rural components were having 52,563, 88,026 and 1950, 1860 residential houses respectively for 1971 and 1981. This, also shows 67.46 percent positive change for urban component and 4.61 percent negative change for rural component. The Solapur city shows 66.61 percent positive change in residential houses.

Kolhapur SUA

In Kolhapur SUA, there were 38,294 and 70,285 residential houses in 1971 and 1981 respectively. This indicate that there is 83.51 percent growth in residential houses. The urban component having the number of same matter 34,704 and 62,685 for 1971 and 1981, showing the growth of 80.62 percent. The Kolhapur city and Gandhinagar town has also positive change of 81.97 and 37.53 percent in residential houses for 1971-81. On the other hand the rural component was having 3595 and 7600 residential houses for same years, showing the growth of 111.40 percent.

Ichalkaranji SUA

There were 17,828 and 33,240 residential houses in Ichalkaranji SUA for 1971 and 1981 respectively. This clearly indicate the 86.46 percent growth. The urban component was having 15,499 and 31,997 residential houses. This also shows

the positive change of 106.44 percent. The Ichalkaranji city also shows 66.51 percent positive change. The rural component was having 2327 and 1261 residential houses for 1971 and 1981, showing the negative change of 45.81 percent due to the merging of Kabnur village into urban component.

The above analysis of growth in residential houses clearly indicates that in most of the rural component there is very high growth in residential houses (Fig.2.9). There are two SUA's, Solapur and Ichalkaranji where rural component shows negative change in residential houses. As a matter of fact the areas which were classified as rural in 1971 were merged into urban component in 1981, due to this the change is negative.

2.5 THE CHANGE OF LITERACY IN SUA'S :

The rate of literacy is always high in urban areas and it is moderately high in the rural parts which are linked with the urban areas. Considering this fact we have tried to find out the change in literacy in the urban and rural components in SUA's.

In South Maharashtra for all standard urban areas change in the literacy is only 5.4 percent during 1971-81 period. For urban component it is 5.7 percent and for rural component it is only 1.07 percent. When we compare the growth in the literacy



FIG-2-9 5

for individual SUA's we get different picture. We are more concern with the increase in the literacy in rural components of standard urban areas. It is observed that very high change in the rural component of Satara SUA. The literacy rate for Satara rural component is 47.83 percent in 1971 but in 1981, it is 63.64 percent which clearly indicates the increase of 20.8 percent in the literate population of this rural component. The Table 2.5 shows the literacy rate for all SUA's.

In Sangli-Miraj rural component, there is a increase of 10.50 percent in literacy. Similarly in Ichalkaranji rural component this increase is 10.7 percent. Comparatively, in Solapur and Kolhapur rural component of SUA's, the increase is only 6.63 and 4.34 percent respectively. The analysis clearly indicates that in most of the rural component of SUA's under study the percentage of literate population is growing (Fig.2.10). This is a clear indication of the growth of urbanisation.

2.6 MIGRATION OF POPULATION TO SUA :

Standard urban areas are the regions which are growing fast. Several functions and services are added to these areas. Naturally, these regions attract out side population. The fast growing industrial development attract more population as compare to other established old cities. In our study area Solapur and Kolhapur are the old established cities as compared to Ichalkaranji, Satara, Sangli and Miraj.



7 FIG. 2.10 J

TABLE 2.5 : Growth of literacy in SUA's.

7.48 10.70 5.48 5.75 4.88 10.50 1.07 Growth 4.94 20.81 7.82 4.94 6.63 6.69 4.34 9.12 6.36 4.81 5.91 1n % percentage Literate 71.98 72.59 61.53 58.78 52.90 42.23 64.48 66.66 53.92 48.85 58.92 59.44 63.64 61.29 53.11 47.06 55.37 51.07 Number of literate 273,445 4,174 871,903 47,037 3,930 165,532 19,159 277,619 254,898 234,246 20,652 91,142 3,122 824,866 64,431 60, 501 94,264 180,691 (1981) 6,175 83, 335 268,988 25,796 524,723 514,860 9,863 395,270 351, 392 43,878 175,416 169,026 6, 390 1,479,704 1,387,602 92,102 89,511 Popula-294,784 (1981) tion Literate percen-42.83 54.05 48.26 47.96 48.30 35.60 58.57 42.72 46.25 38.15 53.44 53.69 50.00 53.47 59.97 47.56 67.10 67.65 tage Number of 5, 375 literate 3,889 45,598 652 192,425 160,440 585, 556 44,946 119,889 108,980 10,909 196,314 176,654 16,214 41,726 548,517 37,039 47,101 (1671) Population 67,955 66,435 409,295 10,924 267,513 1,095,668 74,023 1,522 224,198 398, 361 292,402 24,889 101,818 a) Urban component 1,021,637 201,597 22,601 14,087 (1671) 87,731 Rural component a) Urban component a) Urban component b) Rural component a) Urban component b) Rural component Rural component a) Urban component b) Rural component b) Rural component a) Urban component All SUA's of South Maharashtra Sangli-Miraj SUA Ichalkaranji SUA Name of SUA Kolhapur SUA Solapur SUA Satara SUA ନ୍ଦ a sr. NO. m ഹ 2 Q -+ 4

In the present study an attempt has been made to find out the rate of migration in all SUA's under study. In order to find out the population which has migrated we have considered the average birth and death rate of core cities under study. With the help of birth and death rate the natural growth of population has been calculated. Further this naturally grown population has been substracted from the actual population of 1981 of all the SUA's in the study region. Table 2.6 shows the details of birth rate, death rate, population by natural growth, actual population of 1981, number of migrant and percentage of migrant to the total population.

Sr. No.	Name of the city	Birth ra te	Death rate	Popula- tion by natural growth	Popula- tion in 1981	Number of migrants	Percen- tage of migrants
1	Kolhapur	31.9 7	11.58	311,890	340,625	28,735	08,43
2	Ichalkaranji	37.52	09.34	112,451	133,751	21,300	15.92
3	Satara	46.51	22.53	082,365	089,511	07,146	0 7.98
4	Solapur	36.72	11.95	497,021	511,103	14,082	02.75
5	Sangli-Miraj	29.46	11.25	227,834	257,844	30,010	11.63

TABLE 2.6 : Numbers and percentage of migrant to SUA.

It is observed that higher percentage of migrant is found in for Ichalkaranji (15.92) and Sangli-Miraj (11.63) SUA's. Kolhapur and Satara SUA's indicate moderate rate of migration (8.43 and 7.98 percent). Only Solapur SUA shows very poor (2.75) rate of migrant.

It is observed that Ichalkaranji and Sangli-Miraj SUA's are developing fast. Several new industries and other functions have been developed in these two areas during the last ten years (1971-81). When rate of migration is high then such areas rapidly develop the urban character.

REFERENCES

- Deshmukh, P.W. (1985) : The location of service activities -A study of central places in Upper Krishna Valley. Ajab Pustakalaya, Kolhapur.
- 2. Daxit, K.R. (1970) : Evolution of cities in Maharashtra -An analysis of phases of urbanization. Indian Geographical Journal, Vol.XIV, pp.53-64.
- Freeman, T.W. (1968) : Geography and Planning, Hutchinson and Co. Ltd., Great Portland Street, London, p.105.
- 4. Mulik, A.D. (1978) : Trends of urbanization in Maharashtra in twentieth century. Journal (Science), Vol.18, Shivaji University, Kolhapur. pp.123-129.
- 5. Reddy, N.B.K. (1970) : Urban Evolution, growth pattern and urbanization trends in Krishna and Godavari delta. The National Geographical Journal of India.
- 6. Vijayraj, N.C. (1972) : The growth trends of urban SeH-lement in the Tungabhadra Basin, Vide urban system and rural development, Ed. by Masood and Shiralingiah Part II, Mysore 'Prasarang' University of Mysore.
- 7. Census of India (1971), Series II, Maharashtra, Part II, General population tables, R.B.Chari, Bombay.
- (1981), Series 12, General population table,
 P.P.Mahana, Bombay.

- 9. District Statistical Abstract of Solapur, Sangli, Satara and Kolhapur district (1971 and 1981), Government of Maharashtra, Bombay.
- 10. Socio-economic review of Kolhapur, Solapur, Sangli and Satara districts (1971 and 1981), Govt. of Maharashtra, Bombay.

X