

DEMOGRAPHIC CHARACTERISTICS

2.1 POPULATION OF SMKMC

As per Census of India estimates, population of area under Sangli Miraj Kupwad Municipal Corporation increased from 351917 persons in the year 1991 to 431014 persons in the year 2001. Increase in population in the last decade was 79097 and the percentage variation in the population is 22.4%. There is a constant decline in percentage variation of population in each decade from 1961 to 2001 and there is less variation in increase in population. This shows that growth of city has almost stabilized.

Table 2.1 Population of SMKMC

YEAR	POPULATION	DECADAL VARIATION	PERCENTAGE VARIATION
1961	134458	-	-
1971	202461	68003	50.6
1981	271096	68635	33.9
1991	351917	80821	29.8
2001	431014	79097	22.4

Source: Census of India, Maharashtra tables

2.2 TOTAL NUMBER OF HOUSEHOLDS & HOUSEHOLD SIZE

In 1991, total number of households in Sangli Miraj and Kupwad Municipal Corporation area was 69971 households and the household size was 5.03. Household size has decreased from 5.42 in 1971 to 5.03 in 1991.

The Sample Household surveys conducted as part of the Plan Preparation studies in September 2001 reflect the average households size of the respondent households in the municipal corporation area to be 4.8, which is less than the Maharashtra state average. The household size in Miraj proper, and Sangalwadi exhibit relatively higher household size in the range of 5.

Table 2.2 Total Number of Households and Household size

Year	Population	Number of Household	Household size
1971	202461	37379	5.42
1981	27199	50885	5.33
1991	351917	69911	5.03

Source: Census of India, Maharashtra tables

2.3 AGE SEX STRUCTURE

The data on age distribution compiled from sample household survey exhibits normal trends. Minor children constitute only 6% of the sample households, which includes 3.4% who are below 3 years of age, followed by 15% juveniles (up to 14 years of age). The main concentration of age group in the respondent population is between 21-40 years, which constitutes 38% of the sample population. Less than one third (28%) of the respondent population are in the age group of over 40 years.

Table 2.3 Age Sex Structure

Age group	Total	Male	Female
< 4	14403	7575	6828
4-5	12305	6579	5726

Age group	Total	Male	Female
6-14	62518	33500	29019
15-18	36665	19417	17248
19-20	21195	10349	10846
21-30	89119	44417	44702
31-45	99894	60811	39083
46-60	58251	26103	32148
> 60	36665	20946	15718

Source: Sample Household Surveys

The main concentration of age group in the respondent population is between 21-40 years, which constitutes 38% of the sample population. Less than one third (28%) of the respondent population are in the age group of over 40 years and even in this, persons above 60 years constitute only 9%.

2.4 SEX RATIO

In Sangli Miraj Kupwad Municipal Corporation, the number of females per thousand males is 931. This is lower than that of the district average sex ratio of 958 and slightly lower than the state average sex ratio of 934.

Table 2.4 Sex ratio

YEAR	MALE	FEMALE	TOTAL	NO. OF FEMALES PER 1000 MALES
1971	107132	95299	202461	889
1981	141835	129264	271099	911
1991	182238	169679	351917	931

Source: Census of India, Maharashtra tables

2.5 LITERACY

As per Census records of 1991, about 64 % of the total population is literate. The percentage has increased by 10% from 1971 to 1981. The literacy rate for district is slightly below the average rate of the state. I.e., 64.87% and slightly higher than the district average of 62.61%

Table 2.5 Literacy

YEAR	1971	1981	1991
TOTAL	109356	165894	222524
PERCENTAGE	54.01	61.19	63.23

Source: Census of India, Maharashtra tables

The sample household surveys reflect a large proportion of the sample population (55%) to be moderately educated, i.e. up to primary or high school levels. 33% are relatively better educated (higher secondary or above)

2.6 RELIGION

On the basis of sample household surveys, it can be inferred that similar to the state profile a large majority (81%) of households in corporation area are the Hindus followed by the Muslims. Miraj reflects a relatively high population of Muslim households.

About 80% of the respondent households belong to general category, 11.1% belongs to OBC, and 9% to schedule castes and schedule tribes. S.T population is relatively low in SMKMC area

2.7 OCCUPATION

The sample household surveys depict the Workforce participation rate amongst males in the study area to be 51.1 while that of females to be 8.66. Overall, the occupational structure is more oriented to business, self-employment and white-collar workers, except the slums where casual work or low earning self employed workers prevail and Sangaliwadi where agriculture sector does have significance. The working population (about 34%) is also moderate among the sample households.

2.8 INCOME & HOUSEHOLD ASSETS

Almost half of the respondent households (46%) show their income up to Rs 2000 or below per month in the sample household surveys. One third of the respondent households reported a monthly income of Rs 2000 -5000. Households from Sangli Township, as expected, show better monthly earnings than Miraj Township.

Overall, the data on household assets depict a better economic status than that was reflected from the monthly income of the sample households. Township/settlement wise variations are also visible with the sample residents of Sangli and Kupwad being better placed in terms of ownership.

About two third of the households have a bank account. This information is significant because having a bank account distinctly keeps such households away from the poor families. Though the income data showed that about a half of the families earn Rs. 5000 or less a month, the very fact that 66% families have bank account, presents some evidence that the interviewees under state the monthly income.

Equally significant is the fact that only about one fourth of the sample households (27%) have taken any loan in the last three years period. Among the households who availed loans, Sangalwadi residents are proportionately, more (45%), followed by the Gunthewari settlement residents

Table 2.6 Distribution Of Household By Different Income Group

Income Group	Number	Percentage
Less than 1000	12504	17.6
1001-2000	20816	29.3
2001-5000	23303	32.8
5001-10000	10444	14.7
10001-15000	2700	3.8
15001-20000	568	0.8
20001-25000	426	0.6
above 25000	284	0.4

Source: Sample Household Surveys

2.9 POPULATION AND DENSITY OF SMKMC IN 1998

Sangli Miraj Kupwad Municipal Corporation area includes 68 wards and Wanleswadi. There are 38 wards in Sangli, 24 in Miraj and 6 in Kupwad. The total area of Sangli, Miraj Kupwad Municipal Corporation is 111.74 Sq. Km. Distribution of population and density of each ward are given in the table given below.

Table 2.7 Population and Density of SMKMC in 1998

Ward No.	Total Population of Ward	Approx. Area (sq.km)	Approx.Density (persons/sqkm)
1	5602	6.84	819
2	5564	1.41	3940
3	5486	6.34	866
4	5522	5.80	952
5	4947	7.06	701
6	4965	1.98	2514
7	4674	4.87	959
8	4946	16.43	301
9	5617	5.10	1102
10	4970	2.52	1974
11	5134	1.13	4560
12	5529	3.84	1441
13	5147	1.14	4531
14	4999	4.21	1188
15	5290	0.36	14768
16	4636	5.03	923
17	5176	0.28	18731
18	4996	7.91	632
19	4948	0.28	17906
20	5569	0.16	34009
21	5554	0.50	11075
22	5278	1.96	2686
23	4962	0.95	5213
24	5181	1.12	4644
25	5359	1.18	4553
26	5157	4.33	1191
27	5222	0.52	10005
28	4696	0.46	10197
29	4919	0.24	20897
30	5170	0.11	45924
31	4863	0.14	33940
32	5597	0.20	27344
33	5034	0.27	18918
34	4802	0.10	46921
35	5343	0.10	52207
36	4973	1.12	4458
37	5228	1.05	4960
38	5481	3.39	1618
39	5629	1.13	5000
40	4846	0.56	8609
41	5245	0.42	12500

Ward No.	Total Population of Ward	Approx. Area (sq.km)	Approx.Density (persons/sqkm)
42	4771	0.27	17930
43	4840	0.55	8758
44	4830	0.14	33710
45	4611	0.15	30036
46	5506	0.18	29889
47	5006	0.13	37626
48	4992	0.20	24389
49	4813	0.24	20447
50	4729	0.19	24320
51	5082	0.49	10345
52	4866	0.30	16395
53	5478	1.15	4779
54	5490	0.15	35762
55	5299	0.10	51777
56	4948	0.08	60434
57	4754	0.07	66359
58	5089	0.11	45204
59	4736	0.10	46276
60	4871	0.06	79325
61	5245	0.97	5395
62	5473	0.15	35651
63	5080	0.65	7756
64	4925	0.14	34373
65	4757	0.06	77468
66	5033	0.28	18214
67	5087	0.06	82842
68	4766	0.06	77615
Wanlesswadi	Not available	2.18	
Total	347333	111.8	3106

Source: SMKMC figures (except figures on area, which have been worked out from maps)

2.9.1 POPULATION AND DENSITY IN DIFFERENT PRABHAG SAMITI

Out of 68 wards, Prabhag Samiti I includes 17 wards, Prabhag samiti II includes 19 wards, Prabhag Samiti III includes 15 wards and Prabhag Samiti IV includes 17 wards. Prabhag Samiti II has the highest density of 5380 persons per square kilometer while Prabhag Samiti III has the lowest density of 1866 persons per square kilometer.

Table 2.8 Population And Density In Different Prabhag Samiti

Prabhag Samiti	Total No. of wards	Population	Area (sq.km)	Density (persons/sq km)
I	17	86752	25.62	3385
II	19	96208	17.88	5380

III	15 + wanleswadi	78819	42.24	1866
IV	17	85554	25.99	3291
Total	68 + wanleswadi	347333	111.74	3108

2.9.2 PRABHAG SAMITI I

Prabhag samiti I consists of 17 wards. The total population of this area is about 90,000 and area is about 25.62 square kilometers. Area under the Prabhag Samiti includes Shantiniketan area, Sangalwadi, Peth bhag, Ratnashinagar, area surrounding cattle market, station road area, Ambedkar stadium, Kalikhan, Sanjog colony, Rajwada and Timber area. Population density of Prabhag is 33.85 persons per Hectare. Density of wards in Prabhag I ranges from 6 persons per Hectare to 355 persons per Hectare.

Table 2.9 Population And Density Of Prabhag Samiti I

Ward No.	Ward Total Population	Area (Ha)	Density (person per hectare)
1	5602	683.50	8
16	4636	502.12	9
17	5176	27.79	186
18	4996	790.90	6
19	4948	27.83	178
20	5569	16.37	340
21	5554	50.53	110
22	5278	196.21	27
48	4992	20.60	242
49	4813	23.99	201
50	4729	19.86	238
51	5082	49.06	104
52	4866	29.96	162
62	5473	15.40	355
63	5080	65.87	77
64	4925	14.62	337
66	5033	27.84	181
Total	86752	2562.46	3385 persons / sq km

2.9.3 PRABHAG SAMITI II

Prabhag samiti II consists of 19 wards. The total population of this area is about 100,000 and area is about 17.88 square kilometers. Area under the Prabhag Samiti includes Vishrambagh area, Walchand college, Kolhapur road, Haripur road, Civil Hospital area, Indiranagar slums, Heerabag Water Works, Laxmi temple, Goanbhag and Khanbhag. . Population density of Prabhag is 53.80 persons per Hectare. Density of wards in Prabhag ranges from 12 persons per Hectare to 851 persons per hectare.

Table 2.10 Population And Density Of Prabhag Samiti II

Ward No.	Ward Total Population	Area (Ha)	Density (person per hectare)
10	4970	251.97	20
11	5134	112.22	46
12	5529	383.83	14
13	5147	113.33	45
14	4999	421.00	12
15	5290	36.18	146
39	5629	112.97	50
40	4846	55.88	87
41	5245	41.94	125
42	4771	26.41	181
43	4840	55.20	88
44	4830	14.13	342
45	4611	15.58	296
46	5506	18.32	301
47	5006	13.05	384
61	5245	97.30	54
65	4757	6.55	726
67	5087	5.98	851
68	4766	6.36	749
Total	96208	1788.21	5380persons/sq km

2.9.4 PRABHAG SAMITI III

Prabhag samiti III consists of 15 wards. The total population of this area is about 80,000 and area is about 40.10 square kilometers. Area under the Prabhag Samiti includes Kupwad, Sakhar Karkhana, Sanjaynagar, Wellington College, HUDCO colony, Mangalwarpeth and Miraj MIDC. Population density of this Prabhag is 1866 persons per sq.km. Density of wards in Prabhag samiti ranges from 7 persons per Hectare to 213 persons per Hectare.

Table 2.11 Population And Density Of Prabhag Samiti III

Ward No.	Ward Total Population	Area (Ha)	Density (person per hectare)
2	5564	140.73	40
3	5486	633.00	9
4	5522	579.82	10
5	4947	706.12	7
9	5617	509.09	11

Ward No.	Ward Total Population	Area (Ha)	Density (person per hectare)
23	4962	94.72	52
24	5181	111.93	46
25	5359	117.61	46
26	5157	432.73	12
27	5222	52.47	100
28	4696	46.40	101
29	4919	23.14	213
37	5228	105.76	49
38	5481	338.56	16
53	5478	114.61	48
Wanleswadi	5200	218.00	24
Total	78819	4224.67	1866 person /sq km

- Population of Wanleswadi in 1998 has been estimated from 1991 and 1981 figures, Population figures for wards 1-68 are figures provided by SMKMC

2.9.5 PRABHAG SAMITI IV

Prabhag samiti IV consists of 17 wards. The total population of this area is about 85,000 and area is about 25.99 square kilometers. Area under the Prabhag Samiti includes Indiranagar, Vakharbhag, Krishna ghat, Brahmanpuri, Uttamnagar, area near Laxmi market, Station road, Shivaji nagar and Sanglives. Population density of Prabhag is 3291 persons/sqkm. Density of wards in Prabhag ranges from 3 persons per Hectare to 838 persons per Hectare.

Table 2.12 Population And Density Of Prabhag Samiti IV

Ward No.	Ward Total Population	Area (Ha)	Density (person per hectare)
6	4965	196.98	25
7	4674	487.09	10
8	4946	1642.69	3
30	5170	11.14	464
31	4863	13.82	352
32	5597	20.09	279
33	5034	26.78	188
34	4802	10.64	451
35	5343	10.41	513
36	4973	111.83	44
54	5490	15.29	359
55	5299	10.07	526
56	4948	8.20	604

Ward No.	Ward Total Population	Area (Ha)	Density (person per hectare)
57	4754	7.60	625
58	5089	10.98	463
59	4736	9.83	482
60	4871	5.81	838
Total	85554	2599.25	3291 person /sq km

2.10 POPULATION PROJECTIONS

Following standard methods are used for forecasting the population

1. Arithmetic increase method
2. Geometrical increase method.
3. Incremental increase method.
4. Percentage increase method
5. Decreasing rate of growth method
6. Formula of public health department.

2.10.1 Arithmetic Increase Method

Formula

$$P_n = P_o + NR$$

Where P_n = Projected Population after n decades

P_o = Population at any time

N = Number of decades

R = Rate of increase per decade

YEAR	POPULATION	INCREASE IN POPULATION	AVERAGE
1961	134458	-	
1971	202461	68003	
1981	271096	68635	296556/4 = 74139
1991	351917	80821	
2001	431014	79097	
		296556	

$$P_{2011} = 431014 + (1 * 74139) = 505153$$

$$P_{2021} = 431014 + (2 * 74139) = 579292$$

2.10.2 Geometrical Increase Method

Formula

$$P_n = P_o (1 + Ig/100)^N$$

Where P_n = Projected Population after n decades

P_o = Population at any time

Ig = Average percentage increase in population

N = Number of years

YEAR	POPULATION	INCREASE IN POPULATION	PERCENTAGE INCREASE IN POPULATION
1961	134458	-	
1971	202461	68003	51
1981	271096	68635	34
1991	351917	80821	30
2001	431014	79097	22
		296556	34

$$P_{2011} = 431014 * (1 + 34/100) * 431014 = 650831$$

$$P_{2021} = 650831 * (1 + 34/100) * 872113 = 772435$$

2.10.3 Incremental Increase Method

YEAR	POPULATION	INCREASE IN POPULATION	INCREMENTAL INCREASE IN POPULATION (Y)
1961	134458	-	
1971	202461	68003	
1981	271096	68635	632
1991	351917	80821	12186
2001	431014	79097	-1724
	TOTAL	296556	11094
		296556/4 =	11034/3 =
	AVERAGE	X = 74139	Y = 3678

$$P_n = P_o + (X + Y) * N$$

Where P_n = Projected Population after n decades

P_o = Population at any time

N = Number of decades

X = Average Increase in population

Y = Average Incremental increase in population

$$P_{2011} = 431014 + (74139 + 3678) * 1 = 508831$$

$$P_{2021} = 431014 + (74139 + 3678) * 2 = 585548$$

2.10.4 Decrease Rate Of Growth Method

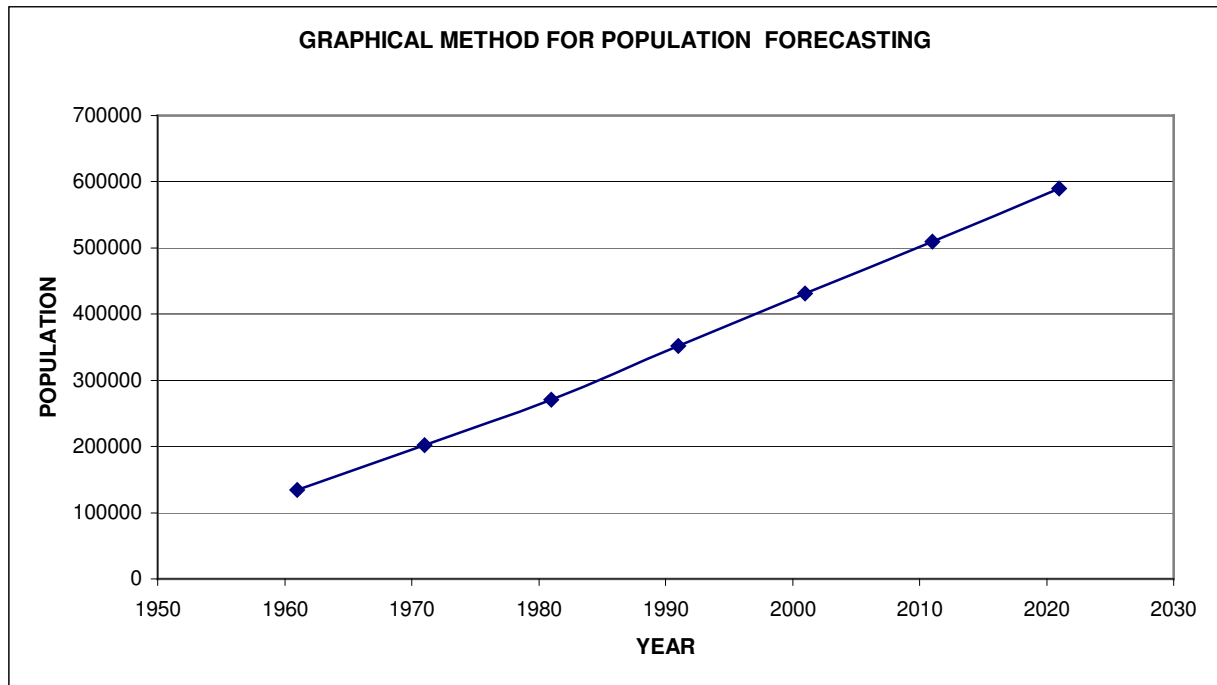
YEAR		INCREASE IN POPULATION	PERCENTAGE INCREASE IN POPULATION	DECREASE IN THE PERCENTAGE INCREASE
1961	134458	-		
1971	202461	68003	51	
1981	271096	68635	34	17
1991	351917	80821	30	4
2001	431014	79097	22	7
	TOTAL	296556		28
	AVERAGE	74139		9.37

POPULATION PROJECTED

YEAR	NET PERCENTAGE INCREASE IN POPULATION	POPULATION
2011	22-9.4 = 12.6	431014 + 12.6/100*431014 = 485321
2021	12.6-9.4 = 3.2	485321 + 3.3/100*485321 = 501336

2.10.5 Graphical Method

In this method, population from 1961 to 1971 was plotted in a graph paper and from the growth curve, the projected population by 2021 is estimated to be 5.9 lakhs.

**2.10.6 Formula Of Pubic Health Department**

$$P_n = P_o \cdot (200 + NC) / (200 - NC)$$

Where N = No of years after P_o

C = Constant to be determined

$$= (P_n - P_o / P_n + P_o) \cdot (200/n)$$

Taking population figures of 1991 and 2001

$$C = (431014 - 351917 / 431014 + 351917) \cdot 200 / 10$$

$$= (79097 / 782931) \cdot 20 = 2.02$$

$$P_{2011} = P_{2001} (200 + 10 \cdot 2.02) / (200 - 10 \cdot 2.02)$$

$$= 431014 \cdot (220.2 / 179.8) = 527860$$

$$P_{2011} = P_{2001} (200 + 10 \cdot 2.02) / (200 - 10 \cdot 2.02)$$

$$= 527860 \cdot (220.2 / 179.8) = 646467$$

2.10.7 Registrar General (Census of India) Method

Formula: $P_t = P_{2001} + P_{2001} * (P_{1991} - P_{1981}) / P_{1981} * t / 10$
 Where P_t = Population of required year, T = No of years
 P_{2001} = Population in the year 2001
 P_{1991} = Population in the year 1991
 P_{1981} = Population in the year 1981

$$P_{2011} = 431014 + 431014 * (351917 - 271096) / 271096 * 10 / 10 = 559510$$

$$P_{2021} = 431014 + 431014 * (351917 - 271096) / 271096 * 20 / 10 = 688007$$

Table 2.13 Projected population by various formula

METHOD	Population in 2011	Population in 2021
ARITHMETIC INCREASE METHOD	505153	579292
GEOMETRIC INCREASE METHOD	650831	872113
INCREMENTAL INCREASE METHOD	508831	586648
DECREASE RATE OF GROWTH METHOD	485321	501336
GRAPHICAL METHOD	510000	590000
FORMULA OF PUBLIC HEALTH DEPARTMENT	527860	646467
REGISTRAR GENERAL METHOD	559510	688007
AVERAGE	535358	637695
Average excluding G.I and Decrease Rate of Growth Methods	522270	618082

Thus excluding the non-confirming values of Geometric Increase method (very high value) and Decrease Rate of Growth Method (very low value), the average of population figures works out to 618082. This is rounded off to **620000 persons as the population in 2021.**

2.10.8 Population Projection For 2016 & 2026

Complying with the GR guidelines of estimating facilities on the basis of 15 years hence and that of zone for 25 years, population have been forecasted for 2016 and 2026 too. The table below depicts the figures obtained by various methods. The values obtained by geometric increase and decrease rate of growth methods are found to be inconsistent (too high or too low) with that obtained by other methods and hence ignored. **The population for 2016 and 2026 have been forecasted as 560000 persons and 670000 persons respectively.**

Table 2.14: Population Forecast for 2016 and 2026

METHOD	Population in 2011	Population in 2021	Population in 2016	Population in 2026
ARITHMETIC INCREASE METHOD	505153	579292	542000	616000
INCREMENTAL INCREASE METHOD	508831	586648	548000	626000
DECREASE RATE OF GROWTH METHOD				
GRAPHICAL METHOD	510000	590000	510000	620000

FORMULA OF PUBLIC HEALTH DEPARTMENT	527860	646467	585000	722000
REGISTRAR GENERAL METHOD	559510	688007	624000	752000
AVERAGE	435226	618082.8	561800	667200
Approx. Population	435000	620000	560000	670000

2.11 DISTRIBUTION OF POPULATION

The distribution of the projected population and the rationale is detailed out in the tables.

Table 2.15 Projected Population Of Prabhag Samiti

Prabhag Samiti	Total No. of wards	Population 1998	Population 2001	Projected Population 2021	Approx.area under Gunthewari (ha)	% of Area under Gunthewari to total gunthewari area (%)	% of addl area available for development
I	17	86752	107653	620000	71.6911	7.24	18
II	19	96208	119387		398.3627	40.24	27
III	15 + wanle swadi	78819	97808		448.6095	45.31	46
IV	17	85554	106166		71.3655	7.21	9
Total	68 + wanle swadi	347333	431014		990.028	100	100

Thus, the additional population to be accommodated by 2021
 $= 620000 - 431014 = 188986$,
 say 190000 persons.

As reflected from Gunthewari surveys in June-Sep 2001, additional population which can be accommodated in the undeveloped (open) plots in Gunthewari = 100000 persons approx. (assuming average plot size as 200sqm with DU size as 45 sqm.)

Therefore, population to be accommodated in areas to be developed in future = 90000 persons

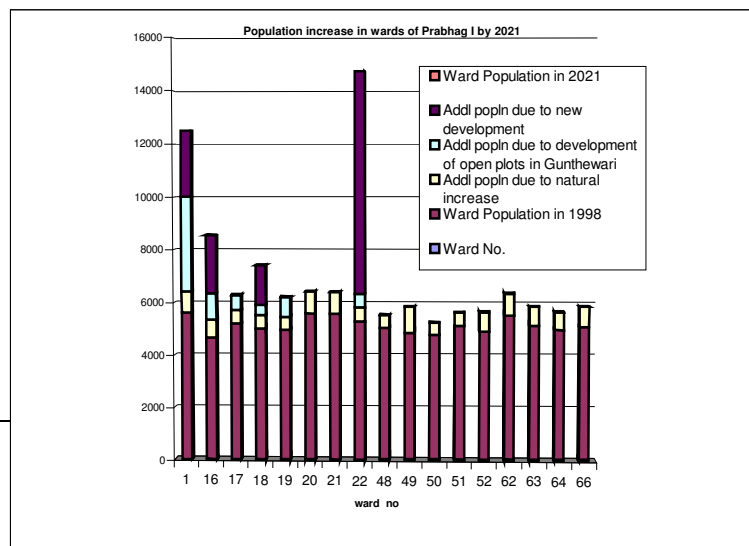
Thus the future population distribution in a ward (and hence the Prabhag Samitis) would be a function of:

1. Natural increase of population in each ward (approx 15%)
2. Availability of undeveloped Gunthewari plots in the ward/Prabhag
3. Availability of land for further development in the respective ward/Prabhag.

Based on these criteria, the population has been distributed in the wards and the final population distribution is detailed out in the tables below.

2.11.1 Population distribution in wards of Prabhag Samiti I

As evident from the figure on Population increase by 2021 in wards of Prabhag I, ward nos. 1,16,18 and 22 are assigned additional population envisaging new development in these areas. Of these ward no 22 is assigned the maximum additional population due to new development as this ward has large areas under vacant land use



as per the existing land use plan. Also many layouts of housing complexes have been sanctioned along the toll road in this ward. The addition of population makes this ward to achieve a density of 75ppha, while the density based on population in 1998 of wards in Prabhag vary from 6-355 ppha.

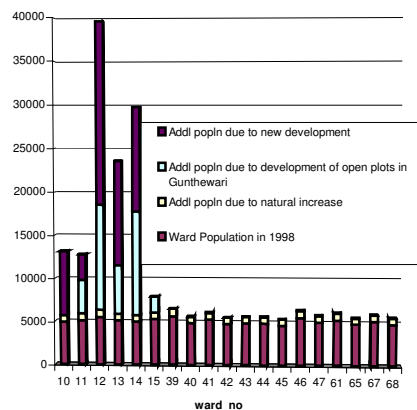
Table 2.16 Existing & Projected Population Distribution In Prabhag I

Ward No.	Ward Total Population	Area (Ha)	Density (person per hectare)	Addl popln due to natural increase	Addl popln due to development of open plots in Gunthewari	Addl popln due to new development	Population in 2021	Density in 2021 (ppha)
1	5602	683.50	8	800	3600	2500	12500	18
16	4636	502.12	9	700	1000	2200	8500	17
17	5176	27.79	186	518	573		6200	225
18	4996	790.90	6	500	400	1500	7400	9
19	4948	27.83	178	495	750		6200	222
20	5569	16.37	340	835			6400	390
21	5554	50.53	110	833			6400	126
22	5278	196.21	27	528	500	8400	14700	75
48	4992	20.60	242	499			5500	266
49	4813	23.99	201	987			5800	241
50	4729	19.86	238	473			5500	276
51	5082	49.06	104	508			5800	118
52	4866	29.96	162	734			5600	186
62	5473	15.40	355	827			6300	408
63	5080	65.87	77	720			5800	88
64	4925	14.62	337	675			5600	382
66	5033	27.84	181	767			5800	208
Total	86752	2562.46	3385 persons / sq km	11399	6823	14600	120000	47

2.11.2 Population distribution in wards of Prabhag Samiti II

As evident from the figure below, ward nos. 11,12,13,14, and 15 are allocated additional population due to development of Gunthewari plots. These areas have D.U, which have come up mostly after 1998, and hence the 1998 ward population would not have accounted these. Ward no 12 and 14 are allocated the maximum of additional Gunthewari population due to existence

Population increase in wards of Prabhag II by 2021



of 'open plots' in them (which would be developed in due course of time'). Ward nos. 1-14 are allocated additional population due to new development as these wards have been classified as suitable for development as per the 'Land Suitability Analysis' study (which forms Section V of the Draft Development Plan report).

Table 2.17 Existing & Projected Population Distribution In Prabhag II

Ward No.	Ward Total Population	Area (Ha)	Density (person per hectare)	Addl popln due to natural increase	Addl popln due to development of open plots in Gunthewari	Addl popln due to new development	Population in 2021	Density in 2021 (ppha)
10	4970	251.97	20	746		7400	14700	52
11	5134	112.22	46	770	3870	3000	12800	114
12	5529	383.83	14	829	12170	21000	38500	103
13	5147	113.33	45	772	5650	12000	23500	207
14	4999	421.00	12	750	12000	12000	29750	70
15	5290	36.18	146	794	1840		8000	218
39	5629	112.97	50	844			6500	57
40	4846	55.88	87	727			5600	99
41	5245	41.94	125	787			6000	143
42	4771	26.41	181	716			5500	207
43	4840	55.20	88	726			5500	101
44	4830	14.13	342	725			5500	392
45	4611	15.58	296	692			5300	339
46	5506	18.32	301	826			6300	345
47	5006	13.05	384	751			5700	440
61	5245	97.30	54	787			6000	62
65	4757	6.55	726	714			5000	762
67	5087	5.98	851	763			5000	826
68	4766	6.36	749	715			5000	784
Total	96208	1788.21	5380pers ons/sq km	14431	35530	55400	200000	112

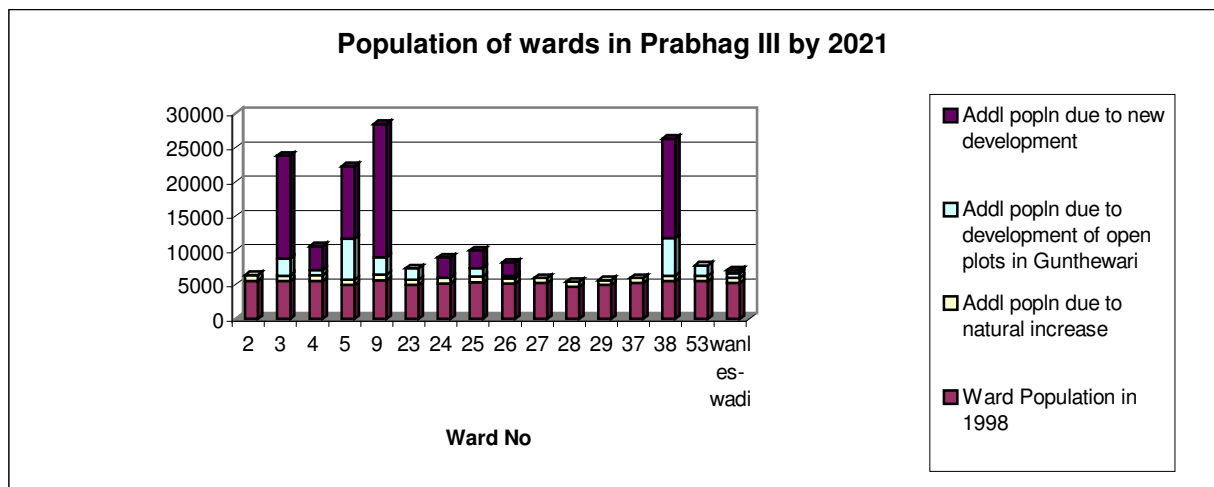
2.11.3 Population distribution in wards of Prabhag samiti III

Although population due to new development has been allocated to wards 3,4,5,9,24,25,26, and 38; substantial values of this have been allocated to 3,9,38. This is on the basis of extent of suitable land availability, and vacant plots.

Table 2.18 Population And Density Of Prabhad Samiti III

Ward No.	Ward Total Population	Area (Ha)	Density (person per hectare)	Addl popln due to natural increase	Addl popln due to development of open plots in Gunthewari	Addl popln due to new development	Population in 2021	Density in 2021 (ppha)
2	5564	140.73	40	835			6400	45
3	5486	633.00	9	823	2500	15000	23800	38
4	5522	579.82	10	828	750	3500	10600	18
5	4947	706.12	7	742	6000	10600	22300	31
9	5617	509.09	11	843	2500	19500	28400	56
23	4962	94.72	52	744	1700		7400	78
24	5181	111.93	46	777		3000	8900	80
25	5359	117.61	46	804	1250	2600	10000	85
26	5157	432.73	12	774	300	2000	8200	19
27	5222	52.47	100	783			6000	114
28	4696	46.40	101	704			5400	116
29	4919	23.14	213	738			5700	244
37	5228	105.76	49	784			6000	57
38	5481	338.56	16	822	5500	14500	26300	78
53	5478	114.61	48	822	1500		7700	68
wanleswadi	5200*	218.00	24	780	700	400	7080	32
Total	78819	4224.67	1866 person /sq km	12603	22000	70700	190180	45

- Population of Wanleswadi in 1998 has been estimated from 1991 and 1981 figures, Population figures for wards 1-68 are figures provided by SMKMC

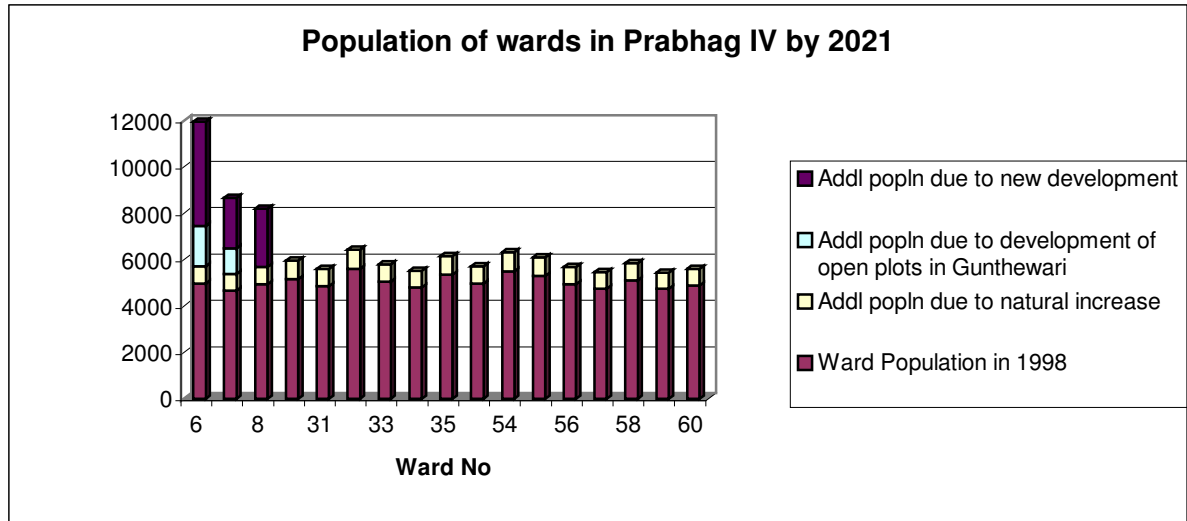
Population Increase by 2021 in wards of Prabhad Samiti III

2.11.4 Population distribution in wards of Prabhag Samiti IV

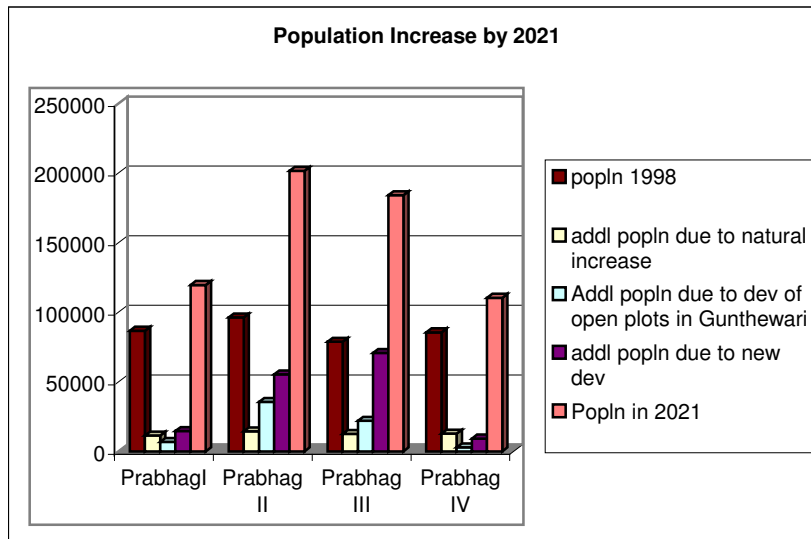
In Prabhag IV, additional population due to Gunthewari development has been allocated to wards 6 and 7 on the basis of existence of gunthewari settlements in them and presence of open plots. Additional population due to new development has been allocated to wards 6,7,8 of which ward no 6 accommodates a significant share as the growth trends depict the settlement to be growing along the Miraj –Pandharpur road in this region.

Table 2.19 Population And Density Of Prabhag Samiti IV

W ard No.	Ward Total Population	Area (Ha)	Density (person per hectare)	Addl popln due to natural increase	Addl popln due to development of open plots in Gunthewari	Addl popln due to new development	Population in 2021	Density in 2021 (ppha)
6	4965	196.98	25	745	1750	4500	12000	61
7	4674	487.09	10	701	1100	2200	8700	18
8	4946	1642.69	3	742		2500	8200	5
30	5170	11.14	464	776			5900	532
31	4863	13.82	352	729			5600	404
32	5597	20.09	279	840			6400	320
33	5034	26.78	188	755			5800	216
34	4802	10.64	451	720			5500	518
35	5343	10.41	513	801			6100	589
36	4973	111.83	44	746			5700	51
54	5490	15.29	359	824			6300	412
55	5299	10.07	526	795			6100	604
56	4948	8.20	604	742			5700	693
57	4754	7.60	625	713			5000	656
58	5089	10.98	463	763			5900	532
59	4736	9.83	482	710			5400	553
60	4871	5.81	838	731			5600	962
Total	85554	2599.25	3291 person /sq km	12833	2850	9200	109900	42

**Table 2.20 POPULATION DISTRIBUTION PRABHAG SAMITI WISE**

Prabhag Samiti	Approx Area (ha)	Population 1998	Density (ppha) In 1998	Addl popln due to natural increase	Addl popln due to development of open plots in Gunthewari	Addl popln due to new development	Projected Population 2021	Density (ppha) In 2021
I	2562.46	86752	34	11399	6823	14600	120000	47
II	1788.21	96208	54	14431	35530	55400	200000	112
III	4224.67	78819	19	12603	22000	70700	190000	45
IV	2599.25	85554	33	12833	2850	9200	110000	42
Total	111.74	347333	31	51266	67203	149900	620000	55



2.11.5 Population Distribution in Wards & Prabhag Samitis for year 2016

Prabhag Samiti wise distribution of population in 2016 has been estimated on the same lines as discussed for 2021.

Final population distribution in each of the Prabhags and wards for 2016 is detailed out in the tables 2.20 to 2.24.

Table 2.21: Prabhag Samiti wise distribution of Population in 2016

Prabhag No.	popln 1998	ApproxArea sqkm	Density 1998(person per sqkm)	Approx. Popln in 2016	Density 2016(person per sqkm)
1	86752	25.62435	3386	108000	4215
2	96208	17.88213	5380	181000	10122
3	78819	42.24189	1866	172000	4072
4	85554	25.99162	3292	99000	3809
	347333	111.74	3108	560000	5012

Table 2.22: Population And Density Of Prabhag Samiti I for year 2016

Ward No.	Ward Total Population	Density 1998(person per hectare)	Approx popln 2016, say	Density 2016(person per hectare)
1	5602	8	11200	16
16	4636	9	7600	15
17	5176	186	5600	201
18	4996	6	6700	8
19	4948	178	5600	201
20	5569	340	5800	354
21	5554	110	5800	115
22	5278	27	13200	67
48	4992	242	5000	243
49	4813	201	5200	217
50	4729	238	5000	252
51	5082	104	5200	106
52	4866	162	5000	167
62	5473	355	5700	370
63	5080	77	5200	79
64	4925	337	5000	342
66	5033	181	5200	187
Total	86752	34	108000	42

Table 2.23: Population And Density Of Prabhag Samiti II for year 2016

Ward No.	Ward Total Population	Density (person per hectare)	Approx popln 2016, say	Density 2016(person per hectare)
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Ward No.	Ward Total Population	Density (person per hectare)	Approx popIn 2016, say	Density 2016(person per hectare)
10	4970	20	11900	47
11	5134	46	11600	103
12	5529	14	35800	93
13	5147	45	14100	124
14	4999	12	34100	81
15	5290	146	7100	196
39	5629	50	5900	52
40	4846	87	5100	91
41	5245	125	5400	129
42	4771	181	5000	189
43	4840	88	5100	92
44	4830	342	5000	354
45	4611	296	4800	308
46	5506	301	5700	311
47	5006	384	5100	391
61	5245	54	5400	55
65	4757	726	4500	687
67	5087	851	4400	736
68	4766	749	5000	786
Total	96208	54	181000	101

Table 2.24: Population And Density Of Prabhag Samiti III for year 2016

Ward No.	Ward Total Population	Density (person per hectare)	Approx popIn 2016, say	Density 2016(person per hectare)
2	5564	40	5800	41
3	5486	9	14700	23
4	5522	10	16500	28
5	4947	7	20200	29
9	5617	11	25700	50
23	4962	52	6700	71
24	5181	46	8000	71
25	5359	46	9000	77
26	5157	12	7400	17
27	5222	100	5400	103
28	4696	101	4900	106
29	4919	213	5200	225

Ward No.	Ward Total Population	Density (person per hectare)	Approx popln 2016, say	Density 2016(person per hectare)
37	5228	49	5400	51
38	5481	16	23800	70
53	5478	48	7000	61
wanless swadi	5200	24	6300	29
Total	78819	19	172000	41

Table 2.25: Population And Density Of Prabhad Samiti IV for year 2016

Ward No.	Ward Total Population	Density (person per hectare)	Approx popln 2016, say	Density 2016(person per hectare)
6	4965	25	10800	55
7	4674	10	7800	16
8	4946	3	7400	5
30	5170	464	5300	476
31	4863	352	5100	369
32	5597	279	5800	289
33	5034	188	5200	194
34	4802	451	5000	470
35	5343	513	5500	528
36	4973	44	5100	46
54	5490	359	5700	373
55	5299	526	5500	546
56	4948	604	5100	622
57	4754	625	4500	592
58	5089	463	5300	483
59	4736	482	4900	498
60	4871	838	5000	860
Total	85554	33	99000	38

2.11.6 Population distribution in Sectors for year 2016

The Planning Area of SMKMC comprising of 4 Prabhad Samitis have been further subdivided into 18 Sectors (A-R), as shown in the map enclosed. The wards enjoined in each sector and the distributed population has been summarized in the following tables.

Table 2.26: Sector wise Population And Density for year 2016

S No	Sector	Approx. Area (Ha)	Population in 2016	Density (ppha)
1	A	1534.2	24380	16

S No	Sector	Approx. Area (Ha)	Population in 2016	Density (ppha)
2	B	564.9	29570	52
3	C	579.7	24940	43
4	D	97.7	28330	290
5	E	97.8	33940	347
6	F	160.2	21100	132
7	G	379.8	27316	72
8	H	248.6	31685	127
9	I	437.1	38855	89
10	J	382.3	36230	95
11	K	1278.1	47550	37
12	L	754.7	42750	57
13	M	704.3	33650	48
14	N	672.8	23760	35
15	O	1272.1	37940	30
16	P	76.3	36050	472
17	Q	106.6	34400	323
18	R	1643	7400	5

Table 2.27: Wards incorporated in Sector A-R and assigned population for 2016

Sector No	Prabhag No	Ward No.	Ward Population 1998	Approx Ward popln 2016	Assigned Popln	% of ward popln assigned in shared wards
A	1	1	5602	11200	2800	25%
	1	16	4636	7600	7600	
	1	17	5176	5600	5600	
	1	18	4996	6700	6700	
	1	19	4948	5600	1680	30%
Total Sector Population					24380	
B	1	20	5569	5800	1450	25%
	1	21	5554	5800	5800	
	1	22	5278	13200	10560	80%
	1	1	5602	11200	5600	50%
	1	49	4813	5200	4160	80%
	1	50	4729	5000	2000	40%
Total Sector Population					29570	
C	1	22	5278	13200	2640	20%
	1	1	5602	11200	2800	25%
	3	2	5564	5800	5800	
	3	23	4962	6700	6700	
	3	53	5478	7000	7000	
Total Sector Population					24940	
D	1	19	4948	5600	3920	70%

Sector No	Prabhag No	Ward No.	Ward Population 1998	Approx Ward popln 2016	Assigned Popln	% of ward popln assigned in shared wards
	1	20	5569	5800	4350	75%
	1	48	4992	5000	5000	
	2	47	5006	5100	5100	
	2	46	5506	5700	5700	
	2	15	5290	7100	4260	60%
Total Sector Population					28330	
E	2	45	4611	4800	4800	
	1	66	5033	5200	5200	
	2	65	4757	4500	4500	
	2	67	5087	4400	4400	
	2	68	4766	5000	5000	
	1	49	4813	5200	1040	20%
	1	50	4729	5000	3000	60%
	2	44	4830	5000	1000	20%
	1	64	4925	5000	5000	
F	1	51	5082	5200	5200	
	1	52	4866	5000	5000	
	1	62	5473	5700	5700	
	1	63	5080	5200	5200	
Total Sector Population					21100	
G	2	11	5134	11600	5800	50%
	2	12	5529	35800	5370	15%
	2	39	5629	5900	5900	
	2	40	4846	5100	4846	
	2	61	5245	5400	5400	
Total Sector Population					27316	
H	2	13	5147	14100	4230	30%
	2	14	4999	34100	5115	15%
	2	15	5290	7100	2840	40%
	2	41	5245	5400	5400	
	2	42	4771	5000	5000	
	2	43	4840	5100	5100	
	2	44	4830	5000	4000	80%
Total Sector Population					31685	
I	2	13	5147	14100	9870	70%
	2	14	4999	34100	28985	85%

Sector No	Prabhag No	Ward No.	Ward Population 1998	Approx Ward popln 2016	Assigned Popln	% of ward popln assigned in shared wards
Total Sector Population					38855	
J	2	11	5134	11600	5800	50%
	2	12	5529	35800	30430	85%
Total Sector Population					36230	
K	3	3	5486	14700	14700	
	3	4	5522	16500	9900	60%
	3	24	5181	8000	8000	
	3	25	5359	9000	9000	
	3	38	5481	23800	5950	25%
Total Sector Population					47550	
L	3	4	5522	16500	6600	40%
	2	10	4970	11900	11900	
	3	38	5481	23800	17850	75%
	3	wanlesss wadi	5200	6400	6400	
Total Sector Population					42750	
M	3	9	5617	25700	25700	
	3	37	5228	5400	5400	
	4	36	4973	5100	2550	
Total Sector Population					33650	
N	3	5	4947	20200	6060	
	3	26	5157	7400	7400	
	3	27	5222	5400	5400	
	3	28	4696	4900	4900	
Total Sector Population					23760	
O	3	5	4947	20200	14140	
	3	29	4919	5200	5200	
	4	6	4965	10800	10800	
	4	7	4674	7800	7800	
Total Sector Population					37940	
P	4	30	5170	5300	5300	
	4	31	4863	5100	5100	
	4	32	5597	5800	4350	
	4	54	5490	5700	5700	
	4	55	5299	5500	5500	
	4	56	4948	5100	5100	

Sector No	Prabhag No	Ward No.	Ward Population 1998	Approx Ward popln 2016	Assigned Popln	% of ward popln assigned in shared wards
	4	60	4871	5000	5000	
Total Sector Population					36050	
Q	4	32	5597	5800	1450	
	4	33	5034	5200	5200	
	4	34	4802	5000	5000	
	4	35	5343	5500	5500	
	4	36	4973	5100	2550	
	4	57	4754	4500	4500	
	4	58	5089	5300	5300	
	4	59	4736	4900	4900	
Total Sector Population					34400	
R	4	8	4946	7400	7400	
Total Sector Population					7400	

2.12 TO SUMMARIZE:

1. Although the population of Sangli Miraj Kupwad Municipal Corporation area increased from 351917 persons in 1991 to 431014 persons in the year there is a constant decline in percentage variation of population in each decade from 1961 to 2001(50.4% in 1961-71 to 22% in 1991-2001) and there is very less variation in increase in population. This depicts that growth of city has almost stabilized.
2. Household size has decreased from 5.42 in 1971 to 5.03 in 1991. The Sample Household surveys reflect the average households size of the respondent households in the SMKMC area to be 4.8.
3. As per Census records of 1991, about 64 % of the total population is literate. The sample surveys indicated 55% to be moderately educated (education levels up to primary and high school), while only 12% to be illiterate.
4. On the basis of sample household surveys, it can be inferred that similar to the state profile a large majority (81%) of households in corporation area are the Hindus followed by the Muslims. Miraj reflects a relatively high population of Muslim households.
5. The sample household surveys depict the overall Workforce participation rate to be 34%. Among females this rate is 8.66. Overall, the occupational structure is more oriented to business, self-employment and white-collar workers, except in the slums where casual work or low earning self employed workers prevail and Sangalwadi where agriculture sector does have significance.
6. Almost half of the respondent households (46%) show their income up to or below Rs 2000 per month in the sample household surveys.
7. Overall, the data on household assets depict a better economic status than that was reflected from the monthly income of the sample households. Township/settlement wise variations are also visible with the sample residents of Sangli and Kupwad being better placed in terms of ownership. About two third of the households have a bank account.
8. SMKMC area includes four Prabhad subdivided into 68 wards and Wanleswadi. As per 1998 estimates by SMKMC, Prabhad II had the highest density of 54 persons per hectare while Prabhad III had the lowest density of 19 persons per hectare. Similarly while ward no 1 had the highest population of 5602 persons, ward no. 7 had the lowest population with 4674 persons. The ward density varied from 3 persons per hectare in ward no 8 to 828 ppha in ward no 67.

The average of confirming values obtained from various statistical methods used for population projections for the year 2021 works out to 618082. This is rounded off to 620000 persons as the estimated population in 2021. The population for 2016 and 2026 has been forecasted as 560000 persons and 670000 persons respectively.

9. The future population has been distributed in ward (and Prabhad Samitis) on the basis of:
 - Natural increase of population in each ward (approx 3%)
 - Availability of undeveloped Gunthewari plots in the ward/Prabhad
 - Availability of land for further development in the respective ward/Prabhad.
10. Among the wards of Prabhad I, ward nos. 1,16,18 and 22 are assigned additional population envisaging new development in these areas. After addition of population the ward density in 2021 would vary from 18-408ppha, while the density based on population in 1998 vary from 6-355 ppha.

11. Among the wards in Prabhag II, ward nos. 11,12,13,14, and 15 are allocated additional population due to development of Gunthewari plots. Ward no 12 and 14 are allocated the maximum of additional Gunthewari population due to existence of 'open plots' in them (which would be developed in due course of time'). Ward nos. 1-14 are allocated additional population due to new development as these wards have been classified as suitable for development as per the 'Land Suitability Analysis '. The density of wards in 2021 would vary between 52-851 ppha, while the density as per 1998 estimates vary between 12-826 ppha
12. Although population due to new development has been allocated to wards 3,4,5,9,24,25,26,and 38 in Prabhag III; substantial values of this have been allocated to 3,9,38. This is on the basis of extent of suitable land availability, and vacant plots. The population density of wards in 2021 would vary between 18-244 ppha, while that in 1998 was 7-213 ppha.
13. In Prabhag IV, additional population due to Gunthewari development has been allocated to wards 6 and 7 on the basis of existence of gunthewari settlements in them and presence of open plots. Additional population due to new development has been allocated to wards 6,7,8 of which ward no 6 accommodates a significant share as the growth trends depict the settlement to be growing along the Miraj –Pandharpur road in this region. The ward density in 2021 would vary between 5-962 ppha.
14. The Planning Area of SMKMC comprising of 4 Prabhag Samitis have been further subdivided into 18 Sectors (A-R). Average forecasted population in Sectors A-Q is 32500, while that of Sector R is 7400 persons.