

Chapter V
Analysis and Discussion

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In census 1991-2011 study of rain in Aurangabad district in these 20 year. It has been seen that study area highest rainfall in Khuldabad (782mm) tahsil, and lowest rainfall in vaijapur (611mm) tahsil. In the study area other tahsil rainfall were found as follows Soygaon (780mm), Aurangabad (714mm), Sillod (643mm), Gangapur (626mm), Paithan (624mm), Phulambri (623mm) and Kannad (621mm).

In census 1991-2011 study of decadal growth in Aurangabad district has been done of these 20 years. It has been seen that, in 1991 highest decadal growth was 39.60% and lowest decadal growth was -18.09%. Like that decadal growth in other years were as follows in 1931 (32.73%), 1961 (31.96%), 1971 (31.65%), 2001 (30.86%), 1981 (28.13%), 2011 (27.76%), 1941 (13.19%), 1951 (08.93%), 1911 (19.99%). Like that changes occur in decadal growth.

From the study of tahsil wise population decadal growth in Aurangabad district it has been seen that in census 1991-2001 i.e. in these 10 year highest population decadal growth occurred in Aurangabad tahsil which was (40.52%) and lowest population decadal growth occur in sillod tahsil which was (-02.07%). Like that in census 2001-2011 highest population decadal growth occurs in Aurangabad which was (36.45%). In census 1991-2001 decadal growth in other tahsil as follows Gangapur (33.33%), Paithan(19.35%), Vaijapur(18.56%), Soygaon (16.74%), Kannad (15.27%), Khuldabad (15.21%). In census 2001-2011 the changes occur in population decadal growth as follows Gangapur (28.28%), Soygaon (25.45%), Sillod (23.67%), Phulambri (22.60%), Paithan (21.09%), Vaijapur (19.94%) and Kannad (17.08%).

In census 2001-2011 changes occurred in population decadal growth in large proportion than the in census 1991-2001. Reasons for changes occurred in Aurangabad district was creation of new on tahsil in Aurangabad district and increased industrialization in Aurangabad so that there was migration of people from rural area to urban area of Aurangabad.

If we go through tahsil wise rural and urban population in Aurangabad district it has been seen that in census 1991-2011 in Aurangabad tahsil urban population increased in large proportion as the rural population decreased in large proportion. In urban area, population has been increased as follows in 1991 it is 71.45%, 2001-

77.40% and 2011 – 82.32% and also it has been seen that rural population excessive number in other tahsil places in Aurangabad. From these we have concluded that the population in urban area of Aurangabad was increased in large proportion due to increase in industrialization, health and educational facilities and business. So that migration from rural area to the urban area of Aurangabad in increased.

If we go through tahsil wise literacy rate in Aurangabad district it was seen that literacy rate was highest in 1991 (67.69%), 2001 (80.30%), and 2011 (86.57%) as literacy rate was lowest in Soygaon tahsil in 1991 (48.03%), 2001 (65.10%), and 2011 (73.00%).

From the study of main crop production change it has been seen that in census 1991-2001. Jawar (27.77%), Maize (20.90%), Gramme (13.83%), Bajra (07.62%), Wheat (03.67%), Cotton (03.52%), Groundnut (02.94%) production these has been increased and crop production of Ture(-03.05%), Sugarcane(-08.56%), Rice(-40.00%) was decreased. Like that in census 2001-2011 Cotton (81.98%), Tur (57.33%), Wheat (54.42%), Maize (52.54%), Sugarcane (38.01%), Bajra (13.24%), Gramme (14.62%) and Groundnut (01.47%) production of these crop has been increased and crop production of Jawar (-25.11%) and Rice (0%) has been decreased. From this study it has been seen that cash crop production was increased in large proportion.

Tahsil wise Rural and Urban Household Industry & other Workers in Aurangabad District 1991, 2001, 2011

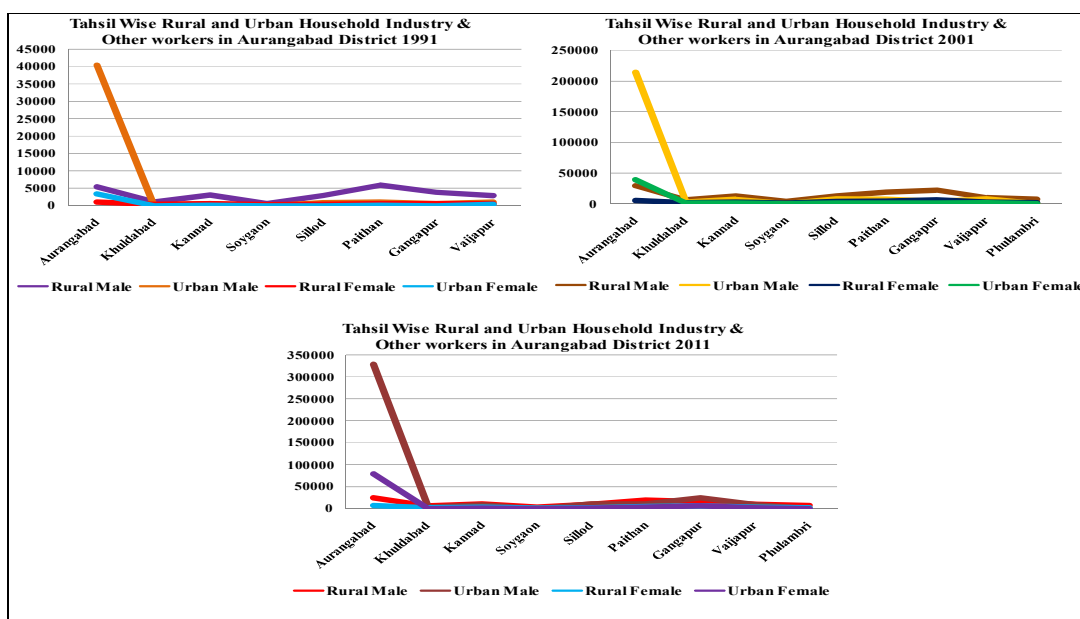


Figure No. 5.1

From the study of rural and urban household industry and other worker in Aurangabad district it has been seen that in census 1991, 2001 and 2011 there was dynamically increase in number of male household industry and other worker in urban area of Aurangabad and also number of female workers were decreased in urban area of Aurangabad. In census 1991-2011 of 20 years if we compared rural area with urban area it has been seen that Household Industry and other male workers were 328545 and female workers were 78268 which was dynamically increased in all tahsil of urban area of Aurangabad. In rural area of Aurangabad male 24189 and female 6249 which was highest in number in all tahsil's of rural area of Aurangabad. From this study it has been seen that in census 1991-2011 number of household industry and other worker in the rural area was decreased and as compare with rural there were increase in number in urban area. From this it has been found that there was migration of peoples from rural area to the Aurangabad urban area.

Rural and Urban Educational Institutions Aurangabad District 1991, 2001, 2011

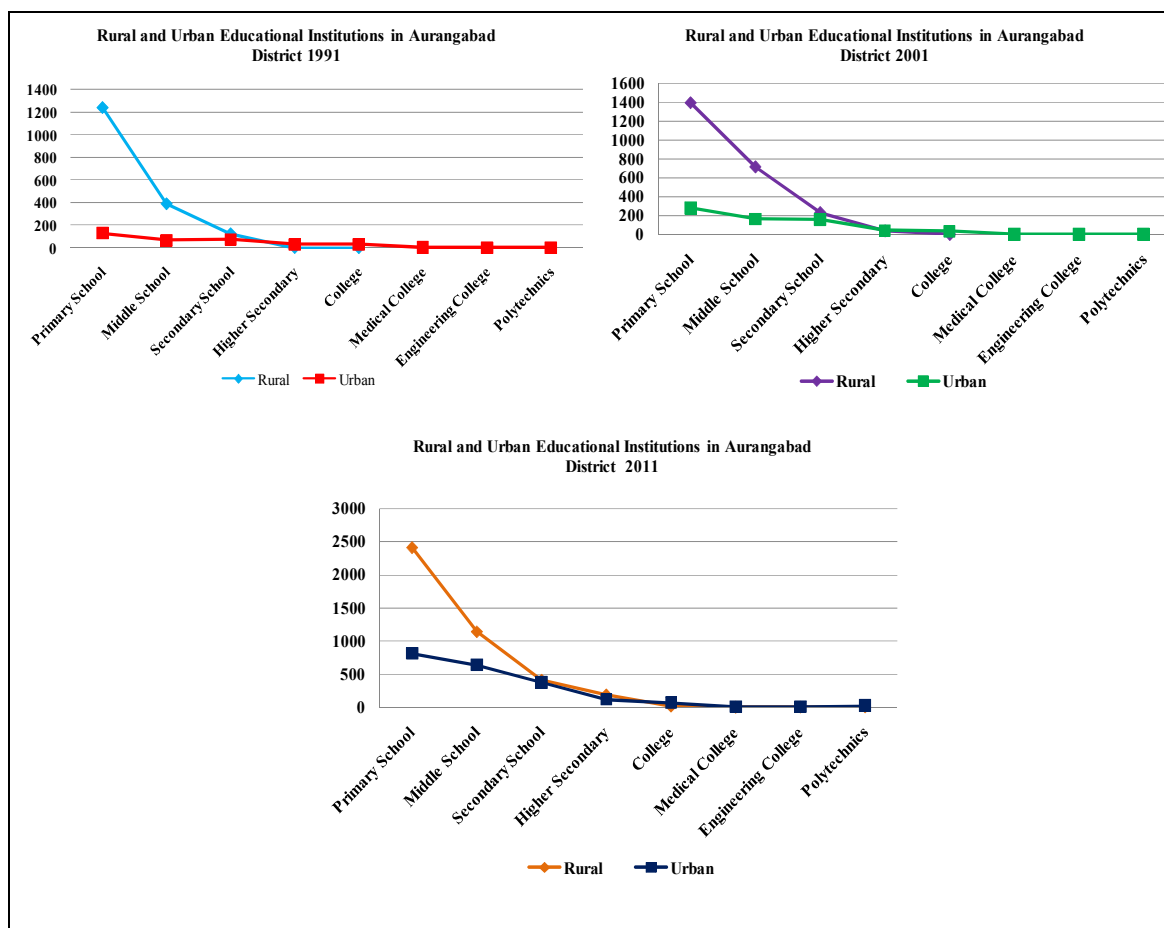


Figure No. 5.2

From the study of rural and urban educational institutions in Aurangabad district it has been seen that if rural area compared with urban area in 1991 there was highest number primary educational institutions in rural area. In this area Primary School were 1237, Middle School were 388, Secondary School were 124, Higher Secondary School was one and Collage was one in number. Higher Educational Institutions were highest in number in urban area. In these area Primary School were 132, Middle School were 69, Secondary School were 76, Higher secondary Schools were 33, Colleges were 33, Medical College were 04, Engineering Colleges were 03, and Polytechnics College were 03 in number. In 2001, Educational Institutions in the rural area were as follows Primary School 1395, Middle Schools 718, Secondary schools 234, Higher Secondary 42, College 05 and also Educational Institutions in urban area were as follows Primary School 283, Middle School 165, Secondary School 161, Higher Secondary school 43, Colleges 34, Medical Colleges 04, Engineering Colleges 04, Polytechnics Colleges 03 in number. In 2011 Educational Institutions in rural area were as follows Primary Schools (2407), Middle Schools (1138), Secondary Schools (406), Higher Secondary Schools (183), Colleges (16), Engineering College (01), Polytechnics (03), and also in urban area are as follows Primary Schools (813), Middle Schools (639), Secondary Schools (372), Higher Secondary Schools (114), Colleges (67), Medical Colleges (05), Engineering Colleges (05), Polytechnics Colleges (19) in number. From the study of census 1991-2011 it has been concluded that there was facilities of Primary educations in rural area but there was no facilities of higher secondary and technical educational in rural area. So that rural area youngsters migrated from rural area to the urban area for the higher educations.

Rural and Urban Medical Centers Aurangabad District 1991, 2001, 2011

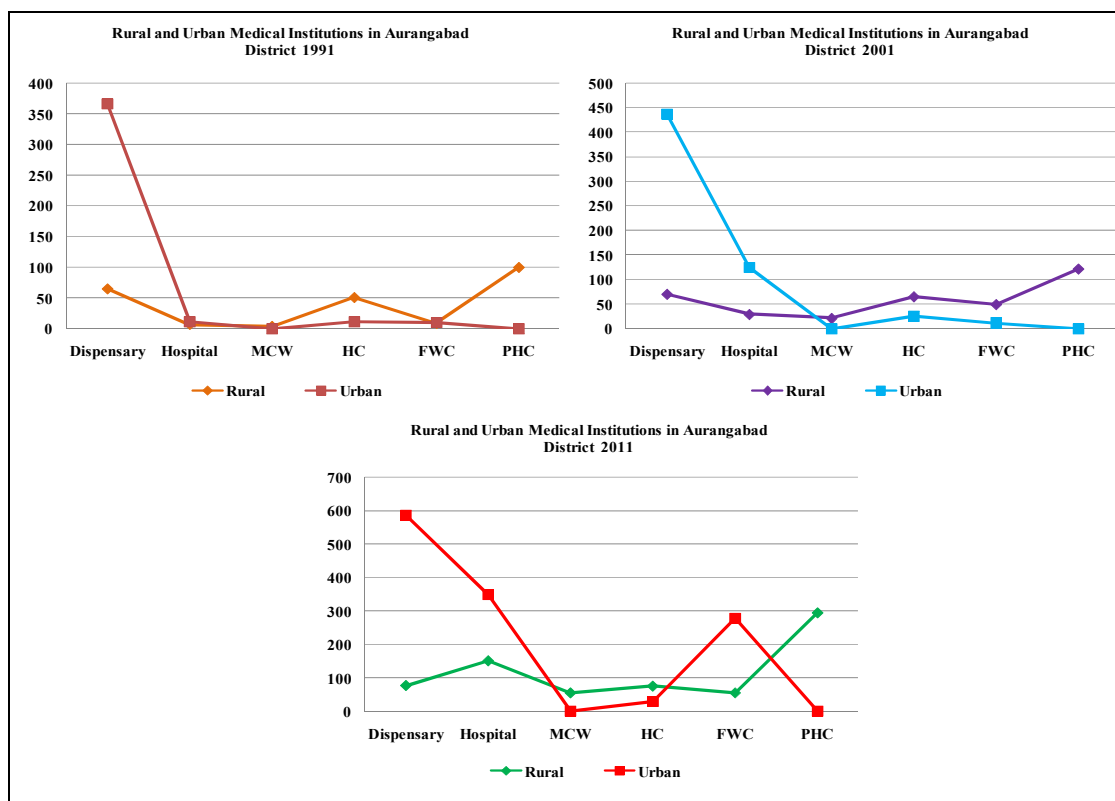


Figure No. 5.3

From the study of rural and urban medical institutions in Aurangabad district it has been seen that in causes 1991 rural medical institutions were as follows dispensary (64), Hospitals (06), Maternity and child welfare centers (03), Primary Health Centers (50), FWC's (08), Primary Health Sub-Centre (99) and also urban Medical institutions were as follows Dispensary (366), Hospitals (11), Primary Health Centers (11), FWC's (10). In 2001, rural medical institutions were as follows Dispensary (70), Hospitals (29), Maternity and Child Welfare Centers (21), Primary Health Centers (65), FWC's (49), Primary Health Sub-Centers (121) and also medical institutions in urban area were as follows Dispensary (437), Hospital (125), Primary Health Centre (26), FWC (12). In 2011 rural medical institutions were as follows Dispensary (78), Hospital (152), Maternity and Child Welfare Centre (56), Primary Health Centre (76), FWC (56), Primary Health Sub-Centre (235) and also medical institutions in urban area were as follows Dispensary (586), Hospital (348), Primary Health Centre (29), FWC (278). From the study of Medical Institution in 1991, 2001, 2011 it has been conclude there were facilities of Primary Health Centre in rural area

but new technological facilities were available in health centre of urban area only. There was highest number of health facilities available in urban area of Aurangabad so that peoples were migrating from rural area to urban area to get better health facilities.

From the study of tahsil wise households in rural and urban area of Aurangabad district it has been seen that in 1991-2011 i.e. in these 20 year there was decrease in number of households in large proportion of in the rural area were as follows Sillod (-02.88%), Aurangabad (-02.78%), Gangapur (-0.82%) Paithan (-0.70%) Kannad (-0.46%), Khuldabad (-0.28%) and in Phulambri (0.59%), Vaijapur (0.25%), Soygaon (0.17%) tahsil's there was increase in number of households because Soygaon and Phulambri these 2 tahsil's mold into rural area. Like that, there was decrease in number of households in urban area were as follows Aurangabad (-02.25%), Vaijapur (-01.38%), Paithan (-0.71%), Khuldabad (-0.28%), Kannad (-0.10%), Sillod (-0.02%) as there was increasing number of households in Gangapur tahsil which was (04.74%). In 1991-2001 in these 10 year urban area of Aurangabad was increased but in census 2001-2011 there was decrease in urban area of Aurangabad due to industrialization means MIDC in urban area of Aurangabad resulted in migration into area of Waluj and Pandharpur. Which comes into the Gangapur tahsil that's why there was increase in number of household in Gangapur tahsil as we seen number of households in urban area of Aurangabad was highest than other tahsil's.

From the study of tahsil wise rural and urban sex ratio in Aurangabad district it has been seen that in 1991 in rural area these ratios were as follows Paithan (952), Soygaon (952), Sillod (949), Vaijapur (946), Gangapur (939), Aurangabad (934), Kannad (932), Khuldabad (921). Like that sex ratios in urban area were as follows Paithan (967), Khuldabad (950), Vaijapur (933), Kannad (932), Gangapur (924), Sillod (893) and Aurangabad (874). In 2001, Sex ratios in rural area were as follows Sillod (351), Phulambri (951), Vaijapur (950), Paithan (948), Soygaon (944), Khuldabad (928), Kannad (928), Gangapur (925), Aurangabad (911) and sex ratio in urban area were as follows Paithan (952), Vaijapur (935), Khuldabad (928), Kannad (925), Sillod (918), Gangapur (916), Aurangabad (901). In 2011, sex ration in rural area were as follows Paithan (936), Vaijapur (935), Khuldabad (931), Gangapur (927), Phulambri (926), Sillod (922), Soygaon (920), Kannad (919), Aurangabad (901) and sex ratio in urban area was as follows Vaijapur (944), Paithan (938), Sillod

(936), Kannad (928), Aurangabad (922), Gangapur (901). From the study of sex ratio in Aurangabad it has been seen that proportion of female was good in rural area than urban area these large proportion of female was decrease in the Aurangabad urban area.

From the study of rural and urban age group in Aurangabad district it has been seen that in census 1991-2011 of these 20 year in rural area number of peoples in 0-19 age group were highest number of people above 60+ were less. Like that in census 1991-2011 of these 20 year in urban area number of peoples in 0-19 age group was highest and which was equal to some extend to the peoples in 20-39 age groups and number of people above the 60+ was less.

From the study of slum population in Aurangabad district it has been seen that in census 1991-2011 in these 20 year highest part of slum area comes into the urban area of Aurangabad. Which was increased as follows in census 1991 (100843), 2001 (159353) and 2011 (221235) and less part of slum area comes into Khuldabad and Kannad tahsil, reasons for increasing part of urban area of Aurangabad were as follows Industrialization, Education, Facilities of Health due to these peoples were attracting forwards city so that population in the city increased dynamically and also slum area was also increased.

Hypotheses testing

1) The growth of Aurangabad city is faster than the growing cities in Marathwada

Table No. 5.1

City wise Population Growth in Marathwada

City	Year		
	1991	2001	2011
Aurangabad	725143	1087150	1620170
Nanded	506140	689064	913898
Latur	341868	490261	624980
Parbhani	364040	485186	569806
Beed	326968	387070	514298
Jalna	230728	307865	377429
Hingoli	112559	154030	178733
Osmanabad	193880	233256	281057

City wise Population Growth in Marathwada

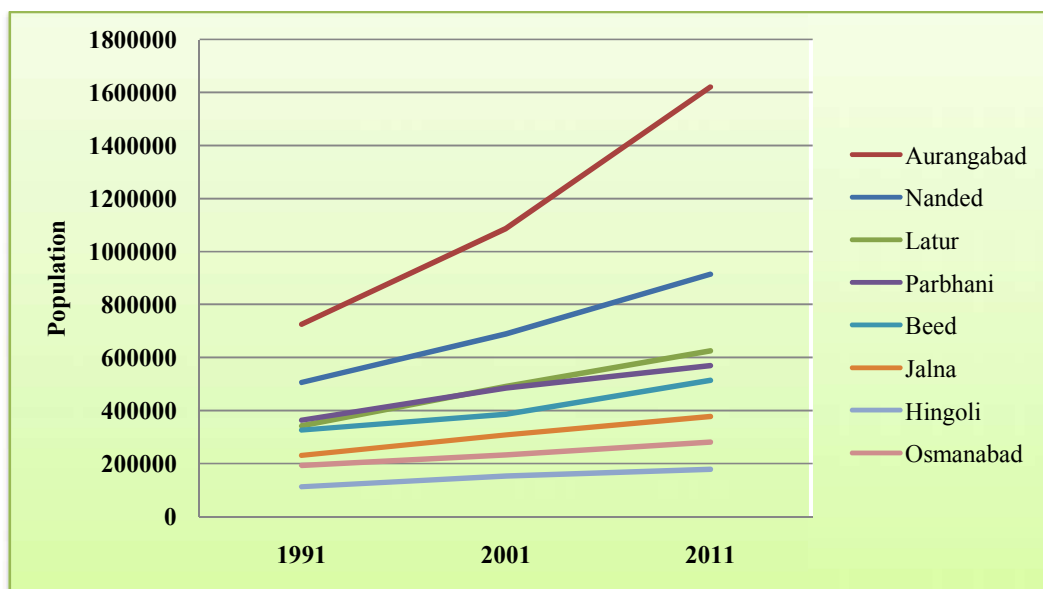


Figure No. 5.4

Result :

From above table and graph we can see that, the growth of Aurangabad city was faster than the growing cities in Marathwada. From above table and graph it has been seen that Aurangabad city has been increased dynamically than other cities in Marathwada therefore hypothesis is proven from above table and graph.

2) Development of Rural and Urban areas mainly depends upon the Agricultural and Industrial development respectively.

Table No. 5.2

Rural & Urban Cultivators and Labour in Aurangabad District

Rural cultivators	Rural Labour	Urban cultivators	Urban Labour
33278	13893	2896	3276
11147	5157	313	170
33741	14864	447	379
9719	7672	848	1119
39766	17078	573	809

26227	16826	851	738
26778	14392	543	478
30320	12514	1327	2547
25571	18061	166	150
7284	6559	153	403
21957	19630	309	834
6714	9436	157	857
30842	22729	358	696
15494	23086	261	629
18096	18409	1815	1337
19042	17906	285	154
29718	13117	482	374
11905	5457	651	757
35482	18066	425	1329
9828	10038	807	833
28487	19948	510	267
31064	17721	855	1402
32664	16284	228	208
39918	13518	117	541
21610	7172	464	827
25029	16596	127	1011
8628	6920	296	578
27800	23480	250	680
7041	12145	4931	6321
22457	24753	326	345
24548	24405	681	1027
26915	20207	1250	1826
32274	19756	744	1832
18445	9884	1554	3111
36541	19512	814	813
14782	8755	1900	3410
46254	26389	82	266

11941	17323	367	703
41505	31163	510	1113
40889	24944	303	1647
41253	18275	758	2238
51304	19979	349	1044
28647	10179	N.A.	N.A.
26470	21235	N.A.	N.A.
10740	9328	N.A.	N.A.
32827	31073	N.A.	N.A.
8469	17393	N.A.	N.A.
25674	28314	N.A.	N.A.
30813	28738	N.A.	N.A.
31385	21125	N.A.	N.A.
38209	25844	N.A.	N.A.
22246	11365	N.A.	N.A.

For development of rural upon agricultural development

H0 : There is no sig diff in urban cultivators and rural cultivators population

H1 : There is sig diff in urban cultivators and rural cultivators

Group Statistics	Group	N	Mean	Std. Deviation	Std. Error Mean	t	df	p-value
cultivatos	Rural	52	25571.88	11203.274	1553.615	15.924	51.761	0.000
	Urban	42	740.07	870.318	134.293			

Independent Samples Test		t-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
cultivators	Equal variances not assumed	15.924	51.761	0.000	24831.813	1559.408	21702.289	27961.337

According to the above table mean and SD of rural cultivators among urban cultivators is 25571.88 and 11203.274 respectively whereas in urban cultivators it is 740.07 and 870.318 respectively and t value is 15.924, which is significant at 0.05 level ($p < 0.05$). It means that there is a significant difference in cultivators between rural and urban. That means rural cultivators are more than urban cultivators.

Now for Labour

Group Statistics	group	N	Mean	Std. Deviation	Std. Error Mean	t value	df	p-value
Labour	Rural	52	17088.71	6763.761	937.965	16.671	54.712	0.000
	Urban	42	1168.55	1163.226	179.490			

Independent Samples Test		t-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Labour	Equal variances not assumed	16.671	54.712	0.000	15920.164	954.984	14006.107	17834.221

According to the above table mean and SD of rural Labour among urban Labour is 17088.71 and 6763.761 respectively whereas in urban Labour it is 1168.55 and 1163.226 respectively and t value is 16.671, which is significant at 0.05 level ($p < 0.05$). It means that there is a significant difference in Labour between rural and urban. That means rural laborers are more than urban cultivators.

2) Development of urban depend upon industrial development

Table No. 5.3
Tahsil Wise Rural Household Industry & Other workers in Aurangabad District
1991, 2001, 2011

Sr. No.	Tahsil	1991		2001		2011	
		Male	Female	Male	Female	Male	Female
1	Aurangabad	5466	1047	28979	5110	24189	6249
2	Khuldabad	1059	311	5763	2082	5250	1743
3	Kannad	3052	533	12425	2858	10908	3291
4	Soygaon	601	185	3493	918	3126	1242
5	Sillod	2959	434	12659	3516	9810	2005
6	Paithan	5901	513	18791	4422	19165	4535
7	Gangapur	3933	571	22022	5932	15848	4950
8	Vaijapur	2878	573	9276	2299	8903	3315
9	Phulambri	-	-	7131	1745	6810	2460
Total		25849	4167	120539	28882	104009	29790

Table No. 5.4
Tahsil Wise Urban Household Industry & Other workers in Aurangabad
District 1991, 2001, 2011

Sr. No.	Tahsil	1991		2001		2011	
		Male	Female	Male	Female	Male	Female
1	Aurangabad	40280	3430	214311	39375	328545	78268
2	Khuldabad	208	45	2607	456	3108	472
3	Kannad	650	82	7212	892	8683	1824
4	Soygaon	-	-	-	-	-	-
5	Sillod	856	74	8372	967	11183	1539
6	Paithan	1137	163	6672	1169	11651	3367
7	Gangapur	569	43	3765	563	24178	5964
8	Vaijapur	1104	444	8290	1895	9297	2051
9	Phulambri	-	-	-	-	-	-
Total		44804	4281	251229	45317	396645	93485

H0 : There is no sig diff in urban and rural Household Industry & Other workers in Aurangabad District

H1 : There is sig diff in urban and rural Household Industry & Other workers in Aurangabad District

Paired Samples Statistics	Mean	N	S D	Std. Error Mean	t-value	df	p-value
	Rural	52206.00	6	47753.267			
Urban	139293.50	6	152869.875	62408.865	-1.917	5	0.013

According to the above table mean and SD of rural Labour among Household Industry & other workers is 52206 and 47753.267 respectively. Whereas in urban Household Industry & other workers it is 139293.5 and 152869.875 respectively and t value is -1.917, which is insignificant at 0.05 level ($p < 0.05$). It means that there is significant difference in urban and rural Household Industry & Other workers in Aurangabad District. That means urban Household Industry & other workers are more than rural.

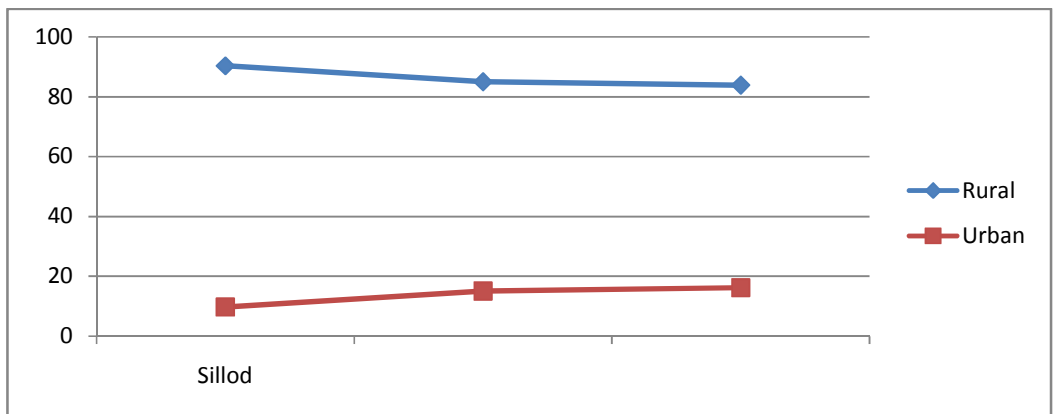
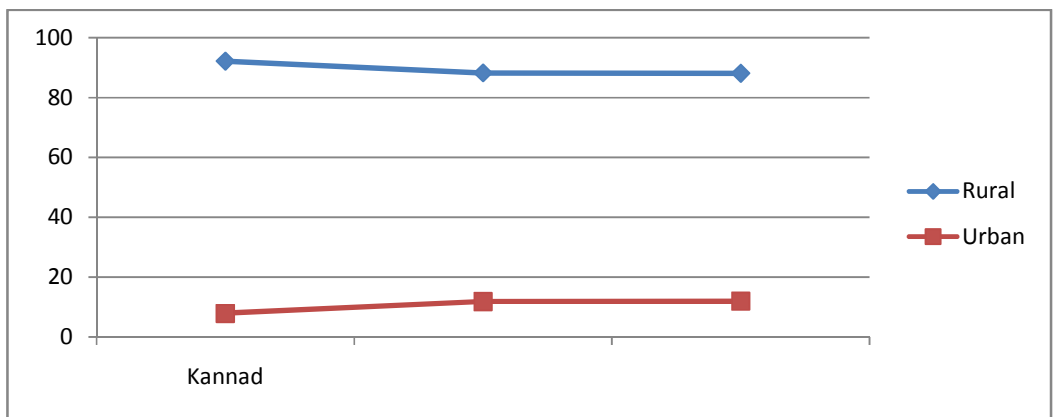
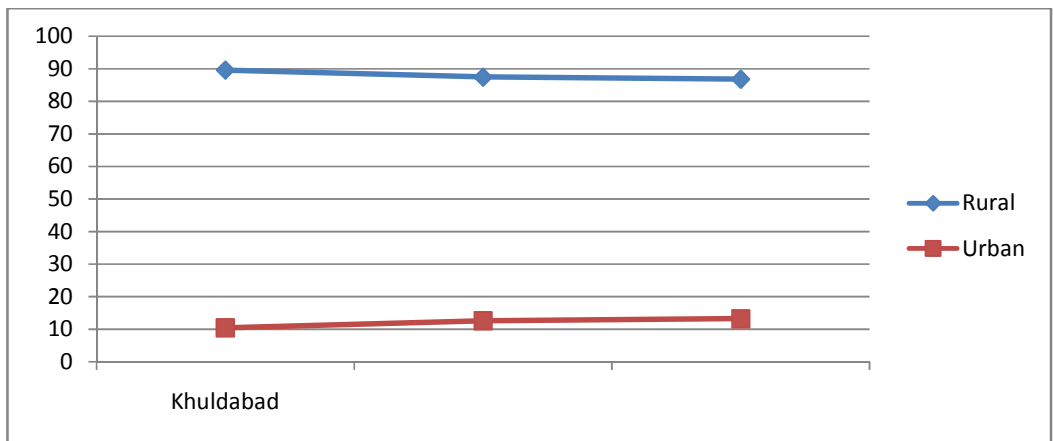
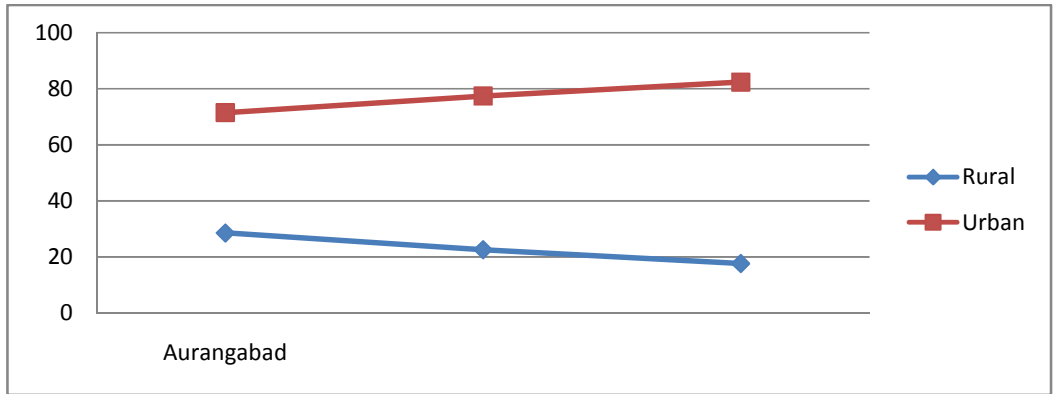
From this table it has been seen that rural area and peoples in that area depends on agriculture from these hypothesis has been proven. From this table it has been seen that urban area and peoples in that area depends on Industry. From these hypothesis has been proven.

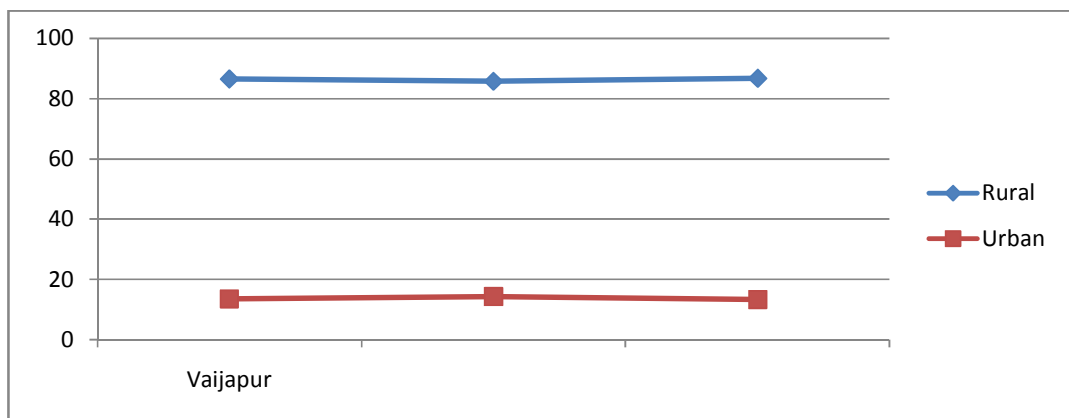
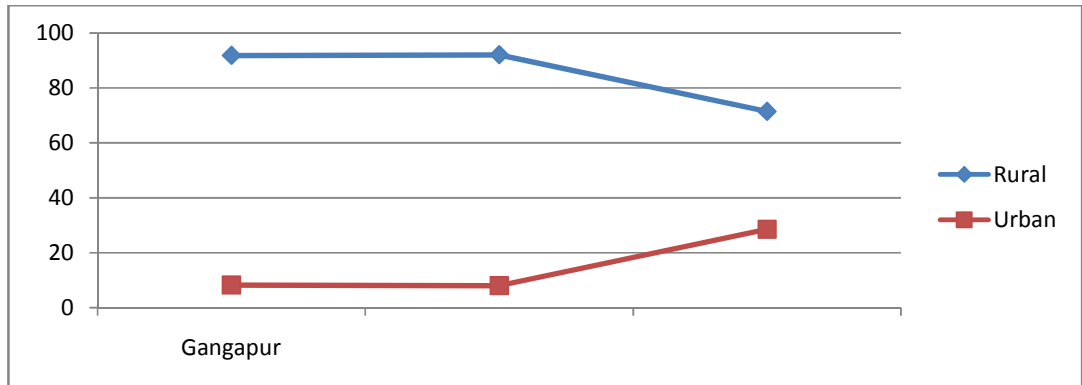
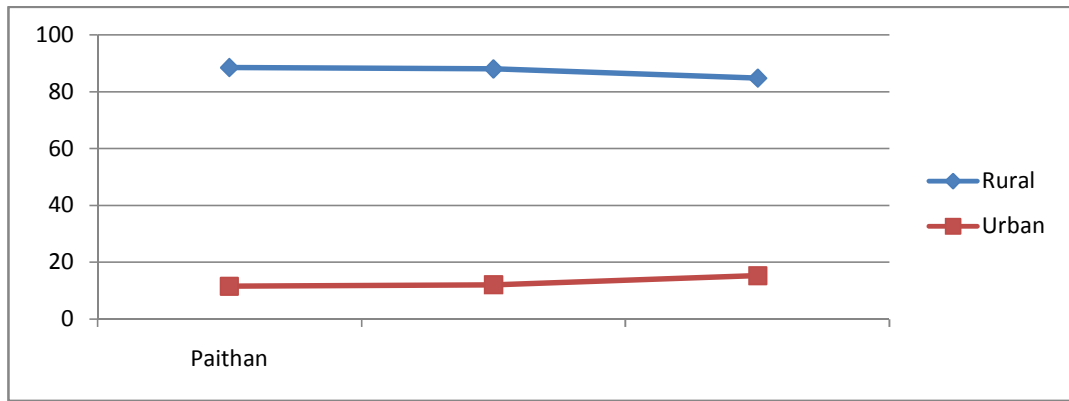
3) The trend of Migration in Aurangabad district is from Rural to Urban area.

Table No. 5.5
Tahsil Wise Rural and Urban Population in Aurangabad District (%)

Tahsil	1991		2001		2011	
	Rural	Urban	Rural	Urban	Rural	Urban
Aurangabad	28.55	71.45	22.60	77.40	17.68	82.32
Khuldabad	89.57	10.43	87.40	12.60	86.78	13.22
Kannad	92.13	07.87	88.19	11.81	88.04	11.96
Soygaon	100	0	100	0	100	0
Sillod	90.28	09.72	84.93	15.07	83.82	16.18
Paithan	88.49	11.51	88.00	12.00	84.75	15.25
Gangapur	91.81	8.19	91.99	08.01	71.44	28.56
Vaijapur	86.48	13.52	85.72	14.28	86.71	13.29
Phulambri	0	0	100	0	100	0
Total	67.24	32.76	62.47	37.53	56.26	43.74

Figure No. 5.5





From above graphs we can see that the percentage of urban population in Aurangabad city is increasing than other urban areas of Aurangabad city. Also % of rural area of Aurangabad is decreasing gradually than other rural areas of Aurangabad city. Hence we say that the migration in Aurangabad city is from rural to urban area.

From above table and graph it has been seen that population in the urban area of Aurangabad is increased in large proportion and population of all other rural areas in Aurangabad district has been decreased so that peoples are migration from rural area to urban area of Aurangabad therefore hypothesis has been proven.

Table No. 5.6
Tahsil Wise Rural and Urban Net Migration in Aurangabad District
2001 and 2011

Sr. No.	Tahsil	2001		2011	
		Rural	Urban	Rural	Urban
1	Aurangabad	12436	159241	4294	115479
2	Khuldabad	737	1297	2151	-1330
3	Kannad	4394	6869	21405	-7339
4	Soygaon	3361	-	12299	-
5	Sillod	-6833	8684	23028	-2843
6	Paithan	21982	-4039	20864	6016
7	Gangapur	52074	-2655	-20362	67222
8	Vaijapur	18270	-11581	26480	-17532
9	Phulambri	129857	-	15389	-
Total		194040	157816	104140	159673

In table no. 5.5, the study of Net Migration in Aurangabad district tahsil wise has been done. From this study it has been seen that greater no. of Migration occur in urban area of Aurangabad these proportion is like in 2001 which is 159241 and in 2011 which is 115479 respectively.

In Aurangabad district in 1999 Phulambri is declared as tahsil place so it influences the nearer tahsil place. It has been seen that proportion of In-Migration in the rural area has increased in some proportion it is due to fertility and mortality. Like wise proportion of out migration in urban area is increased due to fertility and mortality because health facilities in urban area is better than the rural area. so that peoples are migrating into the urban area of Aurangabad resulted in birth rate of child in the urban area has been registered in that place, so that proportion of fertility and mortality in that place has been increased it influences on the Migration of urban area. When we think about total Aurangabad district of 2001 it has been seen that highest in migration occurred in urban area than the rural area.