Spatio-Temporal Analysis of Immigration in Pune District of Maharashtra (2001 To 2011)

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Abstract:

Migration is the most decisive factor affecting the size of the population in recent times. besides this the change in the total population of a region occurs due to three factors: birth rate, death rate and migration. Migration is a key factor in determining the size and structure of the population. The main causes of migration are industrialization and rapid urbanization. In recent times, the flow of migrants from rural areas to the urban areas has increased due to pull factors such as employment opportunities and education. Pune district has lot of opportunities for employment and education as well as a good standard of living. So a great number of people migrate to Pune from surrounding regions. This rapidly growing population due to migration has been changing the socio-economic character of the district. Thus, it is very necessary to study the immigration pattern in Pune district as well as its causes and effects. In the present study, the immigration in Pune district has been analysed through a spatio-temporal perspective for one decade i.e. from 2001 to 2011.
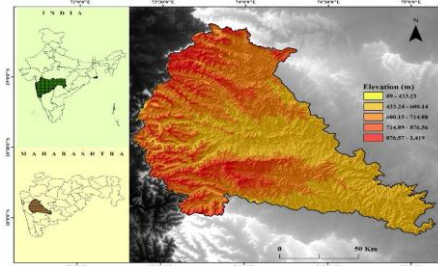
Key Words: *Migration, immigration, spatio-temporal analysis, employment.*

Introduction:

There are three components which are important for causing a change in the human population. The change in population can be positive or negative. This change occurs in population, due to three factors: birth rate, death rate and migration. Migration redistributes the population and it is a key factor in determining the size and structure of the population. In the past, due to some inevitable reasons, human migration took place. The main causes of migration are natural disasters, industrialization and urbanization. The two types of migration are immigration and emigration. There are two important reasons for any type of migration (Edward, 2001)(Keith, 1993). The first factor is disorder element (Push Factor) and second one is attraction factor (Pull Factor). (Dorigo, 1983) (Kine, 2003). In the developing world, migration from the rural areas to the urban areas is the leading trend. It has been seen in recent times that the flow of migrants from rural areas to the urban areas has increased due to pull factors such as employment opportunities and education. Population exploded in the last 50 years in India. Due to the abundant growth of the population (Demeny, 2003), the population has increased in large numbers in Bihar, Rajasthan, Uttar Pradesh, Madhya Pradesh, Maharashtra and other states. Due to the abundant growth of the population and the inadequate scope of employment opportunities, the migrations from these states to other states are becoming exceptionally large. Movement of people from other states of India to Maharashtra state is observed on a large scale. (Michael, 1985) (Clark,1825). The immigration of migrants to Pune, Mumbai, Nasik and Kolhapur, in the western parts of Maharashtra is in very large numbers (lewontin, 1972). The migration of people from other states of India to Maharashtra is similar to that within Maharashtra, and it is being noticed more in Pune district of Maharashtra (Larry, 1962). Through this research paper, the researcher has tried to analyse the immigration in the Pune district from 2001 and 2011. The number of immigrants coming to Pune District from other Districts of Maharashtra State increased by more than 11 lakhs from 14,01,498 in 2001 to 25,21,927 in 2011. Maximum immigrants in Pune District were from the surrounding Solapur District followed by Ahmednagar District, Satara District and Greater Mumbai. The percentage share of immigrants coming to Pune District from Latur and Hingoli Districts has increased significantly from 2001 to 2011. The percentage share of immigrants coming to Pune District from Greater Mumbai, Ahmednagar, Jalgaon and Solapur Districts has decreased significantly from 2001 to 2011.

Study Region: Pune district is located between 17° 54' N and 19° 24' N latitudes and 73° 19' E and 75° 10' E longitudes (Fig. 1). The district has a vast geographical area of 15,642 sq. km. with a total population of 94,29,408. Pune district is bounded by five districts: Ahmednagar district in the northeast and east, Solapur district in southeast, Satara district in the south, Raigad district in the west, and Thane district in the northwest. Pune is the second-largest district in the state and covers 5.10% of the total geographical area of the state. The shape of the Pune district is roughly triangular. Pune district is located in western Maharashtra bordered by the Sahyadri Mountains in its west. Administratively, the district is divided into 14 Tehsils. These are Junnar, Ambegaon, Shirur, Khed, Mawal, Mulshi, Haveli, Pune City, Daund, Purandhar, Velhe, Bhor, Baramati, and Indapur. Pune city is the administrative headquarters of the district. There are around 1,866 villages in the district. The general slope in the district is towards the south-east direction. In the Pune district, there are two Municipal Corporations namely Pune and Pimpri Chinchwad, and thirty five town centers in the 14 Tehsils.

'Journal of Research & Development' A Multidisciplinary International Level Refered and Peer Reviewed Journal,
Impact Factor-7.265, ISSN: 2230-9578, 20 July-2021, Volume-11, Issue-26
Impact of Environment on Agriculture, Health, Water Resources, Social Life & Industrial Development

Fig. 1: Location Map of the Study Area

Objectives: In the present paper, the internal migration in Maharashtra state with special reference to Pune district has been analysed using the 2001 and 2011 Census data. In this research work, the immigration of people from other districts of Maharashtra to Pune district has been analysed in detail. The aims and objectives of the present study are:

1. To analyse the volume of in migration or immigration in Pune district from other districts of Maharashtra state.
2. To identify and analyse the changes in the number of immigrants coming to Pune district from other districts of Maharashtra state from 2001 to 2011.
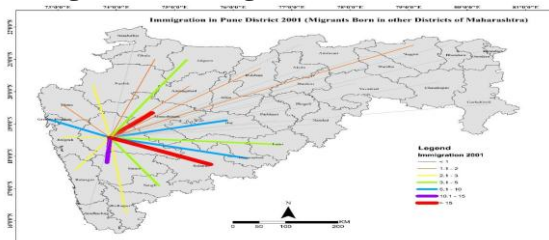
Hypothesis

1. Pune district has the highest rate of immigration from various districts of Maharashtra.
2. Pune district has the highest number of immigrants from neighboring districts.

Database And Methodology: The present work is based on secondary data analysis. Researcher has used Census Handbook data of 2001 and 2011. All relevant published and unpublished records have been considered. All the secondary data have been collected from District Census Handbook, Gazetteer, District Statistical Abstracts, Socio-economic Abstracts and records of villages. Besides this, the required data and information have been collected from various books and journals. The analysis and interpretation of data has been done from the geographical point of view. The data has been organised into tables with the help of computer software. The processed data has been represented using specific cartographic techniques such as bar graphs and flow maps. ArcGIS software and Microsoft Excel have been used for map and graph presentation. All the processed data as well as graphs and maps have been interpreted.

Data Analysis:

Pune District in Migration - Immigrants Born in Other Districts of the State (2001): During 2001, Pune District had 14,01,498 immigrants or in migrants who were born in other Districts of Maharashtra State. The number of male immigrants in Pune District who were born in other Districts of Maharashtra State were 6,78,211 or 48.39%. The number of female immigrants in Pune District who were born in other Districts of Maharashtra State were 7,23,287 or 51.61%. The proportion of female immigrants in Pune District from other Districts of the State was 3% more than male immigrants. Largest number of immigrants in Pune District (more than 50%) were from the surrounding Solapur District (2,39,577 or 17.1%) followed by Ahmednagar District (2,25,594 or 16.1%), Satara District (1,55,571 or 11.1%) and Greater Mumbai (1,19,896 or 8.55%).The number of immigrants in Pune District who were from Beed, Osmanabad and Sangli Districts were also significantly high. The number of immigrants in Pune District who belonged to Nashik, Latur, Jalgaon, Kolhapur, Ratnagiri, Raigarh, Thane and Aurangabad were moderately high. The number of immigrants in Pune District who were born in Districts located at a considerable distance from Pune such as Dhule, Nagpur, Buldhana, Parbhani, Jalna, Akola, Amravati, Nanded and Sindhudurg were moderately low. The number of immigrants in Pune District who were from the far-flung areas of the State such as Vidarbha (Gadchiroli, Gondia, Bhandara, Chandrapur, Washim, Wardha and Yavatmal), North Maharashtra (Nandurbar) and Marathwada (Hingoli) were significantly less.
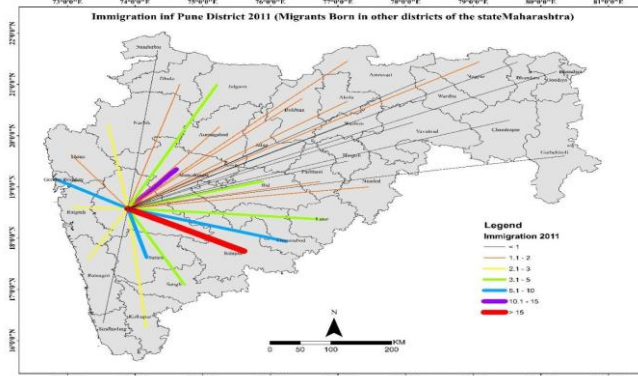
Fig. 2: Pune District In Migration - Immigrants Born in Other Districts of the State (2001)

Pune District In Migration - Immigrants Born in Other Districts of the State (2011):

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During 2011, Pune District had 25,21,927 immigrants or in migrants who were born in other Districts of Maharashtra State. The number of male immigrants in Pune District who were born in other Districts of Maharashtra State were 12,42,519 or 49.27%. The number of female immigrants in Pune District who were born in other Districts of Maharashtra State were 12,79,408 or 50.73%. The proportion of female immigrants in Pune District from other Districts of the State was about 1.5% more than male immigrants. Maximum immigrants in Pune District (more than 46%) were from the surrounding Solapur District (3,78,856 or 15.02%) followed by Ahmednagar District (3,46,536 or 13.74%), Satara District (2,42,023 or 9.6%) and Mumbai (1,99,268 or 7.9%).The number of immigrants in Pune District who were from Osmanabad, Beed, Latur, Jalgaon and Sangli Districts were also significantly high and accounted for more than 27% of immigrants in Pune District who were born in other Districts of the State. The number of immigrants in Pune District who belonged to Nashik, Kolhapur, Ratnagiri, Raigarh and Thane were moderately high.The number of immigrants in Pune District who were born in Districts located at a considerable distance from Pune such as Buldhana, Nanded, Aurangabad, Parbhani, Dhule, Nagpur, Amravati, Akola, Yavatmal, Jalna, Sindhudurg and Washim were moderately low. The number of immigrants in Pune District who were from the far flung areas of the State such as Vidarbha (Gadchiroli, Gondia, Bhandara, Chandrapur and Wardha), North Maharashtra (Nandurbar) and Marathwada (Hingoli) were significantly less. During 2011, around 5% immigrants in Pune District were unclassifiable.

Fig. 3: Pune District in Migration - Immigrants Born in Other Districts of the State (2011)

Comparative Study of Migration
Table 1: Comparative Analysis of Pune District Immigration (Migrants Born in other Districts of the Maharashtra State) 2001-2011

Sr. No.	Name of District	2001			2011		
		Total %	Male %	Female %	Total %	Male %	Female %
1	Solapur	17.09	46.85	53.15	15.02	48.17	51.83
2	Ahmednagar	16.1	45.3	54.7	13.74	45.75	54.25
3	Satara	11.1	44.07	55.93	9.6	46.71	53.29
4	Greater Mumbai	8.55	43.64	56.36	0.35	56.48	43.52
5	Beed	6.61	52.29	47.71	4.93	52.25	47.75
6	Osmanabad	6.18	53.42	46.58	5.94	53.43	46.57
7	Sangli	3.71	51.33	48.67	3.5	51.81	48.19
8	Latur	3.35	55.45	44.55	7.9	44.38	55.62
9	Jalgaon	3.14	54.3	45.7	0.79	51.65	48.35
10	Nashik	2.98	45.6	54.4	2.86	45.83	54.17
11	Kolhapur	2.82	51.03	48.97	4.22	53.76	46.24
12	Ratnagiri	2.71	52.8	47.2	2.09	51.81	48.19
13	Raigarh	2.33	46.67	53.33	2.03	46.19	53.81
14	Thane	1.88	42.59	57.41	1.99	43.41	56.59
15	Aurangabad	1.61	48.28	51.72	1.52	47.74	52.26
16	Dhule	1.37	53.63	46.37	1.38	52.89	47.11

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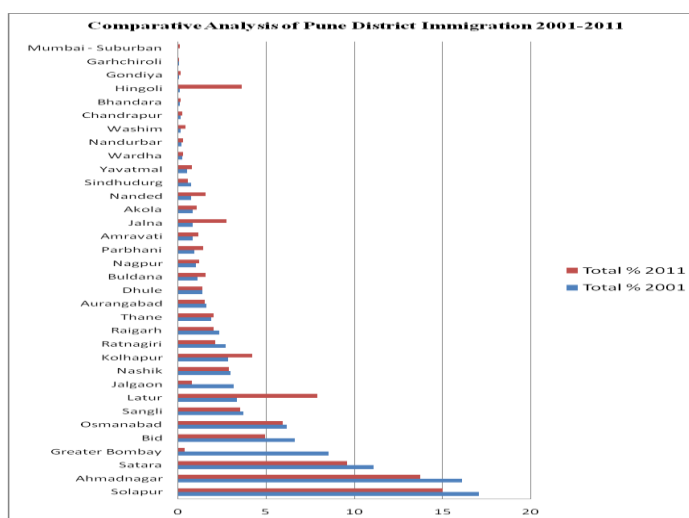| 17	Buldhana	1.08	57.12	42.88	1.57	56.62	43.38
18	Nagpur	1.02	50.22	49.78	1.2	49.72	50.28
19	Parbhani	0.91	54.35	45.65	1.4	52.47	47.53
20	Amravati	0.84	57.33	42.67	1.12	55.69	44.31
21	Jalna	0.83	51.41	48.59	2.74	51.53	48.47
22	Akola	0.82	54.25	45.75	1.06	54.42	45.58
23	Nanded	0.72	54.42	45.58	1.54	54.6	45.4
24	Sindhudurg	0.71	54.32	45.68	0.55	53.69	46.31
25	Yavatmal	0.52	54.59	45.41	0.79	55.48	44.52
26	Wardha	0.25	53.37	46.63	0.29	53.6	46.4
27	Nandurbar	0.17	58.12	41.88	0.27	55.06	44.94
28	Washim	0.15	57.16	42.84	0.41	57.79	42.21
29	Chandrapur	0.13	55.42	44.58	0.22	55.25	44.75
30	Bhandara	0.1	56.72	43.28	0.14	57.41	42.59
31	Hingoli	0.1	57.8	42.2	3.61	54.35	45.65
32	Gondia	0.06	65.03	34.97	0.12	63.87	36.13
33	Gadchiroli	0.05	58.58	41.42	0.03	62.23	37.77
34	Mumbai – Suburban	0	45.95	54.05	0.11	44.43	55.57
	Total	**100**	**48.39**	**51.61**	**100**	**49.27**	**50.73**

Source: Migration Data, Census Handbook of India Data - 2001 and 2011

The comparative analysis of Pune District Immigration (Migrants Born in other Districts of the Maharashtra State) from 2001 to 2011 shows that the percentage share of immigrants coming to Pune District from twenty Districts of Maharashtra has increased more or less considerably. These Districts are Latur, Hingoli, Jalna, Kolhapur, Nanded, Buldhana, Parbhani, Amravati, Yavatmal, Washim, Akola, Nagpur, Thane, Mumbai – Suburban, Nandurbar, Chandrapur, Gondia, Bhandara, Wardha and Dhule. The percentage share of immigrants coming to Pune District from Latur and Hingoli Districts has increased significantly by 4.55% and 3.51% respectively. The percentage share of immigrants coming to Pune District from Jalna and Kolhapur Districts has also increased considerably by 1.9% and 1.4% respectively. The percentage share of immigrants coming to Pune District from fourteen Districts of Maharashtra has decreased more or less considerably. These Districts are Greater Mumbai, Ahmednagar, Jalgaon, Solapur, Beed, Satara, Ratnagiri, Raigarh, Osmanabad, Sangli, Sindhudurg, Nashik, Aurangabad and Gadchiroli. The percentage share of immigrants coming to Pune District from Greater Mumbai, Ahmednagar, Jalgaon and Solapur Districts has decreased significantly by 8.2%, 2.36%, 2.35% and 2.07% respectively. The percentage share of immigrants coming to Pune District from Beed and Satara Districts has also decreased by 1.68% and 1.5% respectively.

Fig. 4: Comparative Analysis of Pune District Immigration (Migrants Born in other Districts of the Maharashtra State) 2001-2011

Results And Findings:

The number of immigrants coming to Pune District from other Districts of Maharashtra State increased by more than 11 lakhs from 14,01,498 in 2001 to 25,21,927 in 2011. Maximum immigrants in Pune District were from the surrounding Solapur District followed by Ahmednagar District, Satara District and Greater Mumbai. The percentage share of immigrants coming to Pune District from Latur and Hingoli Districts has increased significantly by 4.55% and 3.51% respectively from 2001 to 2011. The percentage

share of immigrants coming to Pune District from Greater Mumbai, Ahmednagar, Jalgaon and Solapur Districts has decreased significantly by 8.2%, 2.36%, 2.35% and 2.07% respectively from 2001 to 2011.

Pune district situated in the western part of Maharashtra is blessed with good amount of annual rainfall, abundant amount of water resources, well developed transport network and number of industries. Pune City and Pimpri Chinchwad Municipal Corporation have a particularly good educational facilities, medical facilities, and job opportunities that attract the people, towards this highly developed region. Pune city and surrounding areas like Chakan, Khed, Pimpri, Chinchwad, Bhosari, Sanaswadi, Ranjangaon, Jejuri and Baramati have industrial parks. These places have incredibly excellent job opportunities. As there are many business and job opportunities available in Pune and adjoining areas, many people from other districts of Maharashtra state come to live and settle in Pune district. If this flow of migrants continues in the future, the population growth in Pune district will be very rapid. The stress of this population growth will come on all the resources and facilities. Therefore, it is necessary to study the migration phenomenon and its causes. In Pune district, most of the immigration occurs in the urban areas from other districts of Maharashtra.

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