

# Inter-District Migration in Gujarat in India

**Author:** Sarga T. K.

**Affiliation:** Ph. D. Research Scholar, Centre for the Study of Regional Development, Jawaharlal Nehru University, New Delhi-110067

## Abstract

Migration of people is sensitive to the differential economic development of regions. Gujarat has witnessed an increase in the volume of migration over the last two decades. This paper looks into the rate and pattern of inter district migration in state of Gujarat in India by using data provided by Census of India (1991 and 2001). The in-migration rate for Gandhinagar and Ahmadabad shows very high in-migration rate. Inter-district migration rates show wide range of regional disparities in development among the districts of Gujarat. Net migration is increasing with higher level of development of districts. The share of migrants from the backward districts are lesser than the relatively well of districts in the most developed district. With a higher position in the hierarchy of development the number of migrants from that particular district to the most developed district increases.

## Introduction

Internal migration is now recognized as an important factor in influencing social and economic development, especially in developing countries. Migration of people is sensitive to the differential economic development of regions. However, such movements vary over time, space and by communities. Gujarat has witnessed an increase in the volume of migration over the last two decades. Inter district migrants are those migrants who move from the district to another district within Gujarat. This movement is accelerated due to socio-economic pull factors like growth of agriculture, industrial development and urbanization on one hand and push factors of environmental degradation and regional imbalance on the other hand. The developmental process which became selective in terms of areas also became selective in terms of movement of people. This paper looks into the rate and pattern of inter district migration in state of Gujarat in India.

## Data Source and Methodology

Decadal Population Census of India as conducted by the Office of the Registrar General & Census Commissioner, India, is a major source of data on migration. This study is based on migration data provided by Census of India, 1991 and 2001. Data for this analysis is sourced from D15 table in Census of India, 1991 and D11 table in Census of India, 2001.

## Methodology

There were 19 districts in Gujarat in 1991. So the data is arranged in 19\*19 matrix. The number of districts in 2001 is 24. So 2001 data is arranged in 24\*24 matrix. From the matrices, total in-migration and out-migration rate is calculated.

In-migration, out-migration and net-migration rates are calculated in the following way.

$$\text{In-migration Rate} = (\text{Total In-migration} / \text{Total Population}) * 100$$

$$\text{Out-migration Rate} = (\text{Total Outmigration} / \text{Total Population}) * 100$$

$$\text{Net-migration Rate} = (\text{Net Migration} / \text{Total Population}) * 100$$

$$\text{Net-migration} = \text{Total Out-migration} - \text{Total In-migration}$$

Generally mid-year population is taken for calculating migration rates. District wise mid-year population is difficult to get. That's why, total population is taken instead of mid-year population in this study. Chorochromatic maps are used for representing the rates.

## Analysis

The in-migration rate for Gandhinagar and Ahmadabad shows very high in-migration rate. In Gandhinagar, in-migration rate is 65.98% where as in Ahmadabad it is 66%. Surat shows only 29.44% rate of in-migration. Surat, Vadodara and Rajkot show 18 to 36% in-migration rate. Remaining districts are coming under low level of in-migration (Table 1). Ahmadabad shows very high out-migration rate of 35.18% followed by Amreli and Surendranagar. Suret (9%) shows low level of outmigration. Gandhinagar shows moderate rate of outmigration (24%).

**Table 1: Number of Migrant and Different Rates of Migration, Gujarat, 1991**

Districts	Total In-migration	Total Out-migration	Net-Migration	Total Population	Out-migration Rate (%)	In-migration Rate (%)	Net-migration Rate (%)
Jamnagar	118235	182042	-63807	932716	19.52	12.68	-6.84
Rajkot	316287	287381	28906	1330156	21.61	23.78	2.17
Surendranagar	132454	224389	-91935	846149	26.52	15.65	-10.87
Bhavnagar	177714	314807	-137093	1487186	21.17	11.95	-9.22
Amreli	149022	257468	-108446	982933	26.19	15.16	-11.03
Junagadh	155454	238188	-82734	1615483	14.74	9.62	-5.12
Kachchh	59762	77894	-18132	874650	8.91	6.83	-2.07
Banas Kantha	108037	143326	-35289	1942294	7.38	5.56	-1.82
Sabar Kantha	106440	150551	-44111	1575918	9.55	6.75	-2.80
Mahesana	234837	454951	-220114	2291309	19.86	10.25	-9.61
Gandhinagar	159514	58881	100633	241773	24.35	65.98	41.62
Ahmadabad	803275	427424	375851	1215127	35.18	66.11	30.93
Kheda	305477	327929	-22452	2656272	12.35	11.50	-0.85
Panch Mahals	74547	204211	-129664	2642916	7.73	2.82	-4.91
Vadodara	386315	256236	130079	1761546	14.55	21.93	7.38
Bharuch	151591	200691	-49100	1217317	16.49	12.45	-4.03
Surat	494556	144217	350339	1679779	8.59	29.44	20.86
Valsad	121921	96213	25708	1641817	5.86	7.43	1.57
The Dangs	8751	17390	-8639	128180	13.57	6.83	-6.74

Source: D15 Table, Population Census of India, 1991

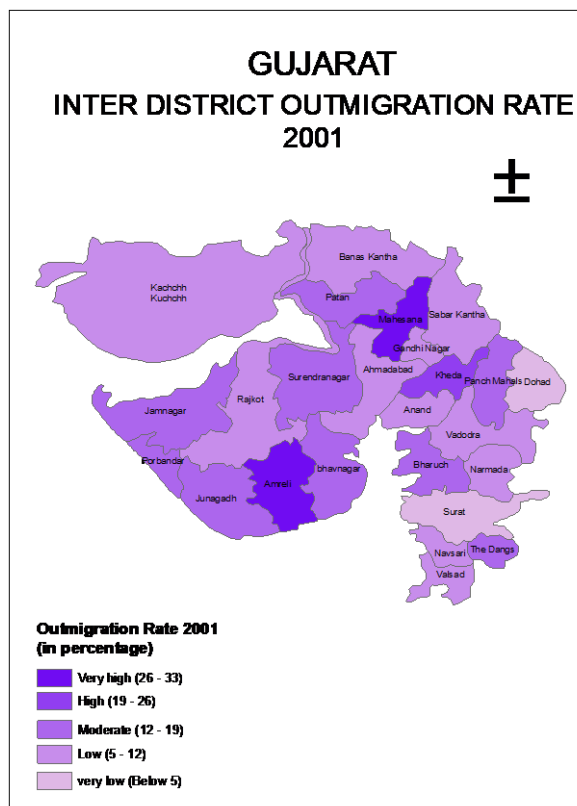
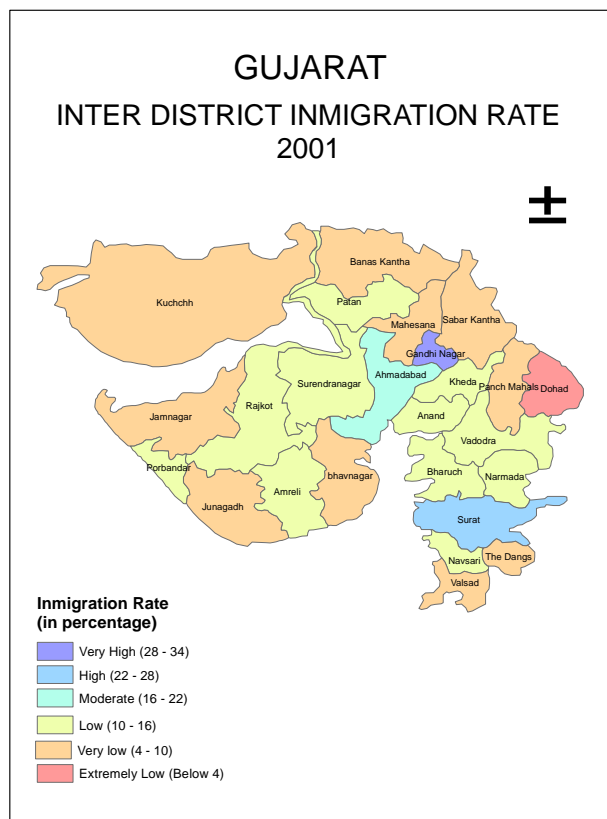
As per analysis of migration data from Population Census 2001, it shows that Gandhinagar (29.3%) has very high in-migration rate followed by Surat (23.1%) and Ahmadabad (16.87%). Dohad shows extremely low in-migration rate of 1.83%. Except the 3 districts of Ahmadabad, Surat and Gandhinagar all other districts show comparatively low level of in-migration rate. 10 districts show very low in-migration rate. Western part of Gujarat state consists of districts coming under very low or low in-migration.

Economically developed districts of Gujarat show low or very low outmigration. Surat comes under very low category (4.02%). Gandhinagar and Ahmadabad show 7.25% and 9.37% rate of outmigration respectively. Mahesana (29%) and Amreli (28%) show very high outmigration rates (Table 2).

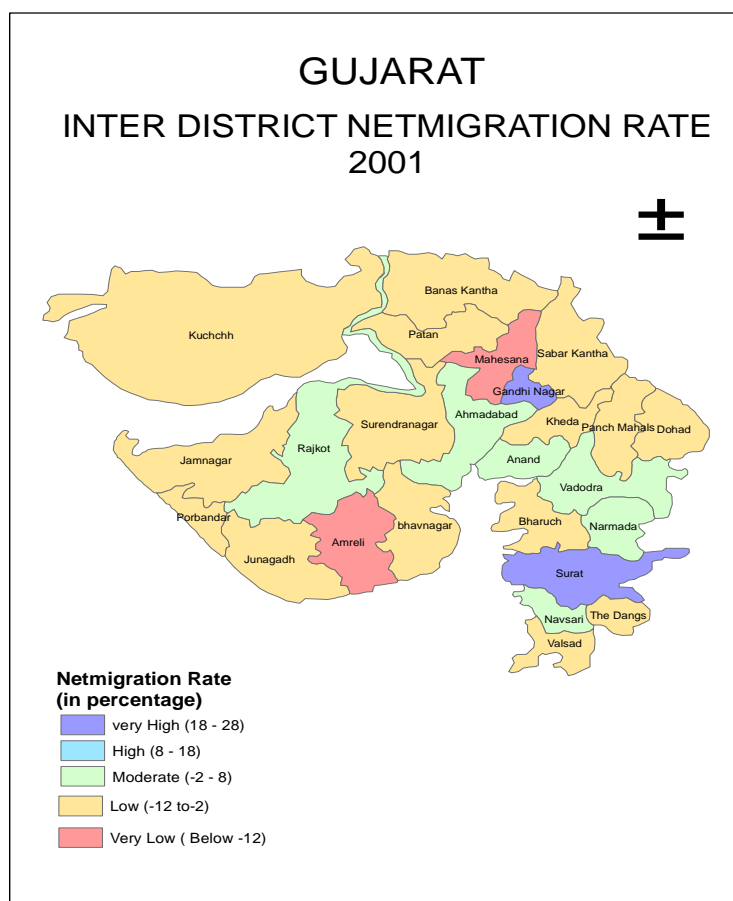
**Table 2: Number of Migrant and Different Rates of Migration, Gujarat, 2001**

Districts	Total Out-migration	Total In-migration	Net Migration	Total Population	Out-migration Rate (%)	In-migration Rate(%)	Net migration Rate (%)
Kachchh	87489	70579	-16910	1519886	5.76	4.64	-1.11
Banas Kantha	155871	96061	-59810	2456777	6.34	3.91	-2.43
Patan	142480	125280	-17200	1171841	12.16	10.69	-1.47
Mahesana	526234	153145	-373089	1811280	29.05	8.46	-20.60
Sabar Kantha	188198	78498	-109700	2049238	9.18	3.83	-5.35
Gandhinagar	92004	372043	280039	1269875	7.25	29.30	22.05
Ahmadabad	500125	900172	400047	5335133	9.37	16.87	7.50
Surendranagar	247480	149191	-98289	1500357	16.49	9.94	-6.55
Rajkot	342120	398565	56445	3110318	11.00	12.81	1.81
Jamnagar	246769	144331	-102438	1861309	13.26	7.75	-5.50
Porbandar	67549	58851	-8698	529108	12.77	11.12	-1.64
Junagadh	296359	122526	-173833	2426064	12.22	5.05	-7.17
Amreli	392283	136677	-255606	1385465	28.31	9.87	-18.45
Bhavnagar	413495	181857	-231638	2433559	16.99	7.47	-9.52
Anand	108196	239703	131507	1822201	5.94	13.15	7.22
Kheda	376969	217821	-159148	2001975	18.83	10.88	-7.95
Panch Mahals	250513	82614	-167899	2003840	12.50	4.12	-8.38
Dohad	61579	29550	-32029	1611757	3.82	1.83	-1.99
Vadodara	276542	454646	178104	3405307	8.12	13.35	5.23
Narmada	42656	51785	9129	496726	8.59	10.43	1.84
Bharuch	196101	156524	-39577	1284990	15.26	12.18	-3.08
Surat	161025	925302	764277	4006135	4.02	23.10	19.08
The Dangs	23573	9047	-14526	179761	13.11	5.03	-8.08
Navsari	68503	124509	56006	1152334	5.94	10.80	4.86
Valsad	83888	68724	-15164	1243150	6.75	5.53	-1.22

Source: D11 Table, Population Census of India, 2001



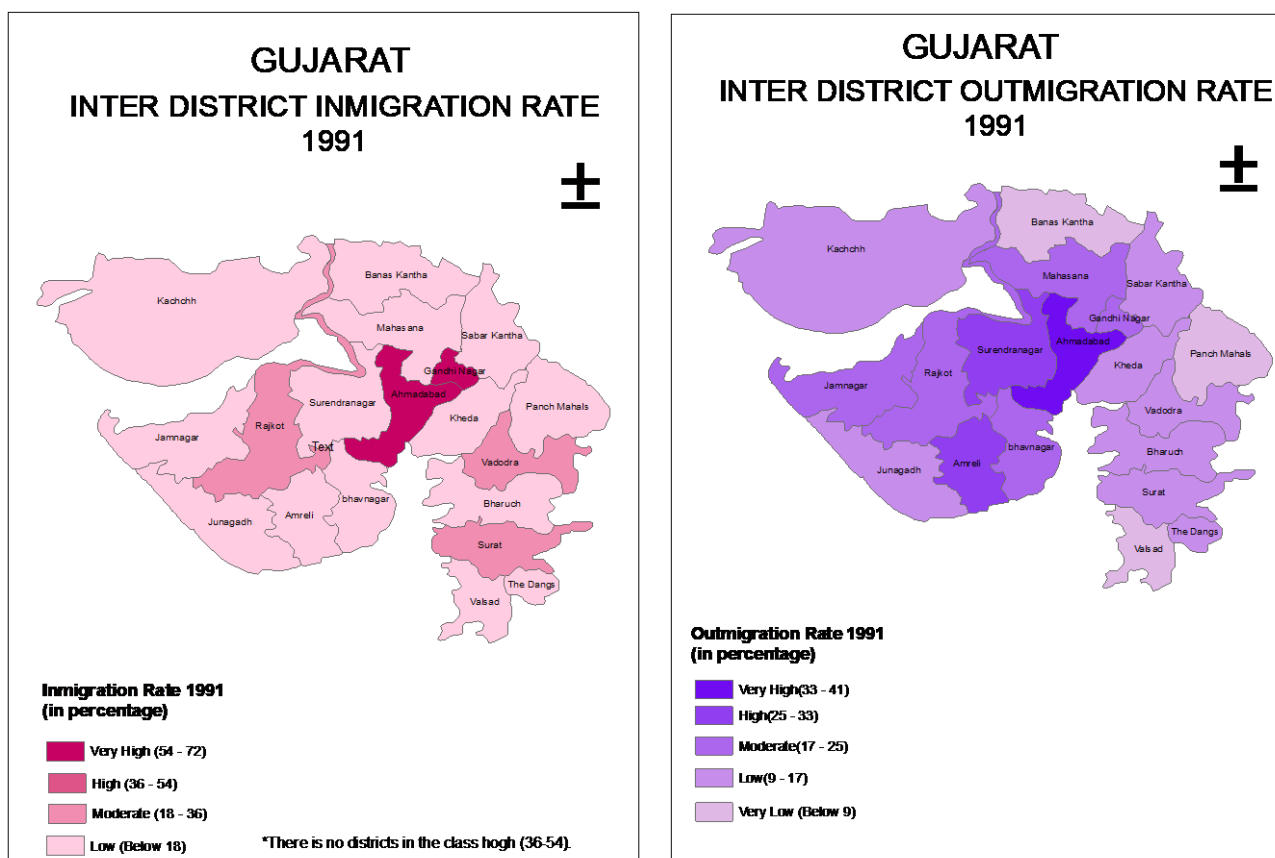
Source: Computed from D11 Table, Population Census of India, 2001



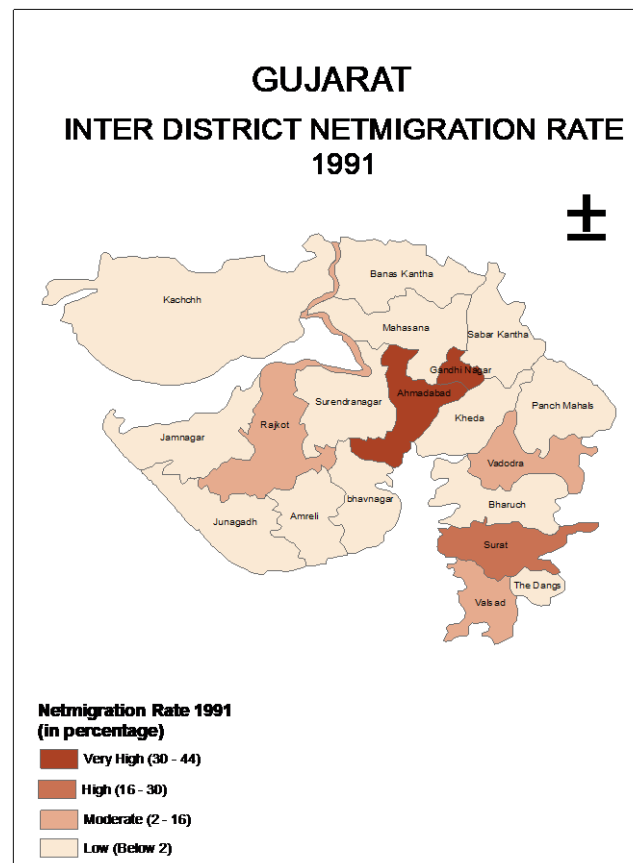
Source: Computed from D11 Table, Population Census of India, 2001

Net migration rate is an indicator of relative development of an area. Here the positive value indicates that there is higher rate of in-migration than outmigration. It shows the developed status of a district. Net-migration rate is very high in Gandhinagar (22.05%) and Surat (19.08%). Mahesana and Amreli show very low net migration rate of -20.6 % and -18.45% respectively. More than 50% Of the districts in Gujarat show low level of net migration. Only 8 districts show a positive net-migration value. It shows the regional disparities in development in terms of infrastructure, employment opportunities etc.

Unlike the 2001 in-migration rate Gandhinagar and Ahmadabad shows very high in-migration rate. In Gandhinagar in-migration rate is 65.98% where as in Ahmadabad it is 66%. Surat shows only 29.44% rate of in-migration. Surat, Vadodara and Rajkot show 18 to 36% in-migration rate. Remaining districts are coming under low level of in-migration. Ahmadabad shows very high outmigration rate of 35.18% followed by Amreli and Surendranagar. Suret (9%) shows low level of outmigration. Gandhinagar shows moderate rate of outmigration (24%). Both Gandhinagar (42%) and Ahmadabad (31%) shows very high rate of net migration followed by Surat (21%), Rajkot, Valsad and Vadodara.



Source: Computed from D15 Table, Population Census of India, 1991



*Source: Computed from D15 Table, Population Census of India, 1991*

**Table 3: District-wise Net-migration Rate in Gujarat, 1991 and 2001**

1991		2001	
Districts	Net-migration Rate (%)	Districts	Net-migration Rate (%)
Jamnagar	-6.84	Kachchh	-1.11
Rajkot	2.17	Banas Kantha	-2.43
Surendranagar	-10.87	Patan	-1.47
Bhavnagar	-9.22	Mahesana	-20.60
Amreli	-11.03	Sabar Kantha	-5.35
Junagadh	-5.12	Gandhinagar	22.05
Kachchh	-2.07	Ahmadabad	7.50
Banas Kantha	-1.82	Surendranagar	-6.55
Sabar Kantha	-2.80	Rajkot	1.81
Mahesana	-9.61	Jamnagar	-5.50
Gandhinagar	41.62	Porbandar	-1.64
Ahmadabad	30.93	Junagadh	-7.17
Kheda	-0.85	Amreli	-18.45
Panch Mahals	-4.91	Bhavnagar	-9.52
Vadodara	7.38	Anand	7.22
Bharuch	-4.03	Kheda	-7.95
Surat	20.86	Panch Mahals	-8.38
Valsad	1.57	Dohad	-1.99
The Dangs	-6.74	Vadodara	5.23
		Narmada	1.84
		Bharuch	-3.08
		Surat	19.08
		The Dangs	-8.08
		Navsari	4.86
		Valsad	-1.22

*Source: Computed from Population Census of India, 1991 and 2001*

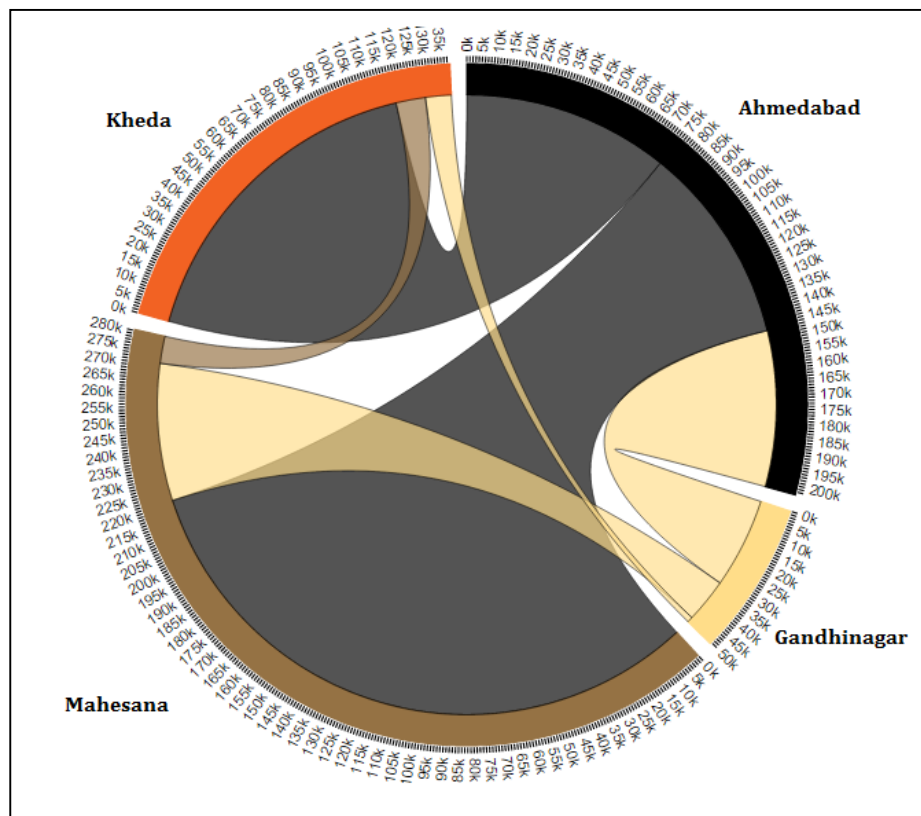


**Table 3: District-wise Change in Net-migration Rate in Gujarat, 1991 and 2001**

Districts	Change in net-migration rate 1991-2001
Jamnagar	1.34
Rajkot	-0.36
Surendranagar	4.31
Bhavnagar	-0.30
Amreli	-7.42
Junagadh	-2.04
Kachchh	0.96
Banas Kantha	-0.62
Sabar Kantha	-2.55
Mahesana	-10.99
Gandhinagar	-19.57
Ahmadabad	-23.43
Kheda	-7.10
Panch Mahals	-3.47
Vadodara	-2.15
Bharuch	0.95
Surat	-1.78
Valsad	-2.79
The Dangs	-1.34

*Source: Computed from Population Census of India, 1991 and 2001*

Here only 4 districts show a positive value. It means net in-migration in 2001 is higher than that of 1991 only in 4 districts. They are Surendranagar (4.31%), Jamnagar (1.34%), Kachchh (0.96%) and Bharuch (0.95%). Gandhinagar (-19%), Ahmadabad (-23%) and Mahesana (-10.99%) show a negative change in net migration rate. In Surat 1.78 decrease in net migration. Those districts which show an increase in net migration shows that the relative decrease in out-migration is less than that of in migration. These all districts are located far apart with no geographical continuity. Gandhinagar and Ahmadabad show a decrease in net migration. Even though both in-migration and outmigration decreased over the years, net migration decreased due to the higher rate of decrease in in-migration. Relative decrease in in-migration is less than the relative decrease in outmigration.

**Figure 1: Chord Diagram for Inter-District Migration, 1991**

*Source: Computed from D15 Table, Population Census of India, 1991*

The chord diagram plotted above is a useful method of representing migration pattern across districts. Here the direction and magnitude of migration in between 4 districts of Gujarat (Gandhinagar, Kheda, Ahmedabad and Mahesana) is plotted. There higher volume of immigration in Gandhinagar. Ahmedabad accounts the largest share followed by Mahesana among the 4 districts of Gujarat. Kheda show very less number of outmigration to Gandhinagar. Mahesana and Gandhinagar show outmigration towards Ahmedabad. There is no movement in between Kheda and Ahmedabad. The above chord diagram shows a general pattern that there is a hierarchy in migration pattern that is migrants of Kheda largely move to Mahesana and Gandhinagar. People of Mahesana outmigrate to all other districts but large number of them are migrating to Ahmedabad. From Ammadabad majority moves to Gandhinagar. There is a hierarchy in migrant movement. With development the number of outmigrants to most developed city increases. More specifically more the migrant flow from less developed districts to most developed district is lesser than relatively better of districts.

## Conclusion

Inter-district migration rates show wide range of regional disparities in development among the districts of Gujarat. Net migration is increasing with higher level of development of the district. Both in-migration and outmigration is decreasing in Gandhinagar and Ahmadabad. Here there is a decreased in net migration rate over the years (1991-2001) due to relatively higher level of decrease in in-migration than that of outmigration. The districts which show an increase in net migration is due to relatively lower level of decrease in outmigration over the years. Migrant flow shows a hierarchy in migration behavior. The share of migrants from the backward districts are lesser than the relatively well of districts in the most developed district. With a higher position in the hierarchy of development the number of migrants from that particular district to the most developed district increases.

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