CHAPTER FIVE

INTER- DISTRICT VARIATION IN INDUSTRIALISATION IN GUJARAT: AN ANALYSIS

CHAPTER-V

INTER- DISTRICT VARIATION IN INDUSTRIALISATION IN GUJARAT: AN ANALYSIS

I INTRODUCTION:

The development experience in India in the past two decades has indicated that, there has been a reasonably good overall growth of the economy, but still there has been disparity in the growth between different regions of the country. This is basically due to lack of industrial development in certain regions. It needs to be mentioned here that 'Industrial development' (particularly the development of manufacturing activities) has become synonymous with term' economic development.' It is so because, the industrial sector is more powerful in innovation which injects dynamism and brings about lasting increase in productivity of labour. Industrialization not only influences of growth of national output and income, but also influences the national life and the social, political and cultural pattern. Industrial development has further been acknowledged as a means to distribute employment, income and consumption between various regions by giving special emphasis on industrialization of backward regions. Development of industries in the backward regions, are therefore accepted as a means to reduce regional disparities.[36] In view of this, one of the strategy thought of is locating industries in the backward region; such a strategy is required not only for generation of employment and income in the backward region but also for balanced regional development. It is this consideration that has led a number of state governments including Gujarat to use industrial dispersal policies as a major instruments in reducing the inter district disparities. As a corollary to the above, this chapter examines the inter-district variation in industrialization in the state of Gujarat.

In the previous chapter, an in depth analysis of inter-state industrial disparities in the pre and post reform in India has been undertaken. It also provided an overview of industrial development in the state of Gujarat. It was noted that reforms have certainly benefited the state of Gujarat but only partially. It was also clear that there has been a

[36] See Hunker (1980)

shift in the pattern of industrialization from traditionally dominated industries to modern industries. As a sequel in this chapter, discussion of industrial disparities with special reference to regional distribution of industrial activity in the districts of Gujarat has been attempted. Consequently in this chapter, the followings aspects have been dealt:

- Growth in terms of working factories and workers employed both in absolute and as well as in percentage share and district wise total electricity consumption and industrial electricity consumption both in absolute and as well as in percentage share have been examined .[37]
- The instability index of the above selected variables has been also examined.[38]

Several studies have been conducted elsewhere to examine the inter district variation in industrialization. In one such study, Sheshadri (1991), covering a period between 1960 and 1980, examined the industrial disparity in the districts of Karnataka by considering certain variables like number of factories, number of workers in the factories and NDDP. He concluded that there is an excessive concentration of industries in Bangalore. This is because it already had a well developed infrastructure. Gurubasappa (2008), in his study examined how small scale industrial units are distributed among the districts of Karnataka. He considered a period from 1980 to 1995. His study showed that Bangalore and Mysore contributed to about 35% of SSI activities and Kodagu was the least industrially developed district of Karnataka in terms of various parameters like registered SSI units, employment in SSI etc .The concentration of SSI in Bangalore and Mysore was due to 'Natural Location factors'. Kumnoor (2007), covering the period from 1970 to 1988, also focused on the impact of industrialization on the districts of Karnataka. His study proved that there is definitely uneven distribution of industrial growth in the state. This study also proved that in terms of all parameters used in the study, Bangalore alone had a share of 50% of all industrial activities leading to regional disparity.

[37] It is asserted that there exists a positive relationship between industrial development and consumption of electricity (Mathur 1968).

[38] The instability index has been estimated to find out whether the observed growth rates are sustainable or not.

Few scholars have also focused their studies on industrial development in the state of Gujarat as well. It was Pathak (1981) who conducted one of the first such studies focusing on industrial development in the state of Gujarat. He examined this aspect for a period between1960-1979. He used different criteria like number of factories, employment in factories, net value added, and output. He found that industrial activities were more concentrated in the already industrially developed districts like Ahmedabad, Baroda, Rajkot, Surat and Valsad due to agglomeration. However, Pathak's study was under taken for a period prior to the initiation of reform process in the nineties. In another study Joshi (1982), examined the strategy to be adopted for the development of backward areas, with special reference to Gujarat. He found that some special economic factor such as lack of infrastructure and lack of industrial development had led to relative backwardness of some regions. He suggested that the strategy for development of backward area should be formulated on the basis of resource endowment, geo-physical condition, socio-cultural traits of social groups and the level of industrial infrastructure development. This study also pertains to pre reform period. It was Dholakia (2000), who examined the state of industrialization in the post reforms period. In his study Dholakia, evaluated the impact of economic liberalization on Gujarat economy in terms of performance of industrialization in the state. This is because according to him, the development strategy of Gujarat has been unbalanced growth with emphasis on directly productive activity rather than on creating social over head capital. He found that the economic growth of the state has been sustained by secondary and tertiary sector which is quite consistent with development strategy adopted by government. In fact it is only secondary sector in Gujarat which has shown positive and significant growth acceleration during the nineties. Another study by Awasthi (2000), found that Gujarat state had responded well to economic reforms and industry especially manufacturing has grown faster than the national average. Between1990-1996 the manufacturing sector in Gujarat has grown at the rate of 10.7% annual rate of growth compared to 6.9% of all India. He also found that almost 76% of industries was concentrated in an around the industrial poles. Therefore, the industrial development in Gujarat has been regionally lopsided. It may be concluded from the above that the studies surveyed have not analyzed the inter district variation in

industrialization by considering a long period of time, especially the period after 1991. There is thus, a need to examine the sub-regional disparities in the post reform period so as to provide a factual insight on the on going reforms process. It is against this backdrop that the present and subsequent chapters examine the sub regional variation in industrialization.

The rest of the chapter is divided into number of sections. In section II data sources and methodology are discussed, Section III deals with Industrial Activity and Territorial Disparities, in section IV Inter District Industrial Variation are presented and finally section V concludes the chapter.

II DATA SOURCE AND METHODOLOGY:

The disparity conversation of this chapter is entirely based on secondary sources of data. These data were collected from Industries in Gujarat published by the office of the Commissioner of Industries of Gujarat, various issues of Socio-Economic Review of Gujarat by Directorate of Economics and Statistics, Government of Gujarat and from different electricity distributing companies of Gujarat. The regional spread of industrial activity has been viewed from three angles namely number of factories, number of workers and electricity consumption district wise.[39] With regard to the spread of registered manufacturing units, due to data non availability, the present study limits itself to the analysis of the regional disparities in terms of "factories" and "workers' from 1990-91 to 2008-09 and for electricity 2000-01 to 2008-09.

The methodology adopted in this chapter is the same as used in the previous chapter i.e. the compound growth rate and instability index value for the number of factories and workers as well as for electricity consumption has been calculated.

III INDUSTRIAL ACTIVITIES AND TERRITORIAL DISPARITIES:

This section of the present chapter focuses on the fact that there were a number of industrial activities in all nineteen district right from the formation of the state of Gujarat. Nevertheless, the distributions of industrial activity regionally across the state

[39] Although numbers of indicators can be considered to examine inter-district industrial variation, due to non-availability of data only three indicators have been considered here.

are uneven. Majority of the industrial activities were concentrated only in the couple of districts and the remaining districts had very little industrial activity. This is evident from table 5.1.This table illustrates that at the time of formation of the state of Gujarat in the year 1960, Ahmedabad district had registered the highest number of working factories in absolute terms (910) as well as the highest number of workers employed (167015) it also had highest number of average workers per factories (18353). Surat, Kheda, Rajkot, and Vadodara districts ranked the next in that order. In the year 1990, Ahmedabad district had maintained the first position in working factories (4668) and workers employed (256554) but the average numbers of workers per factory reduce to 54.96. Next to Ahmedabad, were Valsad and Vadodara districts in working factories and Vadodara and Surat in terms of workers employed. In the year, 2008, in terms of working factories as well as workers employed Ahmedabad was at zenith followed by Vadodara and Surat district respectively. With respect to working factories, seven districts put together Ahmedabad, Bharuch, Mehsana, Rajkot, Surat, Vadodara, and Valsad district contributed 68% in 1960, 69% in 1970, 73% in 1980, 77% in 1990, and 78% in 2008. Thus, these figures demonstrate that the regional disparity in terms of working factories in the post-reform period has increased. On the other hand, in terms of workers employed, these seven districts contributed 77% in 1960, 76% in 1970, 78% in 1980, 76% in 1990, and 76% in 2008. It is thus evident that in terms of workers employed regional disparity remained almost the same over a period of time.

All these figures gives an idea that, in terms of working factories or workers employed, Ahmedabad, Vadodara, Surat , Rajkot, Bharuch, Mehsana, and Valsad districts has dominated the industrial scenario in the state. For, these seven districts contribute more than two-thirds of industrial activities in the state, leaving other districts with a share of less than one third. Further, three districts Dang, Amreli and Banaskantha contributed to hardly 1% each of industrial activities in the state of Gujarat. This clearly exposes the existence of regional disparity in industrialization in the state of Gujarat.

TABLE 5.1 Selected Characteristics of Registered Manufacturing in Gujarat(1960-2008)

Sr No.	Districts	Working Factories						Workers Employed						Average number of Workers per Factories					
		1960	1970	1980	1990	2000	2008	1960	1970	1980	1990	2000	2008	1960	1971	1980	1990	2000	2008
1	Ahmedabad	910	1508	3115	4668	5150	5217	167015	186296	246701	256554	198334	189878	183.53	123.54	79.20	54.96	38.51	36.40
2	Amreli	58	55	88	41	24	33	2169	2215	4490	3402	2187	2554	37.40	40.27	51.02	82.98	91.13	77.49
3	Banaskantha	20	19	32	42	51	86	510	497	1289	1816	2454	3524	25.5	26.15	40.28	43.24	48.12	40.98
4	Bharuch	68	88	223	665	1449	1384	8020	10538	14916	35902	63708	64641	117.94	119.75	66.89	53.99	43.97	49.71
5	Bhavnagar	232	330	499	461	502	429	13473	14019	16772	23277	24318	20540	58.07	42.48	33.61	50.49	48.44	47.88
6	Gandhinagar	4	8	33	146	204	260	295	1166	3211	9908	12000	14360	73.75	145.75	97.30	67.86	58.82	55.23
7	Jamnagar	137	223	516	372	458	439	10638	13375	18262	19649	20667	24481	77.65	59.98	35.39	52.82	45.12	55.77
8	Junagadh	138	203	365	301	396	341	7764	14617	22383	22471	20525	21206	56.26	72	61.32	74.65	51.83	62.19
9	Kheda	299	527	585	778	294	331	18744	28033	34016	38966	19866	17561	62.69	53.19	58.15	50.08	67.57	53.05
10	Kachchh	39	64	114	187	274	293	3751	5032	6871	12526	11928	16066	96.18	78.63	60.27	66.98	43.53	54.83
11	Mehsana	102	123	256	683	1291	1235	12793	15328	20679	36183	69051	66593	125.42	124.62	80.78	52.21	53.49	53.92
12	Panchmahal	60	83	174	399	397	362	5393	5618	8433	18346	24966	19353	89.88	67.69	48.47	45.98	62.89	53,46
13	Rajkot	295	496	1057	1100	1815	1853	11321	17966	34927	30666	44300	51604	38.38	36.22	33.04	27.87	24.41	27.85
14	Sabarkantha	53	56	85	132	232	235	4208	5052	7732	9844	9921	15797	79.40	90.21	90.96	74.58	42.76	67.22
15	Surat	696	832	1022	1165	2097	2270	23689	31543	52751	69549	119211	135403	34.04	37.91	51.52	59.70	56.85	59.65
16	Surendranagar	108	129	371	412	512	458	11881	11781	16401	16955	18332	12583	110	91.33	44.21	41.15	35.80	27.47
17	Vadodara	251	461	1302	1396	2398	2281	29410	52444	87478	79022	96381	109910	117.17	113.76	67.19	56.61	40.19	48.19
18	Valsad	178	337	835	1551	1772	2054	15371	21981	38252	62431	61154	58394	86.35	65.23	45.81	40.25	34.51	28.43
19	The Dang	1	2	2	4	3	3	17	53	120	102	67	65	17	26.5	60	25.5	22.33	21.67
20	Anand	0	0	0	0	490	568	0	0	0	0	21796	17105	0	0	0	0	44.48	30.11
21	Dohad	0	0	0	0	57	64	0	0	0	0	1979	2523	0	0	0	0	34.72	39.42
22	Narmadà	0	0	0	0	18	16	0	0	0	0	2246	2214	0	0	0	0	124.78	138.38
23	Navsari	0	0	0	0	368	385	0	0	0	0	14274	14385	0	0	0	0	38.79	37.36
24	Patan	0	0	0	0	117	128	0	0	0	0	2759	2944	0	0	0	0	23.58	23
25	Porbandar	0	0	0	0	55	52	0	0	0	0	4296	3602	0	0	0	0	78.11	69.26
	Total Gujarat	3649	5544	10674	14513	20424	20777	346462	437554	635684	747569	866720	887286	94.95	78.92	59.55	51.51	42.44	42.70

Source: Various Issues of Socio-Economic Review of Gujarat.

TABLE 5.2

District wise Number of Registered SSI in the State of Gujarat

Sr No	Districts	Year					
		1960	1970	1980	1990	2000	2008
1	Ahmedabad	660	3940	10919	29661	58332	65101
2	Amreli	6	111	392	1426	3929	4835
3	Banaskantha	6	169	543	1755	5003	6704
4	Bharuch	28	162	546	3815	10874	14076
5	Bhavnagar	119	857	2465	5152	10613	11717
6	Gandhinagar	0	04	40	843	2958	4680
7	Jamnagar	153	1098	2894	5396	10413	13075
8	Junagadh	53	370	1184	2632	6283	7871
9	Kheda	139	1245	2528	5669	11216	13300
10	Kachchh	17	152	649	1746	4780	6001
11	Mehsana	74	803	2312	5290	12299	14474
12	Panchmahal	16	277	761	2071	5483	6607
13	Rajkot	269	2014	5088	14417	27874	32148
14	Sabarkantha	8	168	800	2362	6497	8439
15	Surat	220	2349	5486	16764	36069	46589
16	Surendranagar	103	374	1480	2949	6792	8471
17	Vadodara	216	1041	3020	6648	14209	18130
18	Valsad	81	712	2298	6778	13805	15782
19	The Dang	1	3	7	10	24	53
20	Anand	-	-	-	-	848	2209
21	Dahod	-	-	-	-	342	1038
22	Narmada	-	-	-	-	300	769
23	Navsari	-	-	-	-	1152	3227
24	Patan	-	-	-	-	731	2202
25	Porbandar	-	-	-	-	262	727
	Total	2169	15849	43412	115384	251088	308225

Source: Commissioner of Industries, Gujarat

Ever if we consider district wise small scale industries (SSI) registration (Table 5.2) the picture is the same. In the year 1960, Ahmedabad district had registered highest number of SSI (660) which was 30% of the state followed by Surat and Vadodara district. In the year 1970, Ahmedabad registered again highest number of SSI (3940) which was 24.86% followed by Surat and Jamnagar districts. In the year 1980 the trend remained unchanged. In the year 1990, Ahmedabad had highest number of SSI units (29661) which accounted

for 25.70 % SSI units followed by Surat and Rajkot districts. For the 2008, again the trend remained unchanged. Thus, in terms of SSI registration also, Ahmedabad, Bharuch, Mehsana, Surat, Vadodara and Valsad districts accounted for more than two third of registered small scale industries in the study period under consideration.

Further, the picture in terms of MSMEs also shows that, Ahmedabad district has the highest number of registered MSMEs in the state, constituting 21% of the total MSMEs present in the state. Surat ranks 2nd with 15% of the total MSMEs units registered in the state followed by Rajkot with 10% of the total registered MSMEs units. These three districts of Ahmedabad, Surat and Rajkot together constitute approximately 50% of the total registered MSMEs in the state. For MSMEs, Ahmedabad, Surat, Rajkot, Vadodara and Valsad are the major clusters in the state.

Region wise, Central Gujarat accounted for 39.65% of total MSMEs followed by Saurastra 26%, South Gujarat 24.35%, North Gujarat 8% and Kuchchh just 2%. Thus, district wise and region wise distributions of MSMEs shows that they are concentrated in few districts only particularly in the region of Central Gujarat. Ahmedabad, Surat, Rajkot, Vadodara, Valsad, Bharuch and Bhavnagar district contribute approximately more than 65% of MSMEs.

In addition there has been a concentration of medium and large scale industries in Surat (17.19%), Valsad district (13.9%), followed by Bharuch, Vadodara, Ahmedabad, Kachchh districts. With these data, the study concludes that the districts like Ahmedabad, Bharuch, Gandhinagar, Kachchh, Mehsana, Surat, Vadodara and Valsad contribute 81.60% to total number of large scale and medium scale industry. At the same time, rest all districts of the state contribute only 18.40% of total large and medium scale industries.

From the above it is clear that the efforts of the government do not seem to be commensurate with the enormity of the problem. Few districts have been growing at the faster rate than other and thereby perpetuating regional disparities

The inter district variation in industrial activities will be more evident if we look at it in terms of compound growth rate and instability index. This is attempted in the next section.

IV INTER DISTRICT INDUSTRIAL VARIATION: AN ANALYSIS

The compound growth rate of all districts of Gujarat in terms of working factories, and workers employed, during the study period under consideration is presented in Table 5.3 (absolute terms). This table reveals that the fact that during study period, highest growth rate for working factories were found in Banaskantha followed by Bharuch, Sabarkantha, whereas lowest growth rate was recorded in the Kheda, Dang, Panchmahal and Amreli districts. The districts where growth rate was found higher than state average are Banaskantha, Bharuch, Sabarkantha, Mehsana, Gandhinagar, Kachchh, Rajkot, Surat and Vadodara districts, rest all districts have shown lower growth rate than the state average. As far as the workers employed were concerned, the highest growth rate was found in the districts of Banaskantha, followed by Mehsana and Sabarkantha, where as lowest growth rate are found in the districts of Kheda, followed by Dang, Surendranagar and Amreli. The districts which have shown higher growth rate than the state average are Banaskantha, Mehsana, Sabarkantha, Bharuch, Gandhinagar, Jamnagar, Kachchh, Rajkot, Surat and Vadodara, rest all districts have shown lower growth rate than the state averages.

The trends in the percentage share for working factories and workers employed that are presented in Table 5.4 also indicate a similar pattern of growth as indicated by the compound growth rate.

From the preceding analysis, one may conclude that (i) industrially advanced district like Ahmedabad is loosing its significant position in terms of growth rate and newly industrialized districts like Banaskantha and Sabarkantha are gaining the momentum in terms of industrial development. These may be due to the policy of the Gujarat government encouraging minerals and agro based industries in Banaskantha and Sabarkantha districts (ii) Some highly industrialized districts like, Surat, Vadodara Rajkot although has better growth rates than the state average but its relative position/strength is weakening. (iii) There are some backward districts like Dang, Amreli, Surendranagar and Panchmahal whose positions either in absolute term or in growth rate terms have not improved.

TABLE 5.3

District wise Compound Growth Rate (Absolute) of Working Factories And Workers Employed In Working Factories In Gujarat From 1990-91 to 2009-10

Sr No	Districts	CGR Of Working Factories	CGR Of Workers Employed In Working Factories
1	Ahmedabad	1.10	-1.81
2	Amreli	-1.19	-2.16
3	Banaskantha	5.77	5.13
4	Bharuch	4.54	3.59
5	Bhavnagar	-0.36	-1.14
6	Gandhinagar	3.80	1.98
7	Jamnagar	0.65	1.51
8	Junagadh	-0.49	-1.34
9	Kheda	-6.77	-5.79
10	Kachchh	3.08	1.94
11	Mehsana	3.41	4.38
12	Panchmahal	-1.56	-0.89
13	Rajkot	2.72	2.74
14	Sabarkantha	3.81	3.87
15	Surat	3.44	3.23
16	Surendranagar	-0.46	-3.36
17	Vadodara	2.11	1.34
18	Valsad	1.35	-0.96
19	The Dang	-2.25	-3.68
20	Total Gujarat	2.07	0.86

Source: Compiled from Various Issues of Commissioner of Industries, Gujarat

TABLE 5.4

District wise Compound Growth Rate (Percentage) of Working Factories And Workers Employed In Working Factories In Gujarat From 1990-91 to 2009-10

Sr No	Districts	CGR Of Working Factories	CGR Of Workers Employed In Working Factories
1	Ahmedabad	-0.95	-2.64
2	Amreli	-3.19	-3.00
3	Banaskantha	3.63	4.23
4	Bharuch	2.42	2.70
5	Bhavnagar	-2.38	-1.99
6	Gandhinagar	1.70	1.11
7	Jamnagar	-1.39	0.64
8	Junagadh	-2.51	-2.18
9	Kheda	-8.65	-6.60
10	Kachchh	0.99	1.07
11	Mehsana	1.31	3.49
12	Panchmahal	-3.56	-1.73
13	Rajkot	0.64	1.86
14	Sabarkantha	1.71	2.98
15	Surat	1.35	2.35
16	Surendranagar	-2.47	-4.19
17	Vadodara	0.04	0.47
18	Valsad	-0.70	-1.81
19	The Dang	-4.23	-4.50

Source: Compiled from Various Issues of Commissioner of Industries, Gujarat.

TABLE 5.5

District wise Compound Growth Rate (Absolute) Of Industrial and Total Electricity Consumption in Gujarat From 2000-01 to 2009-10

Sr No	Districts	CGR Of Industrial Electricity Consumption	CGR Of Total Electricity Consumption
1	Ahmedabad	6.35	11.18
2	Amreli	8.35	11.58
3	Banaskantha	7.13	12.81
4	Bharuch	1.12	6.22
5	Bhavnagar	6.62	8.07
6	Gandhinagar	11.31	5.14
7	Jamnagar	6.72	10.22
8	Junagadh	1.60	2.04
9	Kheda	8.04	5.57
10	Kachchh	12.50	14.11
11	Mehsana	14.77	17.77
12	Panchmahal	10.48	5.80
13	Rajkot	-5.18	-2.13
14	Sabarkantha	3.45	12.57
15	Surat	0.72	3.12
16	Surendranagar	6.79	4.48
17	Vadodara	6.01	5.80
18	Valsad	5.30	6.50
19	The Dang	4.42	9.36
20	Total Gujarat	3.89	6.40

Source: Compiled from Various Reports of (i)M.G.V.C.L., Vadodara, (ii) D.G.V.C.L, Sura (iii) U.G.V.C.L, Mehsana (iv) P.G.V.C.L, Rajkot

As stated earlier an indication of industrial development of a region can be ascertained in terms of consumption of electricity. In table 5.5 is district wise growth rate of industrial electricity consumption (absolute terms) and total electricity consumption (absolute terms) has been presented. From the table it can be noted that in terms of industrial electricity consumption a higher growth rate is recorded in Mehsana, followed by Kachchh and Gandhinagar districts whereas, a lower growth rates are recorded in the district of Rajkot, Surat and Bharuch during the study period under consideration. For the total electricity consumption, highest growth rates is recorded in Mehsana, followed by Kachchh and Banaskantha where as lowest growth rates is record in Rajkot, Junagadh and Surat districts. The picture remains the same if we consider the percentage share (table 5.6) of electricity consumption district wise in the state during the study period under consideration. Thus from these angle also it is found that Banaskantha district has a favourable trend.

TABLE 5.6
District wise Compound Growth Rate (Percentage) Of Industrial and Total Electricity Consumption in Gujarat from 2000-01 to 2009-10

Sr No	Districts	CGR Of Industrial Electricity Consumption	CGR Of Total Electricity Consumption
1	Ahmedabad	2.83	4.49
2	Amreli	4.30	4.86
3	Banaskantha	3.12	6.02
4	Bharuch	-2.66	-0.18
5	Bhavnagar	2.63	1.56
6	Gandhinagar	7.15	-1.19
7	Jamnagar	2.73	3.58
8	Junagadh	-2.21	-4.10
9	Kheda	4.00	-0.79
10	Kachchh	8.29	7.24
11	Mehsana	10.47	10.68
12	Panchmahal	6.35	-0.57
13	Rajkot	-8.73	-8.02
14	Sabarkantha	-0.43	5.80
15	Surat	-3.05	-3.08
16	Surendranagar	2.80	-1.81
17	Vadodara	2.04	-0.57
18	Valsad	1.36	0.09
19	The Dang	0.52	2.78

Source: Compiled from Various Reports o of (i)M.G.V.C.L., Vadodara, (ii) D.G.V.C.L, Surat (iii) U.G.V.C.L, Mehsana (iv) P.G.V.C.L, Rajkot

In the forgone section an analysis of the growth trends was undertaken. The question which arises here is whether this growth trend is sustainable or not. The answer will be provided by the calculation of instability index. Table 5.7 shows the district wise instability index for factories and workers in absolute terms. It is clear from this table that the districts like Ahmedabad and Rajkot are having low index value for number of factories and districts like Kheda, Amreli, and Banaskantha have registered high instability index value.

TABLE 5.7

District wise Instability Index Value (Absolute) Of Working Factories and Workers Employed In Working Factories in Gujarat From 1990-91 to 2009-10

Sr No	Districts	Index Value Of Working Factories	Index Value Of Worker Employed In Working Factories
1	Ahmedabad	5.48	7.05
2	Amreli	24.33	24.58
3	Banaskantha	14.84	16.69
4	Bharuch	8.56	5.90
5	Bhavnagar	13.09	9.98
6	Gandhinagar	12.23	7.91
7	Jamnagar	6.54	16.76
8	Junagadh	15.21	10.32
9	Kheda	29.59	22.11
10	Kachchh	6.79	10.10
11	Mehsana	12.42	20.88
12	Panchmahal	13.33	14.38
13	Rajkot	5.70	7.75
14	Sabarkantha	13.86	28.07
15	Surat	13.89	10.22
16	Surendranagar	8.99	13.28
17	Vadodara	8.15	11.08
18	Valsad	14.07	11.61
19	The Dang	6.81	36.29
Total Gujarat		4.66	4.02

Source: Compiled from Various Issues of Commissioner of Industries, Gujarat.

TABLE 5.8
District wise Instability Index Value (Percentage) Of Working Factories and Workers Employed In Working Factories in Gujarat From 1990-91 to 2009-10

Sr No	Districts	Index Value Of Working Factories	Index Value Of Worker Employed In Working Factories
1	Ahmedabad	3.63	4.99
2	Amreli	22.22	24.7
3	Banaskantha	15.13	16.69
4	Bharuch	8.43	6.20
5	Bhavnagar	9.86	8.70
6	Gandhinagar	12.25	8.61
7	Jamnagar	6.68	17.30
8	Junagadh	13.95	9.81
9	Kheda	29.47	21.52
10	Kachchh	4.71	7.45
11	Mehsana	12.45	20.33
12	Panchmahal	13.41	13.24
13	Rajkot	5.30	6.19
14	Sabarkantha	10.98	29.45
15	Surat	11.44	9.35
16	Surendranagar	5.45	10.62
17	Vadodara	6.42	9.84
18	Valsad	11.46	10.26
19	The Dang	8.49	36.51

Source: Compiled from Various Issues of Commissioner of Industries, Gujarat.

TABLE 5.9

District wise Instability Index Value (Absolute) Of Industrial and Total Electricity Consumption in Gujarat From 2000-01 to 2009-10

Sr No	Districts	Index Value Of Industrial Electricity Consumption	Index Value Of Total Electricity Consumption
1	Ahmedabad	9.20	6.11
2	Amreli	6.03	8.56
3	Banaskantha	4.64	3.25
4	Bharuch	9.14	6.79
5	Bhavnagar	8.28	6.28
6	Gandhinagar	12.56	3.28
7	Jamnagar	4.13	3.79
8	Junagadh	1.86	2.49
9	Kheda	7.11	5.35
10	Kachchh	12.45	11.82
11	Mehsana	18.39	13.60
12	Panchmahal	6.13	3.86
13	Rajkot	25.24	26.07
14	Sabarkantha	5.03	6.42
15	Surat	14.37	3.52
16	Surendranagar	7.71	13.07
17	Vadodara	5.26	3.30
18	Valsad	10.90	9.62
19	The Dang	12.21	2.02
Total Gujarat		5.39	1.48

Source: Compiled from Various Reports of (i) M.G.V.C.L., Vadodara, (ii) D.G.V.C.L, Surat (iii) U.G.V.C.L, Mehsana (iv) P.G.V.C.L, Rajkot

TABLE 5.10

District wise Instability Index Value (Percentage) Of Industrial and Total Electricity Consumption in Gujarat From 2000-01 to 2009-10

Sr No	Districts	Index Value Of Industrial Electricity Consumption	Index Value Of Total Electricity Consumption
1	Ahmedabad	10.33	5.51
2	Amreli	6.22	8.00
3	Banaskantha	5.46	3.06
4	Bharuch	12.23	5.58
5	Bhavnagar	11.46	5.67
6	Gandhinagar	13.15	3.70
7	Jamnagar	7.02	3.19
8	Junagadh	5.10	2.59
9	Kheda	7.29	6.15
10	Kachchh	14.04	11.04
11	Mehsana	19.12	14.74
12	Panchmahal	8.52	3.42
13	Rajkot	26.97	25.74
14	Sabarkantha	8.32	5.42
15	Surat	8.95	2.88
16	Surendranagar	8.94	13.68
17	Vadodara	5.85	3.76
18	Valsad	12.56	10.41
19	The Dang	15.85	1.44

Source: Compiled from Various Reports of (i)M.G.V.C.L., Vadodara, (ii) D.G.V.C.L, Surat (iii) U.G.V.C.L, Mehsana (iv) P.G.V.C.L, Rajkot

In case of workers, the districts like Bharuch, Ahmedabad and Rajkot have shown low index value, whereas Dang, Sabarkantha, Amreli have shown high index value.

As far as consumption of electricity, total as well as industrial are concerned, table 5.9 illustrates that in case of industrial consumption, low index value was recorded in case of Junagadh followed by Jamnagar district and high index value is accounted in Rajkot followed by Mehsana district. So far as total consumption is concerned, low index value was found in case of Dang district followed by Junagadh district, and high is recorded in Rajkot district followed by Mehsana district. The picture is more or less remains the same if we consider percentage share (table 5.10) of district wise consumption of electricity. Thus, in terms of instability index, the districts such as Banaskantha and Sabarkantha have the high value although they have high growth trends. In other words, it seems that the high growth trends in these districts are temporary.

V CONCLUSION:

This chapter highlights the regional distribution of industrial activities in all the districts of the state during the study period. The pattern of industrial development has been evaluated on the basis of growth and instability indexes.

Analyzing the **Growth trends**, followings emerges out:

1. In terms of working factories, high growth rates are recorded in Banaskantha, Bharuch, Sabarkantha, Mehsana and Kachchh districts.
2. In terms of workers, the districts which are better off in growth rates are Banaskantha, Mehsana Sabarkantha, Bharuch and Surat.
3. Negative growth rates in both the parameters are recorded in the districts of Amreli, Bhavnagar, Junagadh, Kheda, Panchmahal, Surendranagar and Dang.

Analyzing **Instability index** it can be inferred that Kheda and Amreli districts in terms of factories have shown high index value, where as Ahmedabad and Rajkot have shown low index value. Amongst the districts which has higher growth rate, only Kachchh has low instability index value where as all other district has high instability index value. In terms of workers, Bharuch Ahmedabad and Rajkot districts have recorded low instability index value where as Dang and Sabarkantha have shown has high instability index value. Amongst the districts which has high growth rate for the workers,

barring Bharuch district, all other districts have high index value. Thus, it can be inferred from the above that high growth trends are not sustainable.

The district wise consumption pattern of electricity reveals that **growth rate**:

1. In case of Industrial consumption of electricity, Mehsana, Kachchh and Gandhinagar have registered high growth rate, whereas in case of total consumption of electricity too, Mehsana and Kachchh are at apex for growth rate followed by Banaskantha.
2. For the Industrial consumption of electricity, the lower growth rate is registered in the districts like Rajkot, Surat and Bharuch whereas in case of total consumption of electricity also Rajkot is at bottom of the growth rate followed by Junagadh and Surat districts.

High **instability index**, in terms of total consumption of electricity as well as industrial consumption of electricity is found in the districts of Rajkot and Mehsana, while low instability index value is found in the districts of Dang, Junagadh and Jamnagar.

A comprehensive analysis of industrial development of different districts in the state conveys out clearly that there is an uneven distribution of industrial growth in the state. Consequently, the overall analysis of industrial growth in the state from various angles and with different statistical methods clearly indicates uneven spread pattern of industries in the state despite the initiation of reforms.

The regional disparities of industrial activity in the state of Gujarat are not of recent origin. The roots of inter district disparities are found from the inception of the state-hood of Gujarat.

The in-depth analysis of district wise distribution of the industrial activity, judged from three criteria namely Factories, Workers and Electricity consumption, reveals the fact that there exists inter-district disparities during the study period. Excessive concentrations of industrial activities are found in Ahmedabad, Vadodara, Bharuch, Surat, Rajkot, Valsad and Mehsana districts.

Whereas districts like Dang, Amreli, Banaskantha have very low industrial activities. However it is not necessary that industrially advanced district like Vadodara is developed entirely and industrially backward district like Amreli is backward in totality.

There may be pockets of industrial backwardness in the Vadodara district; similarly some pockets may be highly advanced in Amreli district. The picture will be clear if we examine the taluka wise industrial development within a particular district. This issue has been taken up in the next chapters, where two districts Vadodara and Amreli have been considered to substantiate the fact that the industrial disparity exists not only at the district levels but also penetrates at the taluka level.

REFERENCES:

1. Awasthi Dinesh N (2000):"Recent Changes in Gujarat Industry – Issues and Evidences" *Economic and Political weekly* Vol.35, No 35 & 36, Aug- Sept.
2. Bhandari R.C.S (1998): *State and Industrial Development,* Commonwealth Publishers, Delhi-19.
3. Dholakia R.H. (2000):"Liberalization in Gujarat – Review of Recent Experience" *Economic and Political weekly* Vol.35 -No 35&36, March 3.
4. Dholakia R.H. (2007):"Sources of Economic Growth and Acceleration in Gujarat" *Economic and Political weekly* Vol. XLII No 09, March 3.
5. Gurubasappa T.R. (2008): *Role of Small Scale Industries in Development of Backward Region,* Abhijeet Publication, Delhi.
6. Government of Gujarat Socio-Economic Review –Gujarat State" Various Issues, Directorate of Economics and Statistics.
7. Hirway I (1995): "Selective Development and Widening Disparities in Gujarat", *Economic and Political weekly,* Volume 30,Nos 41and 42
8. Hunker H.L. (1980): "The Evolution Of Industrial Development Planning In North America", in David F. Walker (Ed) *Planning Industrial Development,* John Wiley and Sons, England.
9. Joshi V.H. (1982): "Strategy for the Development of Backward Areas with Special Reference to Gujarat" in Manjudappa D.M and. Sinha R.K(Ed) *Backward Area Development Problem and Prospects,* Sterling Publishers, Delhi
10. Kumnoor Baswaraj (2007): *Industrial location and Regional Development in Backward Areas,* Oxford Book Company, Jaipur.
11. Menon Sudha V (2009):"Gujarat Economy: An Overview" in Menon Sudha V (Ed) *Gujarat Economy the Way Ahead,* The ICFAI University Press. Hyderabad.
12. Pathak P.G. (1981): "Industrial Dispersal in Gujarat" Key Papers- . (Ed) Lakarawala D.T. and Patel B.B.*Gujarat Economic Conference*, Adipur.
13. Sheshadri B (1991): *Industrialization and Regional Development,* Concept Publishing House, Delhi.

FIGURE 5.1

District wise Compound Growth Rate of Working Factories and Workers Employed In Working Factories in Gujarat From 1990-91 to 2009-10

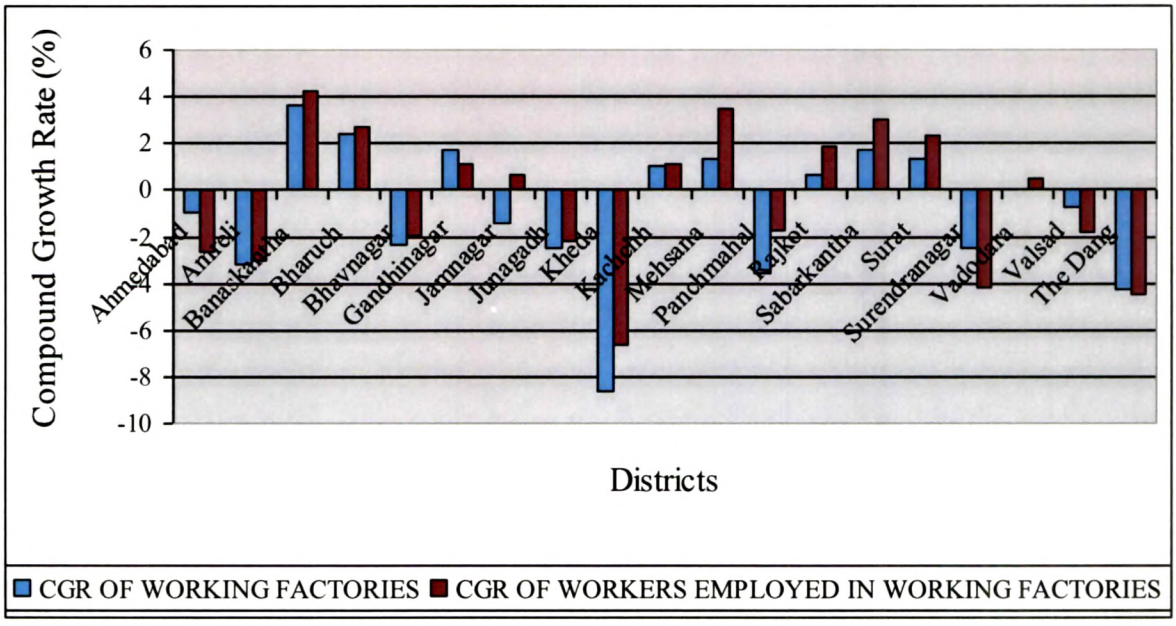

FIGURE 5.2

District wise Instability Index Value of Working Factories and Workers Employed In Working Factories in Gujarat From 1990-91 to 2009-10