CHAPTER
SIX

INDUSTRIAL LOCATION AND TERRITORIAL DEVELOPMENT IN VADODARA DISTRICT

CHAPTER VI

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I INTRODUCTION:

It has been asserted that industrialization plays a crucial role in the economic development of a region. In fact, economic development is generally not possible unless the region has wide and strong industrial base.[40] But the problem is the tendencies of industries to locate in some regions and neglect other regions. These tendencies lead to the problem of regional disparity in development, making some regions developed, while other remains either backward or depressed. These backward regions have remained at the rear in the competitive struggle of modern industries and are characterized by low levels of employment and income as compared to other regions of the country.[41] The regional disparity in the development of industries arises due to natural factors as well as historical process of development. Some regions are endowed with abundant natural resources and once the process of development starts, they attract many industries as compared to other regions. Thus, disparity in endowment of natural resources or geographical concentration of natural resources is one of the causes for regional disparity in industrial development. But at the same time in some cases government policies or lack of it also lead to concentration of industries in some regions.

In the previous chapter, an in-depth analysis of inter-district industrial disparities in the state of Gujarat was done. It also provided an overview that there exists high level of industrial concentration in Ahmedabad, Vadodara, Bharuch, Surat, Rajkot, Valsad and Mehsana districts. At the same time in districts like Dang, Amreli and Banaskantha, the growth of industries are comparatively lower. As a sequel, in this chapter, an analysis of industrialization in the Vadodara district has been attempted. The District of Vadodara

[40] The disparities in development among regions are intensified by the differences in the industrial growth. It is for these reasons that development policies to reduce disparity primarily take the form of steps to guide the location of industry through positive and negative incentives.
[41] See Sadhak (1986)

has been chosen for the study for two main reasons; (i) This district is comparatively more industrially developed than other districts. It will, therefore provide an insight as to how a region develops industrially (ii) So far very few studies have been undertaken to examine the issue of industrial location and development in this district.

In India district wise analysis of industrial development has been undertaken by several authors. In one such study Sadhak (1986), examined the issue of industrial growth taluka wise in the district of Aurangabad. He found that most of the industrial development took place mainly in Aurangabad and Jalana taluka; these are the two main industrial centres in the district. He also found that financial incentives have not induced the dispersal of industries to other talukas. It is the development of infrastructure in a particular region that made it more attractive for location of industries in that region. Another study by Gurubasappa (2008), also examined taluka wise territorial development and industrialization in Bidar and Dharwad districts of Karnataka. He found that industrial unit; especially SSI units are not evenly distributed in these districts. In fact 50% of SSI units are concentrated in Bidar taluka of the Bidar district and Hubli taluka of the Dharwad district. He found that incentives have encouraged the growth of SSI units in both the districts but this growth has been uneven. Few studies have also examined the issue of location quotient.[42] For instance, Kumnoor (2007) calculated the location quotient industrial group wise in the Hyderabad- Karnataka region. He found that out of nineteen groups of industry, only six groups exists in the region and out of which in only three groups i.e. manufacture of Non Metallic mineral products, Food products and Repair & service, the location quotient exceeds one.

It is evident from the above that, analysis of industrial development in terms of location quotient has not been attempted in Gujarat state. It is this lacuna that the present study attempts to fill.

The existing data indicate that industrial development in Vadodara district has not been evenly distributed in all talukas. Historically, industries were mainly concentrated in the Vadodara taluka. This has created serious disparities in regional development. The industrial dispersal policy of the Central as well as State government,

[42] Location Quotient measures the propensity of each industry for the location. See Kaya (2006)

had led to the dispersal of industries into few more pockets of the district.[43] Despite this, the uneven growth of industries between talukas created regional problems of distribution of employment and income. The developed talukas continued to prosper by generating employment and income, and the backward talukas remained almost stagnant. In fact in some talukas there was slowing down in the pace of industrial development. In the light of above, in this chapter the following aspects have been examined.

1. Location Quotient of industries for different group of industries in all talukas of Vadodara has been calculated. The location quotient measures the degree of concentration of a particular industry at a particular place. Thus, it indicates the propensity of each industry for location.
2. The taluka wise growth and instability index of registered factories, employment and investment-both in absolute as well as in percentage share are measured.

The rest of the chapter is divided into number of sections. In section II socio-economic background as well as the present industrial scenario of the district has been presented; III discusses the data source and methodology; in section IV the results are presented. In section V, the inter taluka industrial variation has been examined. Finally in the last section conclusions are drawn.

II THE SOCIO-ECONOMIC BACKGROUND AND INDUSTRIAL SCENARIO OF VADODARA DISTRICT:

The Vadodara district is located in central Gujarat. The district has total area of 7555.55 sq kms with 12 talukas, 1548 villages and 16 urban areas. As per the 2001 census, the total population of the district was 3641802 people with a population density of 482 persons per sq km. This is much higher than the state average of 258 persons per sq km. The rate of urbanization in the district is 45%. This is again much higher than the state average of 37.36%.

As per 2001 census, the total workforce was 41.71% of the population in the district. Out of these, 53% found their livelihood in agricultural sector either as a farmer or as an agricultural labour. Thus, the district is still agriculturally dominated. The

[43] The district of Vadodara consists of twelve talukas

workforce in industrial sector is just 1.5% of the total workforce and the rest 45.5% workforce depends upon other activities.

Agriculture:

The district even today depends heavily on agriculture, with total geographical area of the district 57,603 hectors. The main crops of the districts are Paddy, Bajra, Jowar, Maize, Pulses, Castor, Cotton, Wheat, Sugarcane, and Ground nuts. Further district has a good agricultural productivity in Cotton, Maize, Pulses and Paddy.

Minerals:

The district is endowed with many rich mineral resources which are useful for industrial development The minerals which are found in the districts are Dolomite, Black trap, Quartz, Marble, Clay, Fluorspar, Manganese, Vermiculite etc. Amongst all minerals, Fluorspar and Dolomite are found in abundance.

Infrastructure Facilities available in the district:

Adequate infrastructural facilities are the pre-requisites for the industrial development of the district. Infrastructure covers wide spectrum of economic activities of creating facilities such as transport and communication, power, education institutions, banking, developed industrial plots, financial institutions, and organized and unorganized markets etc. The Vadodara district is fundamentally infrastructure rich district. A brief review of existing infrastructural facilities in Vadodara district is undertaken in the foregoing section. .

(i)**Transport and communication**:

The district is well connected with road and railway network. The total length of road network at present in the district is 5316 kms, out of which 4878 kms (91.77%) is pucca road, and 438 kms (8.23%) is kucca roads. All villages of the district are accessible throughout the year. The district is also well connected with the railway facilities. The district is located on main Delhi- Mumbai railway lines. It also has an airport connected to all the metropolitan cities and capital of all states of India.

(ii) **Banking:** The Bank of Baroda is the leading bank of the district. At present there are 348 branches of nationalized banks located within the district. Other banks have also branches located in Vadodara district. The ratio of banks to population is 1: 8509, which is considered to be reasonably good.

(iii) **Education:** The district is known as the "Education Hub" of the state. It has 2406 Primary schools, 284 Secondary and 169 higher secondary schools, with 43 higher educational institutes in the year 2010.

The district also has the only English medium university The Maharaja Sayajirao University of Baroda. There are thirty-three ITIs in Vadodara district offering facilities to train the workforce at shop floor level, which is a major requirement for all industries. Apart from this, three engineering colleges and nine polytechnic offer courses in all branches.

(iv) **Power**: Vadodara has a well developed network of 48 sub-stations. Gujarat electricity Board supplies electricity to 1546 villages and 14 cities and towns, 66 KV distribution systems spread over the district.

The district of Vadodara is one of the most industrially developed districts, not only of the state but also of the country. The industrialization of the district is not a recent phenomenon but, it has taken place since, the regime of his Highness Shri Maharaja Sayajirao Gaekwad III. The Maharaja had appointed an Industrial Commission in 1894 to decide what was to be done to bring industries to various parts of Vadodara. The department of Commerce and Industries was separated from the Revenue Department in 1908 to give incentives to the setting up of cottage industries. In the same year, Bank of Baroda was incorporated with the initial capital of Rs. 20 lakhs to meet the financial requirement for the industries. Baroda District Central Co-operation Bank limited was established in 1912 to cater financial help to credit societies.[44]. The Kalabhavan Technical Institute established in 1890, started providing industrial training to the people and generating a class of indigenously trained industrial workers. The Maharaja had also constituted a special cell to co-ordinate and speed up the growth and development of industrial units headed by an economic advisor. The Alembic Chemical works was established in 1907, Sayaji Iron Works was set up in 1914, followed by Dinesh Mill Limited in 1935. All this gave impetus to industrialization in the district.

In the post independence years, Vadodara experienced both qualitative and quantitative changes in industrial structure. Between 1957 and 1961, many new industries

[44] See Dash and Kumar(2010)

were started and the industrial base of Vadodara got diversified. As per, 1961 census, there were 216 registered factories in Vadodara.

With the bifurcation of Bombay State into Maharastra and Gujarat in 1960, Vadodara naturally received a special attention from the government as a city with an abundance potentiality of growth. The first decade (1960-70) of a new state was worked with the commencement of three public sector undertakings namely Gujarat State Fertilizer Corporation (GSFC), Indian Oil Corporation (IOC) Refinery and Indian Petrochemical Corporation Limited (IPCL) - the largest petrochemical complex in Asia. The collective investment of Rs 750 crore of these three public sector undertakings broadened the scope of multidimensional industrial growth of the city. Besides, several large scale engineering and other industries such as Asia Brown Boveri (ABB), Sussan Textiles, Tensile Steel, Hindustan Traders, Oil and Natural Gas Corporation (ONGC), Gaskets and Radiation Precision Bearings India Limited etc gradually started getting established in and around Vadodara city. The effects of these developments were manifested in the changing demographic pattern, work structure, growth in small and medium scale industries in the private sector and upgrading capabilities of the local government to cope up with the increased responsibilities.[45] Further, the industrial scenario of Vadodara got diversified in the decade of 1980's. During this period, various big, medium and small industrial units were set up. Notable amongst them are Heavy Water Project, Gujarat Electronics and Communications Limited, Windsor Food Product Limited, Novino Batteries, and many more. The older industries too continued to expand by adding various allied units. Along with the rapid growth of large and medium scale industries, small industries also have a sizable growth since 1980's. In order to have planned growth, a few industrial estates were also established. Apart from this, the Gujarat Industrial Development Corporation (GIDC) has also developed the industrial sector at Nandesari and Makarpura. With the help of the federation of Gujarat Mills and Industries and the Baroda Industrial Development Corporation Industrial Estate at Gorwa was also set up. There were also a few private and co-operative industrial estates in

[45] Government of Gujarat-1995: "Industrial location in Gujarat -1986-87, Vol I & II, Directorate of Economics and Statistics, Gandhinagar

Vadodara. Table 6.1 provides the latest information about industrial estates within the district.

TABLE 6.1

Industrial Estates (GIDC) in Vadodara District-2009-10

Sr No.	Name of Industrial Estate	Taluka	Land (in Hectors)	Number of Sheds
1	Makarpura	Vadodara	355.07	685
2	Nandesari	Vadodara	271.67	157
3	P.C.C.	Vadodara	666.15	-
4	Palani(Autonagar)	Vadodara	42.53	24
5	Por (Ramangamdi)	Vadodara	134.44	148
6	Dabhoi	Dabhoi	10.91	24
7	Sankheda	Sankheda	0.81	12
8	Vaghodia	Vaghodia	369.04	185
9	Savli	Savli	544.29	-
10	Jabugam	Jetpur Pavi	0.95	6
11	Makarpura (Diamond)	Vadodara	-	-
Total			2395.86	1241

Source: ***Regional Manager, GIDC, Vadodara.***

The above table depicts that out of total industrial estates of GIDC, 55% of estates are located in Vadodara taluka, one each in Vaghodia, Dabhoi, Sankheda, Savli and Jetpur Pavi talukas respectively. Nevertheless, the talukas like Chhota Udepur, Kavant, Padra, Karjan, Shinor, and Nasvadi talukas does not have even a single industrial estate of GIDC. This factor is one of the reasons for the industrial backwardness of these talukas.

In addition to G.I.D.C. there are ten co-operative industrial estates and fifteen private industrial estates present in the Vadodara district. Out of the ten co-operative industrial estates, eight are located in the Vadodara taluka and remaining one each in Savli and Vaghodia taluka. Similarly out of fifteen private industrial estates, fourteen are located in Vadodara taluka and only one in the Savli taluka.

As per 2000 census of Small Scale Industries, 13 industrial clusters are located in the district, of which only one cluster is present in Chhota Udepur taluka and rest all are

in Vadodara taluka. Table 6.2 provides other information about these clusters In these clusters, altogether 1194 units were functioning with a total investment of Rs. 10051.10 lakhs. It provided employment to 6981 persons. Apart from these thirteen clusters, there are three more clusters; two Chemical clusters each at Nandesari (Vadodara taluka) and Padra and another cluster of Steel Furniture at Dabhoi.

TABLE 6.2

Number of SSI Industrial Clusters within Vadodara District 2000

Sr No	Name of the Products	Name of the taluka	No. of Units	Investment (Rs in lakhs)	Employment
1	Wood product and Furniture	Vadodara	110	192.88	380
2	Publication of Books	Vadodara	142	1681.86	776
3	Printing and Book Binding	Vadodara	45	256.35	244
4	Spectacle Frame	Vadodara	46	215.73	324
5	Plastic Molded	Vadodara	127	2470.91	312
6	Dolomite Power/ (stone and Marble cutting)	Vadodara / Chhota Udepur	41/79	319.50/ 1778.67	180/799
7	Casting Forging	Vadodara	76	1032.13	776
8	Fabricated Item	Vadodara	279	2350.15	1773
9	Steel/Aluminum Furniture	Vadodara	40	249.31	173
10	Chemical M/C	Vadodara	64	765.57	449
11	Electronics Instruments	Vadodara	33	278.08	329
12	Diamond Processing	Vadodara	38	286.70	171
13	Data Processing	Vadodara	74	523.41	295
Total			1194	10051.10	6981

*Source: **SSI Census 2000***

It is evident from the above table that the cluster producing fabricated item has the largest number of units, providing employment to more then 25% of the labour force.

The industrial scenario can also be looked at in terms of registered industrial units, investment and employment both in small sector as well as large scale sector. In Table 6.3, the industrial progress in terms of the above aspects has been presented. Out of

twelve talukas in Vadodara district, large scale units are located in six talukas only. The bulk of industrial units were located in Vadodara taluka. In fact more than 50% of the large scale units are located in Vadodara taluka. The picture is similar if we look at the investment in these units and also in terms of employment. Savli taluka accounted for about 20% of large scale units. Similarly it also accounted for second highest investment If we look at SSI registered units in the district, it is found that most of units are concentrated in Vadodara taluka. In the year 2009-10, 75% of SSI units are concentrated in Vadodara taluka, 6% in Savli taluka and 4% in Vaghodia.

TABLE 6.3

Industrial Progress in Vadodara District: 2009-10

Sl no	Talukas	Number of units		Investment		Employment	
		Large	SSI	Large (in Crores)	SSI (in Lakhs)	Large	SSI
1	Vadodara	260	16410	7031.34	37681.48	44875	118087
2	Padra	85	613	1378.03	3354.88	13368	5505
3	Savli	107	1380	1381.04	8872.53	11788	9932
4	Vaghodia	44	905	264.19	7092.42	6167	9023
5	Sinor	02	106	41.00	78.44	188	430
6	Karjan	16	423	1405.26	1486.79	4993	3858
7	Chhota Udepur	-	383	-	591.92	-	1978
8	Jetpur Pavi	-	191	-	117.16	-	597
9	Sankheda	-	554	-	957.10	-	2685
10	Dabhoi	-	546	-	1328.74	-	3078
11	Nasvadi	-	151	-	102.07	-	465
12	Kavant	-	98	-	46.52	-	205
Total		514	2170	11500.86	61710.05	81379	155843

Source: ***DIC, Vadodara***

From the above discussions, it is quite clear that all industrial activities are concentrated mainly in Vadodara taluka. This taluka was industrially developed even before the formation of the state of Gujarat. However, if we compare the industrial scenario in Vadodara district in the year 2009-10 with the scenario that existed in 1990-91, then it emerges that a slight industrial dispersal has taken place away from Vadodara taluka. For instance in 1990-91, 77% of registered units was located in Vadodara taluka,

which has slightly declined to about 74% in 2009-10. Similarly Savli taluka accounted for 4% of industrial units in 1990-91 but in 2009-10 it increased to almost 7%.[46] Thus it can be stated that government of Gujarat's industrial dispersal policy has succeeded to some extent in achieving the objective of the dispersal of industrial units to various regions of the state.

In Table 6.4 industrial group wise and taluka wise employment generated in the year 2009-10 has been presented. The data pertaining to fourteen groups are available. In terms of employment generated also it is evident that Vadodara taluka has contributed the largest in generation of employment in twelve of industrial group. In fact in Textile, Chemical and Chemical product, Metal products and Electrical Machinery, Vadodara taluka has generated more than 75% of the total employment in Vadodara district.

Here it needs to be mentioned from international experience of industrially advanced countries that, as a country progresses, there is a decline in labour intensity along with an increase in capital intensity. This reflects a technological change in favour of capital. Labour intensity and Capital intensity are generally calculated in terms of unit of output. In the present study however, due to absence of taluka wise data regarding output, the factor intensity is calculated in terms of registered units. Similar methodology has been adopted elsewhere also.[47] The taluka wise factor intensity (capital & labour) has been presented in Table 6.5. It is evident from this table that in majority of talukas, the labour as well as capital intensity has increased. This clearly indicates that in Vadodara district there is not only a technological improvement but also there has been increased demand for labour. This may be due to the reason that industries have become more capital intensive, at the same time it has led to rising demand for skilled labour.

From the forgone analysis, it is clear that most of the industrial activities have taken place in Vadodara taluka, more specifically in and around Vadodara city. This suggests that the location of industries in Vadodara district is not optimum, in terms of uniformity. This requires a study of industrial localization by using location quotient.[48] This has been attempted in the foregoing section on the basis of the methodology described in section II.

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[46] If we look at the pattern of investment and employment scenario, the picture remains the same.
[47] See Ernst and Janine (2009)
[48] See Florence (1948)

TABLE 6.4
Taluka wise And Industry Group wise Employment Scenario - 2009-10

Sr No	Industrial Groups	Talukas												
		Karjan	Chhota Udepur	Jetpur-Pavi	Dabhoi	Padra	Vadodara	Vaghodia	Savli	Sankheda	Shinor	Nasvadi	Kavant	Total
1	Food Products and Beverages	57	22	10	98	118	3772	345	382	53	04	08	04	4873
2	Tobacco Products	-	02	04	03	04	02	-	-	-	02	02	02	21
3	Textiles	59	04	06	184	191	3825	336	377	-	-	-	-	4982
4	Wood and Wood Products Furniture Fixture	-	04	02	-	02	08	-	-	47	02	10	02	77
5	Paper and Paper Products	02	-	-	04	04	15	06	-	04	-	-	-	35
6	Leather and Leather Products	08	05	04	04	11	42	10	18	18	02	04	02	128
7	Rubber, Plastic and Petroleum	22	-	-	13	68	884	75	20	-	-	-	-	1082
8	Chemical and Chemical Products	19	-	-	15	88	1241	72	123	-	-	-	-	1558
9	Cement and Clay Work	-	-	-	-	04	08	03	02	08	04	-	02	31
10	Basic Metal Industries	25	-	-	24	54	914	51	81	-	-	-	-	1149
11	Metal Products	10	-	-	21	39	570	26	47	-	-	-	-	713
12	Electrical Machinery	16	-	-	18	47	849	58	79	11	-	-	-	1078
13	Transport Equipment	14	-	-	60	62	653	41	79	18	-	-	-	927
14	Repair Service and Others	30	05	05	93	222	2891	97	364	45	04	02	04	3762
Total		262	42	31	537	914	15674	1120	1572	204	18	26	16	20416

Source: D.I.C. Vadodara.

TABLE- 6.5

Taluka wise Labour Intensity and Capital Intensity in Registered SSI, VADODARA district

Sr No	Talukas	1990-91		1995-96		2000-01		2005-06		2009-10	
		L.I	C.I	L.I	C.I	L.I	C.I	L.I	C.I	L.I	C.I
1	Karjan	11.5	3.73	5.5	4.41	3.43	4.94	2.5	4.90	12.15	3.92
2	Chhota Udepur	16.00	1.15	4.67	0.93	3.00	1.56	00	00	4.67	2.69
3	Jetpur Pavi	12.00	1.05	3.67	0.90	7.00	2.06	1.75	0.29	4.42	2.40
4	Dabhoi	8.55	4.86	4.48	4.91	8.53	4.03	1.24	2.20	22.38	4.57
5	Padra	7.57	4.44	4.70	5.49	2.81	4.37	2.07	4.81	21.76	4.75
6	Vadodara	5.77	4.55	4.64	5.96	4.65	4.88	3.02	3.84	17.21	5.73
7	Vaghodia	6.00	4.67	4.76	5.87	5.11	4.68	6.11	4.55	20.36	5.03
8	Savli	5.57	4.25	4.51	5.48	5.02	4.84	7.27	4.63	18.93	5.08
9	Sankheda	6.22	4.47	4.56	4.28	4.45	4.04	1.71	2.61	20.04	4.89
10	Shinor	8.88	2.93	16.2	2.84	11.75	3.82	18.00	3.24	9.00	2.29
11	Nasvadi	5.5	3.10	7.67	2.05	12.33	1.75	1.69	0.71	8.67	1.73
12	Kavant	-	-	-	-	-	-	1.50	0.78	8.00	2.21

Note: **L.I. = Labour Intensity** **C.I. = Capital Intensity**

Source: Compiled from Various Issues of District Industries Centre, Vadodara

III DATA SOURCES AND METHODOLOGY:

The data source is purely secondary in nature. The data were collected from various issues of "Industrial Outline of Vadodara", published by District Industries Centre of Vadodara, various issues of "Socio Economic Review of Vadodara District", by District Panchayat Vadodara.[49]

The location quotient technique is the most commonly utilized economic base analysis method. It is also the main technique for the determination of the degree of localization of a given sector.[50] In this technique the local economy is compared to reference economy in the process attempting to identify specialization in the local economy. In more exact terms, location quotient is a ratio that compares a region to a larger reference region, according to some characteristic or asset for quantifying how concentrated an industry is in a region as compared to larger geographical area.[51]

[49] A taluka within the district is not necessarily a uniform economic unit. But it being an administrative unit within the district, the necessary secondary data are mainly available taluka wise. Thus, inter taluka analysis can be considered to be a proxy for regional analysis.

[50] See Kaya (2006)

[51] See Isserman (1977)

The basic uses of industrial location quotient include these:

i. To determine which industries make the regional economy unique.
ii. To identify the "export orientation" of an industry and identify the most export oriented industries in the region.
iii. To identify emerging export industries beginning to bring money into the region.
iv. To identify endangered export industries that could erode the region's economic base.

The industrial location quotient can be based on employment, income or value added data.[52]

Location Quotient Calculation:

In terms of employment, the industrial location quotient can be calculated by using the following formula.

Location Quotient =	Regional(Taluka) Employment in Industry **i** in Year **T(eit)**	÷	National(District) Employment in Industry **i** in Year **T(Eid)**
	Total Regional(Taluka) Employment in Year **T (et)**		Total National(District)Employment in Year **T (Ed)**

In this formula we compare the regional economy that is the taluka to the national economy that is the district. If the observed value of location quotient is equal to zero, it means that given industry is not located in the taluka/district at all. If location quotient is less than one, it means given industry in the taluka contributes less than proportionate to the total industrial employment in the taluka as compared to the district average. Therefore, that industry is not even meeting local demand for a given good or service. On the contrary, if the location quotient is greater then one, then the industry within the taluka and local employment is exactly sufficient to meet local demand for given good or service. In this chapter the location quotient has been calculated for the determination of the high point industries within a taluka. High point industries are those which accounts

[52] In the present study location quotient is calculated on the basis of employment, since taluka wise data on other variables are not available.

for at least 1.25 location quotient values and employ more than 0.2% of the region's workforce.[53]

Further, the changes in location quotient values between two periods have been computed. The comparison would give an idea of whether the concentration of each industry is increasing or decreasing and what is its relative significance in that region as compared to other regions. Following from Boston Consulting Group, the Specialization Matrix to show the changes in the LQ of each taluka's industrial group between the periods 1990-91 and 2009-10 have been calculated.

The matrix is revealed in the below figure, where the four quadrants represents varying combination, of specialization and concentration changes as represented by the changes in location quotient values.

Specialization Matrix (L.Q.)

I	II	
Not Specialized (Diversified) Increasing Concentration	**Specialized /Increasing Concentration (stars)** ⟶	**Positive Change in Location Quotient LQ (+)**
III	**IV**	
Not Specialized (Diversified) Decreasing Concentration	**Specialized /Decreasing Concentration (Former stars)** ⟶	**Negative Change in Location Quotient LQ (-)**
LQ=0	**LQ=1.0**	**LQ >1**

Source: Boston Consulting Group (2004)

As per the specialization matrix, industrial groups can be categorized into four different categories. This is summarized in the below table.

[53] See D.T.I. (2001)

Quadrants	Matrix Category	Values of LQ in 2009-10	Changes in LQ as compared to 1990-91
1	Future Star	LQ >0<1	Increasing
2	Star	LQ >1	Increasing
3	Declining star	LQ <1>0	Decreasing
4	Former Star	LQ >1	Decreasing

As the taluka wise industry group data for Vadodara district is available for the year 1990-91, 2000-01 and 2009-10, the location quotient has been calculated accordingly. The results are presented in the next section.

IV RESULTS:

The results of an analysis of location quotient in all the twelve talukas of Vadodara district is presented in this section. If we consider Table 6.6, than it is evident that in Karjan taluka, in the year 1990-91, five industrial groups viz Food & Beverages, Textiles, Rubber-Plastic & Petroleum, Chemical & Chemical Products and Metal Products had location quotient of greater than unity. In other words, these groups of industries had larger share of employment in Karjan taluka than warranted by its share in the distribution of employment in the district. Of the remaining industrial groups, six industries had location quotient equal to zero, which means these industrial groups had no contribution in employment generation. Here, it is to be noted that the variation in the value of location quotient of a given taluka in respect to particular industry over a period of time will reflect the changes in the relative importance of the taluka in respect of that industry. In this respect the location quotient of the five groups, mentioned above had declined in the year 2009-10. In other words, these groups of industries have loosened the grip on employment generation. In contrast, industrial groups such as Paper & Paper Products, Leather & Leather Products, Basic Metal, Electrical Machinery which did not figure in employment generation earlier had a location quotient of greater than one in the year one in the year 2009-10. Based on the methodology described above, in this taluka, the industrial groups which can be categorized as stars are Paper & Paper products, Leather & Leather products, Basic Metal, Electrical Machinery and

TABLE 6.6
Location Quotient and Specialization Matrix in KARJAN Taluka

Sl No.	Industry Group	Employment (Absolute)		Employment (% Share)		Employment Change		Location Quotient		Location Quotient Change	Specialization Matrix
		1990-91	2009-10	1990-91	2009-10	(Absolute)	(% Share)	1990-91	2009-10		
1	Food Products and Beverages	17	57	24.64	21.76	235.29	-11.69	1.99	0.91	-54.27	3
2	Tobacco Products	-	-	-	-	-	-	0	0	0	-
3	Textiles	19	59	27.54	22.52	210.53	-18.23	1.64	0.92	-43.90	3
4	Wood and Wood Products Furniture Fixture	-	-	-	-	-	-	0	0	0	-
5	Paper and Paper Products	-	02	-	0.76	-	-	0	4.45	0	2
6	Leather and Leather Products	-	08	-	3.05	-	-	0	4.87	0	2
7	Rubber, Plastic and Petroleum	02	22	2.90	8.40	1000.00	189.66	6.60	1.58	-76.06	4
8	Chemical and Chemical Products	14	19	20.21	7.25	35.71	-64.13	7.61	0.95	-87.52	3
9	Cement and Clay Work	-	-	-	-	-	-	0	0	0	-
10	Basic Metal Industries	2	25	2.90	9.54	1150.00	228.97	0.73	1.70	132.88	2
11	Metal Products	10	10	14.49	3.82	0	-73.64	1.45	1.09	-24.83	4
12	Electrical Machinery	-	16	-	6.11	-	-	0	1.15	0	2
13	Transport Equipment	-	14	-	5.34	-	-	0	1.18	0	2
14	Repair Service and Others	5	30	7.25	11.45	500.00	57.93	0.19	0.62	226.32	1
15	Total	69	262	100	100	269.71	-	-	-	-	-

Source: Compiled from Various Issues of District Industries Centre, Vadodara

Transport Equipments, whereas Rubber-Plastic & Petroleum and Metal products can be categorized as former stars. And Food & Beverages, Textiles and Chemical & Chemical products can be regarded as declining stars. It is only Repair, Service & Others that can be considered as future stars. However, this group belongs to service sector rather than industrial sector.

If we consider the location quotient for the Chhota Udepur taluka (Table 6.7) than, only three groups of industries that is Food & Beverages, Tobacco Products and Cement & Clay Work had location quotient of greater than one . In fact, Cement & Clay Work in Chhota Udepur has a location quotient which is highest among all talukas. This is mainly due to easy availability of raw materials such as Limestone, clay and Gypsum in the taluka. However, by 2009-10, the importance of Cement & Clay Work has declined where as that of Wood and Wood Products increased In fact, due to easy access to wood as a raw material, Wood & Wood products flourished in this taluka. In this taluka, industrial groups which can be categorized as former stars are Food and Beverages. While Tobacco Products, Leather & Leather are star groups. Whereas Textiles and Wood & Wood Products are the future stars. Thus, encouraging this group in the Chhota Udepur taluka can help to generate more employment in this taluka.

As far as the location quotient for Jetpur Pavi taluka (Table 6.8) for the year 1990-91 was concerned, only two groups of industries Food & Beverages and Textiles had a location quotient of greater than one. However, by 2009-10 Tobacco Products, Wood & Wood Products, Leather & Leather Products emerged as an important group of industries by showing location quotient greater than one. Thus this group of industries generated more employment than the district average. In fact, in this taluka due to presence of forest area, supply of timber is higher as a result the location quotient for the Wood & Wood Products is higher and at the same time supply of raw tobacco has led to the high location quotient value in the taluka. Here star industrial groups are Tobacco Products, Wood & Wood Products and Leather & Leather Products, whereas Textiles are the declining stars. In this taluka no industrial group can be classified as future star.

TABLE 6.7
Location Quotient and Specialization Matrix in CHHOTA UDEPUR Taluka

Sl No.	Industry Group	Employment (Absolute)		Employment (% Share)		Employment Change		Location Quotient		Location Quotient Change	Specialization Matrix
		1990-91	2009-10	1990-91	2009-10	(Absolute)	(% Share)	1990-91	2009-10		
1	Food Products and Beverages	6	22	37.5	52.38	266.67	39.68	3.04	2.19	-27.96	4
2	Tobacco Products	2	2	12.5	4.76	0	-61.92	24.91	46.29	85.83	2
3	Textiles	-	4	-	9.52	-	-	0	0.39	0	1
4	Wood and Wood Products Furniture Fixture	-	4	-	9.52	-	-	0	25.25	0	1
5	Paper and Paper Products	-	-	-	-	-	-	0	0	0	-
6	Leather and Leather Products	-	5	-	11.90	-	-	0	18.98	0	2
7	Rubber, Plastic and Petroleum	-	-	-	-	-	-	0	0	0	-
8	Chemical and Chemical Products	-	-	-	-	-	-	0	0	0	-
9	Cement and Clay Work	2	-	12.5	-	-	-	36.24	0	0	N.A.
10	Basic Metal Industries	-	-	-	-	-	-	0	0	0	-
11	Metal Products	-	-	-	-	-	-	0	0	0	-
12	Electrical Machinery	-	-	-	-	-	-	0	0	0	-
13	Transport Equipment	-	-	-	-	-	-	0	0	0	-
14	Repair Service and Others	6	5	37.5	11.90	-16.67	-6.83	0.96	0.64	-33.33	3
15	Total	16	42	100	100	162.5	-	-	-	-	-

Source: Compiled from Various Issues of District Industries Centre, Vadodara

TABLE 6.8
Location Quotient and Specialization Matrix in JETPUR PAVI Taluka

Sl No.	Industry Group	Employment (Absolute)		Employment (% Share)		Employment Change		Location Quotient		Location Quotient Change	Specialization Matrix
		1990-91	2009-10	1990-91	2009-10	(Absolute)	(% Share)	1990-91	2009-10		
1	Food Products and Beverages	2	10	16.67	32.26	400	93.52	1.35	1.35	00	N.A.
2	Tobacco Products	-	4	-	12.90	-	-	0	125.44	0	2
3	Textiles	6	6	50	19.35	0	-61.3	2.99	0.79	-73.58	3
4	Wood and Wood Products Furniture Fixture	-	2	-	6.45	-	-	0	17.10	0	2
5	Paper and Paper Products	-	-	-	-	-	-	0	0	0	-
6	Leather and Leather Products	-	4	-	12.90	-	-	0	20.58	0	2
7	Rubber, Plastic and Petroleum	-	-	-	-	-	-	0	0	0	-
8	Chemical and Chemical Products	-	-	-	-	-	-	0	0	0	-
9	Cement and Clay Work	-	-	-	-	-	-	0	0	0	-
10	Basic Metal Industries	-	-	-	-	-	-	0	0	0	-
11	Metal Products	-	-	-	-	-	-	0	0	0	-
12	Electrical Machinery	-	-	-	-	-	-	0	0	0	-
13	Transport Equipment	-	-	-	-	-	-	0	0	0	-
14	Repair Service and Others	4	5	33.33	16.13	25	-51.61	0.85	0.87	2.35	1
15	Total	12	31	100	100	158.33	-	-	-	-	-

Source: Compiled from Various Issues of District Industries Centre, Vadodara

TABLE 6.9
Location Quotient and Specialization Matrix in DABHOI Taluka

Sl No.	Industry Group	Employment (Absolute)		Employment (% Share)		Employment Change		Location Quotient		Location Quotient Change	Specialization Matrix
		1990-91	2009-10	1990-91	2009-10	(Absolute)	(% Share)	1990-91	2009-10		
1	Food Products and Beverages	28	98	29.79	18.25	250.00	-38.74	2.41	0.76	-68.46	3
2	Tobacco Products	2	3	2.13	0.56	50.00	-73.71	4.24	5.43	28.67	2
3	Textiles	14	184	14.89	34.26	1214.29	130.09	0.89	1.40	57.30	2
4	Wood and Wood Products Furniture Fixture	-	-	-		-	-	0	0	0	-
5	Paper and Paper Products	2	4	2.13	0.74	100.00	-65.26	1.41	4.34	207.80	2
6	Leather and Leather Products	-	4	-	0.74	-	-	0	1.19	0	2
7	Rubber, Plastic and Petroleum	-	13	-	2.42	-	-	0	0.46	0	1
8	Chemical and Chemical Products	-	15	-	2.79	-	-	0	0.37	0	1
9	Cement and Clay Work	-	-	-		-	-	0	0	0	-
10	Basic Metal Industries	-	24	-	4.47	-	-	0	0.79	0	1
11	Metal Products	10	21	10.64	3.91	110.00	-63.25	1.07	1.12	4.67	2
12	Electrical Machinery	21	18	22.34	3.36	-14.29	-84.96	2.08	0.63	-69.71	3
13	Transport Equipment	5	60	5.32	11.17	1100.00	109.96	3.53	2.46	-30.31	3
14	Repair Service and Others	12	93	12.77	17.32	675.00	35.63	0.32	0.94	193.75	1
15	Total	94	537	100	100	471.28	-	-	-	-	-

Source: Compiled from Various Issues of District Industries Centre, Vadodara.

The location quotient for Dabhoi taluka (Table 6.9) for the year 1990-91 was more than unity for six groups Food & Beverages, Tobacco Products, Paper & Paper Products, Metal Products, Electrical Machinery and Transport Equipment. But by 2009-10, Food & Beverages, Electrical Machinery and Transport Equipment had lost their relative importance in employment generation. In contrast, Tobacco products, Paper & Paper products and Textiles gained in relative importance. Easy availability of raw materials for these industries and well developed transport network was the main reasons for the shifting of relative importance. The future star groups here are Rubber Plastic & Petroleum, Chemical & Chemical product, and Basic Metal, by encouraging these groups more employment can be generated in this taluka. Whereas star category of industries is Tobacco products, Textiles, Paper & Paper products, Leather & Leather products and Metal products. In this taluka Food & Beverages, Electrical Machinery and Transport Equipments are the declining stars.

In Table 6.10, the location quotient for Padra taluka is presented. This table shows that, for five groups viz Food & Beverages, Rubber Plastic & Petroleum, Basic Metal, Metal Products and Electrical Machinery had been greater than one. However, by the year 2009-10 ten groups of industries had location quotient greater than one. Further, few groups of industries which did not figure in the earlier period fared better as an employment generator in 2009-10. This is mainly due to the shifting of units from the Vadodara taluka to Padra taluka. In this case, Textiles and Wood & Wood products can be regarded as future stars, whereas Tobacco products, Paper & Paper products, Leather & Leather, Chemical & Chemical products, Cement & Clay work, Metal product, and Transport Equipments are star industrial groups. While Rubber-Plastic & Petroleum and Basic Metal as former stars, the Food & Beverages and Electrical Machinery are the declining stars.

TABLE 6. 10
Location Quotient and Specialization Matrix in PADRA Taluka

Sl No.	Industry Group	Employment (Absolute)		Employment (% Share)		Employment Change		Location Quotient		Location Quotient Change	Specialization Matrix
		1990-91	2009-10	1990-91	2009-10	(Absolute)	(% Share)	1990-91	2009-10		
1	Food Products and Beverages	31	118	29.25	12.91	280.65	-55.86	2.37	0.54	-77.22	3
2	Tobacco Products	-	4	-	0.44	-	-	0	4.25	0	2
3	Textiles	12	191	11.32	20.90	1491.67	84.63	0.68	0.86	26.47	1
4	Wood and Wood Products Furniture Fixture	-	2	-	0.22	-	-	0	0.58	0	1
5	Paper and Paper Products	-	4	-	0.44	-	-	0	2.55	0	2
6	Leather and Leather Products	-	11	-	12.04	-	-	0	1.92	0	2
7	Rubber, Plastic and Petroleum	3	68	2.83	7.44	2166.67	162.90	6.45	1.40	-78.29	4
8	Chemical and Chemical Products	-	88	-	9.63	-	-	0	1.26	0	2
9	Cement and Clay Work	-	4	-	0.44	-	-	0	2.88	0	2
10	Basic Metal Industries	10	54	9.43	5.91	440.00	-37.33	2.39	1.04	-56.49	4
11	Metal Products	11	39	10.38	4.27	254.55	-58.86	1.04	1.22	17.31	2
12	Electrical Machinery	27	47	25.47	5.14	74.07	-79.82	2.38	0.97	-59.24	3
13	Transport Equipment	-	62	-	6.78	-		0	1.49	0	2
14	Repair Service and Others	12	222	11.32	24.29	1750.00	114.58	0.29	1.32	355.17	2
15	Total	106	914	100	100	762.26	-	-	-	-	-

Source: Compiled from Various Issues of District Industries Centre, Vadodara

TABLE 6.11
Location Quotient and Specialization Matrix in VADODARA Taluka

Sl No.	Industry Group	Employment (Absolute)		Employment (% Share)		Employment Change		Location Quotient		Location Quotient Change	Specialization Matrix
		1990-91	2009-10	1990-91	2009-10	(Absolute)	(% Share)	1990-91	2009-10		
1	Food Products and Beverages	185	3772	7.86	24.07	1938.92	206.23	0.63	1.01	60.32	2
2	Tobacco Products	2	2	0.09	0.01	0	0	0.17	0.12	-29.41	3
3	Textiles	391	3825	16.60	24.40	878.26	46.99	0.99	1.00	0.01	N.A.
4	Wood and Wood Products Furniture Fixture	-	8		0.05	-	-	0	0.14	0	1
5	Paper and Paper Products	18	15	0.76	0.09	-16.67	-88.16	0.51	0.59	15.69	1
6	Leather and Leather Products	1	42	0.04	0.27	4100.00	575.00	0.68	0.43	-36.76	3
7	Rubber, Plastic and Petroleum	5	884	0.21	5.64	17580.00	2585.71	0.48	1.06	120.83	2
8	Chemical and Chemical Products	63	1241	2.68	7.92	1869.84	195.52	1.00	1.04	4.00	2
9	Cement and Clay Work	-	8	-	0.05	-	-	0	0.37	0	1
10	Basic Metal Industries	101	914	4.29	5.83	804.95	35.90	1.09	1.04	-4.59	4
11	Metal Products	240	570	10.19	3.64	137.5	-64.28	1.02	1.04	1.96	2
12	Electrical Machinery	256	849	10.87	5.42	231.64	-50.14	1.01	1.03	1.98	2
13	Transport Equipment	35	653	1.49	4.17	1765.71	179.87	0.99	0.91	-8.08	3
14	Repair Service and Others	1058	2891	44.93	18.44	173.25	-58.96	1.15	1.00	-0.13	3
15	Total	2355	15674	100	100	565.56	-	-	-	-	-

Source: Compiled from Various Issues of District Industries Centre, Vadodara

Vadodara taluka which continues to be industrially developed taluka, the location quotient (Table 6.11) for the year 1990-91, shows that five groups of industries viz Chemical & Chemical Product, Basic Metal, Metal Products and Electrical Machinery had Location Quotient of greater than unity. Due to industrial concentration of these industrial groups in the taluka, all above mentioned manufacturing groups had generated more employment than the district average. However, by 2009-10, Food & Beverages in employment generation increased due to the fast growth of tourism activity in the taluka, which resulted in boom in the growth in hotels and restaurants. In this taluka, the future stars industrial groups are Wood & Wood products, Paper & Paper and Cement & Clay work, whereas Food & Beverages, Rubber-Plastic & Petroleum, Chemical & Chemical, Metal Product, Electrical Machinery is the star groups. While Basic Metal group is the former star and Tobacco products, Leather & Leather and Transport Equipments are declining stars.

In Table 6.12, the location quotient for the Vaghodia taluka in the year 1990-91 reveals that, nine groups of industries, Food & Beverages, Tobacco Products, Rubber-Plastic & Petroleum, Leather & Leather Products, Paper & Paper products, Chemical & Chemical Products, Metal Products and Electrical Machinery had a value greater than unity. But, for the year 2009-10 only two groups of Textiles and Cement & Clay works has shown increase in its relative share, where as the rest of the groups shown a decline. The reason for this was the shifting the many industrial units from Vaghodia to the Savli taluka. In this taluka the groups which can be regarded as stars are Textiles and Cement & Clay work, whereas former stars are Food & Beverages, Paper & Paper, and Leather & Leather and Rubber-Plastic & Petroleum industrial groups. While Chemical & Chemicals, Basic Metal, Metal products, Electrical Machinery and Transport Equipments are regarded as declining stars. None of the industrial group can be categorized as future star in this particular taluka.

If we consider the location quotient for the Savli taluka (Table 6.13), for the year 1990-91 eight groups of industries like Food & Beverages, Tobacco Products, Paper & Paper products, Rubber Plastic & Petroleum, Cement & Clay, and Metal Products, Electrical Machinery and Transport Equipment had location quotient of greater than one

which shows their relative importance in generation employment is more than that of the district average. However, Chemical & Chemical Products, Leather & Leather Products, Transport Equipment had shown an increase in their relative importance in generating employment in the year 2009-10.For this taluka Textiles group can be classified as the future star, whereas Leather & Leather, Chemical & Chemical and Transport Equipments are categorized as star industrial groups. However, Food & Beverages, Rubber-Plastic & Petroleum, Cement & Clay work, basic Metal, Metal products and Electrical Machinery are the declining stars.

A similar picture emerges for Sankheda taluka, (Table 6.14) the location quotient for the year 1990-91, or six groups of industries where Food & Beverages, Textiles, Wood & Wood Products, Paper & Paper products, Cement & Clay work and Transport equipments had the location quotient greater than one. But by the year 2009-10, Wood & Wood products, Paper & Paper products, Leather & Leather products, Cement & Clay work had increased its relative importance in the taluka. In this taluka Food & Beverages are found former star, while Wood & Wood, Paper & Paper, Leather & Leather, Cement & Clay work, Electrical Machinery and Transport Equipment are categorized as star groups. In this taluka no industrial group can be classified as future star. None of the industrial group can be categorized as future star in this particular taluka.

In Shinor taluka a relatively backward region the location quotient (Table 6.15), for the year 1990-91, for only three groups of industries like Food & Beverages, Textiles and Cement & Clay work was greater than one, where as in the year 2009-10, five groups has location quotient greater than one. Since in the year 2009-10 Tobacco products, Wood & Wood products, Leather & Leather products and Cement & Clay work had shown rising trend, and for the eight groups location quotient is equal to zero, which means these groups are absent in the taluka.

TABLE 6.12
Location Quotient and Specialization Matrix in VAGHODIA Taluka

Sl No.	Industry Group	Employment (Absolute)		Employment (% Share)		Employment Change		Location Quotient		Location Quotient Change	Specialization Matrix
		1990-91	2009-10	1990-91	2009-10	(Absolute)	(% Share)	1990-91	2009-10		
1	Food Products and Beverages	38	345	18.62	30.80	807.89	65.41	1.51	1.29	-14.57	4
2	Tobacco Products	2	-	0.98	-	-	-	1.95	0	0	N.A.
3	Textiles	24	336	11.76	30.00	1300.00	155.10	0.70	1.23	75.71	2
4	Wood and Wood Products Furniture Fixture	-	-	-	-	-	-	0	0	0	-
5	Paper and Paper Products	16	6	7.84	0.54	-62.5	-93.11	5.21	3.12	-40.12	4
6	Leather and Leather Products	1	10	0.49	0.89	900.00	81.63	7.82	1.42	-81.84	4
7	Rubber, Plastic and Petroleum	2	75	0.98	6.70	3650.00	583.67	2.23	1.26	-43.50	4
8	Chemical and Chemical Products	6	72	2.94	6.43	1100.00	118.71	1.10	0.84	-23.64	3
9	Cement and Clay Work	-	3	-	0.27	-	-	0	1.76	0	2
10	Basic Metal Industries	8	51	3.92	4.55	537.5	16.07	0.99	0.81	-18.18	3
11	Metal Products	27	26	13.24	2.32	-3.70	-82.48	1.33	0.66	-50.38	3
12	Electrical Machinery	24	58	11.76	5.18	141.67	-55.95	1.10	0.98	-10.91	3
13	Transport Equipment	4	41	1.96	3.66	925.00	86.73	1.30	0.80	-38.46	3
14	Repair Service and Others	52	97	25.49	8.66	86.54	-66.03	0.65	0.47	-27.69	3
15	Total	204	1120	100	100	449.02	-	-	-	-	-

Source: Compiled from Various Issues of District Industries Centre, Vadodara.

TABLE 6.13
Location Quotient and Specialization Matrix in SAVLI Taluka

Sl No.	Industry Group	Employment (Absolute)		Employment (% Share)		Employment Change		Location Quotient		Location Quotient Change	Specialization Matrix
		1990-91	2009-10	1990-91	2009-10	(Absolute)	(% Share)	1990-91	2009-10		
1	Food Products and Beverages	24	382	18.75	24.30	1491.67	29.6	1.52	1.01	-33.55	3
2	Tobacco Products	2	-	1.56	-	-	-	3.11	0	-	N.A.
3	Textiles	17	377	13.28	23.98	2117.65	80.57	0.79	0.98	24.05	1
4	Wood and Wood Products Furniture Fixture	-	-	-	-	-	-	0	0	-	-
5	Paper and Paper Products	2	-	1.56	-	-	-	1.03	0	-	N.A.
6	Leather and Leather Products	-	18	-	1.15	-	-	0	1.83	-	2
7	Rubber, Plastic and Petroleum	2	20	1.56	1.27	900.00	-18.59	3.60	0.24	-93.33	3
8	Chemical and Chemical Products	2	123	1.56	7.82	6050.00	401.28	0.59	1.03	74.58	2
9	Cement and Clay Work	1	2	0.78	0.13	100.00	-83.33	2.26	0.84	-62.83	3
10	Basic Metal Industries	5	81	3.91	5.15	1520.00	31.71	0.99	0.92	-7.07	3
11	Metal Products	14	47	10.94	2.99	235.71	-72.67	1.10	0.86	-21.82	3
12	Electrical Machinery	14	79	10.94	5.03	464.29	-54.02	1.02	0.95	-6.86	3
13	Transport Equipment	2	79	1.56	5.03	3850.00	222.44	1.04	1.11	6.73	2
14	Repair Service and Others	43	364	33.59	23.16	746.51	-31.05	0.86	1.26	46.51	2
15	Total	128	1572	100	100	1128.13	-	-	-	-	-

Source: Compiled from Various Issues of District Industries Centre, Vadodara.

TABLE 6.14
Location Quotient and Specialization Matrix in SANKHEDA Taluka

Sl No.	Industry Group	Employment (Absolute)		Employment (% Share)		Employment Change		Location Quotient		Location Quotient Change	Specialization Matrix
		1990-91	2009-10	1990-91	2009-10	(Absolute)	(% Share)	1990-91	2009-10		
1	Food Products and Beverages	22	53	19.64	25.98	140.91	32.28	1.59	1.09	-31.45	4
2	Tobacco Products	-	-	-	-	-	-	0	0	0	-
3	Textiles	32	-	28.57	-	-	-	1.70	0		N.A.
4	Wood and Wood Products Furniture Fixture	06	47	5.36	23.04	683.33	329.85	24.41	61.09	150.27	2
5	Paper and Paper Products	10	04	8.93	1.96	-60.00	-78.05	5.93	11.43	92.75	2
6	Leather and Leather Products	-	18		8.82	-	-	0	14.07	0	2
7	Rubber, Plastic and Petroleum	-	-	-	-	-	-	0	0	0	-
8	Chemical and Chemical Products	-	-	-	-	-	-	0	0	0	-
9	Cement and Clay Work	02	08	1.79	3.92	300.00	118.99	5.18	25.83	398.65	2
10	Basic Metal Industries	-	-	-	-	-	-	0	0	0	-
11	Metal Products	-	-	-	-	-	-	0	0	0	-
12	Electrical Machinery	-	11		5.39	-	-	0	1.02	0	2
13	Transport Equipment	02	18	1.79	8.82	800.00	392.74	1.19	1.94	63.03	2
14	Repair Service and Others	38	45	33.93	22.06	18.42	-34.98	0.87	1.20	37.93	2
15	Total	112	204	100	100	82.14	-	-	-	-	-

Source: Compiled from Various Issues of District Industries Centre, Vadodara.

TABLE 6.15
Location Quotient and Specialization Matrix in SHINOR Taluka

Sl No.	Industry Group	Employment (Absolute)		Employment (% Share)		Employment Change		Location Quotient		Location Quotient Change	Specialization Matrix
		1990-91	2009-10	1990-91	2009-10	(Absolute)	(% Share)	1990-91	2009-10		
1	Food Products and Beverages	29	04	40.85	22.22	-86.21	-45.61	3.30	0.93	-71.82	3
2	Tobacco Products	-	02	-	11.11	-	-	0	108.02	0	2
3	Textiles	19	-	26.76	-	-	-	1.60	0	0	N.A.
4	Wood and Wood Products Furniture Fixture	-	02	-	11.11		-	0	29.46	0	2
5	Paper and Paper Products	-	-	-	-	-	-	0	0	0	-
6	Leather and Leather Products	-	02	-	11.11	-	-	0	17.72	0	2
7	Rubber, Plastic and Petroleum	-	-	-	-	-	-	0	0	0	-
8	Chemical and Chemical Products	-	-	-	-	-	-	0	0	0	-
9	Cement and Clay Work	06	04	8.45	22.22	-33.33	162.96	24.50	146.35	497.35	2
10	Basic Metal Industries	-	-	-	-	-	-	0	0	0	-
11	Metal Products	06	-	8.45	-	-	-	0.85	0	0	N.A.
12	Electrical Machinery	-	-	-	-	-	-	0	0	0	-
13	Transport Equipment	-	-	-	-	-	-	0	0	0	-
14	Repair Service and Others	11	04	15.49	22.22	-63.64	43.45	0.40	1.21	202.5	2
15	Total	71	18	100	100	-74.65	-	-	-	-	-

Source: Compiled from Various Issues of District Industries Centre, Vadodara.

TABLE 6.16
Location Quotient and Specialization Matrix in NASVADI Taluka

Sl No.	Industry Group	Employment (Absolute)		Employment (% Share)		Employment Change		Location Quotient		Location Quotient Change	Specialization Matrix
		1990-91	2009-10	1990-91	2009-10	(Absolute)	(% Share)	1990-91	2009-10		
1	Food Products and Beverages	12	08	54.55	30.77	-33.33	-43.59	4.41	1.29	-70.75	4
2	Tobacco Products	-	02	-	7.69	-	-	0	74.78	0	2
3	Textiles	-	-	-	-	-	-	0	0	0	-
4	Wood and Wood Products Furniture Fixture	01	10	4.55	38.46	900.00	745.27	20.71	101.98	392.42	2
5	Paper and Paper Products	-	-	-	-	-	-	0	0	0	-
6	Leather and Leather Products	-	04	-	15.38	-	-	0	24.53	0	2
7	Rubber, Plastic and Petroleum	-	-	-	-	-	-	0	0	0	-
8	Chemical and Chemical Products	-	-	-	-	-	-	0	0	0	-
9	Cement and Clay Work	-	-	-	-	-	-	0	0	0	-
10	Basic Metal Industries	-	-	-	-	-	-	0	0	0	-
11	Metal Products	-	-	-	-	-	-	0	0	0	-
12	Electrical Machinery	-	-	-	-	-	-	0	0	0	-
13	Transport Equipment	-	-	-	-	-	-	0	0	0	-
14	Repair Service and Others	09	02	40.91	7.69	-77.78	-81.20	1.05	0.42	-60.00	3
15	Total	22	26	100	100	18.18	-	-	-	-	-

Source: Compiled from Various Issues of District Industries Centre, Vadodara.

TABLE 6 .17
Location Quotient and Specialization Matrix in KAVANT Taluka

Sl No.	Industry Group	Employment (Absolute)		Employment (% Share)		Employment Change		Location Quotient		Location Quotient Change	Specialization Matrix
		1990-91	2009-10	1990-91	2009-10	(Absolute)	(% Share)	1990-91	2009-10		
1	Food Products and Beverages	-	04	-	25.00	-	-	0	1.04	0	2
2	Tobacco Products	-	02	-	12.50	-	-	0	121.52	0	2
3	Textiles	-	-	-	-	-	-	0	0	0	-
4	Wood and Wood Products Furniture Fixture	-	02	-	12.50	-	-	0	33.14	0	2
5	Paper and Paper Products	-	-	-	-	-	-	0	0	0	-
6	Leather and Leather Products	-	02	-	12.50	-	-	0	19.93	0	2
7	Rubber, Plastic and Petroleum	-	-	-	-	-	-	0	0	0	-
8	Chemical and Chemical Products	-	-	-	-	-	-	0	0	0	-
9	Cement and Clay Work	-	02	-	12.50	-	-	0	82.32	0	2
10	Basic Metal Industries	-	-	-	-	-	-	0	0	0	-
11	Metal Products	-	-	-	-	-	-	0	0	0	-
12	Electrical Machinery	-	-	-	-	-	-	0	0	0	-
13	Transport Equipment	-	-	-	-	-	-	0	0	0	-
14	Repair Service and Others	-	04	-	25.00	-	-	0	1.35	0	2
15	Total	-	16	-	100	-	-	-	-	-	-

Source: Compiled from Various Issues of District Industries Centre, Vadodara.

Here Tobacco products, Wood & Wood products, Leather & Leather products and Cement & Clay works can be regarded as star industrial groups. However Food & Beverages group are the declining star. None of the industrial group can be categorized as future star in this particular taluka.

In case of Nasvadi taluka, the location quotient (Table 6.16), for the year 1990-91, only two groups- Food & Beverages and Wood & Wood products had the location quotient greater than one, where as eleven groups had location quotient equal to zero. Which means major groups of industries are absent in the taluka. However by the year 2009-10- Tobacco products, Wood & Wood products and Leather & Leather products their relative importance in the taluka in employment generation has increased. In fact, due to easy access to wood as a raw material, Wood & Wood products flourished in this taluka. As a result by 2009-10, the importance of wood & wood products has increased. In this taluka Tobacco product, Wood & Wood products, Leather & Leather can be regarded as star industrial groups, whereas Food & Beverages are found former star in Nasvadi taluka. In this taluka so far no future star industrial group is found.

The Kavant taluka separated from Panchmahal district and become a part of Vadodara district in the year 1998, consequently the data for this taluka are available from 2001-02 onwards only. The location quotient (Table 6.17), for the year 2009-10 for this taluka shows that six groups has location quotient greater than one. And industries producing tobacco products has the location quotient in the year 2009-10 been the higher among all the talukas. The easy availability of Timru leaf the basic raw material for producing "Bidi" a tobacco product, is the main reason for the highest location quotient. Here, Food & Beverages, Tobacco products, Wood & Wood products, Leather & Leather and Cement & Clay work are star industrial groups and no industrial group can be classified as future star.

The data presented in the forgone tables reveals that there has been a shifting of the relative importance of a particular industry in a particular taluka. Further it is also evident that baring few talukas, majority of the talukas has exhibited an improvement in the number of industries having Location Quotient of greater than one.

It is also evident that, future stars that is when location quotient value is<1<0, are located in five talukas namely Chhota Udepur, Padra, Vadodara, Dabhoi and Savli and in each of the five talukas different industrial groups are future stars.

After having examined the localization of industries, in the next section the taluka wise and group wise the growth rate and instability index has been estimated, so as to provide an insight on inter taluka industrial variation within the district of Vadodara. This is estimated on the basis of several parameters with the help of methodology described in the earlier chapters.

V. INTER-TALUKA INDUSTRIAL VARIATION IN VADODARA DISTRICT:

The compound growth rate in absolute terms of all the talukas of the Vadodara district in terms of registered factories, employment and investment in registered factories during study period under consideration is presented in table 6.18 (absolute & percentage share). In terms of registered factories, out of twelve talukas only five talukas –Karjan, Chhota Udepur, Jetpur Pavi, Padra, and Nasvadi have registered higher growth rate than the district average whereas five talukas Vadodara, Vaghodia, Savli, Sankheda and Sinor have registered negative growth rate during the study period. It is evident from this table that highest Growth rate for registered factories is accounted by Chhota Udepur (6.84%) followed by Padra taluka (6.79%). The setting up of the mineral based industries in Chhota Udepur and electrical & electronic industries in Padra taluka have led higher growth of registered factories in recent time. Kavant taluka in Vadodara district is yet to have any manufacturing unit.[54]. With regards to employment, it found that the highest growth rate is found in Padra taluka (4.64%) followed by Karjan taluka (1.01%) where as Sinor taluka registered a negative growth rate of the district. In the district, only four talukas Chhota Udepur, Padra, Karjan and Savli have shown higher employment growth rate than the district average, where as six talukas have registered negative growth rate during the period of 1990-91 to 2009-10. The employment growth rate of the district itself is lower than the state average. As far as the investment in registered factories are

[54] As per 2002 Gujarat government committee report, Kavant taluka is the most backward taluka of the state in terms of industrial and social development

concerned, the highest growth rate is found in Chhota Udepur taluka (13.97%) followed by Padra taluka (4.49%). This trend is obviously due to the reason that these two talukas accounted for the largest growth in the registered factories. The talukas Chhota Udepur, Jetpur Pavi, Dabhoi, and Padra have shown higher growth rate in terms of investment than the district average and rest all talukas have shown lower growth rate than the district average.

It can be concluded from the above that, only Padra and Chhota Udepur talukas have shown positive growth rate, where as the Vadodara taluka in spite of having more concentration of industries have shown negative growth rates in all three parameters, because in Vadodara taluka industries are getting dispersed to neighboring talukas like Vaghodia and Savli talukas. Savli taluka which has an upcoming industrial belt has shown positive growth rate in registered factories as well as in the investment. The worst performance in the district is found in the Shinor taluka, which has registered highest negative growth rate in all three parameters. The trend in percentage share in all parameters also evidences a similar pattern of growth as exhibited by the trend in absolute growth rate.

The group wise compound growth rate (absolute & percentage share) in the Vadodara district in terms of registered factories, employment and investment has been presented in Table 6.19. This table reveals that the highest Growth rate in terms of registered factories was found in case of Leather and Leather products (10.6%), followed by Rubber, Plastic and Petroleum product (9.73%) , where as the lowest Growth rate was registered in case of Paper and Paper products. Textiles, Leather and Leather products, Rubber, Plastic and Petroleum product and Transport equipments have registered higher Growth rate than the average Growth rate. As a corollary to the above, in terms of employment, the highest Growth rate is found in Leather and Leather products (15.54%) followed by Rubber, Plastic and Petroleum product (12.38%). As far as the trend in investment was concerned, the highest Growth rate is found in Rubber, Plastic and Petroleum product (9.6%) followed by Leather and Leather products (9.32%) where as the lowest Growth rate is registered in case of Wood and Wood Products, Furniture and Fixtures (-8.99%). The trends in percentage share also show a similar pattern.

It is obvious from the above discussions that some talukas as well as some industrial groups are exhibiting positive growth in terms of all three parameters. At the same time some talukas and industrial groups have shown a positive growth rate in one or the other parameters. Now the issue is whether observed growth rate would continue or not, it can be examined with the help of instability index. The result of the conclusion of instability index is presented in table 6.20.

The Table 6.20 (absolute & percentage share) shows that for selected variables the value of instability index is high for Savli, Dabhoi and Shinor talukas. While Vadodara, Vaghodia and Nasvadi talukas have registered the lowest instability index, in terms of percentage share also the instability index value have shown a similar trend.

If we look at the instability index group wise as presented in Table 6.21(absolute & percentage share), then it is clear that in terms of registered factories the index is high for Textile, Leather & Leather products, and it is lowest for Paper & Paper products. In terms of employment also Textile, Leather & Leather products have shown high instability index, while for Paper & Paper products the value is low.

TABLE 6.18
Taluka wise Compound Growth Rate of Selected Variables of Vadodara District From 1990-91 to 2009-10

Sr No.	Talukas	CGR Of Registered Factories Absolute (%)	CGR Of Employment In Registered Factories Absolute (%)	CGR Of Investment (Rs In Lakhs) Absolute (%)
1	Karjan	1.24 (0.22)	1.01 (0.50)	-1.55(-2.19)
2	Chhota Udepur	6.84 (5.76)	0.95 (0.43)	13.97(13.23)
3	Jetpur-Pavi	2.71 (1.68)	-5.29 (-5.77)	4.21 (3.53)
4	Dabhoi	0.96 (-0.06)	-0.96 (-1.46)	1.56 (0.90)
5	Padra	6.79 (5.71)	4.64 (4.11)	4.49 (3.80)
6	Vadodara	-0.82 (-1.82)	-0.55 (-1.06)	-0.25(-0.91)
7	Vaghodia	-3.33(-4.31)	0.35 (-0.16)	-1.54(-2.19)
8	Savli	-1.37(-2.36)	0.58 (0.06)	-1.08(-1.73)
9	Sankheda	-5.34(-6.30)	-5.61(-6.09)	-9.02(-9.62)
10	Shinor	-11.61(-12.51)	-18.46(-18.88)	-9.51(-10.1)
11	Nasvadi	3.79 (2.74)	-0.84(-1.34)	-2.03(-2.67)
Total		1.02	0.51	0.66

Source: Compiled from Various Issues of District Industries Centre, Vadodara.
Parenthesis in the bracket indicates the growth rates in terms of percentage share.

TABLE 6.19

Group wise Compound Growth Rate of Selected Variables in Vadodara District From 1990-91 to 2009-10

Sr No.	Item	CGR of Registered Factories Absolute (%)	CGR of Employment In Registered Factories Absolute (%)	CGR of Investment (Rs In Lakhs) Absolute (%)
1	Food Products and Beverages	-4.40 (-5.30)	-2.14 (-2.63)	0.70 (0.08)
2	Textiles	9.36 (8.32)	3.76 (3.24)	3.73 (3.08)
3	Wood and Wood Products Furniture Fixture	-4.36 (-5.30)	-3.33 (-3.82)	-8.99 (-9.56)
4	Paper and Paper Products	-9.09 (-9.95)	-9.36 (-9.81)	-2.36 (-2.97)
5	Leather and Leather Products	10.61 (9.56)	15.54 (14.96)	9.32 (8.64)
6	Rubber, Plastic and Petroleum	9.73 (8.69)	12.38 (11.82)	9.61 (8.92)
7	Chemical and Chemical Products	-4.27 (-5.17)	-1.50 (-1.99)	-0.28 (-0.90)
8	Cement and Clay Work	-6.85 (-7.73)	-1.73 (-2.23)	-5.36 (-5.95)
9	Basic Metal Industries	-3.08 (-3.99)	-2.23 (-2.72)	-3.15 (-3.75)
10	Metal Products	-4.93 (-5.83)	-7.67 (-8.14)	-6.76 (-7.34)
11	Electrical Machinery	-6.47 (-7.36)	-4.64 (-5.12)	-4.02 (-4.62)
12	Transport Equipment	4.86 (3.87)	4.80 (4.27)	4.61(3.95)
13	Repair Service and Others	0.42 (-0.53)	-1.30 (-1.79)	0.10(-0.52)
Total		0.95	0.50	0.63

Source: Compiled from Various Issues of District Industries Centre, Vadodara.
Parenthesis in the bracket indicates the growth rates in terms of percentage share

In the forgone section, we have examined the growth rate and instability index separately. But, to reap the benefits of industrialization in a long run, we need to assess

whether these growth in the industrial sector are sustainable or not. The aim is to have higher growth in industrial sector of the district at the same time instability should be lower so as to have a sustained growth in industrial sector for a long period of time. This necessitates an analysis of the growth and instability together. An examination of the relationship between growth and instability will indicate four different possibilities:

1. A declining in growth rate with decreasing instability
2. A declining in growth rate with increasing instability
3. Increasing growth with an increasing instability
4. Increasing growth with a decreasing instability.

Of these, the fourth possibility can be regarded as the most ideal situation.

As mentioned earlier in terms of registered factories, Chhota Udepur registered high growth but with high instability, so this taluka would not be preferred as a good destination of industrial cluster in a long run. Instead, Padra taluka with high growth and low instability can be preferred taluka in the district with regard to registered factories.

In case of employment in factories, high growth rate was found in Padra taluka but also has registered high instability. In case of Vaghodia taluka, though growth rate is relatively lower and positive, it was a low instability index Thus; this taluka is an ideal destination from employment generation point of view.

In case of investment, although Chhota Udepur has registered high growth rate but it has high instability, so this taluka is not favoured taluka for investment. Rather, Dabhoi taluka, with positive growth rate and low instability can be desired in the long run.

With respect to Group wise registered factories, as it was found that Leather and Leather Products has registered high growth rate but with high instability which is not favourable scenario. Transport Equipment having a high Growth rate with low stability is more preferable.

In terms of employment, Leather and Leather Products are having very high growth rate mingled with high instability index, thus is not preferred Instead Rubber-Plastic & Petroleum, with high growth rate along with low instability is more preferred from employment point of view.

TABLE 6.20

Taluka wise Instability Index Value of Selected Variables of Vadodara District From 1990-91 TO 2009-10

Sr No.	Talukas	Index Value Of Registered Factories Absolute (%)	Index Value Of Employment In Registered Factories Absolute (%)	Index Value Of Investment (Rs In Lakhs) Absolute (%)
1	Karjan	219.07 (245.49)	249.04 (176.42)	131.7 (135.68)
2	Chhota Udepur	198.82 (175.06)	243.46 (298.00)	264.54 (296.87)
3	Jetpur-Pavi	114.51 (121.33)	154.43 (237.78)	188.52(229.99))
4	Dabhoi	322.65 (249.48)	210.23 (176.10)	102.95 (126.06)
5	Padra	98.34 (52.57)	277.02 (110.68)	254.76 (185.64)
6	Vadodara	78.72 (28.01)	137.58 (17.56)	63.87 (10.70)
7	Vaghodia	88.28(142.29)	100.79 (81.17)	95.32 (108.38)
8	Savli	222.27 (157.08)	486.75 (184.10)	384.23 (227.55)
9	Sankheda	181.89 (232.02)	125.47 (132.43)	143.50 (165.11)
10	Shinor	122.43 (130.86)	306.62 (329.55)	330.17 (474.44)
11	Nasvadi	126.82 (132.50)	95.01 (137.06)	206.47 (235.3)
Total		42.88	122.12	55.58

Source: Compiled from Various Issues of District Industries Centre, Vadodara.

*** Parenthesis in the bracket indicates the index values in terms of percentage share.***

TABLE 6.21

Group wise Instability Index Value of Selected Variables in Vadodara District From 1990-91 to 2009-10

Sr No.	Item	Index Value Of Registered Factories Absolute (%)	Index Value Of Employment In Registered Factories Absolute (%)	Index Value Of Investment (Rs In Lakhs) Absolute (%)
1	Food Products and Beverages	91.34 (64.97)	217.41 (88.26)	78.57 (43.95)
2	Textiles	384.51(248.67)	358.00 (131.05)	220.66(146.68)
3	Wood and Wood Products Furniture Fixture	69.80 (39.16)	156.54 (63.26)	49.99 (44.08)
4	Paper and Paper Products	66.53 (70.37)	100.94 (62.61)	147.63(168.80)
5	Leather and Leather Products	214.24(153.58)	428.92 (241.94)	369.43(294.92)
6	Rubber, Plastic and Petroleum	173.83(149.43)	166.31 (125.10)	170.00(152.75)
7	Chemical and Chemical Products	110.44 (65.53)	168.92 (55.06)	70.27 (29.76)
8	Cement and Clay Work	84.32 (42.46)	186.21 (60.33)	406.91(349.35)
9	Basic Metal Industries	83.86 (84.64)	107.31 (58.36)	65.12 (50.49)
10	Metal Products	0 (0)	0 (0)	0 (483.85)
11	Electrical Machinery	108.75 (63.36)	132.68 (38.62)	70.19 (52.34)
12	Transport Equipment	73.02 (43.53)	168.48 (53.25)	179.89(158.77)
13	Repair Service and Others	20.73 (25.6)	98.30 (57.89)	43.90 (41.13)
Total		0	0	0

Source: Compiled from Various Issues of District Industries Centre, Vadodara.

*** Parenthesis in the bracket indicates the index values in terms of percentage share***

In terms of investment, Rubber- Plastic & Petroleum has registered high growth rate with relatively low instability, would be preferred group from the investment point of view finally.

In sum it can be stated that, if the aim of industrial development is employment generation than Vaghodia taluka should be a preferred taluka. In terms of industrial group the preference should be Transport equipments. It needs to be mentioned here that, Vaghodia taluka is dominated by industrial cluster producing Transport equipments.

VI CONCLUSION:

For increasing the economic growth rate in a country like India, it is essential to have rapid industrial growth also. However, the regional disparity in industrial development has led to regional disparity in the growth in India. Considering this, the essence of deliberate regional development policy requires the identification and selection of those regions which is more conducive to the promotional efforts. It is in this context that in the present chapter an attempt was made to analyze the industrial location and territorial development in the district of Vadodara. The chapter began with an examination of the socio economic background and the industrial scenario of Vadodara district. It was clear from the data presented, that most of the industrial activities in the district have taken place mainly in Vadodara taluka, more specifically in and around Vadodara city. Thus, it is evident that, although Vadodara district as a whole is developed district, there are few talukas which have not kept pace in the industrial development process. This leads one to conclude that location of industry in Vadodara district is not optimum in terms of uniformity.

Despite this the labour as well as capital intensity has increased in almost all talukas. Thus, technological improvement has led to an increase in the demand for skilled labour.

Further, in this chapter a two part analysis of industrialization is under taken. In the first part, an attempt was made to find out specialization and concentration of industries within district, taluka wise. This is done by computing location quotient. Based on location quotient, the specialization matrix has been calculated for the identification of

future stars.[55] By understanding the future star industry in a region, it will be possible to have an appropriate development strategy for regional development. In the second part the taluka wise industrial variation has been calculated in terms of compound growth rate and instability index. This has been attempted to find out whether the observed growth rate in industrial development is justified or not.

An examination of the calculation of location quotient reveals the following:

i. Only five talukas have industries which can be considered to be future stars and in each of the five talukas different industrial groups are future stars. The talukas are Chhota Udepur (Wood & Wood products and Textiles), Dabhoi (Rubber-Plastic & Petroleum, Chemical & Chemical products and Basic Metals) Padra (Textiles and Wood & Wood products) Vadodara (Wood & Wood products, Paper & Paper and Cement & Clay works) and Savli (Textiles).

ii. In all talukas one or the other industrial groups can be considered as star groups that is these groups are those which have a location quotient value greater then one and has a rising trend in location value. And these groups are Paper & Paper products, Leather & Leather products, Basic Metals, Electrical Machinery, Transport Equipments, Tobacco & Tobacco, Wood & Wood products, Textiles, Metal products, Chemical & Chemical products, Cement & Clay works and Rubber-Plastic & Petroleum.

iii. In eight talukas the industrial groups which are categorized as declining stars, as those where location quotient value has declining trend. These talukas are Karjan, Jetpur Pavi, Dabhoi, Padra, Vadodara, Vaghodia, Savli and Shinor and the industrial groups are Food & Beverages, Textiles, Chemical & Chemical products, Electrical Machinery, Transport Equipments, Tobacco & Tobacco, Leather & Leather, Basic Metal and Metal products.

iv. Seven talukas have industries which can be considered as former stars. They are those which has location quotient declining trend. The talukas are Karjan, Chhota Udepur, Padra, Vadodara, Vaghodia, Sankheda and Nasvadi. And industrial

[55] Future stars are those, which has Location Quotient value higher than previous study period and LQ>0<1

groups are Rubber-Plastic & Petroleum, Metal products, Food & Beverages, Basic Metal, Paper & Paper and Leather & Leather products.

From the above it can be stated that the government should provide special incentives to future stars and star industrial groups in different talukas, so as to generate more employment especially in those talukas which are lagging behind. This may help to reduce regional disparity. The scheme should be appropriate in terms of targeted industrial groups.

The analysis of Growth that:

- In terms of registered factories, the compound Growth rates is highest in Chhotaudepur and Padra talukas and while it is lowest in Shinor and Sankheda talukas.
- In terms of employment, a high Growth rate is recorded in Padra taluka and lowest in Shinor taluka.
- Whereas, in terms of investment, high Growth rate is evident in Chhotaudepur and lowest in Shinor taluka.
- In all the parameters, a negative Growth rates has been found in Vadodara, Sankheda and Shinor talukas. Vadodara taluka where there is high concentration of industries, in terms of Growth rates it shows negative.
- In terms of industrial group wise Rubber- Plastic and Petroleum and Textiles have shown positive and higher Growth rates in all the parameters considered.
- From the Instability index, it can be inferred that Savli and Chhotaudepur talukas in terms of registered factories have shown high Instability index value, whereas in terms of employment and investment Savli and Shinor have registered high Instability index value. In all the parameters a low Instability index value is seen in Vadodara and Vaghodia talukas.
- If the growth and instability analyze together, then it is evident that to generate more employment with high growth and low instability index, Vaghodia taluka would be ideal taluka in the district and in case of industrial group Transport Equipment would be the ideal group in the district.

From the analysis of Growth, Instability and Location quotient reveals that, there exists inter- taluka industrial disparities during the study period. Excessive concentration of industrial activities is found in Vadodara, Vaghodia, Savli and Padra talukas.

Whereas, in the talukas of Kavant, Jetpur Pavi, Sankheda, Chhotaudepur and Shinor industrial activities have been very low. Nevertheless the fact remains that reforms have led to dispersal of industries from highly developed taluka-Vadodara to industrializing talukas like Savli and Padra and Vaghodia.

Thus, we can conclude from the above that at least in Vadodara district, reforms have reduced territorial industrial disparity.

In the present chapter the analysis was done taluka wise for Vadodara district a district which is still one of the most industrially developed district of the state. In the next chapter an attempt will be made to analyze taluka wise industrial development in one of the most industrially backward district of the state, that is Amreli. This is to ascertain whether reforms have reduced industrial disparity in all the districts of the state, irrespective of whether they are developed or backward.

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FIGURE 6.1

Taluka wise Compound Growth Rate of Selected Variables of Vadodara District From 1990-91 to 2009-10

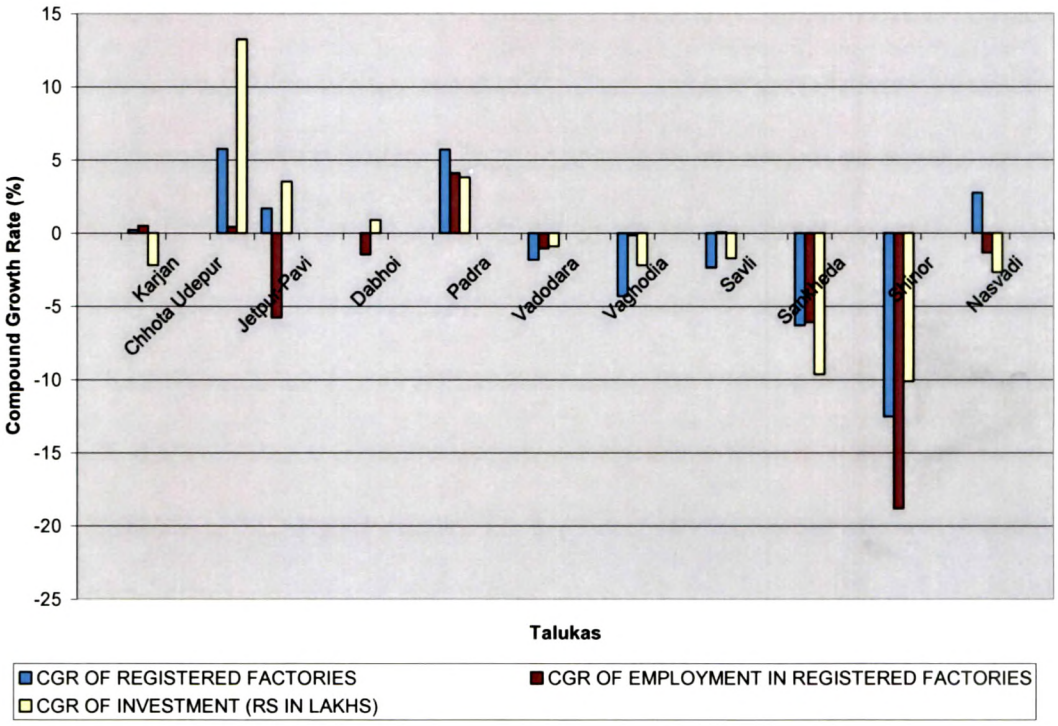

FIGURE 6.2

Taluka wise Instability Index Value of Selected Variables of Vadodara District From 1990-91 TO 2009-10