

**SURVEY & ASSESSMENT OF  
MANPOWER DEMAND & SUPPLY  
FOR INDUSTRIES &  
SERVICE SECTORS  
IN GUJARAT**

**PART – III REPORT**

**FOR THE DISTRICTS :**

**Mehsana  
Gandhinagar  
Ahmedabad  
Kheda (Nadiad)  
Anand**

**Submitted to:  
The Directorate of Employment & Training  
Govt. of Gujarat  
Gandhinagar**

**Prepared by:  
Datamation Research Analyst  
New Delhi**

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# MEHSANA DISTRICT ANALYSIS BASED ON SAMPLE SURVEY

## PROFILE OF MEHSANA DISTRICT

### **Location and Administration**

Mehsana district is situated in north Gujarat, between 23.30° & 24.45° north latitudes and between 71.03° and 73.02° east longitudes. The district is surrounded by Banaskantha district in north, Mehsana and Patan districts in south and west respectively and Sabarkantha and Gandhinagar districts in the east. Total geographical area of the district is 4394 sq.km. The district has nine talukas viz. Behcharaji, Kadi, Kheralu, Mehsana, Vijapur, Satlasana, Vadnagar, Visnagar and Unjha.

### Rivers

There is no permanent river flowing in the district, but river Sabarmati is flowing through Satlasana taluka having a dam at Dharoi which is the main source of drinking water for Mehsana city. It has also irrigation canals covering part of Kheralu, Visnagar, Vijapur, Satlasana and Vadnagar talukas. There is a big project to supply drinking water to villages of Satlasana, Vadnagar, Kheralu and Visnagar talukas from Dharoi dam. Work of Narmada canal is under progress which would pass through Kadi, Mehsana and Becharaji blocks. Length of Narmada main canal in Mehsana district is approximately 51 km.

### Soils

Most of the topography of the district is plain. Some part of Kheralu and Satlasana is having porous soils while rest of the blocks have sandy loam soils with moisture retaining capacity.

### Rainfall

Rainfall in the district is irregular and scanty having a wide variation.

### Irrigation

Total geographical area of the district is 4745 sq.km. Net area cultivated is 365220 ha. having 68.94% of cultivated land under irrigation. Main sources of irrigation are private tubewells and government tubewells. Visnagar and Vijapur blocks are having more than 80% of cultivated land under irrigation. Seasonal irrigation is also available from Dharoi dam in Visnagar, Kheralu and Vijapur talukas.

### Population

As per census of year 2001, total population of Mehsana district was 18.37 lakh, 9.54 lakh males and 8.83 lakh females. Major share of population is in rural areas being 14.26 lakh while 4.12 lakh in urban areas.

### **Industries**

Though the district is agro based, good number of small scale industries have also been established in many parts of the district. Total 5827 SSI units are registered with DIC Mehsana. The major industries located in the district are agro based, viz. tobacco, castor oil, isabgul, flour mills, machineries, metal products, pharmaceutical, engineering etc. Well developed infrastructures and prudent industrial policy of the state government as well as peaceful industrial atmosphere have been vital factors which have contributed to the industrial growth in the district. The state government, under new industrial policy identified certain areas of

backward talukas of the district in special category for development by providing attractive incentives to the investors. Due to this, many industrial units have come up on Mehsana-Kadi road, Kadi-Sanand road, Mehsana-Kalol road. There are 10 GIDC industrial estates in the district.

#### **Methodology of Assessment**

For the selection of sample industries listing of all MOUs of Vibrant Gujarat Global Investors' Summit 2005 and 2007 with Summit of Information Technology, Urban Development and Tourism Industries was done on the basis of sector-wise list collected from Industries Commissionerate, Gandhinagar and respective nodal departments as well as the District Industry Centre, Mehsana. The details regarding sectors, number of entrepreneurs etc. are given in the following table 5.1. The data from entrepreneurs were collected through structured questionnaires.

*Table 5.1 Sector-wise number of MOUs*

<b>Sr. No.</b>	<b>Sector</b>	<b>Sample size (No. of MOUs) Visited</b>	<b>Remarks</b>
1.	Atomobile Engg. / Ceramics	3	
2.	Agro food processing	2	
3.	Textile & Apparels	1	
4.	IT and BT	2	
5.	Paper & Pulp industry	1	
6.	Oil and Gas	1	
7.	Non Metallic minerals	1	
		<b>11</b>	
8.	Presently functioning (Existing)	<b>25</b>	Medium & large scale units

#### **Sample Selection for Presently Functioning Large & Medium Scale Industries**

For the selection of sample industries Random Sampling Technique was adopted. Selection of sample industries was done randomly on the basis of sector-wise list of medium and large scale units collected from District Industry Centre Mehsana, Chamber of Commerce and Industries (Mehsana) and GIDC (Gandhinagar). From medium and large scale units 20 entrepreneurs were selected by random sampling method for indepth study.

Accordingly, 15 enterprises (MOUs) were visited but due to incomplete addresses 4 units could not be contacted as per the entrepreneurs' list provided by IC. The remaining 11 entrepreneurs responded positively. The survey methodology was visiting of industries personally, meeting the responsible person; explaining regarding the survey with a request for cooperation in providing the information. As the data were not readily available at most of the units or the responsible person was not available at the time of the visit of the survey team a second or even at times a third visit was most essential to collect the data from maximum number of units.

#### **Reference Period**

In order to have proper assessment of human resources development employment generation of the project at present i.e. reference year 2007-08 and future i.e. next five years (2013) were taken. In medium and large scale industries presently functioning units were selected on the

basis of the secondary data provided by DIC and Chamber of Commerce and Industries, Mehsana and GIDC, Gandhinagar. The field work was carried out during the month of March 2008.

#### **Observation on the Sample Survey Data**

As per the terms of reference, 17 MOUs units signed in 2005 and 2007 and 25 medium and large scale industries were to be visited for manpower demand survey assessment. Accordingly, 17 MOUs and 25 present industries/units were visited. The entrepreneurs were interviewed in field units (factory sites) or offices to get information as per the proforma when the personal visit was made for the survey. In most sites the industries (units) were functioning (Non-MOUs) well. Details regarding the total no. of employees, no. of skilled workers, no. of graduates employed in the units, anticipated manpower requirement in future i.e. next five years (2013), post graduates, degree/diploma holders, ITI trade and other graduates, lack of knowledge, lack of skills etc. were collected. Some quantitative data, semi quantitative and qualitative assessments on other aspects could be drawn from the interaction with the concerned entrepreneurs and the same are included in the survey results of this report.

*Table 5.2 Sector-wise Profiles of MOUs signed in 2005 & 2007 and Manpower Requirement*

Sr. No.	Sector	No. of Projects			Manpower Requirement		
		2005	2007	Total	2005	2007	Total
1.	Automobile / Ceramics	1	2	3	250	630	880
2.	Agro food processing	-	3	3	-	277	277
3.	Information Technology	1	-	1	5	-	5
4.	Tourism	1	-	1	-	-	-
5.	Ports	-	1	1	-	90	90
6.	Civil Aviation	-	1	1	-	10000	10000
7.	Textile Parks	-	2	2	-	28000	28000
8.	Paper Industry	-	3	3	-	500	500
9.	Bio technology	-	1	1	-	110	110
10.	Oil and Gas	-	1	1	-	-	-
	<b>Total:</b>	<b>3</b>	<b>14</b>	<b>17</b>	<b>255</b>	<b>39607</b>	<b>39862</b>

\* Including multidistrict projects.

Source: Industries Commissionerate, GOG, Gandhinagar.

#### **Summary and Field Observations of the District**

1. 17 projects are proposed to be established in the district.
2. Largest investment is proposed in the civil aviation (one big project of Rs.5000 crore investment).
3. Second largest investment is proposed for textile and apparels and the unit is located in Kadi.
4. The district is well connected with National Highway No.8 connecting it to Delhi and Mumbai as well as Kandla port.
5. Mehsana is also connected with Delhi and Mumbai by a broad gauge railway line.
6. The nearest port is Kandla and nearest airport is Mehsana having national and international flights.

#### **Future Needs and Tasks**

##### Manpower Requirement

Manpower requirement is a long drawn programme involving many agencies. Coordinated planning therefore has to be done a few years in advance of the requirements of technical and non technical manpower of different sectors like power, oil, gas, engineering, auto engineering, ceramic, ports, chemicals and petrochemicals, agro & food, IT, biotechnology etc. The numbers of trained manpower (ITI/Diploma/ Degree/post graduates etc.) required 2 to 5 years later has to be assessed now to enable placing / posting for technical and non technical manpower to the concerned industries. It is not difficult to assess the requirements on theoretical basis after making certain assumptions with regard to the growth of functioning industries, average number of workers employed in functioning units, group with industry, sector wise industry, skilled and unskilled manpower and scale wise industries and such other factors.

#### Basic Assumptions

A manpower requirement should aim at providing for the entire industries with the best talented manpower in shortest possible time. To draw up a realistic requirement of manpower to achieve this objective, it is necessary to have some basic idea as to the extent of manpower needed and the technical institutes required for training.

#### Manpower Requirement

The manpower requirement of important trades calculated on the above basis for the district is indicated in table 5.3. The estimate of annual present requirement of manpower is 14,006 and future requirement will be 20,035.

*Table 5.3 Basis of Calculation of Manpower Requirement in Mehsana District*

<b>Sr. No.</b>	<b>Particulars</b>	<b>Present Manpower Requirement (base year 2007-08)</b>	<b>Manpower Requirement For next five Years (2013)</b>
A1.	Total surveyed 11 MOUs 2005 and 2007	1015	2356
2.	Total 25 medium & large scale industrial Units surveyed	4183	5080
3.	Total surveyed 36 MOUs & M&L Scale industries (11+25)	5198	7436
B4.	Average manpower required per unit	144.39	206.55
5.	Total manpower required MOUs & M&L scale industries (17+80 = 97)	14006	20035
C6.	In addition, small scale industries work forces worked out of base year 2007-08 (data collected from DIC) and for future @ 8% growth rate per year (5 year = 40%)	50461	70645
7.	Total manpower requirement in the district (5+6)	64467	90680
8.	Taking figures of indirect employment @ 20% of the total manpower (7)	12893	18136
9.	Overall employment generation in Mehsana district (7+8)	<b>77360</b>	<b>108816</b>

#### **Manpower Requirement in Mehsana District from MOU 2005 and 2007**

1. With 17 projects, the district has total manpower requirement of 39,862 technical, managerial and unskilled workers.
2. Presently Mehsana district has
  - 20 ITIs offering courses in the field of engineering, IT and chemicals;
  - 8 technical institutions offering graduation, post graduation and diploma with an intake capacity of around 2500 students;
  - 2 pharmacy colleges offering graduation in bio technology;
  - One IT college with 30 post graduates every year;
  - 2 colleges / institutions offering MCA and MBA;

**Employment Generation in Industries after MOUs Signed in 2005 & 2007**

At present there are 5,198 persons employed and in future there will be 7,436 persons employed at various levels in the 36 (11+25) industries surveyed out of 97 (17+80) industries. This means that average total employed (skilled and unskilled) staff & workers is 144.39 and 206.55 persons per unit. The number of units expected in Mehsana district is 97 units (17+80) (MOUs & medium and large scale units) and hence the total requirement of skilled and unskilled persons works out to 14,006 for the base year (2007-08) and 20,035 numbers for the fifth year (2013) respectively. An additional 50,461 small scale industries workers in the base year and in future 70,645 small scale industries workers will be required; the anticipated demand works out to 64,467 for present and 90,680 for future.

There will be indirect employment generation in various activities like goods transport, dhabas, pan shops, various contract works, travel service, workshops for automobile repairs, steel fabrication, engineering works, machinery works, machinery parts, material supply business and many other activities due to industrial growth in the district. Taking the figures of indirect employment at 20% of the total of the above figures, the growth in the indirect employment can be expected around 12,893 for the base year and 18,136 for the future. Hence the overall employment generation in Mehsana district due to the industrial growth can be anticipated around 77,360 employees at present and 1,08,816 employees in future.

Details of 11 units surveyed are presented in table 5.4 on the basis of this sample survey conducted. The manpower requirement of 17 units which includes even those units that are in the pipeline has been derived as under.

*Table 5.4 Anticipated Requirement of Manpower after MOUs Signed In 2005 and 2007 of Mehsana District*

Level of Education	Qualification	Present Requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	9	20
	M.Sc.	5	18
	M.Tech.	3	10
<b>Sub-total:</b>		<b>17</b>	<b>48</b>
Degree	Electrical	4	8
	Civil	-	2
	I & C	-	1
	Mechanical	13	26

	Computer	1	1
	I T	2	2
	Textile technology	0	4
	Ceramics	6	10
	Environmental Engg.	-	1
	Food Processing Technology	-	5
	Production Engg.	3	6
	Industrial Engg.	-	6
	Others	3	6
	<b>Sub-total:</b>	<b>16</b>	<b>28</b>
Diploma	Electrical	16	28
	Civil	-	4
	Mechanical	25	43
	Computer	1	1
	Ceramics	9	14
	Textile technology	-	10
	Information Technology	1	1
	Mining	-	12
	Chemical	3	8
	Fabrication technology	-	1
	Dress making / Sewing	-	10
	Others	6	21
	<b>Sub-total:</b>	<b>61</b>	<b>153</b>
ITI Trade	Turner	34	59
	Fitter	40	62
	Wireman	6	17
	Welder	1	4
	Electrician	16	39
	Mechanic (AC/Fridge)	-	8
	Mechanic (Motor vehicles)	-	2
	Mechanic (Instruments)	12	23
	Machinist	22	43
	Chemical Plant Operator	4	8
	Sewing / Dress making	-	4
	Pump Mechanic	1	2
	Fireman	2	7
	Lab Assistant	7	22
	Painter	5	13
	Plumber	3	7
	Mechanic (Tractor/Diesel)	10	26
	Networking Technicians	-	5
	Stenographer	2	12
	Basic Sheetmetal Fabricn.	10	17
	Basic Turning / Grinding	6	9
	Embroidery	-	10
	E-commerce	-	4
	Weaving/Loom Operator	-	5
	Others	-	2
	<b>Sub-total:</b>	<b>181</b>	<b>410</b>

Graduates/ Others	B.Sc. / B.A. etc.	56	113
	B.Com. / M.Com.	18	39
	BCA	-	6
	Undergraduates	59	119
	Gardener/Peon/Packing staff	65	177
	Security	46	86
<b>Sub-total:</b>		<b>244</b>	<b>540</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>480</b>	<b>1116</b>
	<b>Skilled</b>	<b>535</b>	<b>1240</b>
	<b>TOTAL</b>	<b>1015</b>	<b>2356</b>

Details of 25 medium and large scale units surveyed are presented at Annexure V.1 of this report. On the basis of this sample survey conducted, the manpower requirement of 80 units which includes even those units that are in the pipeline has been derived as under.

*Table 5.5 Anticipated Requirement of Manpower  
Of Medium and Large Scale Industries*

<b>Level of Education</b>	<b>Qualification</b>	<b>Present requirement Base year (2007-08)</b>	<b>Future Requirement (next 5 years) (2013)</b>
Post Graduates/ Professionals	MBA/CA/CWA	29	29
	M.Sc.	37	39
	M.Tech.	16	17
<b>Sub-total:</b>		<b>82</b>	<b>85</b>
Degree	Electrical	14	14
	Civil	1	1
	I & C	3	3
	Mechanical	47	51
	Electronics	2	3
	Ceramics	9	9
	Chemical	15	16
	Metallurgy	1	1
	Environmental Engg.	4	4
	Food processing technology	8	9
	Production Engg.	16	18
	Industrial Engg.	1	1
<b>Sub-total:</b>		<b>136</b>	<b>146</b>
Diploma	Electrical	48	48
	Civil	1	1
	I & C	12	13
	Mechanical	86	89
	Electronics	6	6
	Ceramics	17	20
	Chemical	27	28
	Fabrication technology	3	3
<b>Sub-total:</b>		<b>43</b>	<b>48</b>



<b>Sub-total:</b>		<b>243</b>	<b>256</b>
ITI Trade	Turner	125	142
	Fitter	85	97
	Wireman	27	41
	Welder	7	8
	Electrician	41	54
	Mechanic (AC/Fridge)	13	13
	Mechanic (Electronics)	8	10
	Mechanic (Instruments)	59	73
	Machinist	99	117
	Chemical Plant Operator	22	35
	Pump Mechanic	6	6
	Fireman	20	34
	Lab Assistant	41	55
	Painter	34	42
	Plumber	19	25
	Mechanic (Tractor/Diesel)	48	61
	Networking Technicians	2	2
	Motor Rewinding	2	2
	Stenographer	22	42
	Mechatronics	2	2
	E-commerce	6	10
	Basic CNC	3	4
	Basic Sheetmetal Fabricn.	14	17
Basic Turning / Grinding	9	15	
Others	18	36	
<b>Sub-total:</b>		<b>732</b>	<b>943</b>
Graduates/ Others	B.Sc. / B.A. etc.	233	305
	B.Com. / M.Com.	100	114
	BCA	1	4
	Undergraduates	14	94
	Gardener/Peon/Packing staff	422	522
	Security	239	308
<b>Sub-total:</b>		<b>1009</b>	<b>1347</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>1981</b>	<b>2406</b>
	<b>Skilled</b>	<b>2202</b>	<b>2674</b>
	<b>TOTAL (skilled + unskilled)</b>	<b>4183</b>	<b>5080</b>
<b>GRAND TOTAL</b>	<b>Table 5.4</b>	<b>1015</b>	<b>2356</b>
	<b>Table 5.5</b>	<b>4183</b>	<b>5080</b>
	<b>TOTAL (Skilled &amp; Unskilled manpower)</b>	<b>5198</b>	<b>7436</b>

#### Addressing the Manpower Requirement in Industries Coming Up in Mehsana District

Datamation Research Analyst (DRA), New Delhi has carried out a sample survey of 11 MOUs signed (with entrepreneurs) and 25 units of medium and large scale industries (total 36) in Mehsana district and on the basis of that they have made a forecast (for next five years) i.e. year 2013 of manpower requirement for 17 MOUs and 80 units of medium and large scale

(total 97 units). According to this survey the requirement of manpower in the ITI trades is anticipated to be around 2,460 for the base year (2007-08) and 3,646 for future (2013). The table 5.5 presented above gives a picture of the anticipated manpower requirement. The table 5.6 presented below gives a picture of the anticipated manpower requirement for present and future seats available in the ITIs, Grants in Aid, ITC, Self Finance Institutions in Mehsana district and skill gaps.

*Table 5.6 ITI Trade-wise no. of Manpower Requirement, no. of Seats Available and Skill Gaps in Mehsana District*

Trade	Base year (2007-08)			Next 5 yrs (2013)		Year-wise breakup of projection				
	Man-power Requirement	Seats available in ITI / SF etc.	Skill Gap (2-3)	Projected Requirement	Skill Gap (5-3)	2008-09	2009-10	2010-11	2011-12	2012-13
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
Turner	428	96	332	542	446	60	70	95	110	111
Fitter	337	400	-63	428	28	10	10	8	-	-
Wireman	89	384	-295	156	-228	-	-	-	-	-
Electrician	154	352	-198	251	-101	-	-	-	-	-
Mech(A C)	81	320	-239	116	-204	-	-	-	-	-
Mech. (instru.)	191	64	127	258	194	25	30	45	50	44
Mech. tractor	156	128	28	234	106	20	20	20	25	21
Machinist	329	12	317	431	419	60	70	90	95	104
Chem. Plant Operator	70	48	22	116	68	15	15	16	16	6
Fireman	59	50	9	110	60	10	10	10	15	15
Lab. Asst.	129	-	129	207	207	30	35	40	45	57
Painter	105	-	105	148	148	15	20	30	40	43
Plumber	59	-	59	86	86	15	15	15	18	23
Steno.	65	48	17	145	97	15	20	20	20	22
E.com.	16	72	-56	38	-34	-	-	-	-	-
Sheet metal	65	312	-247	92	-220	-	-	-	-	-
Basic turning grinding	40	-	40	65	65	10	10	15	15	15
Electro. Mech.	22	216	-194	27	-189	-	-	-	-	-
Others	65	1772	-1707	196	-1576	-	-	-	-	-

<b>Total:</b>	2460	4274	- 1814	3646	-588					
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ITI's seat allocation: 50% engineering trades and 50% non-engineering trades.

*Table 5.7 Details of Seats Available and Proposed Increase in Seats in Various ITIs of Mehsana District*

<b>Sr. No.</b>	<b>Name of Institute</b>	<b>Seats Available</b>	<b>Proposed increase (Base year 2007-08) *</b>
1.	ITI, Mehsana	248	
2.	ITI, Visnagar	1680	
3.	ITI, Vijapur	224	
4.	ITI, Vadnagar	260	
5.	GIA, ITC, Kadi	280	
6.	GIA, ITC, Vadnagar	160	
7.	GIA, ITC, Pilvai	96	
8.	GIA, ITC, Gozaria	124	
9.	GIA, ITC, Falu	80	
10.	GIA, ITC, Valam	100	
11.	GIA, ITC, Kheralu	64	
12.	SFI, ABERF, Kheralu	40	
13.	SFI, Khoda Juth K Mandal	102	
14.	SFI, SPM Mandal, Nagalpur	116	
15.	SFI, Shri Jotanu KM, Mehsana tal.	72	
16.	SFI, Rohit Mahila Mandal, Jotana	32	
17.	SFI, Sewa Kendra, Mehsana	56	
18.	SFI, Uttar Guj. KK Mandal, Visnagar	65	
19.	SFI, Shri SVRD Foundn. Kheralu	80	
20.	SFI, SO Trust, TB Road, Vijapur	56	
21.	SFI, Nirma MGVT, Chanasma	164	
22.	SFI, SVKM School, Kadi	25	
23.	SFI, Shri NSM, Karjisan, Tal. Kadi	20	
24.	SFI, Shri BP Shah VS, Ramalasna	25	
25.	SFI, Shri SE Trust, Mehsana	50	
	<b>Total:</b>	<b>4274</b>	<b>2460</b>

Note: As per personal discussions at the time of field survey.

\* Present intake capacity of ITI is underutilized, hence no increase is proposed.

#### **Strategies to Address Future Manpower Requirement in Mehsana District**

1. Majority of the projects proposed are to be established in Kadi and Mehsana talukas and in cluster pocket areas;
2. Majority of the projects are based on agro food processing, automobile engineering, ceramics, IT, textile & apparels and paper industry;
3. It is proposed to invite offers from private organizations (like Nirma, Gujarat Apollo Equipments Ltd., Torrent Pharmaceuticals and Promect Plastics Ltd) to start self finance institutions in Mehsana district to start self finance institutions for special courses like craft

training, non-trade engineering, BPO, CO, PA, Plastic Processing, Ceramics, welder, carpenter, pipe fitters, grinders, metal crafts etc.

4. Additional short term courses are required to meet the industrial manpower requirement. There is a shortage of turner, instrument mechanic, machinist, lab assistant, fireman and chemical plant operator.
5. There is a need of strengthening or upgrading of chosen industrial training institutes into Centres of Excellence (CoE). Two ITIs are to be developed under PPP model schemes for craft skilled manpower requirement of the district.
6. In Mehsana, ITIs are doing well but they need to do better in the trades like blacksmith, carpentry, cookery, masonry for construction work and command in English language.

#### **GENERAL FIELD OBSERVATIONS, SUMMARY AND SUGGESTIONS**

In addition to the analysis based on the field data and entrepreneurs' opinions given in the report, a few general observations, suggestions and summary are given below:

##### **Scope for Job Opportunities**

1. Need of micro irrigation systems (MIS) management courses like drip irrigation technical assistant. The state government is likely to introduce drip irrigation in the command areas of Narmada Project. Major adopters of drip irrigation system are presently in north Gujarat. Generally there is a problem of maintenance of drip system, therefore the local village youth can be trained in all aspects of micro irrigation. The trained youth can locally guide the farmers on operation and maintenance of the system being used by them. One youth may be made responsible for 500 ha. Thus switching over to micro irrigation can create job opportunities for about 1000 trained village youth in each district of Narmada command area (SSNNL). For actual maintenance and repairs one semi skilled labour will be required for every 100 ha resulting in job opportunity of other 5000 semi skilled labourers. In addition to this, labourers would be required during installation. It is proposed to invite offers from government organization viz. Gujarat Green Revolution Company (GGRC) to start institutions in north Gujarat and SSNNL irrigation command area for developing technical assistants/MIS technicians. So it is suggested that it is provide such types of short term courses like MIS management and maintenance. They should coordinate with GGRC for MIS training and modernize their curricula and courses for such training.
2. Areas like dairy industry can create employment opportunities at district level.
3. The employment opportunities in Mehsana district are mainly in the non engineering trades such as diamond cutting, polishing, cotton ginning, agro based and plastic industries in Kadi taluka.

Table 5.7 Trade-wise Seats Available in ITIs/GIAs/ITCs of Mehsana District

**Government ITIs and Grant-in-Aid Institutes**

Sr. No.	Trade	ITIs				Total ITIs	GIAs							Total GIAs
		Meh-sana	Vis-nagar	Vijapur	Vad-nagar		Kadi	Vad-nagar	Palvavi	Gozariya	Falu	Valam	Kheralu	
		(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)	(5)	(6)	(7)	
1.	Fridge/AC Mechanic	-	48	-	-	<b>48</b>	-	-	-	-	-	-	-	-
2.	E-commerce	-	72	-	-	<b>72</b>	-	-	-	-	-	-	-	-
3.	Instrument Mechanic	-	64	-	-	<b>64</b>	-	-	-	-	-	-	-	-
4.	Welder	24	36	-	-	<b>60</b>	-	-	-	-	-	-	-	-
5.	Electronics Mechanic (Girls)	32	88	32	-	<b>152</b>	-	32	-	32	-	-	-	<b>64</b>
6.	Chemical Plant Operator/Attendant	-	48	-	-	<b>48</b>	-	-	-	-	-	-	-	-
7.	Hair & Skin Care	-	32	-	-	<b>32</b>	-	-	-	-	-	-	-	-
8.	Dress Making	-	48	-	-	<b>48</b>	-	-	-	-	-	-	-	-
9.	Steno cum Comp. Operator (Guj.)	-	48	-	-	<b>48</b>	-	-	-	-	-	-	-	-
10.	Electrician	32	112	32	32	<b>208</b>	32	-	32	-	32	16	-	<b>112</b>
11.	Plastic Processing Operator	-	32	-	-	<b>32</b>	32	-	-	-	-	-	-	<b>32</b>
12.	CoE Fabrication (BBBT)	-	192	-	-	<b>192</b>	-	-	-	-	-	-	-	-
13.	Mechanic / Diesel	32	96	-	-	<b>128</b>	-	-	-	-	-	-	-	-
14.	Comp. Operator/Program (Girls)	40	120	40	136	<b>336</b>	40	-	-	-	-	20	16	<b>76</b>
15.	Software Programming	-	72	-	-	<b>72</b>	-	-	-	-	-	-	-	-
16.	Draughtsman Mechanic	-	32	-	-	<b>32</b>	16	32	-	-	-	-	-	<b>48</b>
17.	Wireman	32	96	32	-	<b>160</b>	80	32	-	32	-	32	-	<b>176</b>
18.	Welder cum fabricator	-	24	24	-	<b>48</b>	-	-	-	12	-	-	-	<b>12</b>
19.	Machinist	-	12	-	-	<b>12</b>	-	-	-	-	-	-	-	-
20.	Fitter	-	160	32	-	<b>192</b>	80	32	-	32	32	32	-	<b>208</b>

21.	Turner	24	72	-	-	<b>96</b>	-	-	-	-	-	-	-	-
22.	Radio / TV Mechanic	-	32	-	-	<b>32</b>	-	-	-	-	-	-	-	-
23.	Motor vehicle mechanic	32	96	32	-	<b>160</b>	-	-	-	-	-	-	-	-
24.	Draughtsman Civil	-	16	-	-	<b>16</b>	-	32	32	-	-	-	-	<b>64</b>
25.	IT & Electronics maintenance	-	40	-	-	<b>40</b>	-	-	-	-	-	-	-	-
26.	CoE Production	96	-	-	96	<b>192</b>	-	-	-	-	-	-	-	-
27.	Cutting / Sewing	-	-	32	-	<b>32</b>	-	-	-	-	-	-	48	<b>48</b>
28.	Armature & Motor Rewinding	-	-	-	32	<b>32</b>	-	-	-	-	-	-	-	-
29.	Surveyor	-	-	-	-	-	-	-	32	-	16	-	-	<b>48</b>
30.	Sheet Metal worker	-	-	-	-	-	-	-	-	16	-	-	-	-
31.	MLT Pathology	-	-	-	-	-	-	-	-	-	-	-	-	-
32.	Health & Sanitary Inspector	-	-	-	-	-	-	-	-	-	-	-	-	-
33.	Computer/Tele. Repairing	-	-	-	-	-	-	-	-	-	-	-	-	-
34.	Librarian / Information Science	-	-	-	-	-	-	-	-	-	-	-	-	-
35.	Fashion technology	-	-	-	-	-	-	-	-	-	-	-	-	-
36.	Communication/Finance Advisor	-	-	-	-	-	-	-	-	-	-	-	-	-
37.	Diamond Grading / Cutting	-	-	-	-	-	-	-	-	-	-	-	-	-
38.	Fireman	-	-	-	-	-	-	-	-	-	-	-	-	-
39.	Safety & Security	-	-	-	-	-	-	-	-	-	-	-	-	-
40.	Multimedia Technology / DTP	-	-	-	-	-	-	-	-	-	-	-	-	-
		344	1680	224	360	<b>2584</b>	280	160	96	124	80	100	64	<b>904</b>



23.	Motor vehicle mechanic	-	-	-	16	-	-	-	16	-	32	-	-	-	-	<b>64</b>
24.	Draughtsman Civil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.	IT & Electronics maintenance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.	CoE Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.	Cutting / Sewing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.	Armature & Motor Rewinding	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.	Surveyor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.	Sheet Metal worker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.	MLT Pathology	20	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>20</b>
32.	Health & Sanitary Inspector	20	-	40	-	-	-	40	-	-	-	-	-	-	-	<b>100</b>
33.	Computer/Tele. Repairing	-	52	-	-	-	-	-	-	-	-	-	-	-	-	<b>52</b>
34.	Librarian / Information Science	-	-	20	-	-	-	-	-	-	-	-	-	-	-	<b>20</b>
35.	Fashion technology	-	-	16	-	-	-	-	-	-	-	-	-	-	-	<b>16</b>
36.	Communication/Finance Advisor	-	-	40	-	-	-	-	-	-	-	-	-	-	-	<b>40</b>
37.	Diamond Grading / Cutting	-	-	-	-	-	-	-	12	-	-	-	-	-	-	<b>12</b>
38.	Fireman	-	-	-	-	-	-	-	-	-	50	-	-	-	-	<b>50</b>
39.	Safety & Security	-	-	-	-	-	-	-	-	-	50	-	-	25	-	<b>75</b>
40.	Multimedia Technology / DTP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		<b>40</b>	<b>102</b>	<b>116</b>	<b>72</b>	<b>32</b>	<b>56</b>	<b>65</b>	<b>80</b>	<b>56</b>	<b>164</b>	<b>25</b>	<b>20</b>	<b>25</b>	<b>50</b>	<b>903</b>

Source: Directorate of Employment and Training, GOG, Gandhinagar.



**Vibrant Gujarat Investors' Summit 2005 & 2007 MOUs – Mehsana District**  
**List of the Industries Selected for Field Survey**

1. Rockmount Agrotech Pvt. Ltd.
2. Marbolite Granito India Ltd.
3. Golf Ceramics Ltd.
4. Vimal Dairy Ltd.
5. Vimal Oil & Food Ltd.
6. Nishant Infrastructure Pvt. Ltd.
7. Cadila Pharma Ltd.
8. Hester Pharmaceuticals Ltd.
9. Rainbow Papers Ltd.
10. Gujarat Multi Gas Based Chemical Pvt. Ltd. (IEM)
11. Esquire Decose Pvt. Ltd. (IEM)

**Presently Functioning Medium & Large Scale Industries in Mehsana District**

12. Me Hitachi Appliances Ltd.
13. Ambuja Intermediate Products Pvt. Ltd.
14. Bisaza India Ltd.
15. Sandwich Ashiya Ltd.
16. Gujarat Ambuja Exports Ltd.
17. Canel Oil & Exports Ltd.
18. Kaiyel Sintex Ltd.
19. Miltan Laminates Pvt. Ltd.
20. N K Oil Mills Pvt. Ltd.
21. N K Proteins Pvt. Ltd.
22. SPL Ltd.
23. Torrent Pharmaceuticals Ltd.
24. Wellpack Papers & Containers Ltd.
25. Mehsana Dist. Coop. Milk Producing Union Ltd.
26. Mehsana Regional Oilseed Coop. Union Ltd.
27. Nirma Ltd.
28. Promect Plastics Ltd.
29. Sardar Dairy Ltd.
30. Vimal Cables Ltd.
31. Superscop Safe ltd.
32. Man Pharma Ltd.
33. Ceramics Sanitary Wares Ltd. (Madhusudan Ceramics)
34. You Farmo Laboratory Ltd.
35. Gujarat Apollo Equipments Ltd.
36. Italica Ceramics Ltd.
37. Minal Oil & Agro Industries

# **GANDHINAGAR DISTRICT ANALYSIS BASED ON SAMPLE SURVEY**

## **PROFILE OF GANDHINAGAR DISTRICT**

### **Location and Administration**

Gandhinagar district, having a total geographical area of 2163 sq.km., accounts for about 1.10% of the total geographical area of the state. The district lies between 23.01° to 23.56° north latitudes and 72.33° & 73.73° west longitudes surrounded by four districts of the state, viz. Ahmedabad, Mehsana, Sabarkantha and Kheda. The district is divided into 4 talukas for administrative purposes. They are; Dehgam, Mansa, Kalol and Gandhinagar. The headquarters of the district is Gandhinagar and it is also state capital of Gujarat.

### **Demographic Characteristics**

The population of Gandhinagar district as per 2001 census was 13.34 lakh. The density of population was 617 persons per sq.km. compared to the state average of 268 in 2001. Urban population constitutes 35% of the total population. Literacy level was 87.77% in the year 2001.

### **River System**

The main river of the district is Sabarmati, which originates from Aravalli range. Khari, Vatrak and Meshwo are other rivers flowing through the district, except Meshwo and Vatrak. Except Sabarmati, rests of the rivers are seasonal. Two medium irrigation projects have been constructed on Sabarmati and Vatrak rivers.

### **Rainfall**

The average annual rainfall of Gandhinagar district is 667 mm.

### **Soil**

There is diversity in the principal types of soil which can be found in entire Gandhinagar district. The type of soil can be classified into four main categories. The Goradu type of soil is mainly found in parts of Gandhinagar and parts of Dehgam talukas. This soil is very rich in organic contents and highly responsive to application of improved farm technology to obtain better results. The medium black soil is found in parts of Kalol and parts of Gandhinagar talukas, and the saline land is found in western parts of the district.

### **Industries**

Gandhinagar district is progressing well towards industrial development. At present there are 303 medium and large size industrial units and 8051 small scale units in the district. Many large scale and multinational units are coming up around Gandhinagar, Kalol, Dehgam and Mansa. Seven industrial estates are developed by GIDC viz. Electric Estate, Gandhinagar, Engineering Estate, Gandhinagar, Gems & Jewellery Estate, Bhat, Dehgam, Mansa, Kalol &

Chhatral, Electronic SEZ, Gandhinagar, Raheja IT SEZ, Kalol, IT/ITES, Shivanagar Real Estate, Sargasan, IT/ITES/DLF SEZ near Infocity, Gandhinagar, IT/ITES Gujarat Finance City, Ratanpur and Firozpur, Gandhinagar, Multi Services, Tata SEZ TCS Ltd near Infocity, Gandhinagar, IT/ITES by GIDC, Gandhinagar. These estates and SEZs have provided good opportunity for employment to the people.

#### Methodology of Assessment

For the selection of sample industries listing of all MOUs of Vibrant Gujarat Global Investors' Summit 2005 and 2007 with Summit of Information Technology, Urban Development and Tourism Industries was done on the basis of sector-wise list collected from Industries Commissionerate, Gandhinagar and respective nodal departments as well as the District Industry Centre, Gandhinagar. Thus, in all 49 entrepreneurs were selected for indepth study. The details regarding sectors, number of entrepreneurs etc. are given in the following table 5.1. The data from entrepreneurs were collected through structured questionnaires.

Table 5.1 Sector-wise number of MOUs

Sr. No.	Sector	Sample size (No. of MOUs) Visited	Remarks
1.	Textiles and Apparels	6	Out of 49 contacted only 24 provided information.
2.	IT and BT	4	
3.	Agro Food Processing	4	
4.	Auto Engg. And Ceramics	5	
5.	Tourism	3	
6.	Bio Technology	1	
7	SEZ	1	
	<b>Total</b>	<b>24</b>	
8.	Presently functioning (Existing)	<b>30</b>	Medium & large scale units

#### Sample Selection for Presently Functioning Large & Medium Scale Industries

For the selection of sample industries Random Sampling Technique was adopted. Selection of sample industries was done randomly on the basis of sector-wise list of medium and large scale units collected from District Industry Centre Gandhinagar, Chamber of Commerce and Industries (Gandhinagar) and GIDC (Gandhinagar). From medium and large scale units 30 entrepreneurs were selected by random sampling method for indepth study.

Accordingly, 49 enterprises (MOUs) were contacted as per the entrepreneurs' list provided by IC. However, only 24 responded positively. The survey methodology was visiting of industries personally, meeting the responsible person; explaining regarding the survey with a request for cooperation in providing the information. As the data were not readily available at most of the units or the responsible person was not available at the time of the visit of the survey team a second or even at times a third visit was most essential to collect the data from maximum number of units.

### Reference Period

In order to have proper assessment of human resources development employment generation of the project at present i.e. reference year 2007-08 and future i.e. next five years (2013) were taken. In medium and large scale industries presently functioning units were selected on the basis of the secondary data provided by DIC and Chamber of Commerce and Industries, Gandhinagar and GIDC, Gandhinagar. The field work was carried out during the month of March 2008.

### Observation on the Sample Survey Data

As per the terms of reference, 49 MOUs and 30 medium and large scale units signed in 2005 and 2007 were to be visited for manpower demand survey assessment. Accordingly, 49 MOUs and 30 present industries/units were visited, but due to incomplete address, contact persons being out of state/district only 24 responses were received. The entrepreneurs were interviewed in field units (factory sites) or offices to get information as per the proforma when the personal visit was made for the survey. In most of sites the industries (units) were functioning (Non-MOUs) well. Details regarding the total no. of employees, no. of skilled workers, no. of graduates employed in the units, anticipated manpower requirement in future i.e. next five years (2013), post graduates, degree/diploma holders, ITI trade and other graduates, lack of knowledge, lack of skills etc. were collected. Some quantitative data, semi quantitative and qualitative assessments on other aspects could be drawn from the interaction with the concerned entrepreneurs and the same are included in the survey results of this report.

Table 5.2 Sector-wise Profiles of MOUs signed in 2005 & 2007 and Manpower Requirement

Sr. No.	Sector	No. of Projects			Manpower Requirement		
		2005	2007	Total	2005	2007	Total
1.	IT and BT	11	5	16	1510	118200	119710
2.	Tourism	4	4	8	0	2375	2375
3.	Automobile Engg.	2	2	4	565	375	940
4.	Textile and Apparels	0	4	4	0	14675	14675
5.	Biotechnology	0	4	4	0	267	267
6.	Urban Development	3	0	3	250	0	250
7.	Roads and Railways	0	2	2	0	200	200
8.	Agro Food Processing	1	0	1	550	0	550
9.	Chemical/Petrochemicals	1	0	1	0	0	0
10.	SEZs	0	6	6	0	35545	35545
	<b>Total:</b>	<b>22</b>	<b>27</b>	<b>49</b>	<b>2875</b>	<b>171632</b>	<b>174512</b>

\* Including multidistrict projects.

Source: Industries Commissionerate, GOG, Gandhinagar.

### Summary and Field Observations of the District

1. 49 projects are proposed to be established in the district.
2. Largest investment is proposed in the IT sector (16 projects).
3. The Information Technology Parks (IT/ITES) are located at Koba, Sargasan, Near Infocity and Gandhinagar
4. The district is well connected with the national highway (NH No.8) connecting it to Ahmedabad and Mumbai as well as Ahmedabad-Himmatnagar Highway.

5. Gandhinagar is also connected with Ahmedabad-Mumbai-Delhi by a broad gauge railway line.
6. The nearest port is Kandla and the nearest airport – National and International – is Ahmedabad.

### **Future Needs and Tasks**

#### Manpower Requirement

Manpower requirement is a long drawn programme involving many agencies. Coordinated planning therefore has to be done a few years in advance of the requirements of technical and non technical manpower of different sectors like power, oil, gas, engineering, auto engineering, ceramic, ports, chemicals and petrochemicals, agro & food, IT, biotechnology etc. The numbers of trained manpower (ITI/Diploma/ Degree/post graduates etc.) required 2 to 5 years later has to be assessed now to enable placing / posting for technical and non technical manpower to the concerned industries. It is not difficult to assess the requirements on theoretical basis after making certain assumptions with regard to the growth of functioning industries, average number of workers employed in functioning units, group with industry, sector wise industry, skilled and unskilled manpower and scale wise industries and such other factors.

#### Basic Assumptions

A manpower requirement should aim at providing for the entire industries with the best nature of talented manpower in shortest possible time. To draw up a realistic requirement of manpower to achieve this objective, it is necessary to have some basic idea as to the extent of manpower needed and the technical institutes required for training the same.

#### Manpower Requirement

The manpower requirement of important trades calculated on the above basis for the district is indicated in table 5.3. The estimates of annual present requirement of manpower are 6,296 persons and future requirement will be 9,532.

*Table 5.3 Basis of Calculation of Manpower Requirement in Gandhinagar District*

<b>Sr. No.</b>	<b>Particulars</b>	<b>Present Manpower Requirement (base year 2007-08)</b>	<b>Manpower Requirement For next five Years (2013)</b>
A1.	Total surveyed 24 MOUs 2005 and 2007	1946	4334
2.	Total 30 medium & large scale industrial Units surveyed	4350	5198
3.	Total surveyed 54 MOUs (24+30) & M&L Scale industries (1+2)	6296	9532
B4.	Average manpower required per unit	116.59	176.51
5.	Total manpower required MOUs & M&L scale industries (49+303 = 352)	41040	62132
C6.	In addition, small scale industries work forces worked out of base year 2007-08 (data collected from DIC) and for future @ 8% growth rate per year (5 year = 40%)	36688	51363

7.	Total manpower requirement in the district (5+6)	77728	113495
8.	Taking figures of indirect employment @ 20% of the total manpower (7)	15546	22699
9.	Overall employment generation in Gandhinagar district	<b>93274</b>	<b>136194</b>

#### **Manpower Requirement in Gandhinagar District from MOU 2005 and 2007**

3. With 49 projects, the district has total manpower requirement of 1,74,512 technical, managerial and unskilled workers.
4. Largest investment in the IT sector (16 projects) is Rs.2582 crore.
5. Presently Gandhinagar district has
  - 18 ITIs offering courses in the field of engineering, IT and chemicals
  - 3 technical institutes offering graduation/post graduation and development courses with an intake of over 690 students yearly.
  - One pharmacy college which churn out 60 students yearly.
  - Besides Centres of Excellence (CoE) like Dhirubhai Ambani Institute of Management, Kadi Campus, CNFD, NIFT, Nirma University 3 medical & dental colleges with an approximately intake capacity of 500 and 100 students respectively;
  - 14 technical institutes offering graduate, post graduate and diploma courses with an intake capacity of around 4500 students;
  - 5 pharmacy institutes offering graduate and post graduate courses churning out around 447 students per year;
  - 44 industrial training institutes (ITIs) offering courses in engineering, IT, textiles and chemicals;
  - Besides, centres of excellence like ATIRA, NID, IIM and NIRMA university;

#### **Employment Generation in Industries after MOUs Signed in 2005 & 2007**

At present there are 6,296 persons employed and in future there will be 9,532 persons employed at various levels in the 54 (24+30) industries surveyed out of 352 (49+303) industries. This means that average total employed (skilled and unskilled) staff & workers is 116.59 and 176.51 persons per unit. The number of units expected in Gandhinagar district is 352 units (49+303) (MOUs & medium and large scale units) and hence the total requirement of skilled and unskilled persons works out to 41,040 for the base year (2007-08) and 62,132 numbers for the fifth year (2013) respectively. An additional 36,688 small scale industries workers in the base year and in future 51,363 small scale industries workers will be required; the anticipated demand works out to 77,728 for present and 1,13,495 for future.

There will be indirect employment generation in various activities like goods transport, dhabas, pan shops, various contract works, travel service, workshops for automobile repairs, steel fabrication, engineering works, machinery works, machinery parts, material supply business and many other activities due to industrial growth in the district. Taking the figures of indirect employment at 20% of the total of the above figures, the growth in the indirect employment can be expected around 15,546 for the base year and 22,699 for the future. Hence the overall employment generation in Gandhinagar district due to the industrial growth can be anticipated around 93,274 employees at present and 1,36,194 employees in future.

Details of 24 units surveyed are presented in table 5.4 on the basis of this sample survey conducted. The manpower requirement of 49 units which includes even those units that are in the pipeline has been derived as under.

*Table 5.4 Anticipated Requirement of Manpower after  
MOUs Signed In 2005 and 2007 of Gandhinagar District*

Level of Education	Qualification	Present Requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	18	51
	M.Sc.	11	23
	M.Tech.	8	24
<b>Sub-total:</b>		<b>37</b>	<b>98</b>
Degree	Electrical	9	15
	I & C	4	7
	Mechanical	16	29
	Electronics	2	3
	Computer	11	32
	I T	3	11
	Textile technology	9	25
	Ceramics	2	6
	Chemical	-	2
	Metallurgy	1	2
	Environmental Engg.	2	4
	Food Processing Technology	4	6
	Production Engg.	6	13
Others	4	6	
<b>Sub-total:</b>		<b>73</b>	<b>161</b>
Diploma	Electrical	24	51
	I & C	7	16
	Mechanical	36	66
	Electronics	5	7
	Computer	12	24
	Ceramics	4	10
	Textile technology	21	48
	Information Technology	8	19
	Fabrication technology	3	6
	Dress making / Sewing	4	9
	Others	9	23
<b>Sub-total:</b>		<b>133</b>	<b>279</b>
ITI Trade	Turner	47	89
	Fitter	26	62
	Wireman	11	36
	Welder	4	11
	Electrician	19	52
	Mechanic (AC/Fridge)	5	19

	Mechanic (Motor vehicles)	-	4
	Mechanic (Electronics)	17	29
	Mechanic (Instruments)	24	46
	Machinist	39	72
	Chemical Plant Operator	2	6
	Sewing / Dress making	-	4
	Pump Mechanic	2	9
	Fireman	-	27
	Lift mechanic	2	4
	Lab Assistant	6	15
	Painter	23	41
	Plumber	10	24
	Mechanic (Tractor/Diesel)	20	51
	Networking Technicians	4	7
	Motor Rewinding	2	2
	Stenographer	8	33
	Mechatronics	2	3
	Mechanic (Radio / TV)	-	6
	Basic CNC	8	9
	Basic Sheetmetal Fabricn.	12	18
	Basic Turning / Grinding	7	12
	Weaving/Loom Operator	13	22
	Others	21	47
<b>Sub-total:</b>		<b>328</b>	<b>770</b>
Graduates/ Others	B.Sc. / B.A. etc.	77	161
	B.Com. / M.Com.	44	89
	BCA	12	21
	Undergraduates	8	43
	Gardener/Peon/Packing staff	185	382
	Security	121	251
<b>Sub-total:</b>		<b>447</b>	<b>945</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>932</b>	<b>2096</b>
	<b>Skilled</b>	<b>1014</b>	<b>2238</b>
	<b>TOTAL</b>	<b>1946</b>	<b>4334</b>

Details of 30 medium and large scale units surveyed are presented at Annexure V.1 of this report. On the basis of this sample survey conducted, the manpower requirement of 309 units which includes even those units that are in the pipeline has been derived as under.

*Table 5.5 Anticipated Requirement of Manpower  
Of Medium and Large Scale Industries*

<b>Level of Education</b>	<b>Qualification</b>	<b>Present requirement Base year (2007-08)</b>	<b>Future Requirement (next 5 years) (2013)</b>
Post Graduates/ Professionals	MBA/CA/CWA	16	16
	M.Sc.	9	9



	M.Tech.	2	2
<b>Sub-total:</b>		<b>27</b>	<b>27</b>
Degree	Electrical	16	16
	Civil		
	I & C	6	6
	Mechanical	38	40
	Electronics	4	4
	Computer	2	2
	Ceramics	6	6
	Chemical	4	4
	Metallurgy	12	13
	Textile Technology	4	4
	Automobile Engg.	2	2
	Production Engg.	15	17
	Industrial Engg.	2	2
	Others	8	10
<b>Sub-total:</b>		<b>119</b>	<b>126</b>
Diploma	Electrical	48	48
	Ceramics	11	13
	I & C	14	14
	Mechanical	81	81
	Electronics	3	3
	Computer	5	6
	Chemical	6	6
	Automobile Engg.	10	11
	Textile Technology	9	9
	Fabrication technology	34	35
	Others	20	22
<b>Sub-total:</b>		<b>241</b>	<b>248</b>
ITI Trade	Turner	146	165
	Fitter	93	112
	Wireman	21	31
	Welder	28	32
	Electrician	45	56
	Sewing / Dress making	2	2
	Mechanic (Motor vehicles)		
	Mechanic (Electronics)	13	15
	Mechanic (Instruments)	68	79
	Machinist	109	122
	Chemical Plant Operator	12	12
	Pump Mechanic	10	13
	Fireman		
	Lift Mechanic	2	2
	Lab Assistant	11	12
	Painter	72	79
	Plumber	18	21
	Mechanic (Tractor/Diesel)	46	51
Embroidery			

	Networking Technicians	6	6
	Motor Rewinding	7	9
	Stenographer	24	39
	Mechatronics	4	4
	E-commerce		
	Basic CNC	16	20
	Basic Sheetmetal Fabricn.	54	65
	Basic Turning / Grinding	26	42
	Weaving Loom Operators	9	11
	Others	20	36
<b>Sub-total:</b>		<b>862</b>	<b>1036</b>
Graduates/ Others	B.Sc. / B.A. etc.	154	179
	B.Com. / M.Com.	93	105
	BCA	5	6
	Undergraduates	37	81
	Gardener/Peon/Packing staff	489	590
	Security	245	305
<b>Sub-total:</b>		<b>1023</b>	<b>1266</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>2076</b>	<b>2492</b>
	<b>Skilled</b>	<b>2274</b>	<b>2706</b>
	<b>TOTAL (skilled + unskilled)</b>	<b>4350</b>	<b>5198</b>
<b>GRAND TOTAL</b>	<b>Table 5.4</b>	<b>1946</b>	<b>4334</b>
	<b>Table 5.5</b>	<b>4350</b>	<b>5198</b>
	<b>TOTAL (Skilled &amp; Unskilled manpower)</b>	<b>6296</b>	<b>9532</b>

#### Addressing the Manpower Requirement in Industries Coming Up in Gandhinagar District

Datamation Research Analyst (DRA), New Delhi has carried out a sample survey of 24 MOUs signed (with entrepreneurs) and 30 units of medium and large scale industries (total 54) in Gandhinagar district and on the basis of that they have made a forecast (for next five years) i.e. year 2013 of manpower requirement for 49 MOUs and 303 units of medium and large scale (total 352 units). According to this survey the requirement of manpower in the ITI trades is anticipated to be around 7,796 for the base year (2007-08) and 11,772 for future (2013). The table presented above gives a picture of the anticipated manpower requirement. The table 5.6 presented below gives a picture of the anticipated manpower requirement for present and future seats available in the ITIs, Grants in Aid, ITC, Self Finance Institutions in Gandhinagar district and skill gaps.

Table 5.6 ITI Trade-wise no. of Manpower Requirement,  
no. of Seats Available and Skill Gaps in Gandhinagar District

Trade	Base year (2007-08)			Next 5 yrs (2013)		Year-wise breakup of projection				
	Man- power Require -	Seats availabl e in ITI /	Skill Gap (2-3)	Projec- ted Requir e	Skill Gap (5-3)	2008 -09	2009 -10	2010 -11	2011- 12	2012 -13

	ment	SF etc.		ment						
1	2	3	4	5	6	7	8	9	10	11
Turner	1258	-	1258	1656	1656	275	300	325	350	406
Fitter	776	224	552	1134	910	140	155	195	205	215
Wireman	209	224	-15	437	213	20	25	40	45	83
Welder	209	84	125	280	196	25	35	40	45	51
Electrician	417	208	209	704	496	55	75	100	125	141
Mech(El e)	195	192	3	287	95	20	20	20	20	15
Mech(Inst)	795	632	163	1258	626	85	110	125	140	166
Machinist	964	36	928	1258	1222	160	220	240	280	322
Chem. Plant Operator	91	-	91	117	117	20	20	25	25	27
Painter	619	32	587	782	750	105	120	160	180	185
Plumber	182	-	182	293	293	34	35	55	75	94
Mech(tractor/diesel)	430	112	318	664	552	80	90	115	125	142
Steno	208	200	8	469	269	34	36	50	65	84
Basic CNC	156	-	156	189	189	25	35	40	45	44
Sheet metal fab.	430	-	430	541	541	60	70	105	115	191
Basic Turning Grinding	215	-	215	352	352	44	55	65	85	103
Weaving Loom Operator	143	-	143	215	215	20	25	40	45	85
Lab Asst.	110	-	110	176	176	20	30	40	41	45
Others	389	1229	-840	960	-269	-34	-36	-50	-65	-84
<b>Total:</b>	7796	3173	4623	11772	8599	1188	1420	1730	1946	2315

Table 5.7 Details of Seats Available and Proposed Increase in Seats in Various ITIs of Gandhinagar District

Sr. No.	Name of Institute	Seats Available	Proposed increase (Base year 2007-08)
1.	ITI, Gandhinagar	1692	1700
2.	ITI, Khodiyar	92	100
3.	ITI, Dehgam	280	300
4.	ITI, Kalol	224	240
5.	GIA, ITC, Samarpan, Gandhinagar	20	30

6.	GIA, ITC, Mansa	64	70
7.	SFI, KKK, Bhat, Hansol	40	50
8.	SFI, SVK Mandal, Sector 23, G'nagar	41	50
9.	SFI, SSP Swaminarayan, G'nagar	48	50
10.	SFI, SVK Mandal, Gandhinagar	25	50
11.	SFI, AMS Sangh, Gandhinagar	85	100
12.	SFI, Chandkheda	113	113
13.	SFI, Gayatri Trust, Chiloda	40	50
14.	SFI, Om Education, Bota Biloda	146	150
15.	SFI, GCT Chiloda	40	50
16.	SFI, Ashirvad Foundation, G'nagar	60	70
17.	SFI, Adarsh Mandal Sewa Sangh	40	50
18.	SFI, Saraswati Edu. Trust, G'nagar	91	100
19.	Two new SFI (expected)	-	300
20.	Four new ITI of PPP Model (exptd)	-	1000
	<b>Total:</b>	<b>3173</b>	<b>4623</b>

Note: As per personal discussions at the time of field survey.

#### **Strategies to Address Future Manpower Requirement in Gandhinagar District**

7. Majority of the projects proposed are to be established in Gandhinagar on Sarkhej Road, around Gandhinagar and cluster pocket areas;
8. Majority of the projects are based on information technology (IT&ITES), tourism, Hotel Management, textile and apparels, biotechnology, automobile engineering, pharmaceuticals and SEZs like electronics, IT/ITES, multi-services etc;
9. It is proposed to invite offers from private organizations (like Vadilal Industries, Call Centres, Coal India, LG Electronics, Reliance Industries, Ratnamani Metals etc.) to start self finance institutions in Gandhinagar district;
10. Additional short term courses are required to meet the industrial manpower requirement. There is a shortage of manpower like IT/ITES, technical and managerial, tourism and hotel management, hospitality management, food cooking, etc. Also in computer engineering, graduates and post graduates in computer science, ITI graduates etc.
11. There is a need of strengthening or upgrading chosen industrial training institutes (ITIs) into Centres of Excellence (CoE). Four ITIs are to be developed under PPP model schemes for skilled manpower requirement of the district.

#### **GENERAL FIELD OBSERVATIONS, SUMMARY AND SUGGESTIONS**

In addition to the analysis based on the field data and entrepreneurs' opinions given in the report, a few general observations, suggestions and summary are given below:

4. Migration due to urbanization is a universal problem. Migration of rural people to the urban areas is mainly for economic aspects for jobs which are not available in rural areas particularly during lean period. Establishment of industry/factories and agro based processing units in rural areas is the basic requirement for reduction of migration. To attract entrepreneurs for industries the infrastructural facilities including marketing, availability of required manpower need to be ensured along with necessary incentives. There is scope for new courses and better job opportunities for rural youth in Gandhinagar district.

5. For the future growth of industry the pool of talent available in rural and semi rural areas has to be nurtured and tapped. Currently most of the rural youth face lack of training, communication skills and self confidence. It is therefore suggested the ITIs should organize some short term courses of non ITI trades for them. The courses will also help the rural youth in personality development.
6. Job Opportunities in Textile and Apparels: Areas like textile and apparel parks can create employment opportunity at district level. Dealing primarily with fabric, textile designing, covers a wide range of disciplines such as printing, dyeing, embroidery and designing. The growing domestic and export markets for designer fabrics provide ample lucrative jobs at design studios, garment export houses, textile mills, textile dyeing and printing units and even fashion designers and interior designers / furnishers. There is therefore need of textile engineers, ITI graduates, apparel designers in addition to skilled and unskilled labourers. Special short term courses may be organized for this purpose.

Table 5.7 Trade-wise Seats Available in ITIs/GIAs/ITCs of Gandhinagar District

Sr. No.	Trade	ITIs					GAIs		
		Gandhi-nagar	Khodiyar Chandkheda	Dehgam	Kalol	Total ITI	Samarpan	Mansa	Total GAIs
		(1)	(2)	(3)	(4)		(1)	(2)	
1.	Draughtsman – mechanic	48	-	-	-	48	-	-	-
2.	Electronics - mechanic	96	-	-	32	128	-	32	32
3.	Radio/TV mechanics (girls)	64	-	-	-	64	-	-	-
4.	Wireman	96	-	32	32	160	-	32	32
5.	Instrument mechanic	48	-	-	-	48	-	-	-
6.	Steno/Computer Operator (Gujarati)	16	-	-	-	16	-	-	-
7.	Machinist	36	-	-	-	36	-	-	-
8.	Steno/Computer Operator (Guj.) (Girls)	32	-	-	-	32	-	-	-
9.	Surveyor	48	-	-	-	48	-	-	-
10.	Electronics mechanic (Girls)	48	-	-	-	48	-	-	-
11.	Draughtsman (civil)	64	-	-	-	64	-	-	-
12.	Mechanic – motor vehicle	96	-	-	32	128	-	-	-
13.	Fridge / AC mechanic	48	-	-	-	48	-	-	-
14.	Software programming	48	-	-	-	48	-	-	-
15.	CoE IT (Advance)	192	-	-	-	192	-	-	-
16.	Steno / Computer Operator (English)	32	-	-	-	32	-	-	-
17.	Two wheeler repairer	32	-	40	-	72	-	-	-
18.	Painter - general	32	-	-	-	32	-	-	-
19.	Mechanic diesel	48	-	32	32	112	-	-	-
20.	Steno (English) Girls	32	-	-	-	32	-	-	-
21.	Armature and Motor Rewinding	48	-	32	-	80	-	-	-
22.	Electrician	144	32	32	-	208	-	-	-
23.	Fitter	128	32	32	32	224	-	-	-
24.	Hair and Skin Care	48	-	-	-	48	-	-	-
25.	E-commerce	48	-	-	-	48	-	-	-
26.	Welder	24	12	24	24	84	-	-	-

27.	Medical Equipment Mechanic	16	-	-	-	<b>16</b>	-	-	-
28.	Computer aided design – Autocad	48	-	-	-	<b>48</b>	-	-	-
29.	Dress making	48	16	-	-	<b>64</b>	-	-	-
30.	Comp. Operator/ Program Asst.	-	-	40	40	<b>80</b>	-	-	-
31.	Plastic Processing Operator	-	-	16	-	<b>16</b>	-	-	-
32.	Offset Printing	-	-	-	-	-	10	-	<b>10</b>
33.	Cutting and Tailoring	-	-	-	-	-	10	-	<b>10</b>
34.	MLT Pathology	-	-	-	-	-	-	-	-
35.	DTP / Multimedia	-	-	-	-	-	-	-	-
36.	HT and DT Design	-	-	-	-	-	-	-	-
37.	Insurance Agents	-	-	-	-	-	-	-	-
38.	Health & Sanitary Inspector	-	-	-	-	-	-	-	-
39.	Fashion Technology	-	-	-	-	-	-	-	-
40.	Digital Photography	-	-	-	-	-	-	-	-
41.	Livestock Inspector	-	-	-	-	-	-	-	-
42.	Food Production / Bakery items	<b>1692</b>	<b>92</b>	<b>280</b>	<b>224</b>	<b>2288</b>	<b>20</b>	<b>64</b>	<b>84</b>

#### Self Finance Institutions (SFIs)

		Bhat	SVKM Kadi	SLVT Sec.23	SVKM GNR	AMSS Sec.16	Chand- kheda	ITC Chiloda	Mota chiloda	GECT Chiloda	ARF Sec.21	AMSS Sec.22	SET Sec.11	Total SFI
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
1.	Draughtsman – mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-
2.	Electronics - mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-
3.	Radio/TV mechanics (girls)	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Wireman	-	-	-	-	-	-	-	-	-	-	-	-	-
5.	Instrument mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-
6.	Steno/Computer Operator	-	-	-	-	-	-	-	-	-	-	-	-	-

	(Gujarati)													
7.	Machinist	-	-	-	-	-	-	-	-	-	-	-	-	-
8.	Steno/Computer Operator (Guj.) (Girls)	-	-	-	-	-	-	-	-	-	-	-	-	-
9.	Surveyor	-	-	-	-	-	-	-	-	-	-	-	-	-
10.	Electronics mechanic (Girls)	-	-	-	-	-	-	-	-	-	-	-	-	-
11.	Draughtsman (civil)	-	-	-	-	-	-	-	-	-	-	-	-	-
12.	Mechanic – motor vehicle	-	-	-	-	-	-	-	-	-	-	-	-	-
13.	Fridge / AC mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-
14.	Software programming	-	-	-	25	-	-	-	-	-	-	-	-	25
15.	CoE IT (Advance)	-	-	-	-	-	-	-	-	-	-	-	-	-
16.	Steno / Computer Operator (English)	-	-	-	-	-	-	-	-	-	-	-	-	-
17.	Two wheeler repairer	-	-	-	-	-	-	-	-	-	-	-	-	-
18.	Painter - general	-	-	-	-	-	-	-	-	-	-	-	-	-
19.	Mechanic diesel	-	-	-	-	-	-	-	-	-	-	-	-	-
20.	Steno (English) Girls	-	-	-	-	-	-	-	-	-	-	-	-	-
21.	Armature and Motor Rewinding	-	-	-	-	-	-	-	-	-	-	-	-	-
22.	Electrician	-	-	-	-	-	-	-	-	-	-	-	-	-
23.	Fitter	-	-	-	-	-	-	-	-	-	-	-	-	-
24.	Hair and Skin Care	-	-	-	-	-	16	-	-	-	-	-	-	16



25.	E-commerce	-	-	-	-	-	-	-	-	-	-	-	-	-
26.	Welder	-	-	-	-	-	-	-	-	-	-	-	-	-
27.	Medical Equipment Mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-
28.	Computer aided design – Autocad	-	-	-	-	-	-	-	-	-	-	-	-	-
29.	Dress making	-	-	-	-	-	-	-	-	-	-	-	-	-
30.	Comp. Operator/ Program Asst.	-	-	-	-	60	40	-	-	-	-	40	-	<b>140</b>
31.	Plastic Processing Operator	-	-	-	-	-	-	-	-	-	-	-	-	-
32.	Offset Printing	-	-	-	-	-	-	-	-	-	-	-	-	-
33.	Cutting and Tailoring	-	-	-	-	-	-	-	-	-	-	-	-	-
34.	MLT Pathology	40	-	-	-	-	-	-	-	-	60	-	-	<b>100</b>
35.	DTP / Multimedia	-	41	-	-	25	-	-	50	-	-	-	-	<b>116</b>
36.	HT and DT Design	-	-	48	-	-	-	-	-	-	-	-	-	<b>48</b>
37.	Insurance Agents	-	-	-	-	-	57	32	32	-	-	-	-	<b>131</b>
38.	Health & Sanitary Inspector	-	-	-	-	-	-	40	-	-	-	-	-	<b>40</b>
39.	Fashion Technology	-	-	-	-	-	-	-	32	-	-	-	-	<b>32</b>
40.	Digital Photography	-	-	-	-	-	-	-	32	-	-	-	-	<b>32</b>
41.	Livestock Inspector	-	-	-	-	-	-	-	-	40	-	-	-	<b>40</b>
42.	Food Production / Bakery items	-	-	-	-	-	-	-	-	-	-	-	75	<b>75</b>

Source: Directorate of Employment and Training, GOG, Gandhinagar.

**Vibrant Gujarat Investors' Summit 2005 & 2007 MOUs – Gandhinagar District**  
**List of the Industries Selected for Field Survey**

38. Arvind mills Ltd. (Amazon) - Fabrics
39. Arvind Mills Ltd., Vadsar, Kalol (Industrial Park)
40. Arvind Mills Ltd., Santej (Cotton/Polyester/Knitting/Garments)
41. Arvind Mills Ltd., Khatraj (Knitted and woolen fabrics plant)
42. Arvind mills Ltd. (To set up textile park phase II and III)
43. Effective Services (USA & GOG)
44. Smruti Compubits Supports Pvt Ltd.
45. ACI (ASIA) Ltd.
46. Effective Teleservices Expansion (USA)
47. National Botanical Research Institute, Lucknow (with GSSL, Gandhinagar)
48. Chary Ltd.
49. Vadilal Industries Ltd.
50. Kalpataru Power Transmission Ltd.
51. Akash Ceramics Pvt. Ltd.
52. Ratnamani Metals & Tubes Ltd.
53. Akash Ceramics Pvt Ltd.
54. PCB Planets India Ltd
55. Scope Consultancy Pvt Ltd.
56. Prodigy Hotels
57. Sintex Industries Ltd.
58. SEZ, GIDC, Electronics
59. Shiv Shakti Cold Storage
60. Nusun Genetics Research Ltd.
61. Srina Hotels Pvt. Ltd.

**Presently Functioning Medium & Large Scale Industries in Gandhinagar District**  
**List of the Industries Selected for Field Survey**

62. Asian Tubes Ltd.
63. Electrotherm India Ltd.
64. Jalaram Ceramics Ltd.
65. Letra Graphics Pvt. Ltd.
66. PCL Ltd.
67. Rajsatra Metal Industries Ltd.
68. Sentex India Ltd. (Plastic Division)
69. Tirupati Gujarat Cost Pin Ltd.
70. C M Smith & Sons
71. Gujarat Diastuff Pvt. Ltd.
72. Rushil Decore Pvt Ltd. (1.Dholka, 2.Kalol, 3.Mansa)
73. Molex Mafatlal Micron Pvt. Ltd.
74. Computer Skill Ltd.
75. Gopal Poly Plastics Ltd.
76. Gujarat Highral Controls Ltd.
77. Gujarat Play Invex Electronics Ltd.
78. Gujarat Rashtriya Industries Ltd.
79. Heavy Metals & Tubes Ltd.
80. Jalaram Ceramics Ltd.
81. Sakar Tiles Ltd.
82. Rajratna Metal Industries Ltd.
83. C-Plastic India Ltd.
84. Shah Alloys Ltd.
85. Shri Rama Multitech Ltd.
86. Narmada Map Plant
87. Amazone Textiles Pvt. Ltd.
88. Aviva Industries Pvt. Ltd.
89. Gaman India Ltd.
90. J K Laxmi Cement Ltd.
91. Sunpac Beriye Pvt. Ltd.

# AHMEDABAD DISTRICT ANALYSIS BASED ON SAMPLE SURVEY

## PROFILE OF AHMEDABAD DISTRICT

### **Location and Administration**

Ahmedabad district is one of the highly developed districts of Gujarat. It is located in the middle region of Gujarat and lies between 20.0° & 23.8° north latitudes and 71.6° & 73.9° west longitudes. The district is surrounded on north by Mehsana and Gandhinagar districts, on south by Gulf of Cambay and Bhavnagar district, on east by Kheda district and on the west by Surendranagar district. Ahmedabad district consists of 11 blocks; they are: City, Daskroi, Sanand, Dholka, Bavla, Dhandhuka, Ranpar, Barwala, Viramgam, Detrol and Mandal. The district has a total geographical area of 8086 sq.km. The net cultivated area during 2002-03 was 5,81,505 ha. (74.87%) of the total geographical area. The area under current fallow was 92,373 lakh ha. The remaining area was accounted for by forests, barren and cultivable wasteland.

### **Demographic Characteristics**

The population of Ahmedabad district as per 2001 census was 58.17 lakh. The density of population was 718 people per sq.km. compared to the state average of 268 in 2001. Urban population constitutes 80% of the total population. Literacy level was 79.89% in the year 2001.

### **Occupational Pattern**

As per 2001 census, total main workers were 17.96 lakh, i.e. 30.88% to the total population of the district, whereas the share of marginal workers and non-workers remained at 3.60% and 65.5% respectively.

### **Physiography and Drainage**

The district is evenly surfaced with a slope from north to east except a small area in the southern part of the district which is low lying and lined by hard rocks. The main river of the district is Sabarmati which originates from Aravalli range. Khari, Meshwo, Bhogavo, Omkar, Nilka, Bhadar and Utavali are other rivers flowing through the district except Sabarmati. Rest of the rivers are seasonal. The medium irrigation projects have been constructed on Sabarmati and Khari rivers.

### **Infrastructure**

Ahmedabad district has a well developed infrastructure, which is conducive for the growth of both industries as well as agriculture. The district has a better literacy rate of 79.89%. Ahmedabad city is very well connected by rail, road and air transport systems with the rest of the country and other parts of the state. The district has a very good network of all weather roads. 123 km of national highway and 1071 km of state highway passes through the district. Total length of railways in the district is 169 km, of which 111 km is broad gauge and 258 km is meter gauge.

All 564 villages in the district have been electrified. There are 593 post offices providing vital postal and telecommunication services to all the villagers in the district. The district has a network of 635 branches of public sector banks, ADCCB and GSCARDB. The district has

reasonably well developed infrastructure in terms of hospitals (government as well as private), PHCs, University and colleges for disciplines, high schools and primary schools.

### Industries

Ahmedabad is one of the industrially developed districts in the state of Gujarat having large, medium and small scale industries of various types. A large number of industries related to textiles, chemicals, machinery, metal products, pharmaceuticals, engineering, plastic, electrical appliances, electronics etc. are located in the district. A well developed infrastructure & prudent industrial policy of the state government and a peaceful industrial atmosphere have been the vital factors which have contributed to the industrial growth in the district. However, the industrial development is restricted to the surrounding area of the metropolitan city of Ahmedabad and certain big towns of the district. Dhandhuka, Ranpur, Barwala, Detrol, Mandal and Viramgam are the industrially backward talukas of the district. The state government, under the new industrial policy, identified certain areas of backward talukas of the district in Category-I for development by providing attractive incentives to the investors. As a result many industrial units are coming up on Sarkhej-Bavala road and Sarkhej-Viramgam road. There are 11 industrial estates in the district. There are 300 medium and large scale industrial units with capital investment of 3281 crores. There are 306 branches of commercial banks, 40 branches of DCCBs, 11 of Gujarat State Land Development Bank, 4 RRBs and 12 private banks contributing to an overall economic development of the district.

### Methodology of Assessment

For the selection of sample industries listing of all MOUs of Vibrant Gujarat Global Investors' Summit 2005 and 2007 with Summit of Information Technology, Urban Development and Tourism Industries was done on the basis of sector-wise list collected from Industries Commissionerate, Gandhinagar and respective nodal departments as well as the District Industry Centre, Ahmedabad. Thus, in all 60 out of 91 entrepreneurs were selected for indepth study. The details regarding sectors, number of entrepreneurs etc. are given in the following table 5.1. The data from entrepreneurs were collected through structured questionnaires.

Table 5.1 Sector-wise number of MOUs

Sr. No.	Sector	Sample size (No. of MOUs) Visited	Remarks
1.	Textiles and Apparels	9	
2.	Agro & Food Processing	7	
3.	IT and BT	4	
4.	Chemical & Petrochemicals	3	
5.	Auto engineering & Ceramics	4	
6.	Oil and Gas	1	
7.	Pharmaceuticals	1	
8.	Tourism	1	
	<b>Total</b>	<b>30</b>	
9.	Presently functioning (Existing)	<b>30</b>	Medium & large scale units

### Sample Selection for Presently Functioning Large & Medium Scale Industries

For the selection of sample industries Random Sampling Technique was adopted. Selection of sample industries was done randomly on the basis of sector-wise list of medium and large scale units collected from District Industry Centre Ahmedabad, Chamber of Commerce and Industries (Ahmedabad) and GIDC (Gandhinagar). From medium and large scale units 30 entrepreneurs were selected by random sampling method for indepth study.

Accordingly, 60 enterprises were contacted but due to wrong addresses 10 units could not be contacted as per the entrepreneurs' list provided by IC. The remaining 10 entrepreneurs on personal visits informed that they required time and they will send information within a few days and there was no response from them later. The survey methodology was visiting of industries personally, meeting the responsible person; explaining regarding the survey with a request for cooperation in providing the information. As the data were not readily available at most of the units or the responsible person was not available at the time of the visit of the survey team a second or even at times a third visit was most essential to collect the data from maximum number of units.

#### **Reference Period**

In order to have proper assessment of human resources development employment generation of the project at present i.e. reference year 2007-08 and future i.e. next five years (2013) were taken. In medium and large scale industries presently functioning units were selected on the basis of the secondary data provided by DIC and Chamber of Commerce and Industries, Ahmedabad and GIDC, Gandhinagar. The field work was carried out during the month of March 2008.

#### **Observation on the Sample Survey Data**

As per the terms of reference, 30 MOUs signed in 2005 and 2007 and 30 medium and large scale units were to be visited for manpower demand survey assessment. Accordingly, 30 MOUs and 30 present industries/units were visited. The entrepreneurs were interviewed in field units (factory sites) or offices to get information as per the proforma when the personal visit was made for the survey. In most of sites the industries (units) were functioning (Non-MOUs) well. Details regarding the total no. of employees, no. of skilled workers, no. of graduates employed in the units, anticipated manpower requirement in future i.e. next five years (2013), post graduates, degree/diploma holders, ITI trade and other graduates, lack of knowledge, lack of skills etc. were collected. Some quantitative data, semi quantitative and qualitative assessments on other aspects could be drawn from the interaction with the concerned entrepreneurs and the same are included in the survey results of this report.

*Table 5.2 Sector-wise Profiles of MOUs signed in 2005 & 2007 and Manpower Requirement*

Sr. No.	Sector	No. of Projects			Manpower Requirement		
		2005	2007	Total	2005	2007	Total
1.	Textile and Apparels	5	8	<b>13</b>	11132	26385	<b>37517</b>
2.	Information Technology	4	9	<b>13</b>	11090	61200	<b>72290</b>
3.	Agro/Food Processing	4	8	<b>12</b>	1090	18500	<b>19590</b>
4.	Tourism	2	10	<b>12</b>	1500	14770	<b>16270</b>
5.	Urban Development	8	3	<b>11</b>	-	-	-
6.	Automobile Engg.	2	8	<b>10</b>	1100	13250	<b>14350</b>
7.	SEZs	-	6	<b>6</b>	-	153187	<b>153187</b>

8.	Chemical/Petrochemicals	3	2	<b>5</b>	3500	5025	<b>8525</b>
9.	Health Care	-	4	<b>4</b>	-	4650	<b>4650</b>
10.	Oil and Gas	2	-	<b>2</b>	1280	-	<b>1280</b>
11.	Pharmaceuticals	-	2	<b>2</b>	-	300	<b>300</b>
12.	Bio-technology	-	1	<b>1</b>	-	100	<b>100</b>
	<b>Total:</b>	<b>30</b>	<b>61</b>	<b>91</b>	<b>30692</b>	<b>297327</b>	<b>328019</b>

\* Including multidistrict projects.

Source: Industries Commissionerate, GOG, Gandhinagar.

### Summary and Field Observations of the District

7. 91 projects are proposed in the district.
8. Largest investment is proposed in the SEZ sector (6 projects).
9. The SEZs are located in Charodi, Haripura, Sanathal, Dantali, Oganas, Dholera and near Ahmedabad city.
10. The highest number of projects are in the sector of textiles and Apparels (13 projects).
11. In terms of accessibility, the district is well connected with an important broad gauge railway line connecting it with Mumbai.
12. The national highway (NH No.8) also connects Ahmedabad with Delhi, Jaipur and Mumbai.
13. The nearest port – Kandla – is easily accessible via national highway no. 8 and 8A.
14. Ahmedabad has a domestic as well as an international airport.

### Future Needs and Tasks

#### Manpower Requirement

Manpower requirement is a long drawn programme involving many agencies. Coordinated planning therefore has to be done a few years in advance of the requirements of technical and non technical manpower of different sectors like power, oil, gas, engineering, auto engineering, ceramic, ports, chemicals and petrochemicals, agro & food, IT, biotechnology etc. The numbers of trained manpower (ITI/Diploma/ Degree/post graduates etc.) required 2 to 5 years later has to be assessed now to enable placing / posting for technical and non technical manpower to the concerned industries. It is not difficult to assess the requirements on theoretical basis after making certain assumptions with regard to the growth of functioning industries, average number of workers employed in functioning units, group with industry, sector wise industry, skilled and unskilled manpower and scale wise industries and such other factors.

#### Basic Assumptions

A manpower requirement should aim at providing for the entire industries with the best nature of talented manpower in shortest possible time. To draw up a realistic requirement of manpower to achieve this objective, it is necessary to have some basic idea as to the extent of manpower needed and the technical institutes required for training them.

#### Manpower Requirement

The manpower requirement of important trades calculated on the above basis for the district is indicated in table 5.3. The estimates of annual present requirement of manpower is 70,905 persons and future requirement will be 1,27,935.

*Table 5.3 Basis of Calculation of Manpower Requirement in Ahmedabad District*

Sr. No.	Particulars	Present Manpower Requirement (base year 2007-08)	Manpower Requirement For next five Years (2013)
A1.	Total surveyed 30 MOUs 2005 and 2007	2538	7523
2.	Total 30 medium & large scale industrial Units surveyed	6127	8111
3.	Total surveyed 60 MOUs & M&L Scale industries (1+2)	8665	15634
B4.	Average manpower required per unit	144.41	260.56
5.	Total manpower required MOUs & M&L scale industries (91+400 = 491)	70905	127935
C6.	In addition, small scale industries work forces worked out of base year 2007-08 (data collected from DIC) and for future @ 8% growth rate per year (5 year = 40%)	166026	232436
7.	Total manpower requirement in the district (5+6)	236931	360371
8.	Taking figures of indirect employment @ 20% of the total manpower (7)	47386	72074
9.	Overall employment generation in Ahmedabad district	<b>284317</b>	<b>432445</b>

#### Manpower Requirement in Ahmedabad District from MOU 2005 and 2007

6. With 91 projects, the district has total manpower requirement of 3,28,019 technical, managerial and unskilled workers.
7. Presently Ahmedabad district has
  - 8 institutes & colleges offering computer courses with a capacity of almost 390 seats;
  - 3 medical & dental colleges with an approximately intake capacity of 500 and 100 students respectively;
  - 14 technical institutes offering graduate, post graduate and diploma courses with an intake capacity of around 4500 students;
  - 5 pharmacy institutes offering graduate and post graduate courses churning out around 447 students per year;
  - 44 industrial training institutes (ITIs) offering courses in engineering, IT, textiles and chemicals;
  - Besides, centres of excellence like ATIRA, NID, IIM and NIRMA university;

#### Employment Generation in Industries after MOUs Signed in 2005 & 2007

At present there are 8,665 persons employed and in future there will be 15,634 persons employed at various levels in the 60 (30+30) industries surveyed out of 491 (91+400) industries. This means that average total employed (skilled and unskilled) staff & workers is 144.41 and 260.56 persons per unit. The number of units expected in Ahmedabad district is 491 units (91+400) (MOUs & medium and large scale units) and hence the total requirement of skilled and unskilled persons works out to 70,905 for the base year (2007-08) and 1,27,935 numbers for the fifth year (2013) respectively. An additional 1,66,026 small scale industries



workers in the base year and in future 2,32,436 small scale industries workers will be required; the anticipated demand works out to 2,36,931 for present and 3,60,371 for future.

There will be indirect employment generation in various activities like goods transport, dhabas, pan shops, various contract works, travel service, workshops for automobile repairs, steel fabrication, engineering works, machinery works, machinery parts, material supply business and many other activities due to industrial growth in the district. Taking the figures of indirect employment at 20% of the total of the above figures, the growth in the indirect employment can be expected around 47,386 for the base year and 72,074 for the future. Hence the overall employment generation in Ahmedabad district due to the industrial growth can be anticipated around 2,84,317 employees at present and 4,32,445 employees in future.

Details of 30 units surveyed are presented in table 5.4 on the basis of this sample survey conducted. The manpower requirement of 91 units which includes even those units that are in the pipeline has been derived as under.

*Table 5.4 Anticipated Requirement of Manpower after  
MOUs Signed In 2005 and 2007 of Ahmedabad District*

Level of Education	Qualification	Present Requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	17	48
	M.Sc.	66	167
	M.Tech.	9	33
<b>Sub-total:</b>		<b>93</b>	<b>248</b>
Degree	Electrical	15	41
	Civil	8	31
	I & C	3	15
	Mechanical	21	61
	Electronics	4	12
	Computer	212	727
	I T	2	10
	Textile technology	8	42
	Ceramics	-	4
	Chemical	21	46
	Metallurgy	-	2
	Automobile Engg.	2	10
	Environmental Engg.	1	8
	Food Processing Technology	2	7
	Production Engg.	3	37
	Industrial Engg.	3	8
Others	7	33	
<b>Sub-total:</b>		<b>312</b>	<b>1094</b>
Diploma	Electrical	13	47
	Civil	7	36
	I & C	1	10
	Mechanical	16	42

	Electronics	1	10
	Computer	7	14
	Ceramics	-	4
	Textile technology	9	53
	Chemical	13	39
	Automobile Engg.	2	11
	Fabrication technology	2	20
	Dress making / Sewing	6	22
	Others	44	44
	<b>Sub-total:</b>	<b>123</b>	<b>354</b>
ITI Trade	Turner	11	56
	Fitter	17	75
	Wireman	21	84
	Welder	19	81
	Electrician	21	79
	Mechanic (AC/Fridge)	6	25
	Mechanic (Motor vehicles)	10	45
	Mechanic (Electronics)	4	19
	Mechanic (Instruments)	5	38
	Machinist	17	79
	Chemical Plant Operator	53	58
	Sewing / Dress making	12	24
	Pump Mechanic	5	18
	Fireman	5	14
	Lift mechanic	1	1
	Lab Assistant	25	55
	Painter	2	5
	Plumber	8	29
	Mechanic (Tractor/Diesel)	11	50
	Networking Technicians	9	33
	Motor Rewinding	1	2
	Stenographer	24	91
	Mechatronics	4	28
	Mechanic (Radio / TV)	1	2
	Basic CNC	2	4
	Basic Sheetmetal Fabricn.	1	10
	Basic Turning / Grinding	2	12
	Embroidery	16	31
	E-commerce	8	21
	Weaving/Loom Operator	4	32
	Others	52	58
	<b>Sub-total:</b>	<b>377</b>	<b>1161</b>
Graduates/ Others	B.Sc. / B.A. etc.	42	140
	B.Com. / M.Com.	24	62
	BCA	18	22
	Undergraduates	109	245
	Gardener/Peon/Packing staff	203	489
	Security	64	179

<b>Sub-total:</b>		<b>460</b>	<b>1137</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>1173</b>	<b>3529</b>
	<b>Skilled</b>	<b>1365</b>	<b>3994</b>
	<b>TOTAL</b>	<b>2538</b>	<b>7523</b>

Details of 30 medium and large scale units surveyed are presented at Annexure V.1 of this report. On the basis of this sample survey conducted, the manpower requirement of 400 units which includes even those units that are in the pipeline has been derived as under.

*Table 5.5 Anticipated Requirement of Manpower  
Of Medium and Large Scale Industries*

<b>Level of Education</b>	<b>Qualification</b>	<b>Present requirement Base year (2007-08)</b>	<b>Future Requirement (next 5 years) (2013)</b>
Post Graduates/ Professionals	MBA/CA/CWA	35	36
	M.Sc.	72	86
	M.Tech.	28	31
<b>Sub-total:</b>		<b>135</b>	<b>153</b>
Degree	Electrical	33	35
	Civil	3	4
	I & C	12	13
	Mechanical	42	44
	Electronics	13	14
	Computer	1	1
	I T	1	1
	Chemical	9	9
	Metallurgy	8	8
	Textile Technology	65	78
	Automobile Engg.	7	7
	Environmental Engg.	10	12
	Food processing technology	4	4
	Production Engg.	11	12
	Industrial Engg.	10	11
	Others	25	33
<b>Sub-total:</b>		<b>254</b>	<b>286</b>

Diploma	Electrical	48	56
	Civil	4	6
	I & C	21	24
	Mechanical	57	60
	Electronics	10	11
	Computer	5	5

	Chemical	16	18
	Automobile Engg.	13	15
	Textile Technology	83	112
	Fabrication technology	19	21
	Dress Designing	7	11
	Mining	4	5
	Others	41	59
	<b>Sub-total:</b>	<b>330</b>	<b>407</b>
ITI Trade	Turner	72	85
	Fitter	81	91
	Wireman	82	95
	Welder	87	99
	Electrician	95	113
	Mechanic (AC/Fridge)	23	31
	Mechanic (Motor vehicles)	41	57
	Mechanic (Electronics)	4	5
	Mechanic (Instruments)	47	65
	Machinist	93	148
	Chemical Plant Operator	24	36
	Pump Mechanic	24	31
	Fireman	49	83
	Lift Mechanic	2	4
	Lab Assistant	39	61
	Painter	18	29
	Plumber	27	42
	Mechanic (Tractor/Diesel)	66	91
	Embroidery	9	16
	Networking Technicians	23	39
	Motor Rewinding	8	8
	Stenographer	84	137
	Mechatronics	10	13
	E-commerce	21	29
	Basic CNC	11	20
	Basic Sheetmetal Fabricn.	24	32
	Basic Turning / Grinding	24	32
	Weaving Loom Operators	121	161
Others	90	138	
	<b>Sub-total:</b>	<b>1299</b>	<b>1785</b>
Graduates/ Others	B.Sc. / B.A. etc.	235	306
	B.Com. / M.Com.	53	75
	BCA	28	40
	Undergraduates	250	336
	Gardener/Peon/Packing staff	460	592
	Security	180	273
	<b>Sub-total:</b>	<b>1207</b>	<b>1638</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>2902</b>	<b>3842</b>
	<b>Skilled</b>	<b>3225</b>	<b>4269</b>
	<b>TOTAL</b>	<b>6127</b>	<b>8111</b>

	(skilled + unskilled)		
<b>GRAND TOTAL</b>	<b>Table 5.4</b>	<b>2538</b>	<b>7523</b>
	<b>Table 5.5</b>	<b>6127</b>	<b>8111</b>
	<b>TOTAL (Skilled &amp; Unskilled manpower)</b>	<b>8665</b>	<b>15634</b>

**Addressing the Manpower Requirement in Industries  
Coming Up in Ahmedabad District**

Datamation Research Analyst (DRA), New Delhi has carried out a sample survey of 30 MOUs signed (with entrepreneurs) and 30 units of existing medium and large scale industries (total 60) in Ahmedabad district and on the basis of that they have made a forecast (for next five years) i.e. year 2013 of manpower requirement for 91 MOUs and 400 units of medium and large scale (total 491 units). According to this survey the requirement of manpower in the ITI trades is anticipated to be around 13,715 for the base year (2007-08) and 24,108 for future (2013). The table 5.5 presented above gives a picture of the anticipated manpower requirement. The table 5.6 presented below gives a picture of the anticipated manpower requirement for present and future seats available in the ITIs, Grants in Aid, ITC, Self Finance Institutions in Ahmedabad district and skill gaps.

*Table 5.6 ITI Trade-wise no. of Manpower Requirement,  
no. of Seats Available and Skill Gaps in Ahmedabad District*

Trade	Base year (2007-08)			Next 5 yrs (2013)		Year-wise breakup of projection				
	Man-power Requirement	Seats available in ITI / SF etc.	Skill Gap (2-3)	Projected Requirement	Skill Gap (5-3)	2008-09	2009-10	2010-11	2011-12	2012-13
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
Turner	680	240	440	1154	914	125	150	200	215	224
Fitter	802	752	5	1358	606	75	125	125	140	141
Wireman	843	644	199	1465	821	100	125	175	205	216
Welder	867	368	499	1473	1105	150	175	215	275	290
Electrician	950	304	646	1571	1267	175	200	225	300	367
Mech(A C)	229	176	53	458	282	30	35	55	60	102
Mech (Motor)	417	108	9	834	426	60	70	90	100	106
Mech. (instru.)	418	400	218	836	436	62	72	92	102	108
Machinist	900	228	672	1858	1630	300	325	325	325	355
Chem. Plant Operator	630	32	598	769	737	100	150	150	165	172
Pump mech.	237	228	29	400	172	20	25	30	40	57

Fireman	442	300	142	794	494	50	60	95	125	164
Lab. Asst.	523	88	432	950	862	110	135	175	205	237
Plumber	286	272	14	581	309	36	60	70	70	73
Mech. Diesel	630	326	304	1154	828	100	125	175	210	268
Net-working tech.	262	-	262	589	589	75	125	125	130	134
Steno.	884	150	734	1866	1716	300	325	340	360	391
Basic Sheet. Fabr.	205	40	165	344	304	30	60	70	70	74
Basic Turning Grinding	212	-	212	360	360	40	70	80	85	85
Weaving Loom Operator	1023	-	1023	1579	1579	250	275	300	375	379
E-com.	237	147	90	409	262	30	35	50	65	82
Others	2038	5643	-3607	3315	-2328	-350	-400	-450	-525	-603
<b>Total:</b>	13715	10746	2969	24108	13362	1768	2422	2712	3097	3393

Table 5.7 Details of Seats Available and Proposed Increase in Seats in Various ITIs of Ahmedabad District

Sr. No.	Name of Institute	Seats Available	Proposed increase (Base year 2007-08)
1.	ITI, Kubernagar	2924	100
2.	ITI, GITW, Saraspur	1164	100
3.	ITI, Khokhra	504	50
4.	ITI, Sarkhej	1536	100
5.	ITI, Thaltej	152	50
6.	ITI, Sanand	128	50
7.	ITI, Viramgam	168	100
8.	ITI, Dhandhuka	248	100
9.	ITI, Dholka	176	100
10.	GIA, ITC, Vastrapur	70	-
11.	GIA, ITC, Navrangpura	10	-
12.	GIA, ITC, Motera	10	30
13.	GIA, ITC, Sola	204	50
14.	GIA, ITC, Maninagar	40	60
15.	GIA, ITC, Dholka (Ibrahim)	72	25
16.	GIA, ITC, Ganipur, Dholka	64	25
17.	GIA, ITC, Sanand	144	50
18.	GIA, ITC, Shahibag	80	50
19.	GIA, ITC, Physically handicapped	20	-

20.	SFI, GIDC, Vatva	80	50
21.	SFI, Raipur	40	29
22.	SFI, GPO, Ahmedabad	41	25
23.	SFI, AET, Jyoti Sangh, Nava Vadaj	100	25
24.	SFI, TET, Ranna Park, Ahmedabad	16	-
25.	SFI, FDE, Muktapura	20	25
26.	SFI, ICE Trust, Naranpura, A'bad	25	25
27.	SFI, GVAT, Shahibag, A'bad	40	25
28.	SFI, GKM, Ellisbridge, Ahmedabad	50	25
29.	SFI, SHNPT, CG Road, Ahmedabad	12	-
30.	SFI, SVM Trust, Sabarmati, A'bad	70	25
31.	SFI, JJ Trust, Behrampura, A'bad	68	-
32.	SFI, HBM Estate, Ratiyawadi, A'bad	36	25
33.	SFI, RMT Trust, Paldi, Ahmedabad	32	-
34.	SFI, DD School, Navrangpura, A'bad	30	-
35.	SFI, HE Trust, Ishanpura, A'bad	20	-
36.	SFI, MHHR Foundation, Naranpura	20	-
37.	SFI, JL Trust, Maninagar, A'bad	20	-
38.	SFI, IF Trust, Usmanpura, A'bad	64	25
39.	SFI, PGI, Lal Bungla, A'bad	22	-
40.	SFI, NT Trust, Thakkarbapa Nagar	360	25
41.	SFI, AE Trust, Vastral Rdd., A'bad	40	-
42.	SFI, GE Trust, Maninagar, A'bad	20	-
43.	SFI, RCSA Inst., Maninagar, A'bad	20	-
44.	SFI, TE Trust, Ghatlodia, A'bad	20	-
45.	SFI, CE Trust, Ghatlodia, A'bad	85	-
46.	SFI, KG Trust, Mandal, A'bad	36	-
47.	SFI, SMPHC Foundn., Satellite, Abad	196	-
48.	SFI, G Infotech, Naranpura, A'bad	40	-
49.	SFI, JAT Inst., Saijpur, Gopalpura	60	-
50.	SFI, SK Trust, Bavla	125	-
51.	SFI, BE Trust, Bavla	48	-
52.	SFI, SMRUI of Fire Tech., Bavla	145	-
53.	SFI, Kaliyavasna, Tal. Dholka	20	-
54.	SFI, CBE Trust, Khoda	250	-
55.	SFI, Laxman Gyanpith, Godhavi	194	-
56.	SFI, CKM, Viramgam	25	-
57.	4 new SFIs (expected)	-	400
58.	4 new SFIs of PPP Model (expected)	-	1200

Note: As per personal discussions at the time of field survey.

#### Strategies to Address Future Manpower Requirement in Ahmedabad District

12. Majority of the projects proposed are to be established in Ahmedabad city and Daskroi, Dholka & Sanand talukas and Bavla pocket areas;
13. Majority of the projects are based on textile & apparels, information technology, auto engineering, tourism, agro food, SEZ and pharmaceuticals;
14. It is proposed to invite offers from private organizations (like Larsen & Toubro, Cadila Pharma, Eicher Motors, ABG Shipyard, Toyota Industry, I.Call India Ltd., LG Electronics,

Reliance Industry, Essar Group (oil), DLF Real Estate, Adani Group) to start self finance institutions in Ahmedabad district; particularly in important trades like turner, fitter, wireman, welder, electrician and machinist. For different trades different companies are willing to initiate training; such as, for call centre trade LG Electronics, for fabrication trade L&T Engg., for crafts like welder/carpenter/ pipe fitter/ metal craft Reliance Industry, for computer engineering Essar Group, and for agro foods Vadilal Icecream.

15. Skill Development Centres (SDC) should be established at all GIDCs industrial estates and SEZs like GIDC, Vatva, Odhav, Sanand, Naroda, Narol and pocket areas like Bapunagar, Naroda and Nikol for diamond cutting / polishing, Ahmedabad city for plastic and engineering, Vatva and Naroda for dyeing, Vatva and Narol for pharmaceuticals, Naroda, Dholka and Narol for textile power loom, viramgam taluka for ginning / pressing and around Ahmedabad city readymade garments in the district where industries will develop strategies for training as per their own requirements. This will provide opportunity for local manpower development in accordance with requirement of the industries. Thus the objective of the SDC is to provide employment to the local population by building them up into high quality skilled workers on a cost effective basis.

#### **GENERAL FIELD OBSERVATIONS, SUMMARY AND SUGGESTIONS**

In addition to the analysis based on the field data and entrepreneurs' opinions given above in the report, a few general observations, suggestions and summary are given below:

##### **Scope for Job Opportunities**

7. The medium and large scale existing industries in Ahmedabad district are textile, chemical, colour, dyeing, plastic, diamond cutting, readymade garments, etc. New medium and large scale industries coming up are textile and apparels, IT, I&ES, tourism, agro food, SEZ, urban development, pharmaceuticals, industrial parks, health care, chemical/petrochemicals etc. Therefore there is a good scope for job opportunities and generation of employment. There is a need to create facilities for short term courses suitable for industrial standards to get job in above mentioned industries.
8. There is a need of strengthening or upgrading chosen industrial training institutes into Centres of Excellence (CoE) and ITIs are to be developed under PPP model schemes for skilled manpower requirement of the district.



Table 5.7 Trade-wise Seats Available in ITIs/GIAs/ITCs of Ahmedabad District

**Government ITIs**

Sr. No.	Trade	Kubernagar	GITW Saraspur	Khokhra	Sarkhej	Thaltej	Sanand	Viramgam	Dhandhuka	Dholka	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
1.	Fridge/AC Mechanic	128	-	-	-	-	-	-	-	-	<b>128</b>
2.	Plate maker	96	-	-	-	-	-	-	-	-	<b>96</b>
3.	Mechanic – diesel	48	-	48	96	-	32	-	-	-	<b>214</b>
4.	Plastic process plant	16	-	-	48	-	-	-	-	-	<b>64</b>
5.	Book binder	96	-	-	-	-	-	-	-	-	<b>96</b>
6.	Dress making	72	48	-	32	32	-	-	-	-	<b>184</b>
7.	Welder	160	36	24	24	-	-	-	-	24	<b>268</b>
8.	IT / Electronic system maintenance	48	60	60	40	-	-	-	-	-	<b>208</b>
9.	Plumber	72	-	-	48	-	-	-	-	-	<b>120</b>
10.	Software programmer	64	48	-	-	48	-	-	-	-	<b>160</b>
11.	Draughtsman – Civil	48	-	-	48	-	-	-	-	-	<b>96</b>
12.	Steno / Computer Operator (Gujarati)	64	-	-	-	-	-	-	-	-	<b>64</b>
13.	Offset Printer	48	-	-	-	-	-	-	-	-	<b>48</b>
14.	2-wheeler repairer	48	40	-	32	-	-	-	-	32	<b>142</b>
15.	Steno / Computer Operator (English)	48	-	-	-	-	-	-	-	-	<b>48</b>
16.	Watch/Clock mechanic	96	-	-	-	-	-	-	-	-	<b>96</b>
17.	CoE Production	48	96	48	-	-	-	-	-	-	<b>192</b>

	(BBBT)										
18.	Tractor mechanic	16	-	-	32	-	-	-	-	-	<b>48</b>
19.	Draughtsman Mechanic	162	-	-	-	-	-	-	-	-	<b>192</b>
20.	Electrician	48	96	48	80	-	-	-	-	32	<b>272</b>
21.	Radio/TV mechanic	72	48	-	32	-	-	-	-	-	<b>152</b>
22.	Machinist	96	-	36	-	-	-	-	-	-	<b>132</b>
23.	Wireman	144	96	48	96	-	32	32	48	-	<b>496</b>
24.	Motor vehicle mechanic	120	48	-	144	-	32	-	32	-	<b>176</b>
25.	Computer Operator/Programer	80	60	60	120	40	-	40	40	40	<b>480</b>
26.	Electronics mechanic	48	48	-	16	-	-	32	-	-	<b>144</b>
27.	Chemical Plant mechanic	48	-	-	-	-	-	-	-	-	<b>48</b>
28.	Chemical Plant Operator	32	-	-	-	-	-	-	-	-	<b>32</b>
29.	Chemical Plant Instrument Mechanic	20	-	-	-	-	-	-	-	-	<b>20</b>
30.	Lift mechanic	48	-	-	-	-	-	-	-	-	<b>48</b>
31.	Lab. Asst. (Chemical plant)	48	-	-	-	-	-	-	-	-	<b>48</b>
32.	Machinist Grinder	36	-	-	-	-	-	-	-	-	<b>36</b>
33.	DTP Operator	48	-	-	-	-	-	-	-	-	<b>48</b>
34.	Painter general	48	32	-	-	-	-	-	-	-	<b>80</b>
35.	Turner	108	36	36	60	-	-	-	-	-	<b>240</b>
36.	CoE Production (Advance)	96	-	-	-	-	-	-	-	-	<b>96</b>
37.	Fitter	240	96	48	144	-	32	32	48	16	<b>656</b>

38.	Surveyor	16	-	-	-	-	-	-	-	-	16
39.	Sheet metal worker	48	-	-	-	-	-	-	-	-	48
40.	Carpenter	32	-	-	-	-	-	-	-	-	32
41.	Comp. aided design - Autocad	24	24	-	-	-	-	-	-	-	48
42.	Welder/Fabricator	-	36	-	12	-	-	-	-	-	48
43.	CoE Apparels	-	96	48	-	-	-	-	-	-	144
44.	E-commerce	-	72	-	-	-	-	-	-	-	72
45.	Tools / die maker	-	48	-	-	-	-	-	-	-	48
46.	Multi media tech. / DTP	-	-	-	72	-	-	-	-	-	72
47.	Web Designing	-	-	-	72	-	-	-	-	-	72
48.	CoE Instrumentation	-	-	-	192	-	-	-	-	-	192
49.	Instrument mechanic	-	-	-	80	-	-	-	-	-	80
50.	Hair & Skin Care	-	-	-	-	32	-	-	-	-	32
51.	Armature & Motor rewinding	-	-	-	-	32	-	-	32	32	96
52.	Driver cum mechanic	-	-	-	-	-	-	-	16	-	16
53.	Cutting / Sewing	-	-	-	-	-	-	-	16	-	16
54.	Receptionist / Comp. Operator	-	-	-	-	-	-	-	-	-	-
55.	Embroidery / needle work	-	-	-	-	-	-	-	-	-	-
56.	Library & Informn. Science	-	-	-	-	-	-	-	-	-	-
57.	Software Programming	-	-	-	-	-	-	-	-	-	-
58.	Mobile phone repairs	-	-	-	-	-	-	-	-	-	-

59.	Pre-preparatory school mgr.	-	-	-	-	-	-	-	-	-	-	-
60.	Diamond Grading	-	-	-	-	-	-	-	-	-	-	-
61.	Event Management	-	-	-	-	-	-	-	-	-	-	-
62.	Printing / Book binding	-	-	-	-	-	-	-	-	-	-	-
63.	MLT / Pathology	-	-	-	-	-	-	-	-	-	-	-
64.	Food production – craftsman	-	-	-	-	-	-	-	-	-	-	-
65.	X-Ray technician	-	-	-	-	-	-	-	-	-	-	-
66.	Aphthol Mic technician	-	-	-	-	-	-	-	-	-	-	-
67.	Health, Social Nursing, Sanitary & Dental	-	-	-	-	-	-	-	-	-	-	-
68.	Veterinary Assistant	-	-	-	-	-	-	-	-	-	-	-
69.	Fireman	-	-	-	-	-	-	-	-	-	-	-
70.	Safety & Security	-	-	-	-	-	-	-	-	-	-	-
	<b>Total:</b>	<b>2924</b>	<b>1164</b>	<b>304</b>	<b>1536</b>	<b>152</b>	<b>128</b>	<b>168</b>	<b>232</b>	<b>176</b>	<b>6700</b>	

**GAI Institutes**

Sr. No.	Trade	Vastrapur	Navrangpura	Motera	Sola	Maninagar	Ibrahim Dholka	Ganipur Dholka	Sanand	Shahibag	Physically Handicapped	Total GAI
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
1.	Fridge/AC Mechanic	-	-	-	32	-	16	-	-	-	-	<b>48</b>
2.	Plate maker	-	-	-	-	-	-	-	-	-	-	-
3.	Mechanic – diesel	-	-	-	32	-	-	-	32	-	-	<b>64</b>
4.	Plastic process plant	-	-	-	-	-	-	-	-	-	-	-
5.	Book binder	-	-	-	-	-	-	-	-	-	-	-

6.	Dress making	-	-	-	-	-	-	-	-	-	-	-
7.	Welder	-	-	-	12	-	-	-	-	16	-	<b>28</b>
8.	IT / Electronic system maintenance	-	-	-	-	-	-	-	-	-	-	-
9.	Plumber	-	-	-	-	-	-	-	-	-	-	-
10.	Software programmer	-	-	-	-	-	-	-	-	-	-	-
11.	Draughtsman – Civil	-	-	-	-	-	-	-	-	-	-	-
12.	Steno / Computer Operator (Gujarati)	-	-	-	-	-	-	-	-	-	-	-
13.	Offset Printer	10	-	-	-	-	-	-	-	-	-	<b>10</b>
14.	2-wheeler repairer	-	-	-	-	-	-	-	-	-	-	-
15.	Steno / Computer Operator (English)	10	-	-	-	-	-	-	-	-	-	<b>10</b>
16.	Watch/Clock mechanic	-	-	-	-	-	-	-	-	-	-	-
17.	CoE Production (BBT)	-	-	-	-	-	-	-	-	-	-	-
18.	Tractor mechanic	-	-	-	-	-	-	-	-	-	-	-
19.	Draughtsman Mechanic	-	-	-	-	-	-	-	-	-	-	-
20.	Electrician	-	-	-	-	-	-	-	-	-	-	-
21.	Radio/TV mechanic	-	-	-	32	-	-	-	-	-	-	<b>32</b>
22.	Machinist	-	-	-	-	-	-	-	-	-	-	-
23.	Wireman	-	-	-	32	-	-	32	32	-	-	<b>96</b>
24.	Motor vehicle mechanic	-	-	-	-	-	-	-	-	-	-	-
25.	Computer Operator/Programmer	-	-	-	-	40	-	-	-	-	10	<b>50</b>

26.	Electronics mechanic	-	-	-	32	-	-	-	-	32	-	<b>64</b>
27.	Chemical Plant mechanic	-	-	-	-	-	-	-	-	-	-	-
28.	Chemical Plant Operator	-	-	-	-	-	-	-	-	-	-	-
29.	Chemical Plant Instrument Mechanic	-	-	-	-	-	-	-	-	-	-	-
30.	Lift mechanic	-	-	-	-	-	-	-	-	-	-	-
31.	Lab. Asst. (Chemical plant)	-	-	-	-	-	-	-	-	-	-	-
32.	Machinist Grinder	-	-	-	-	-	-	-	-	-	-	-
33.	DTP Operator	10	-	-	-	-	-	-	-	-	-	<b>10</b>
34.	Painter general	-	-	-	-	-	-	-	-	-	-	-
35.	Turner	-	-	-	-	-	-	-	-	-	-	-
36.	CoE Production (Advance)	-	-	-	-	-	-	-	-	-	-	-
37.	Fitter	-	-	-	32	-	-	32	32	-	-	<b>96</b>
38.	Surveyor	-	-	-	-	-	-	-	-	-	-	-
39.	Sheet metal worker	-	-	-	-	-	-	-	-	-	-	-
40.	Carpenter	-	-	-	-	-	-	-	-	-	-	-
41.	Comp. aided design - Autocad	-	-	-	-	-	-	-	-	-	-	-
42.	Welder/Fabricator	-	-	-	-	-	-	-	-	-	-	-
43.	CoE Apparels	-	-	-	-	-	-	-	-	-	-	-
44.	E-commerce	-	-	-	-	-	-	-	-	-	-	-
45.	Tools / die maker	-	-	-	-	-	-	-	-	-	-	-
46.	Multi media tech. / DTP	-	-	-	-	-	-	-	-	-	-	-
47.	Web Designing	-	-	-	-	-	-	-	-	-	-	-
48.	CoE	-	-	-	-	-	-	-	-	-	-	-

	Instrumentation											
49.	Instrument mechanic	-	-	-	-	-	-	-	-	-	-	-
50.	Hair & Skin Care	10	-	-	-	-	-	-	-	-	-	<b>10</b>
51.	Armature & Motor rewinding	-	-	-	-	-	-	-	32	-	-	<b>32</b>
52.	Driver cum mechanic	-	-	-	-	-	-	-	-	-	-	-
53.	Cutting / Sewing	10	-	-	-	-	16	-	16	32	10	<b>84</b>
54.	Receptionist / Comp. Operator	20	-	10	-	-	40	-	-	-	-	<b>70</b>
55.	Embroidery / needle work	-	10	-	-	-	-	-	-	-	-	<b>10</b>
56.	Library & Informn. Science	-	-	-	-	-	-	-	-	-	-	-
57.	Software Programming	-	-	-	-	-	-	-	-	-	-	-
58.	Mobile phone repairs	-	-	-	-	-	-	-	-	-	-	-
59.	Pre-preparatory school mgr.	-	-	-	-	-	-	-	-	-	-	-
60.	Diamond Grading	-	-	-	-	-	-	-	-	-	-	-
61.	Event Management	-	-	-	-	-	-	-	-	-	-	-
62.	Printing / Book binding	-	-	-	-	-	-	-	-	-	-	-
63.	MLT / Pathology	-	-	-	-	-	-	-	-	-	-	-
64.	Food production – craftsman	-	-	-	-	-	-	-	-	-	-	-
65.	X-Ray technician	-	-	-	-	-	-	-	-	-	-	-
66.	Aphthol Mic technician	-	-	-	-	-	-	-	-	-	-	-
67.	Health, Social	-	-	-	-	-	-	-	-	-	-	-

	Nursing, Sanitary & Dental																		
68.	Veterinary Assistant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
69.	Fireman	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70.	Safety & Security	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Total:</b>	<b>70</b>	<b>10</b>	<b>10</b>	<b>204</b>	<b>40</b>	<b>72</b>	<b>64</b>	<b>144</b>	<b>80</b>	<b>20</b>	<b>714</b>							

**Self Finance Institutes**

Sr. No.	Trade	GIDC Vatva	Rajpur A'bad	GPO A'bad	Nava-Vadaj	Ranna Park	Maktam pura	Naran-pura	Shahi Bag	Ellis-bridge	CG Road	Sabar mati	Behram pura	Retiya wadi	Paldi Bhata	Navran gpura	Ishan pur	Naran pura	Mar nag
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1.	Fridge/AC Mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.	Plate maker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.	Mechanic – diesel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Plastic process	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.	Book binder	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.	Dress making	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.	Welder	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.	IT / Electronic system	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.	Plumber	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.	Software programmer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.	Draughtsman – Civil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.	Steno / Comp. Operator (Guj)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.	Offset Printer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.	2-wheeler	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



	repairer																		
15.	Steno / Comp. Operator (Eng.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.	Watch/Clock mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.	CoE Production (BBBT)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.	Tractor mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.	Draughtsman Mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.	Electrician	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.	Radio/TV mech	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.	Machinist	80	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-
23.	Wireman	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.	Motor vehicle mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.	Computer Op. / Programmer	-	-	-	-	-	20	-	40	-	-	20	36	20	-	10	20	-	20
26.	Electronics mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.	Chem. Plant mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.	Chem. Plant Operator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.	Chemical Plant Instru Mech.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.	Lift mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.	Lab. Ast. (Chem)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32.	Machinist Grinder	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

33.	DTP Operator	-	-	-	-	-	-	25	-	-	-	-	-	16	-	10	-	-	-
34.	Painter gen	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.	Turner	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36.	CoE Production (Advance)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37.	Fitter	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38.	Surveyor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39.	Sheet metal worker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40.	Carpenter	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41.	Comp. aided design -Autocad	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42.	Welder/Fabri	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43.	CoE Apparels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44.	E-commerce	-	-	-	50	-	-	-	-	25	-	-	-	-	-	-	-	-	-
45.	Tools/die maker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46.	Multi media tech. / DTP	-	-	-	-	-	-	-	-	-	-	25	-	-	-	-	-	-	-
47.	Web Design	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48.	CoE Instru	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49.	Instru mech	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50.	Hair & Skin Care	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51.	Armature/Motor rewinding	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-
52.	Driver cum mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
53.	Cutting/Sewing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
54.	Receptionist/ Comp. Op.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
55.	Embroidery/ needle work	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

56.	Library & Infor. Science	-	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
57.	Software Programming	-	-	25	50	-	-	-	-	25	-	25	-	-	-	-	-	-	-
58.	Mobile phone repairs	-	-	16	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-
59.	Preparatory school mgr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60.	Diamond Grading	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-
61.	Event Manage.	-	-	-	-	-	-	-	-	-	-	-	-	-	32	-	-	-	-
62.	Printing/Book binding	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-
63.	MLT/Pathology	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
64.	Food production-craftsman	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65.	X-Ray tech	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
66.	Aphthol Mic technician	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
67.	Health, Social Nursing,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
68.	Veterinary Ast	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
69.	Fireman	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70.	Safety/Security	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Total:</b>	<b>80</b>	<b>40</b>	<b>41</b>	<b>100</b>	<b>16</b>	<b>20</b>	<b>25</b>	<b>40</b>	<b>50</b>	<b>12</b>	<b>70</b>	<b>68</b>	<b>36</b>	<b>32</b>	<b>30</b>	<b>20</b>	<b>20</b>	<b>20</b>

**Self Finance Institutes (contd.)**

Sr. No.	Trade	Lal bungla	Thakar bapa	Vas-tral	Mani-nagar	Mani-nagar	Ghat-lodia	Ghat-lodia	Mondal	Sate-llite	Ankur	Saij-pur	Bavla	Swani Bavla	Bagodara H'way	Kalia vasna	Khoda	Godhavi	Viram-gam	T
		(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
1.	Fridge/AC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	Mechanic																		
2.	Plate maker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.	Mechanic – diesel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Plastic process	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.	Book binder	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.	Dress making	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.	Welder	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.	IT / Electronic system	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.	Plumber	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.	Software programmer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.	Draughtsman – Civil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.	Steno / Comp. Operator (Guj)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.	Offset Printer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.	2-wheeler repairer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.	Steno / Comp. Operator (Eng.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.	Watch/Clock mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.	CoE Production (BBBT)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.	Tractor mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.	Draughtsman Mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.	Electrician	-	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.	Radio/TV mech	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

22.	Machinist	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.	Wireman	-	32	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-	-
24.	Motor vehicle mechanic	-	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.	Computer Op. / Programmer	-	80	40	20	20	20	65	20	-	40	-	20	-	-	20	-	40	25	4
26.	Electronics mechanic	-	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.	Chem. Plant mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.	Chem. Plant Operator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.	Chemical Plant Instru Mech.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.	Lift mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.	Lab. Ast. (Chem)	-	-	-	-	-	-	-	-	40	-	-	-	-	-	-	-	-	-	-
32.	Machinist Grinder	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33.	DTP Operator	-	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
34.	Painter gen	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35.	Turner	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36.	CoE Production (Advance)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37.	Fitter	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38.	Surveyor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39.	Sheet metal worker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40.	Carpenter	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41.	Comp. aided design	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42.	Welder/Fabri	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

43.	CoE Apparels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44.	E-commerce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45.	Tools/die maker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46.	Multi media	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	-
47.	Web Design	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48.	CoE Instru	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49.	Instru mech	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50.	Hair & Skin Care	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-
51.	Armature/Motor rewinding	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52.	Driver cum mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
53.	Cutting/Sewing	-	-	-	-	-	-	16	-	-	60	-	-	-	-	-	-	-	-
54.	Receptionist/Comp. Op.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
55.	Embroidery/needle work	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
56.	Library & Infor. Science	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	20	-
57.	Software Programming	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
58.	Mobile phone repairs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
59.	Preparatory school mgr.	-	32	-	-	-	-	-	-	-	-	-	-	48	-	-	-	16	-
60.	Diamond Grading	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61.	Event Manage.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62.	Printing/Book binding	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63.	MLT/Pathology	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-

64.	Food production–craftsman	-	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65.	X-Ray tech	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-
66.	Aphthol Mic technician	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-
67.	Health, Social Nursing,	-	-	-	-	-	-	-	-	80	-	-	40	-	-	-	-	-	-	-
68.	Veterinary Ast	-	-	-	-	-	-	-	-	-	-	-	65	-	-	-	-	-	-	-
69.	Fireman	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	200	-	-	-
70.	Safety/Security	-	-	-	-	-	-	-	-	-	-	-	-	-	25	-	50	-	-	-
	<b>Total:</b>	<b>22</b>	<b>96</b>	<b>40</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>85</b>	<b>36</b>	<b>196</b>	<b>40</b>	<b>60</b>	<b>125</b>	<b>48</b>	<b>145</b>	<b>20</b>	<b>250</b>	<b>194</b>	<b>25</b>	<b>2</b>

Source: Directorate of Employment and Training, GOG, Gandhinagar.

**Vibrant Gujarat Investors' Summit 2005 & 2007 MOUs – Ahmedabad District**  
**List of the Industries Selected for Field Survey**

92. Mac Fills Enterprises Pvt. Ltd.
93. P M Marketing
94. Greenfield Hydroponics (Canada)
95. National Agri. Coop. Marketing Federation of India
96. Shiv-Shiva Agri Business Services Pvt. Ltd., Ahmedabad
97. Deep Kiran Foods Pvt. Ltd.
98. Shaan Energy Ltd.
99. Arvind Mills Ltd. (Denim-Khakhis-Garments)
100. Arvind Mills Ltd.
101. Jindal Worldwide Ltd.
102. Nandan Exim Ltd.
103. Soham Integrated Textiles Park
104. Soma Textiles & Industries Ltd.
105. Vishal Fabrics Pvt. Ltd.
106. Vinod Fabrics Pvt. Ltd.
107. India Denim Ltd.
108. Infinium India Ltd.
109. Concord Biotech Ltd.
110. Synchron Research Services Pvt. Ltd.
111. Aegis BPO Services Ltd. (Essar Group of Companies)
112. Gujarat Pharma Technopark Ltd.
113. Bodal Chemicals Ltd.
114. Meghmani Organics Ltd.
115. Devraj Infrastructure Ltld.
116. Jayani Projects Ltd.
117. Komoline Electronics Pvt. Ltd.
118. KHS Machineries Ltd.
119. Indian Oil Corporation Ltd. (IOCL)
120. Zydus Infrastructure Pvt. Ltd.
121. India Investment Pacifices, Ahmedabad

**Annexure V.1 (contd.)**

**Presently Functioning Medium & Large Scale Industries in Ahmedabad District**  
**List of the Industries Selected for Field Survey**

122. ATE Manufacturing
123. Ahmedabad Packaging Industries Ltd.
124. Amar Polyesters Ltd.
125. Ambica Re-Rolling Mills
126. Arat Electro Chemicals Pvt. Ltd.
127. Ashima Syntex Ltd.



128. Associated Pulp Paper Mills Ltd.
129. Cadila Health Care
130. Century Coats Ltd.
131. Chiripal Petrochemicals
132. CMC Machinery
133. Denish Knit Industries Ltd
134. Eastern Fiber Industries
135. Forge & Blower Industries Ltd.
136. Gopal Iron and Steel (Gujarat) Ltd.
137. H K Agrochem Ltd.
138. Kinarivala Spinners Ltd.
139. Kisan Industries
140. Marolia Steel Ltd.
141. Marudhar Industries Ltd.
142. Nirma Ltd.
143. Nova Petrochemicals
144. Patel Printing Press Pvt Ltd.
145. Reliance Industries Ltd.
146. RHP Cables and Industries Ltd.
147. Sandeep Industries Ltd.
148. Shree Prakash Textiles (Gujarat) Ltd.
149. Raipur Manufacturing Co.
150. Volga Air Technics Ltd.
151. Zenith Spinners Ltd.

# KHEDA DISTRICT ANALYSIS BASED ON SAMPLE SURVEY

## PROFILE OF KHEDA DISTRICT

### Location and Administration

Kheda district is one of the developed districts of Gujarat. The district has a total geographical area of 3958 sq.km. accounting for about 2.01% geographical area of the state. It is located in the middle of Gujarat and lies between 22.3° & 23.18° north latitudes and 72.32° & 73.37° west longitudes. The district is surrounded on north by Sabarkantha district, on south side it has Mahisagar river, on east by Panchmahal district and on the west Anand district. Kheda district consists of 10 talukas which are: Kapadvanj, Virpur, Balasinor, Kathlal, Mamehmdavad, Kheda, Matar, Nadiad, Mahudha and Thasra.

### Demographic Characteristics

The population of Kheda district as per 2001 census was 20.24 lakh. The density of population was 480 people per sq.km. compared to the state average of 268 in 2001. Urban population constitutes 20.07% of the total population. About 5.24% of the total population was Scheduled Caste and 1.60% was Scheduled Tribes. The literacy level was 71.96% in the year 2001. There were 10.52 lakh males and 9.71 lakh females in the total population.

### Rainfall

The average rainfall in different parts of the district varies from 550 mm to 1000 mm and average annual rainfall is 723 mm.

### River System

The main river of the district is Mahisagar which originates from Aravalli ranges. Other rivers are: Sabarmati, Vatrak, Shedhi, Meshwo, Khari, Mohar, Varisi and Luni. These rivers are flowing through the district. Except Mahisagar, rest of the rivers are seasonal. The major irrigation project viz. Kadana dam has been constructed on Mahisagar river.

### Soils

There is diversity in the principal types of soil, which can be found in entire Kheda district. The types of soil can be classified into six main categories. The Goradu type of soil is mainly found in parts of Nadiad and Thasra talukas. This soil is very rich in organic contents and highly responsive to application of improved farm technologies to obtain better results. The black soil is found in Matar taluka and type of land found is as under :

1. Goradu: Parts of Nadiad and Thasra talukas
2. Black soils: Matar taluka
3. Heavy black soil: Kapadvanj, Balasinor and Thasra talukas
4. Medium black soil: Mehmedavad taluka
5. Sandy soil: Parts of Kapadvanj and Mehmedavad talukas
6. Rock soil: Parts of Kapadvanj, Balasinor on the north side.

### Infrastructure

Kheda district has a well developed infrastructure, which is conducive for the growth of both industries as well as agriculture. The district has a better literacy rate of 71.96%. Nadiad city (district HQ) is very well connected by rail and road with other parts of the state. The district has a very good network of all weather roads. 106 km of national highway and 528 km of state highway passes through the district. Total length of railways in the district is 126 km, of which 113 km is broad gauge and 13 km is meter gauge.

### Industries

Kheda is one of the industrially developed districts in the state of Gujarat having large, medium and small scale industries of various types. A large number of industries related to textiles, machinery, metal products, pharmaceuticals, engineering, wooden furniture, tobacco industry, chemicals, paper pulp etc. are located in the district.

### Methodology of Assessment

For the selection of sample industries listing of all MOUs of Vibrant Gujarat Global Investors' Summit 2005 and 2007 with Summit of Information Technology, Urban Development and Tourism Industries was done on the basis of sector-wise list collected from Industries Commissionerate, Gandhinagar and respective nodal departments as well as the District Industry Centre, Nadiad. Thus, in all 16 entrepreneurs were selected for indepth study. The details regarding sectors, number of entrepreneurs etc. are given in the following table 5.1. The data from entrepreneurs were collected through structured questionnaires.

Table 5.1 Sector-wise number of MOUs

Sr. No.	Sector	Sample size (No. of MOUs) Visited	Remarks
1.	Automobile engineering	1	Only 4 MOUs signed.
2.	Chemical/petrochemicals	1	
3.	Pharmaceuticals	1	
4.	Textile and apparels	1	
	<b>Total</b>	<b>4</b>	
9.	Presently functioning (Existing)	<b>16</b>	Medium & large scale units

### Sample Selection for Presently Functioning Large & Medium Scale Industries

For the selection of sample industries Random Sampling Technique was adopted. Selection of sample industries was done randomly on the basis of sector-wise list of medium and large scale units collected from District Industry Centre Nadiad, Chamber of Commerce and Industries (Nadiad) and GIDC (Gandhinagar). From medium and large scale units 16 entrepreneurs were selected by random sampling method for indepth study.

Accordingly, 4 enterprises (MOUs) were visited as per the entrepreneurs' list provided by IC. The survey methodology was visiting of industries personally, meeting the responsible person; explaining regarding the survey with a request for cooperation in providing the information. As the data were not readily available at most of the units or the responsible person was not

available at the time of the visit of the survey team a second or even at times a third visit was most essential to collect the data from maximum number of units.

#### Reference Period

In order to have proper assessment of human resources development employment generation of the project at present i.e. reference year 2007-08 and future i.e. next five years (2013) were taken. In medium and large scale industries presently functioning units were selected on the basis of the secondary data provided by DIC and Chamber of Commerce and Industries, Nadiad and GIDC, Gandhinagar. The field work was carried out during the month of March 2008.

#### Observation on the Sample Survey Data

As per the terms of reference, 4 MOUs and 16 medium and large scale units signed in 2005 and 2007 were to be visited for manpower demand survey assessment. Accordingly, 4 MOUs and 16 present industries/units were visited. The entrepreneurs were interviewed in field units (factory sites) or offices to get information as per the proforma when the personal visit was made for the survey. In most of sites the industries (units) were functioning (Non-MOUs) well. Details regarding the total no. of employees, no. of skilled workers, no. of graduates employed in the units, anticipated manpower requirement in future i.e. next five years (2013), post graduates, degree/diploma holders, ITI trade and other graduates, lack of knowledge, lack of skills etc. were collected. Some quantitative data, semi quantitative and qualitative assessments on other aspects could be drawn from the interaction with the concerned entrepreneurs and the same are included in the survey results of this report.

Table 5.2 Sector-wise Profiles of MOUs signed in 2005 & 2007 and Manpower Requirement

Sr. No.	Sector	No. of Projects			Manpower Requirement		
		2005	2007	Total	2005	2007	Total
1.	Automobile engineering	1	-	1	120	-	120
2.	Chemical/petrochemicals	-	1	1	-	-	-
3.	Pharmaceuticals	-	1	1	-	410	410
4.	Textile and apparels	-	1	1	-	7450	7450
	<b>Total:</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>120</b>	<b>7860</b>	<b>7980</b>

\* Including multidistrict projects.

Source: Industries Commissionerate, GOG, Gandhinagar.

#### Summary and Field Observations of the District

15. 4 projects are proposed in the district.
16. Largest investment is proposed in the textile and apparels sector.
17. The district is well connected with National Highway No.8 connecting it to Ahmedabad and Mumbai.
18. Nadiad is also well connected with Ahmedabad and Mumbai by a broad gauge railway line.

#### Future Needs and Tasks

##### Manpower Requirement

Manpower requirement is a long drawn programme involving many agencies. Coordinated planning therefore has to be done a few years in advance of the requirements of technical and non technical manpower of different sectors like power, oil, gas, engineering, auto engineering, ceramic, chemicals and petrochemicals, agro & food, IT, biotechnology etc. The numbers of

trained manpower (ITI/Diploma/ Degree/post graduates etc.) required 2 to 5 years later has to be assessed now to enable placing / posting for technical and non technical manpower to the concerned industries. It is not difficult to assess the requirements on theoretical basis after making certain assumptions with regard to the growth of functioning industries, average number of workers employed in functioning units, group with industry, sector wise industry, skilled and unskilled manpower and scale wise industries and such other factors.

#### Basic Assumptions

A manpower requirement should aim at providing for the entire industries area with the best nature of talented manpower in shortest possible time. To draw up a realistic requirement of manpower to achieve this objective, it is necessary to have some basic idea as to the number of manpower youth needed and the technical institutes required for training them.

#### Manpower Requirement

The manpower requirement of important trades calculated on the above basis for the district is indicated in table 5.3. The estimates of annual present requirement of manpower is 7,891 persons (4+31=35) and future requirement will be 10,636 (4+31=35).

*Table 5.3 Basis of Calculation of Manpower Requirement in Kheda District*

<b>Sr. No.</b>	<b>Particulars</b>	<b>Present Manpower Requirement (base year 2007-08)</b>	<b>Manpower Requirement For next five Years (2013)</b>
A1.	Total surveyed 4 MOUs 2005 and 2007	915	1378
2.	Total 16 medium & large scale industrial Units surveyed	3594	4700
3.	Total surveyed 20 (4+16) MOUs & M&L Scale industries (1+2)	4509	60784
B4.	Average manpower required per unit	225.45	303.90
5.	Total manpower required MOUs & M&L scale industries (4+31 = 35)	7891	10636

C6.	In addition, small scale industries work forces worked out of base year 2007-08 (data collected from DIC) and for future @ 8% growth rate per year (5 year = 40%)	22090	30926
7.	Total manpower requirement in the district (5+6)	29981	41562
8.	Taking figures of indirect employment @ 20% of the total manpower (7)	5996	8312
9.	Overall employment generation in Kheda district	<b>35977</b>	<b>49874</b>

### Manpower Requirement in Kheda District from MOU 2005 and 2007

1. With 4 projects, the district has a total manpower requirement of 7,980 technical, managerial and unskilled workers.
2. Largest investment is in the sector of textile and apparels.
3. Presently Kheda district has:
  - 21 ITIs offering courses in the field of engineering, IT and chemicals
  - 2 technical institutes with an intake of over 700 students every year
  - 1 Ayurvedic college
  - 3 technical high schools and 3 technical education institutions
  - 1 college offering MCA to 60 students per year
  - 1 college offering MBA to 30 students per year

### Employment Generation in Industries after MOUs Signed in 2005 & 2007

At present there are 4,509 persons employed and in future there will be 6,078 persons employed at various levels in the 20 (4+16) industries surveyed out of 35 (4+31) industries. This means that average total employed (skilled and unskilled) staff & workers is 225.45 and 303.90 persons per unit. The number of units expected in Kheda district is 35 units (4+31) (MOUs & medium and large scale units) and hence the total requirement of skilled and unskilled persons works out to 7,891 for the base year (2007-08) and 10,636 numbers for the fifth year (2013) respectively. An additional 22,090 small scale industries workers in the base year and in future 30,926 small scale industries workers will be required; the anticipated demand works out to 29,981 for present and 41,562 for future.

There will be indirect employment generation in various activities like goods transport, dhabas, pan shops, various contract works, travel service, workshops for automobile repairs, steel fabrication, engineering works, machinery works, machinery parts, material supply business and many other activities due to industrial growth in the district. Taking the figures of indirect employment at 20% of the total of the above figures, the growth in the indirect employment can be expected around 5,996 for the base year and 8,312 for the future. Hence the overall employment generation in Kheda district due to the industrial growth can be anticipated around 35,977 employees at present and 49,874 employees in future.

Details of 20 units surveyed are presented in table 5.4 on the basis of this sample survey conducted. The manpower requirement of units which includes even those units that are in the pipeline has been derived as under.

Table 5.4 Anticipated Requirement of Manpower after MOUs Signed In 2005 and 2007 of Kheda District

Level of Education	Qualification	Present Requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	6	8
	M.Sc.	4	6
	M.Tech.	5	8
<b>Sub-total:</b>		<b>15</b>	<b>22</b>
Degree	Electrical	6	10
	Civil	2	4

	I & C	4	4
	Mechanical	8	10
	Electronics	2	2
	Computer	2	2
	I T	2	2
	Textile technology	4	6
	Ceramics	2	2
	Chemical	2	2
	Metallurgy	1	1
	Automobile Engg.	1	1
	Environmental Engg.	1	1
	Food Processing Technology	2	2
	Production Engg.	4	6
	Industrial Engg.	1	1
	Others	2	2
	<b>Sub-total:</b>	<b>46</b>	<b>58</b>
Diploma	Electrical	8	10
	Civil	2	4
	I & C	4	4
	Mechanical	12	16
	Electronics	2	2
	Computer	2	2
	Ceramics	2	2
	Textile technology	4	8
	Chemical	4	6
	IT	2	2
	Automobile Engg.	2	4
	Fabrication technology	2	6
	Dress making / Sewing	4	6
	Others	4	6
	<b>Sub-total:</b>	<b>54</b>	<b>78</b>
ITI Trade	Turner	20	30
	Fitter	16	28
	Wireman	6	10
	Welder	4	6
	Electrician	10	16
	Mechanic (AC/Fridge)	4	4
	Mechanic (Motor vehicles)	2	2
	Mechanic (Electronics)	2	4
	Mechanic (Instruments)	10	14
	Machinist	10	20
	Chemical Plant Operator	8	10
	Sewing / Dress making		
	Pump Mechanic	4	6
	Fireman	6	10
	Lift mechanic	4	6
	Lab Assistant	10	15
	Painter	4	10

	Plumber	4	8
	Mechanic (Tractor/Diesel)	8	12
	Networking Technicians	2	4
	Motor Rewinding	4	6
	Stenographer	6	10
	Mechatronics	4	6
	Mechanic (Radio / TV)	2	4
	Basic CNC	4	4
	Basic Sheetmetal Fabricn.	4	8
	Basic Turning / Grinding	4	8
	Embroidery	4	6
	E-commerce	4	6
	Weaving/Loom Operator	4	6
	Others	4	8
	<b>Sub-total:</b>	<b>184</b>	<b>287</b>
Graduates/ Others	B.Sc. / B.A. etc.	29	41
	B.Com. / M.Com.	18	20
	BCA	2	4
	Undergraduates	14	25
	Gardener/Peon/Packing staff	39	72
	Security	38	56
	<b>Sub-total:</b>	<b>140</b>	<b>218</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>476</b>	<b>715</b>
	<b>Skilled</b>	<b>439</b>	<b>663</b>
	<b>TOTAL</b>	<b>915</b>	<b>1378</b>

Details of 16 medium and large scale units surveyed are presented at Annexure V.1 of this report. On the basis of this sample survey conducted, the manpower requirement of 20 units which includes even those units that are in the pipeline has been derived as under.

*Table 5.5 Anticipated Requirement of Manpower Of Medium and Large Scale Industries*

<b>Level of Education</b>	<b>Qualification</b>	<b>Present requirement Base year (2007-08)</b>	<b>Future Requirement (next 5 years) (2013)</b>
Post Graduates/ Professionals	MBA/CA/CWA	20	20
	M.Sc.	24	24
	M.Tech.	6	6
	<b>Sub-total:</b>	<b>50</b>	<b>50</b>
Degree	Electrical	32	32
	Civil	4	6
	I & C	12	14
	Mechanical	34	38
	Electronics	4	6
	Computer	4	6
	I T	4	6
	Ceramics	6	8



	Chemical	16	16
	Metallurgy	2	4
	Textile Technology	4	8
	Automobile Engg.	4	6
	Environmental Engg.	12	12
	Food processing technology	8	10
	Production Engg.	12	12
	Industrial Engg.	4	6
	Others	4	4
	<b>Sub-total:</b>	<b>166</b>	<b>194</b>
Diploma	Electrical	38	38
	Civil	4	6
	I & C	16	16
	Mechanical	58	70
	Electronics	4	4
	Computer	4	4
	IT	4	4
	Ceramics	6	10
	Chemical	16	24
	Automobile Engg.	6	8
	Textile Technology	6	8
	Fabrication technology	8	12
	Dress Designing	4	6
	Mining	1	2
	Others	2	4
	<b>Sub-total:</b>	<b>177</b>	<b>216</b>
ITI Trade	Turner	107	116
	Fitter	83	96
	Wireman	26	38
	Welder	17	22
	Electrician	46	58
	Mechanic (AC/Fridge)	20	20
	Mechanic (Motor vehicles)	10	10
	Mechanic (Electronics)	16	20
	Dress Making/Sewing	15	16
	Mechanic (Instruments)	38	46
	Machinist	77	97
	Chemical Plant Operator	21	25
	Pump Mechanic	10	10
	Fireman	16	20
	Lift Mechanic	8	12
	Lab Assistant	30	45
	Painter	10	15
	Plumber	16	18
	Mechanic (Tractor/Diesel)	32	34
	Embroidery	16	20
	Networking Technicians	8	8
	Motor Rewinding	6	10

	Stenographer	20	30
	Mechatronics	6	10
	E-commerce	10	14
	Mechanic (Radio/TV)	4	6
	Basic CNC	8	8
	Basic Sheetmetal Fabricn.	18	20
	Basic Turning / Grinding	12	20
	Weaving Loom Operators	10	14
	Others	42	77
	<b>Sub-total:</b>	<b>758</b>	<b>955</b>
Graduates/ Others	B.Sc. / B.A. etc.	129	154
	B.Com. / M.Com.	50	54
	BCA	3	8
	Undergraduates	66	109
	Gardener/Peon/Packing staff	224	318
	Security	136	160
	<b>Sub-total:</b>	<b>608</b>	<b>823</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>1835</b>	<b>2462</b>
	<b>Skilled</b>	<b>1759</b>	<b>2238</b>
	<b>TOTAL (skilled + unskilled)</b>	<b>3594</b>	<b>4700</b>
<b>GRAND TOTAL</b>	<b>Table 5.4</b>	<b>915</b>	<b>1378</b>
	<b>Table 5.5</b>	<b>3594</b>	<b>4700</b>
	<b>TOTAL (Skilled &amp; Unskilled manpower)</b>	<b>4509</b>	<b>6078</b>

#### **Addressing the Manpower Requirement in Industries Coming Up in Kheda District**

Datamation Research Analyst (DRA), New Delhi has carried out a sample survey of 4 MOUs signed (with entrepreneurs) and 16 units of medium and large scale industries (total 20) in Kheda district and on the basis of that they have made a forecast (for next five years) i.e. year 2013 of manpower requirement for 4 MOUs and 31 units of medium and large scale (total 35 units). According to this survey the requirement of manpower in the ITI trades is anticipated to be around 1,648 for the base year (2007-08) and 2,173 for future (2013). The table 5.5 presented above gives a picture of the anticipated manpower requirement. The table 5.6 presented below gives a picture of the anticipated manpower requirement for present and future seats available in the ITIs, Grants in Aid, ITC, Self Finance Institutions in Kheda district and skill gaps.

Table 5.6 ITI Trade-wise no. of Manpower Requirement, no. of Seats Available and Skill Gaps in Kheda District

Trade	Base year (2007-08)			Next 5 yrs (2013)		Year-wise breakup of projection				
	Man-power Requirement	Seats available in ITI / SF etc.	Skill Gap (2-3)	Projected Requirement	Skill Gap (5-3)	2008-09	2009-10	2010-11	2011-12	2012-13
1	2	3	4	5	6	7	8	9	10	11
Turner	222	108	114	255	147	15	20	30	40	42
Fitter	173	384	-211	234	-150					
Wireman	56	560	-504	84	-476					
Welder	37	180	-143	49	-131					
Electrician	98	464	-366	129	-335					
Mech(AC)	199	504	-305	237	-267					
Dress Making	26	192	-166	28	-164					
Mech. (instru.)	84	184	-100	105	-79					
Machinist	152	36	116	205	169	20	25	35	42	47
Chem. Plant Operator	51	96	-45	60	-36					
Fireman	42	-	42	52	52	10	10	10	10	12
Lab. Asst.	70	40	30	105	65	12	12	12	14	15
Mech. Diesel	70	208	-138	80	-128					
Steno.	44	16	28	70	-54					
E-com.	24	-	24	35	35	7	7	7	7	7
Basic Sheet. Fabr.	38	-	38	49	49	10	10	10	10	9
Basic Turning Grinding	28	-	28	49	49	10	10	10	10	9
Weaving Loom Operator	24	-	24	35	35	7	7	7	7	7

Others	210	1366	1156	308	- 1058					
<b>Total:</b>	<b>1648</b>	<b>4338</b>	<b>- 2690</b>	<b>2173</b>	<b>- 2165</b>	<b>91</b>	<b>101</b>	<b>121</b>	<b>140</b>	<b>148</b>

Table 5.7 Details of Seats Available and Proposed Increase in Seats in Various ITIs of Kheda District

Sr. No.	Name of Institute	Seats Available	Proposed increase (Base year 2007-08) *
1.	ITI, Palana	1360	
2.	ITI, Utarsanda	1032	
3.	ITI, Balasinor	240	
4.	ITI, Matar	192	
5.	ITI, Kapadvanj	224	
6.	ITI, Mehmedavad	200	
7.	GIA, ITC, Loyola, Nadiad	168	
8.	GIA, ITC, Alina	32	
9.	GIA, ITC, Thasra	32	
10.	GIA, ITC, Pij	80	
11.	GIA, ITC, Dakor	248	
12.	GIA, ITC, Atarsumba	64	
13.	GIA, ITC, Mehmadaavad	16	
14.	GIA, ITC, Ambav	120	
15.	SFI, NJ Barad Trust, Nadiad	50	
16.	SFI, SS Umat Trust, Nadiad	20	
17.	SFI, RK Mandal, Panda, Balasinor ta.	16	
18.	SFI, S Trust, Atarsumba, Ta.Kapad.	72	
19.	SFI, Puspanjali Inst., Dakor	52	
20.	SFI, Kelavni Mandal, Ranjitpura	36	
21.	SFI, Noor Edu. Socy., Mulas, Mahuda	84	
	<b>Total:</b>	<b>4338</b>	

Note: As per personal discussions at the time of field survey.

\* Present intake capacity of ITIs is underutilized, hence no increase is proposed.

#### Strategies to Address Future Manpower Requirement in Kheda District

1. Majority of the projects proposed are to be established in Nadiad, Kheda and Matar areas;
2. Majority of the projects are based on textile & apparels, bioscience and pharmaceuticals;
3. Additional short term courses are required to meet the industrial manpower requirement. There is a shortage of biotechnology, technical and managerial, tourism and hotel management, hospitality management and food cooking staff;
4. There is a need of strengthening or upgrading chosen industrial training institutes into centres of excellence (CoE) and one ITI is to be developed under PPP model schemes for skilled manpower requirement of the district.

#### GENERAL FIELD OBSERVATIONS, SUMMARY AND SUGGESTIONS

In addition to the analysis based on the field data and entrepreneurs' opinions given above in the report, a few general observations, suggestions and summary are given below:

### **Scope for Job Opportunities**

1. The medium and large scale existing industries in Kheda district are textile, chemical, pesticides, agro based industries, pulp and paper industries, pharmaceuticals etc. New medium and large scale industries coming up are textiles, apparel parks, pharmaceuticals and agro based industries. Therefore, there is a good scope for job opportunities and generation of employment. There is a need to create facilities for short term courses like call centre services, Business Process Outsourcing (BPO), safety and security guards, fireman, air hostesses, flight stewards, airline ground staff, plastic processing industry etc. suitable for industrial standards to get jobs in above mentioned areas.
2. The supply of professionally qualified managers and heads of departments in the hospitality industry in Gujarat is short of the demand by about 50% and the demand and the supply ratio of top level staff in Gujarat's hospitality industry is imbalanced compared to other parts of the country. Looking to the hospitality industry in Gujarat expanding fast, at present there is an acute demand for professionally qualified managers.
3. There is a lack of awareness among Gujaratis towards the need for technical education in the hospitality business. The managerial staff is brought from Maharashtra, Rajasthan, Goa and elsewhere. Most of the top level managerial staff in the hospitality industry in Gujarat wants to get into metros like Mumbai, Delhi as the job satisfaction levels are low here.

Table 5.7 Trade-wise Seats Available in ITIs/GIAs/ITCs of Kheda District

Sr. No.	Trade	ITIs							GIAs								
		Palana	Utar-sanda	Bala-sinor	Matar	Kapad-vanj	Mehma-davad	Total ITI	Loyola Nadiad	Alina	Thasra	Pij	Dakor	Atar sumba	Mehma-davad	Am-bav	Total GIAs
		(1)	(2)	(3)	(4)	(5)	(6)		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
1.	Electronics mechanic	48	64	-	-	-	-	112	-	-	-	-	-	-	-	-	-
2.	Comp. Op./Programming (Girls)	-	40	-	-	-	-	40	-	-	-	-	-	-	-	-	-
3.	Comp. Op./Programming Asst	76	80	56	40	40	40	332	32	-	-	-	-	-	16	40	88
4.	Instrument Mech. (chem.. plant)	80	32	-	-	-	-	112	40	-	-	32	-	-	-	-	72
5.	Pump mechanic	-	16	-	-	-	-	16	-	-	-	-	-	-	-	-	-
6.	Draughtsman – mechanic	32	48	-	-	-	-	80	-	-	-	-	32	-	-	-	32
7.	Radio/TV Mechanic	32	48	-	-	-	-	80	-	-	-	32	16	-	-	-	48
8.	Wireman	144	96	32	32	32	32	368	32	16	32	16	32	32	-	16	176
9.	Plastic processing operator	48	32	-	-	-	-	80	-	-	-	-	-	-	-	-	-
10.	Fitter	80	96	32	32	32	32	304	32	-	-	-	48	-	-	-	80
11.	Dress Making	-	32	32	-	-	32	96	-	-	-	-	-	-	-	32	32
12.	Electrician	144	96	32	32	32	-	336	-	16	-	-	32	32	-	32	112
13.	CoE Refrigeration (BBBT)	-	96	-	-	-	-	96	-	-	-	-	-	-	-	-	-
14.	Chemical Plant Ope./Attendant	32	32	-	-	-	-	64	32	-	-	-	-	-	-	-	32

15.	Fridge/AC Mechanic	48	48	-	-	-	-	<b>96</b>	-	-	-	-	-	-	-	-	-
16.	Turner	72	36	-	-	-	-	<b>108</b>	-	-	-	-	-	-	-	-	-
17.	Draughtsman Civil	16	16	-	-	-	-	<b>32</b>	-	-	-	-	32	-	-	-	<b>32</b>
18.	Welder	36	48	24	24	24	-	<b>156</b>	-	-	-	-	24	-	-	-	<b>24</b>
19.	Mechanic – motor vehicle	32	48	-	-	32	-	<b>112</b>	-	-	-	-	-	-	-	-	-
20.	Armature / motor rewinding	40	48	-	-	-	32	<b>120</b>	-	-	-	-	-	-	-	-	-
21.	IT/Electronic system maintence.	60	60	-	-	-	-	<b>120</b>	-	-	-	-	-	-	-	-	-
22.	Electronic Mechanic (Girls)	-	16	-	-	-	-	<b>16</b>	-	-	-	-	-	-	-	-	-
23.	CoE Agriculture Machinery	192	-	-	-	-	-	<b>192</b>	-	-	-	-	-	-	-	-	-
24.	Surveyor	32	-	-	-	-	-	<b>32</b>	-	-	-	-	32	-	-	-	<b>32</b>
25.	Mechanic – diesel	48	-	32	32	32	32	<b>176</b>	-	-	-	-	-	-	-	-	-
26.	Machinist	36	-	-	-	-	-	<b>36</b>	-	-	-	-	-	-	-	-	-
27.	Mechanic – tractor	32	-	-	-	-	-	<b>32</b>	-	-	-	-	-	-	-	-	-
28.	Software Programming	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.	Lab. Technician	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.	Pre-preparatory school Mgr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.	Stenographer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Total:</b>	<b>1360</b>	<b>1128</b>	<b>240</b>	<b>192</b>	<b>224</b>	<b>200</b>	<b>3344</b>	<b>168</b>	<b>32</b>	<b>32</b>	<b>80</b>	<b>248</b>	<b>64</b>	<b>16</b>	<b>120</b>	<b>760</b>

**Self Finance Institutions (SFIs)**

Sr.	Trade	NJB	VET	Pandva,	Antar-	Dakor	Ranjitpura	Mulaj	Total
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No.		Nadiad	Nadiad	Nadiad	sumba	TI	Virpur	Mahudha	SFIs
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	
1.	Electronics mechanic	-	-	-	-	-	-	16	<b>16</b>
2.	Comp. Op./Program (Girls)	-	-	-	-	20	20	20	<b>60</b>
3.	Comp. Op./Programming Asst	-	-	-	-	-	-	-	-
4.	Instrument Mech. (chem.. plant)	-	-	-	-	-	-	-	-
5.	Pump mechanic	-	-	-	-	-	-	-	-
6.	Draughtsman – mechanic	-	-	-	-	-	-	-	-
7.	Radio/TV Mechanic	-	-	-	-	-	-	-	-
8.	Wireman	-	-	-	-	-	-	16	<b>16</b>
9.	Plastic processing operator	-	-	-	-	-	-	-	-
10.	Fitter	-	-	-	-	-	-	-	-
11.	Dress Making	-	-	-	16	16	16	16	<b>64</b>
12.	Electrician	-	-	-	-	-	-	16	<b>16</b>
13.	CoE Refrigeration (BBBT)	-	-	-	-	-	-	-	-
14.	Chemical Plant Ope./Attendant	-	-	-	-	-	-	-	-
15.	Fridge/AC Mechanic	-	-	-	-	-	-	-	-
16.	Turner	-	-	-	-	-	-	-	-
17.	Draughtsman Civil	-	-	-	-	-	-	-	-
18.	Welder	-	-	-	-	-	-	-	-
19.	Mechanic – motor vehicle	-	-	-	16	-	-	-	<b>16</b>
20.	Armature / motor rewinding	-	-	-	-	-	-	-	-
21.	IT/Electronic system maint.	-	-	-	-	-	-	-	-
22.	Electronic Mechanic (Girls)	-	-	-	-	-	-	-	-
23.	CoE Agriculture Machinery	-	-	-	-	-	-	-	-
24.	Surveyor	-	-	-	-	-	-	-	-
25.	Mechanic – diesel	-	-	-	-	-	-	-	-
26.	Machinist	-	-	-	-	-	-	-	-
27.	Mechanic – tractor	-	-	-	-	-	-	-	-

28.	Software Programming	50	-	-	40	-	-	-	<b>90</b>
29.	Lab. Technician	-	40	-	-	-	-	-	<b>40</b>
30.	Pre-preparatory school Mgr.	-	-	16	-	-	-	-	<b>16</b>
31.	Stenographer	-	-	-	-	16	-	-	<b>16</b>
	<b>Total:</b>	<b>50</b>	<b>40</b>	<b>16</b>	<b>72</b>	<b>52</b>	<b>36</b>	<b>84</b>	<b>350</b>

Source: Directorate of Employment and Training, GOG, Gandhinagar.

**Vibrant Gujarat Investors' Summit 2005 & 2007 MOUs – Kheda District**  
**List of the Industries Selected for Field Survey**

152. Torrent Cable Ltd., Nadiad
153. B C Technology, Bakrol, Kheda
154. Viraj Integrated Textile Park
155. Marco Bioscience Ltd., Haryala, Kheda

**Presently Functioning Medium & Large Scale Industries in Kheda District**

156. Cor Amblej Ltd., Radhu, Tal. Matar
157. Torrent Cable Ltd., Kamla, Kheda
158. Ceracen Company Ltd. Kanjari
159. GE Lighting (India) Ltd., Limbasi (Lamps, Shells, FL Tubes)
160. GE Lighting (India) Ltd., Nadiad (FL tubes and lens)
161. Bharat Shell Ltd., LPG Bottling, Pij, Tal. Matar
162. Mark Parantars (India) Ltd.
163. Shree Shakti Paper Board Mill Pvt. Ltd.
164. Cor Amblej Ltd. (corrugated box)
165. Mafatlal Industry Ltd. (textile division)
166. Cattle Feed Factory (Amul Foods)
167. Khatraj Satellite Dairy (Instruments)
168. ADF Food Ltd.
169. Hindustan Coca Cola Beverages Pvt. Ltd.
170. Dutron Polymers Ltd.
171. Royal Cater Industries Ltd.

# ANAND DISTRICT ANALYSIS BASED ON SAMPLE SURVEY

## PROFILE OF ANAND DISTRICT

### Location and Administration

Anand district lies between 20.07° & 23.18° north latitudes and 72.15° & 73.87° east longitudes surrounded by three districts of the state viz. Ahmedabad, Vadodara and Kheda. The district is divided into 8 talukas and two sub-divisions for administrative purposes. The headquarter of the district is Anand.

### Demographic Characteristics

The population of Anand district as per 2001 census was 16.47 lakh. The density of population was 558 people per sq.km. compared to the state average of 268 in 2001. Urban population constitutes 25.09% of the total population. About 5.86% of the total population was Scheduled Castes and 0.92% was Scheduled Tribes. The literacy level was 58.27% in the year 2001. There were 9.47 lakh males and 7.86 lakh females in the total population.

### Water Resources , Climate and Rainfall

Rivers Mahi, Sabarmati, Shedhi and Navidu are sources of water. Mahi river flows throughout the year, the rest of the rivers are seasonal. The climate of the district is generally warm and dry hot. The average rainfall in the district is 770 mm in a year.

### Soil

There is diversity in the principal types of soil which can be found in entire Anand district. The types of soil can be classified into six main categories. The Goradu type of soil is mainly found in Charotar tract on the western side of Anand district. This soil is very rich in organic contents and highly responsive to applications of improved farm technologies to obtain better results. The black soil is found in Bhal tract in Khambhat taluka. Area-wise type of soil found in the district is as under:

1. Goradu: Anand, Umreth, Anklav and Petlad
2. Rich black: Khambhat, Sojitra and Tarapur
3. Bhatha land: Anand and Borsad talukas

### Industry

Anand district is progressing well towards industrial development. At present there are 33 medium and large size industrial units and 5439 small scale units in the district. Many large scale units are coming up around Anand, Petlad, Borsad and Khambhat talukas. The number of persons employed by these industrial units are 12,588 (L&M0 and 28,605 (SSI).

### Transport and Communication

#### Road and Rail

The transport and communication facilities are prerequisites for development of commerce in a region. These facilities in Anand district have shown a very impressive improvement over the past decade. The total length of roads in the district has – National Highway – 26 km and state

highway 497 km . The district has the benefit of broad gauge railway line of 147 km and meter gauge 46 km. There are 204 branches of commercial banks, 24 branches of District Central Cooperative Banks, contributing to an overall economic development of the district. Bank of Baroda is the Lead Bank.

#### **Methodology of Assessment**

For the selection of sample industries listing of all MOUs of Vibrant Gujarat Global Investors' Summit 2005 and 2007 with Summit of Information Technology, Urban Development and Tourism Industries was done on the basis of sector-wise list collected from Industries Commissionerate, Gandhinagar and respective nodal departments as well as the District Industry Centre, Anand. The details regarding sectors, number of entrepreneurs etc. are given in the following table 5.1. The data from entrepreneurs were collected through canvassing of structured questionnaires.

*Table 5.1 Sector-wise number of MOUs*

<b>Sr. No.</b>	<b>Sector</b>	<b>Sample size (No. of MOUs) Visited</b>	<b>Remarks</b>
1.	Agro & Food Processing	2	Five did not respond as the responsible person was not available.
2.	Oil and Gas	1	
3.	Ports	1	
4.	Chemical & Petrochemicals	1	
5.	Power	1	
6.	Automobile Engineering	1	
7.	Tourism	1	
	<b>Total</b>	<b>8</b>	
8.	Presently functioning (Existing)	<b>25</b>	Medium & large scale units

#### **Sample Selection for Presently Functioning Large & Medium Scale Industries**

For the selection of sample industries Random Sampling Technique was adopted. Selection of sample industries was done randomly on the basis of sector-wise list of medium and large scale units collected from District Industry Centre Anand, Chamber of Commerce and Industries (Anand) and GIDC (Gandhinagar). From medium and large scale units 25 entrepreneurs were selected by random sampling method for indepth study.

Accordingly, 13 enterprises (MOUs) were visited but as the responsible person was not available 5 units could not be contacted as per the entrepreneurs' list provided by IC. The survey methodology was visiting of industries personally, meeting the responsible person; explaining regarding the survey with a request for cooperation in providing the information. As the data were not readily available at most of the units or the responsible person was not available at the time of the visit of the survey team a second or even at times a third visit was most essential to collect the data from maximum number of units.

#### **Reference Period**

In order to have proper assessment of human resources development employment generation of the project at present i.e. reference year 2007-08 and future i.e. next five years (2013) were

taken. In medium and large scale industries presently functioning units were selected on the basis of the secondary data provided by DIC and Chamber of Commerce and Industries, Anand and GIDC, Gandhinagar. The field work was carried out during the month of March 2008.

#### **Observation on the Sample Survey Data**

As per the terms of reference, 13 MOUs and 25 medium and large scale units signed in 2005 and 2007 were to be visited for manpower demand survey assessment. Accordingly, 13 MOUs and 25 present industries/units were visited. The entrepreneurs were interviewed in field units (factory sites) or offices to get information as per the proforma when the personal visit was made for the survey. In most of sites the industries (units) were functioning (Non-MOUs) well. Details regarding the total no. of employees, no. of skilled workers, no. of graduates employed in the units, anticipated manpower requirement in future i.e. next five years (2013), post graduates, degree/diploma holders, ITI trade and other graduates, lack of knowledge, lack of skills etc. were collected. Some quantitative data, semi quantitative and qualitative assessments on other aspects could be drawn from the interaction with the concerned entrepreneurs and the same are included in the survey results of this report.

*Table 5.2 Sector-wise Profiles of MOUs signed in 2005 & 2007 and Manpower Requirement*

Sr. No.	Sector	No. of Projects			Manpower Requirement		
		2005	2007	Total	2005	2007	Total
1.	Agro/Food Processing	1	3	4	-	15265	15265
2.	Oil and Gas	2	-	2	60	-	60
3.	Ports	-	2	2	-	100	100
4.	Chemical/Petrochemicals	-	2	2	-	1575	1575
5.	Power	-	1	1	-	90	90
6.	Automobile Engg.	-	1	1	-	1050	1050
7.	Tourism	-	1	1	-	100	100
	<b>Total:</b>	<b>3</b>	<b>10</b>	<b>13</b>	<b>60</b>	<b>18180</b>	<b>18240</b>

\* Including multidistrict projects.

Source: Industries Commissionerate, GOG, Gandhinagar.

#### **Summary and Field Observations of the District**

19. 13 projects are proposed in the district.
20. Largest investment is proposed in the Agro Food Processing Sector (4 projects).
21. The district is well connected with National Highway No.8 connecting it to Ahmedabad and Mumbai.
22. Anand is also connected with Ahmedabad and Mumbai by a broad gauge railway line.
23. The nearest port is Dahej and the nearest airports are Ahmedabad and Vadodara.

#### **Future Needs and Tasks**

##### Manpower Requirement

Manpower requirement is a long drawn programme involving many agencies. Coordinated planning therefore has to be done a few years in advance of the requirements of technical and non technical manpower of different sectors like power, oil, gas, engineering, auto engineering, ceramic, ports, chemicals and petrochemicals, agro & food, IT, biotechnology etc. The numbers of trained manpower (ITI/Diploma/ Degree/post graduates etc.) required 2 to 5 years later has

to be assessed now to enable placing / posting for technical and non technical manpower to the concerned industries. It is not difficult to assess the requirements on theoretical basis after making certain assumptions with regard to the growth of functioning industries, average number of workers employed in functioning units, group with industry, sector wise industry, skilled and unskilled manpower and scale wise industries and such other factors.

#### Basic Assumptions

A manpower requirement should aim at providing for the entire industries with the best nature of talented manpower in shortest possible time. To draw up a realistic requirement of manpower to achieve this objective, it is necessary to have some basic idea as to the extent of manpower needed and the technical institutes required for training the same.

#### Manpower Requirement

The manpower requirement of important trades calculated on the above basis for the district is indicated in table 5.3. The estimate of annual present requirement of manpower is 11,556 persons and future requirement will be 15,918.

*Table 5.3 Basis of Calculation of Manpower Requirement in Anand District*

<b>Sr. No.</b>	<b>Particulars</b>	<b>Present Manpower Requirement (base year 2007-08)</b>	<b>Manpower Requirement For next five Years (2013)</b>
A1.	Total surveyed 8 MOUs 2005 and 2007	1086	1770
2.	Total 25 medium & large scale industrial Units surveyed	5605	7446
3.	Total surveyed 33 MOUs & M&L Scale industries (1+2)	6691	9216
B4.	Average manpower required per unit	202.75	279.27
5.	Total manpower required MOUs & M&L scale industries (13+44 = 57)	11556	15918
C6.	In addition, small scale industries work forces worked out of base year 2007-08 (data collected from DIC) and for future @ 8% growth rate per year (5 year = 40%)	32000	44800
7.	Total manpower requirement in the district (5+6)	43556	60718
8.	Taking figures of indirect employment @ 20% of the total manpower (7)	8711	12144
9.	Overall employment generation in Anand district	<b>52267772862</b>	<b>432445</b>

#### **Manpower Requirement in Anand District from MOU 2005 and 2007**

1. With 13 proposed projects, the district has a total manpower requirement of 18,240 technical, managerial and unskilled workers.
2. Largest investment is in the sector of Agro Food Processing sector (4 projects).
3. Presently Anand district has

- 14 ITIs offering courses in the field of engineering, IT and Chemicals;
- 8 technical institutes with an intake capacity of over 400 students every year;
- One pharmacy college which churns out 30 students every year;
- One medical college with 50 students every year;
- One college offering MCA degree with 60 students every year;
- One agricultural college with a capacity of 100 students per year;
- One Dairy Science (BT) college with a capacity of 50 students every year;
- One BU Science and Animal Husbandry college with an intake of 50 students;

#### **Employment Generation in Industries after MOUs Signed in 2005 & 2007**

At present there are 6,691 persons employed and in future there will be 9,216 persons employed at various levels in the 33 (8+25) industries surveyed out of 57 (13+44) industries. This means that average total employed (skilled and unskilled) staff & workers is 202.75 and 279.27 persons per unit. The number of units expected in Anand district is 57 units (13+44) (MOUs & medium and large scale units) and hence the total requirement of skilled and unskilled persons works out to 11,556 for the base year (2007-08) and 15,918 numbers for the fifth year (2013) respectively. An additional 32,000 small scale industries workers in the base year and in future 44,800 small scale industries workers will be required; the anticipated demand works out to 43,556 for present and 60,718 for future.

There will be indirect employment generation in various activities like goods transport, dhabas, pan shops, various contract works, travel service, workshops for automobile repairs, steel fabrication, engineering works, machinery works, machinery parts, material supply business and many other activities due to industrial growth in the district. Taking the figures of indirect employment at 20% of the total of the above figures, the growth in the indirect employment can be expected around 8,711 for the base year and 12,140 for the future. Hence the overall employment generation in Anand district due to the industrial growth can be anticipated around 52,267 employees at present and 72,862 employees in future.

Details of 8 units surveyed are presented in table 5.4 on the basis of this sample survey conducted. The manpower requirement of 13 units which includes even those units that are in the pipeline has been derived as under.



Table 5.4 Anticipated Requirement of Manpower after MOUs Signed In 2005 and 2007 of Anand District

Level of Education	Qualification	Present Requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	8	11
	M.Sc.	7	13
	M.Tech.	7	9
<b>Sub-total:</b>		<b>22</b>	<b>23</b>
Degree	Electrical	10	10
	Civil	-	1
	Mechanical	16	23
	Chemical	3	6
	Automobile Engg.	2	3
	Environmental Engg.	3	5
	Food Processing Technology	-	5
	Production Engg.	4	5
	Others	3	5
<b>Sub-total:</b>		<b>41</b>	<b>63</b>
Diploma	Electrical	15	23
	Civil	-	1
	Mechanical	23	34
	Chemical	5	9
	Fabrication technology	7	12
	Others	3	5
<b>Sub-total:</b>		<b>53</b>	<b>84</b>
ITI Trade	Turner	34	53
	Fitter	30	46
	Wireman	9	19
	Welder	12	22
	Electrician	22	32
	Mechanic (AC/Fridge)	4	11
	Mechanic (Motor vehicles)	2	6
	Mechanic (Electronics)	4	6
	Mechanic (Instruments)	15	21
	Machinist	21	27
	Chemical Plant Operator	5	6
	Sewing / Dress making	2	2
	Pump Mechanic	6	7
	Fireman	4	11
	Lift mechanic	2	4
	Lab Assistant	10	18
	Painter	9	11
	Plumber	10	16
	Mechanic (Tractor/Diesel)	11	18
Networking Technicians	2	2	

	Motor Rewinding	2	2
	Stenographer	3	8
	Mechatronics	2	2
	Mechanic (Radio / TV)	2	2
	Basic CNC	8	11
	Basic Sheetmetal Fabricn.	12	16
	Basic Turning / Grinding	7	11
	Embroidery		
	E-commerce	2	2
	Weaving/Loom Operator	2	2
	Others	8	26
<b>Sub-total:</b>		<b>263</b>	<b>423</b>
Graduates/ Others	B.Sc. / B.A. etc.	39	62
	B.Com. / M.Com.	16	26
	BCA	-	4
	Undergraduates	9	30
	Gardener/Peon/Packing staff	58	104
	Security	55	89
<b>Sub-total:</b>		<b>178</b>	<b>316</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>529</b>	<b>862</b>
	<b>Skilled</b>	<b>557</b>	<b>908</b>
	<b>TOTAL</b>	<b>1086</b>	<b>1770</b>

Details of 25 medium and large scale units surveyed are presented at Annexure V.1 of this report. On the basis of this sample survey conducted, the manpower requirement which includes even those units that are in the pipeline has been derived as under.

Table 5.5 Anticipated Requirement of Manpower Of Medium and Large Scale Industries

Level of Education	Qualification	Present requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	32	34
	M.Sc.	25	30
	M.Tech.	14	15
<b>Sub-total:</b>		<b>71</b>	<b>79</b>
Degree	Electrical	38	38
	Civil		
	I & C	10	11
	Mechanical	63	70
	Electronics	17	17
	Computer	7	8
	Ceramics	11	11
	Chemical	21	31
	Metallurgy	12	14
	Textile Technology	21	31
	Automobile Engg.	15	16

	Environmental Engg.	25	28
	Food processing technology	24	34
	Production Engg.	21	26
	Industrial Engg.	18	22
	Others	9	11
<b>Sub-total:</b>		<b>312</b>	<b>374</b>
Diploma	Electrical	59	64
	I & C	18	21
	Mechanical	79	97
	Electronics	7	8
	Ceramics	16	23
	Chemical	23	29
	Automobile Engg.	18	24
	Textile Technology	23	35
	Fabrication technology	18	29
	Dress Designing	15	20
	Others	12	17
<b>Sub-total:</b>		<b>290</b>	<b>367</b>
ITI Trade	Turner	152	198
	Fitter	121	153
	Wireman	50	76
	Welder	21	32
	Electrician	65	95
	Mechanic (AC/Fridge)	17	23
	Mechanic (Motor vehicles)	17	21
	Mechanic (Electronics)	12	15
	Sewing / Dress Making	22	27
	Mechanic (Instruments)	49	71
	Machinist	92	130
	Chemical Plant Operator	41	63
	Pump Mechanic	14	20
	Fireman	38	60
	Lift Mechanic	8	9
	Lab Assistant	47	68
	Painter	42	46
	Plumber	29	35
	Mechanic (Tractor/Diesel)	46	66
	Embroidery	25	30
	Networking Technicians	9	10
	Motor Rewinding	16	18
	Stenographer	40	66
	Mechatronics	15	17
	Mechanic (Radio / TV)	7	7
	E-commerce	13	18
	Basic CNC	19	25
	Basic Sheetmetal Fabricn.	27	34
	Basic Turning / Grinding	19	27
	Weaving Loom Operators	26	37

	Others	46	79
<b>Sub-total:</b>		<b>1157</b>	<b>1577</b>
Graduates/ Others	B.Sc. / B.A. etc.	208	264
	B.Com. / M.Com.	78	101
	BCA	27	38
	Undergraduates	73	114
	Gardener/Peon/Packing staff	347	475
	Security	238	296
<b>Sub-total:</b>		<b>1001</b>	<b>1345</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>2774</b>	<b>3704</b>
	<b>Skilled</b>	<b>2831</b>	<b>3742</b>
	<b>TOTAL (skilled + unskilled)</b>	<b>5605</b>	<b>7446</b>
<b>GRAND TOTAL</b>	<b>Table 5.4</b>	<b>1086</b>	<b>1770</b>
	<b>Table 5.5</b>	<b>5605</b>	<b>7446</b>
	<b>TOTAL (Skilled &amp; Unskilled manpower)</b>	<b>6691</b>	<b>9216</b>

#### **Addressing the Manpower Requirement in Industries Coming Up in Anand District**

Datamation Research Analyst (DRA), New Delhi has carried out a sample survey of 8 MOUs signed (with entrepreneurs) and 25 units of medium and large scale industries (total 33) in Anand district and on the basis of that they have made a forecast (for next five years) i.e. year 2013 of manpower requirement for 13 MOUs and 44 units of medium and large scale (total 57 units). According to this survey the requirement of manpower in the ITI trades is anticipated to be around 2,452 for the base year (2007-08) and 3,455 for future (2013). The table 5.5 presented above gives a picture of the anticipated manpower requirement. The table 5.6 presented below gives a picture of the anticipated manpower requirement for present and future seats available in the ITIs, Grants in Aid, ITC, Self Finance Institutions in Anand district and skill gaps.

Table 5.6 ITI Trade-wise no. of Manpower Requirement, no. of Seats Available and Skill Gaps in Anand District

Trade	Base year (2007-08)			Next 5 yrs (2013)		Year-wise breakup of projection				
	Man-power Requirement	Seats available in ITI / SFI etc.	Skill Gap (2-3)	Projected Requirement	Skill Gap (5-3)	2008-09	2009-10	2010-11	2011-12	2012-13
1	2	3	4	5	6	7	8	9	10	11
Turner	320	48	272	433	385	40	50	80	90	125
Fitter	244	352	-108	342	-10	-10	-	-	-	-
Wireman	102	272	-170	164	-108	-20	-20	-20	-20	-28
Welder	57	84	-27	93	9	9	-	-	-	-
Electrician	150	192	-42	219	27	10	17	-	-	-
Mech(AC)	195	372	-177	290	-82	-16	-16	-16	-16	-18
Sewing	41	48	-7	50	2	2	-	-	-	-
Mech. (instru.)	109	96	13	159	63	20	20	23	-	-
Chem. Plant Operator	79	148	-69	119	-29	-10	-10	-9	-	-
Fireman	72	-	72	123	123	20	25	25	25	28
Lab. Asst.	98	-	98	149	149	30	30	30	30	29
Machinist	195	-	195	271	271	30	40	50	60	91
Painter	88	-	88	98	98	20	20	20	20	18
Plumber	67	-	67	88	88	17	17	18	18	18
Mech. Diesel	98	48	50	145	97	20	20	20	20	17
Embroidery	43	-	43	52	43	10	10	10	15	-
Steno.	74	64	10	128	64	12	12	12	14	14
E-com.	26	32	-6	34	2	2	-	-	-	-
Basic CNC	47	-	47	62	62	12	12	12	13	13
Basic sheet metal Fab.	67	32	35	86	54	10	10	10	12	12
Basic Turnig/Gr.	45	-	45	66	66	12	12	12	15	15
Weaving loom op.	83	-	83	105	105	20	20	20	20	25
Others	152	548	-396	179	-369	-100	-100	-90	-79	-
<b>Total:</b>	<b>2452</b>	<b>2336</b>	<b>116</b>	<b>3455</b>	<b>1109</b>	<b>140</b>	<b>199</b>	<b>207</b>	<b>235</b>	<b>359</b>

Table 5.7 Details of Seats Available and Proposed Increase in Seats in Various ITIs of Anand District

Sr. No.	Name of Institute	Seats Available	Proposed increase (Base year 2007-08)
1.	ITI, Vasad	308	10
2.	ITI, Anand	152	10
3.	ITI, Khambhat	204	12
4.	GIA, Anand	200	15
5.	GIA, Khambholaj	116	20
6.	GIA, Karamsad	204	10
7.	GIA, Vallabh Vidyanagar	420	-
8.	GIA, Borsad	96	20
9.	GIA, Khambhat	48	13
10.	GIA, Sunav	204	-
11.	GIA, Dharmaj	80	6
12.	GIA, Nar	172	-
13.	GIA, Umreth	96	-
14.	GIA, Tarapur	36	-
<b>Total:</b>		<b>2336</b>	<b>116</b>

Note: As per personal discussions at the time of field survey.

#### Strategies to Address Future Manpower Requirement in Anand District

1. Majority of the projects proposed are to be established in Anand, Vallabh Vidyanagar, Petlad, Khambhat and Dhuvaran areas;
2. Majority of the projects are based on agro food processing, dairy industry, floriculture, rose plantation and Jethropa plantation for bio diesel;
3. Additional short term courses are required to meet the industrial manpower requirement. There is a shortage of Bagban (garden experts) workers for field work in floriculture gardens.
4. The Department of Employment and Training should coordinate with Agricultural University, Anand for agro based industries and modernize the curricula and courses for such training. The entrepreneurs should plan agro based industrial parks in association with the government for future requirements of manpower.
5. For export purposes it is required to improve the quality of products and productivity.

#### GENERAL FIELD OBSERVATIONS, SUMMARY AND SUGGESTIONS

In addition to the analysis based on the field data and entrepreneurs' opinions given in the report, a few general observations, suggestions and summary are given below:

#### Scope for Job Opportunities

1. Agro based and food processing industry is one of the thrust areas of Anand district.  
Large Scale Employment Opportunities
2. Development of business will generate employment opportunities for the local youth. Areas like tobacco byproducts (nicotine sulfate, agro-chemicals, protein, edible oil, acid, organic manure), marine engineering, chemical industry, electronic industry can create employment opportunities at different levels.

3. Readymade garments industry has a good scope to generate employment opportunities in Anand district.

Table 5.7 Trade-wise Seats Available in ITIs/GIAs/ITCs of Anand District

Sr. No.	Trade	ITIs				GIAs											Total
		Vasad	Anand	Kham- bhat	Total ITI	Anand	Kham- bhat	Karam- sad	New VV nagar	Bor- sad	Kham- bhat	Sunav	Dhar- maj	Nar	Um- reth	Tara- pur	
		(1)	(2)	(3)		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
1.	Electrician	32	-	32	<b>64</b>	32	-	32	16	16	-	32	-	-	-	-	<b>128</b>
2.	Wireman	32	-	32	<b>64</b>	32	-	16	-	32	16	-	32	32	48	-	<b>208</b>
3.	Mechanic – diesel	-	-	32	<b>32</b>	-	-	-	16	-	-	-	-	-	-	-	<b>16</b>
4.	Fitter	32	-	32	<b>64</b>	32	32	32	-	16	32	64	-	32	48	-	<b>288</b>
5.	Welder	24	-	12	<b>36</b>	-	-	24	12	-	-	-	-	12	-	-	<b>48</b>
6.	Instrument Mechanic	-	-	32	<b>32</b>	-	-	-	64	-	-	-	-	-	-	-	<b>64</b>
7.	Armature / motor rewinding	32	-	32	<b>64</b>	-	-	-	-	-	-	-	-	-	-	-	-
8.	Hair & Skin Care	-	32	-	<b>32</b>	-	-	-	-	-	-	-	-	-	-	-	-
9.	Computer Operator Asst.	40	40	-	<b>80</b>	40	20	-	136	-	-	20	16	40	-	20	<b>292</b>
10.	Software programming	-	48	-	<b>48</b>	-	-	-	32	-	-	-	-	-	-	-	<b>32</b>
11.	Steno. Cum Comp. Operator	-	32	-	<b>32</b>	-	-	-	32	-	-	-	-	-	-	-	<b>32</b>
12.	Plastic – Operator	32	-	-	<b>32</b>	-	-	-	-	-	-	-	-	-	-	-	-
13.	2 wheeler automobile repairs	20	-	-	<b>20</b>	-	-	-	-	-	-	-	-	-	-	-	-
14.	Chem. Plant – Oper. /Attend.	32	-	-	<b>32</b>	-	-	20	-	-	-	-	-	-	-	-	<b>20</b>
15.	CoE Chemical Plant	96	-	-	<b>96</b>	-	-	-	-	-	-	-	-	-	-	-	-
16.	Electronic Mechanic	32	-	-	<b>32</b>	-	-	32	16	-	-	32	-	32	-	-	<b>112</b>
17.	Dress Making	-	-	-	-	32	-	-	-	-	-	-	-	-	-	16	<b>48</b>
18.	Draughtsman – Mechanic	-	-	-	-	32	32	16	-	16	-	16	32	-	-	-	<b>144</b>



19.	Draughtsman – Civil	-	-	-	-	-	32	-	-	-	-	16	-	-	-	-	48
20.	Sheet Metal worker	-	-	-	-	-	-	32	-	-	-	-	-	-	-	-	32
21.	Multimedia / DTP	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-	32
22.	Hardware/Networking Tech.	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-	32
23.	E-commerce	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-	32
24.	Surveyor	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	16
25.	Turner	-	-	-	-	-	-	-	-	-	-	24	-	24	-	-	48
	<b>Total:</b>	<b>404</b>	<b>152</b>	<b>204</b>	<b>760</b>	<b>200</b>	<b>116</b>	<b>204</b>	<b>420</b>	<b>96</b>	<b>48</b>	<b>204</b>	<b>80</b>	<b>172</b>	<b>96</b>	<b>36</b>	<b>1672</b>

Source: Directorate of Employment and Training, GOG, Gandhinagar.

**Vibrant Gujarat Investors' Summit 2005 & 2007 MOUs – Anand District**  
**List of the Industries Selected for Field Survey**

172. NDDB and Anand Agricultural University
173. Ruchi Soya Industries Ltd., Indore
174. Charotar Gas Sahakari Mandli Ltd
175. V I Energy Khambhat
176. J H Khirawala Pvt. Ltd., Khambhat
177. GSEL, Dhuvaran – III
178. Elecon Ltd. (Ship block building)
179. Dadubhai C Patel, Karamsad (Hotel Project)

**Presently Functioning Medium & Large Scale Industries in Anand District**

180. Anand Regional Oil Seed Growers Union Ltd.
181. B P Coating Pvt. Ltd.
182. Elecon Engineering Co. Ltd.
183. Indian Dairy Machinery Co. Ltd.
184. Jyoti Electrical Motors Ltd. (Pump starter production)
185. Jyoti Switch Gears Ltd.
186. Kheda Dist. Coop. Milk Producers' Union Ltd.
187. Reman Gelatin Ltd.
188. Rollcon Engineering Pvt. Ltd. (Chain pocket wheel)
189. National Tree Growers' Federation Ltd.
190. Gujarat Machinery Manufacturing Ltd.
191. Baroda Electrical Meter Ltd.
192. R K Chemicals (CI Powder) Ltd.
193. Dal Anloj Products Ltd.
194. Keraken Company Ltd.
195. Vallabh Glass Works Ltd.
196. Mahindra and Mahindra Ltd.
197. Shrinathji Dairy Farm
198. Petlad Textile Mills Ltd.
199. PBM Polytex Ltd.
200. Shyam Prakash Textiles (Gujarat – yarn)
201. Prakash Textiles (Gujarat – spin yarn)
202. Jay Ceramics Ltd. (glazed tiles)
203. Shri Shoobhlaxmi Mills (grey yarn)
204. Cambey Cam Ltd (deys and intermediate)