

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

**PART – IV REPORT**

**FOR THE DISTRICTS :**

**Amreli  
Bhavnagar  
Jamnagar  
Junagadh  
Porbandar  
Rajkot  
Surendranagar**

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

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# AMRELI DISTRICT ANALYSIS BASED ON SAMPLE SURVEY

## PROFILE OF AMRELI DISTRICT

### Location and Administration

Amreli district lies between 20.45° & 22.25° north latitude and 70.30° & 71.75° east longitude surrounded by three districts of the state viz. Rajkot in the north, Bhavnagar in the east, Junagadh in the west and Arabian Sea & Diu Bet in the south. The district is divided into eleven talukas viz. Lathi, Babra, Vadiya, Bagodara, Dhari, Khambha, Rajula, Jafrabad, Savarkundala, Lilia and Amreli. The headquarters of the district is Amreli. The district has an area of 7403 sq.km.

### Demographic Characteristics

The population of Amreli district as per 2001 census was 19.93 lakh. The density of population was 188 people per sq.km. compared to the state average of 268 in 2001. Urban population constitutes 22.46% of the total population of the district. About 7.35% of the total population was Scheduled Caste and 0.09% was Scheduled Tribes. The literacy level was 60.44% in the year 2001. There were 7.01 lakh males and 6.91 lakh females in the total population.

### Water Resources, Climate and Rainfall

Rivers Shetrunji, Santali and Dhatarvadi are sources of water. These rivers are seasonal. The climate of the district is generally warm and dry hot. The average rainfall of Amreli district is 550mm in a year.

Amreli district can be conveniently divided into four regions geographically, topographically and economically as well as from the resources point of view. The intraregional differences have considerable bearing on the strategy of planning and on the formation of development programmes. The four regions are as under:

#### (i) Northern Region

This portion of the district comprises of Babra and parts of Lathi and Amreli talukas. This region has a mountain range and is also partly covered with forest. The soils are shallow, medium black with some pockets of highly calcareous soils. Major crops grown in this region are groundnut, pearl millet, cotton and pulses.

#### (ii) Central Region

This portion of the district comprises of parts of Amreli, Lathi, lilia and Vadiya talukas. It is a plain area and the soils are shallow and medium black. The black soils of this region are very fertile and conducive to groundnut and cotton crop cultivation.

#### (iii) Forest Region

The region known as "Gir Forest" consists of Dhari taluka and parts of Rajula and Khambha talukas. The region is partly covered with forests and also has a mountain range.

#### (iv) Coastal Region

The region known as “Coastal Region” consists of Rajula and Jafrabad talukas. This region has 62 km of coastal line at the Arabian Sea. Industrial area of Pipavav port is now developing very fast in the coastal region. The quality of water is not good and the soils are saline and sodic in nature.

## INFRASTRUCTURE

### Industries

Amreli district has 6 medium and large scale industrial units and 5193 small scale units having a total investment of Rs.170 crores (L&M) and Rs.67 crores (SSI) respectively in the year 2004. The number of persons employed by these industrial units are 1432 (L&M) and 17229 (SSI). The new industrial policy of the state provides capital investment, subsidy, sales tax benefits, incentives to employment oriented industries, incentive for pioneer and prestigious units and special incentives for setting up 100% export oriented units to accelerate the industrial growth in Amreli district. There are 6 industrial estates of GIDC which provide 367 industrial sheds in Amreli.

### Transport and Communication

The transport and communication facilities are prerequisites for development of commerce in a region. These facilities in Amreli have shown a very good improvement over the last decade. Total length of roads in the district was 402 km in the year 2004. The district has the benefit of broad gauge railway line of 271 km. There are three major ports in the district viz. Victor, Jafrabad and Pipavav. Fertilizers, sulphur, coal, iron scrap etc are the main items imported at these ports. There are 82 branches of commercial banks and 45 branches of DCCBs contributing to an overall economic development of the district. State Bank of Saurashtra 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, Amreli. 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.	Agro & Food Processing	1	
2.	Ports	1	
3.	Chemicals & Petrochemicals	1	
4.	Power	3	
5.	Civil Aviation	1	
	<b>Total</b>	<b>7</b>	
6.	Presently functioning (Existing)	<b>4</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 Amreli, Chamber of Commerce and Industries (Amreli) and GIDC (Gandhinagar). From medium and large scale units 4 entrepreneurs were selected by random sampling method for indepth study.

Accordingly, 11 enterprises (MOUs) were visited but as the responsible person was not available 4 units could not be contacted as per the entrepreneurs' list provided by IC as they were out of state. 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, Amreli and GIDC, Gandhinagar. The field work was carried out during the month of April 2008.

### Observation on the Sample Survey Data

As per the terms of reference, 7 MOUs and 4 medium and large scale units signed in 2005 and 2007 were to be visited for manpower demand survey assessment. Accordingly, 7 MOUs and 4 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.	Power	-	4	4	-	2060	2060
2.	Ports	1	1	2	-	200	200
3.	Agro/Food Processing	1	-	1	326	-	326
4.	SEZs	-	1	1	-	2000	2000

5.	Oil and Gas	-	1	<b>1</b>	-	100	<b>100</b>
6.	Automobile Engineering	-	1	<b>1</b>	-	100	<b>100</b>
7.	Civil Aviation	-	1	<b>1</b>	-	100	<b>100</b>
	<b>Total:</b>	<b>2</b>	<b>9</b>	<b>11</b>	<b>326</b>	<b>4560</b>	<b>4886</b>

\* Including multidistrict projects.

Source: Industries Commissionerate, GOG, Gandhinagar.

#### Summary and Field Observations of the District

1. 11 Projects are proposed in the district.
2. Largest investment is proposed in the Power Sector (4 projects).
3. The district is well connected with the state highway.
4. Amreli is also connected with Khijadiya to Veraval by a meter gauge railway line.
5. The nearest ports are Jafrabad, Victor and Pipavav.
6. The nearest airports are Bhavnagar and Rajkot.

#### 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 wise 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 are 3,038 persons and future requirement will be 7,098.

Table 5.3 Basis of Calculation of Manpower Requirement in Amreli District

Sr. No.	Particulars	Present Manpower Requirement (base year 2007-08)	Manpower Requirement For next five Years (2013)
A1.	Total surveyed 7 MOUs 2005 and 2007	342	2523
2.	Total 4 medium & large scale industrial	1624	2070

	Units surveyed		
3.	Total surveyed 11 MOUs & M&L Scale industries (1+2) – 7+4=11	1966	4593
<b>B4.</b>	Average manpower required per unit	178.72	417.54
5.	Total manpower required MOUs & M&L scale industries (11+6 = 17)	3038	7098
<b>C6.</b>	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%)	17229	24120
7.	Total manpower requirement in the district (5+6)	20267	31218
8.	Taking figures of indirect employment @ 20% of the total manpower (7)	4053	6244
9.	Overall employment generation in Amreli district	<b>24320</b>	<b>37462</b>

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

1. With 11 proposed projects, the district has total manpower requirement of 4,886 technical, managerial and unskilled workers.
2. Largest investment is in the Power Sector (4 projects).
3. Presently Amreli district has :
  - 5 ITIs offering courses in the field of engineering, IT and chemicals;
  - One technical institute with an intake capacity of over 540 students every year;

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

At present there are 1,966 persons employed and in future there will be 4,593 persons employed at various levels in the 11 (7+4) industries surveyed out of 17 (11+6) industries. This means that average total employed (skilled and unskilled) staff & workers is 178.72 and 417.54 persons per unit. The number of units expected in Amreli district is 17 units (11+6) (MOUs & medium and large scale units) and hence the total requirement of skilled and unskilled persons works out to 3,038 for the base year (2007-08) and 7,098 numbers for the fifth year (2013) respectively. An additional 17,229 small scale industries workers in the base year and in future 24,120 small scale industries workers will be required; the anticipated demand works out to 20,267 for present and 31,218 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 4,053 for the base year and 6,244 for the future. Hence the overall employment generation in Amreli district due to the industrial growth can be anticipated around 24,320 employees at present and 37,462 employees in future.

Details of 7 units surveyed are presented in table 5.4 on the basis of the sample survey conducted. The manpower requirement of 11 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 Amreli District

Level of Education	Qualification	Present Requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	1	14
	M.Sc.	3	16
	M.Tech.	1	9
<b>Sub-total:</b>		<b>5</b>	<b>39</b>
Degree	Electrical	2	16
	Civil	1	12
	I & C	-	4
	Mechanical	2	16
	Electronics	-	4
	Chemical	-	4
	Environmental Engg.	1	8
	Food Processing Technology	2	2
	Industrial Engineering	-	4
	Others	-	7
<b>Sub-total:</b>		<b>8</b>	<b>77</b>
Diploma	Electrical	3	18
	Civil	1	14
	I & C	-	7
	Mechanical	3	22
	Computer	-	4
	Chemical	-	4
	Mining	-	4
	Fabrication technology	-	14
	Others	2	10
<b>Sub-total:</b>		<b>9</b>	<b>97</b>
ITI Trade	Turner	3	20
	Fitter	3	20
	Wireman	4	31
	Welder	2	20
	Electrician	8	42
	Mechanic (AC/Fridge)	1	11
	Mechanic (Motor vehicles)	2	14
	Mechanic (Electronics)	-	14
	Mechanic (Instruments)	4	16
	Machinist	6	32
	Chemical Plant Operator	-	14
	Pump Mechanic	-	14
	Fireman	2	29
	Lab Assistant	-	4
Painter	-	1	

	Plumber	-	11
	Mechanic (Tractor/Diesel)	3	23
	Stenographer	3	40
	Mechatronics	-	8
	E-commerce	-	4
	Basic Sheetmetal Fabr.	-	10
	Basic Turning / Grinding	-	8
	Others	3	17
	<b>Sub-total:</b>	<b>44</b>	<b>403</b>
Graduates/ Others	B.Sc. / B.A. etc.	13	85
	B.Com. / M.Com.	4	26
	BCA	1	16
	Undergraduates	24	145
	Gardener/Peon/Packing staff	45	240
	Security	9	75
	<b>Sub-total:</b>	<b>96</b>	<b>587</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>180</b>	<b>1320</b>
	<b>Skilled</b>	<b>162</b>	<b>1203</b>
	<b>TOTAL</b>	<b>342</b>	<b>2523</b>

Details of 4 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 6 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*

Level of Education	Qualification	Present requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	8	10
	M.Sc.	11	12
	M.Tech.	5	5
	<b>Sub-total:</b>	<b>24</b>	<b>27</b>
Degree	Electrical	5	5
	Civil	2	2
	Mechanical	6	6
	Computer	5	5
	Chemical	8	14
	Environmental Engg.	5	5
	Food processing technology	2	3
	Others	6	8
	<b>Sub-total:</b>	<b>39</b>	<b>48</b>
Diploma	Electrical	9	11
	Civil	4	4
	I & C	2	2
	Mechanical	9	11



	Computer	4	5
	Chemical	10	14
	Mining	6	8
	Others	8	9
<b>Sub-total:</b>		<b>52</b>	<b>64</b>
ITI Trade	Turner	13	14
	Fitter	11	12
	Wireman	12	13
	Welder	13	13
	Electrician	12	13
	Mechanic (AC/Fridge)	8	8
	Mechanic (Motor vehicles)	12	13
	Mechanic (Electronics)	4	4
	Mechanic (Instruments)	8	11
	Machinist	13	17
	Chemical Plant Operator	26	37
	Pump Mechanic	7	10
	Fireman	12	16
	Lab Assistant	24	33
	Painter	1	1
	Plumber	8	11
	Mechanic (Tractor/Diesel)	16	22
	Stenographer	20	31
	E-commerce	8	10
	Others	8	11
<b>Sub-total:</b>		<b>236</b>	<b>300</b>
Graduates/ Others	B.Sc. / B.A. etc.	90	110
	B.Com. / M.Com.	18	25
	BCA	10	16
	Undergraduates	120	150
	Gardener/Peon/Packing staff	160	190
	Security	45	59
<b>Sub-total:</b>		<b>443</b>	<b>550</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>830</b>	<b>1081</b>
	<b>Skilled</b>	<b>794</b>	<b>989</b>
	<b>TOTAL (skilled + unskilled)</b>	<b>1624</b>	<b>2070</b>
<b>GRAND TOTAL</b>	<b>Table 5.4</b>	<b>342</b>	<b>2523</b>
	<b>Table 5.5</b>	<b>1624</b>	<b>2070</b>
	<b>TOTAL (Skilled &amp; Unskilled manpower)</b>	<b>1966</b>	<b>4593</b>

### Addressing the Manpower Requirement in Industries

#### Coming Up in Amreli District

Datamation Research Analyst (DRA), New Delhi has carried out a sample survey of 7 MOUs signed (with entrepreneurs) and 4 units of existing medium and large scale industries (total 11) in Amreli district and on the basis of that they have made a forecast (for next five years) i.e. year 2013 of manpower requirement for 11 MOUs and 6 units of medium and large scale (total

17 units). According to this survey the requirement of manpower in the ITI trades is anticipated to be around 432 for the base year (2007-08) and 1,086 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 Amreli district and skill gaps.

*Table 5.6 ITI Trade-wise no. of Manpower Requirement, no. of Seats Available and Skill Gaps in Amreli 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	25	36	-11	52	16	10	6	0	0	0
Fitter	22	80	-58	49	-31	-6	-6	-6	-6	-7
Wireman	25	272	-247	68	-204	-30	-35	-45	-50	-44
Welder	23	84	-61	52	-32	-6	-6	-6	-6	-8
Electrician	31	96	-65	85	-11	-5	-6	0	0	0
Mech(A C)	14	48	-34	29	-19	-5	-5	-5	-4	0
Mech (Motor)	22	144	-122	42	-102	-20	-20	-20	-20	-22
Mech. Electronic	6	32	-26	28	-4	-4	0	0	0	0
Mech. (instru)	19	48	-29	42	-6	-6	0	0	0	0
Machinist	29	36	-7	76	40	8	8	8	8	8
Chem. Plant Operator	40	-	40	79	79	16	16	16	16	15
Pump mechanic	11	-	11	37	37	7	7	7	7	9
Fireman	21	-	21	69	69	14	14	14	14	13
Lab. Asst.	37	-	37	54	54	10	10	10	12	12
Plumber	12	-	12	34	34	7	7	7	7	6
Mech. Tractor / diesel	29	80	-51	70	-10	-5	-5	0	0	0
Steno.	35	16	19	110	94	19	19	19	19	18
E-com.	12	-	12	22	22	5	5	5	5	2

Basic Sheet. Fabr.	-	-	-	16	16	8	8	0	0	0
Basic Turning Grinding	-	-	-	13	13	6	7	0	0	0
Others	19	564	-545	59	-505	-70	-80	-105	-120	-130
<b>Total</b>	<b>432</b>	<b>1536</b>	<b>-1104</b>	<b>1086</b>	<b>-450</b>	<b>-47</b>	<b>-56</b>	<b>-101</b>	<b>-118</b>	<b>-128</b>

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

Sr. No.	Name of Institute	Seats Available	Proposed increase (Base year 2007-08)*
1.	ITI, Amreli	1016	
2.	ITI, Rajula	176	
3.	ITI, Kunkavav	108	
4.	ITI, Savarkundala	100	
5.	ITI, Vadia	136	
6.	GIA	Nil	
7.	SF	Nil	
	<b>Total:</b>	<b>1536</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 Amreli District

1. Majority of the projects proposed are to be established in Pipavav, Koyna and around Amreli city;
2. Majority of the projects are based on power generation, ports, agro based dehydration plants, SEZs, automobile engineering and civil aviation;
3. Additional short term courses are required to meet the industrial manpower requirement. There is a shortage of machinist, chemical plant operators, pump mechanic, fireman, lab assistant, plumber and experts for e-commerce and BPO;
4. There is a need of strengthening or upgrading of chosen industrial training institutes into Centres of Excellence (CoE) for skilled manpower requirement of the district;
5. Skill Development Centres (SDCs) should be established at selected GIDC industrial estates in the district where industries will develop strategies for training as per their own requirements. This will provide opportunities to 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.
6. It is proposed to invite offers from private organizations to start self finance institutes of PPP model scheme in Amreli district from Sandhi Cement Company, Pipavav Shipyard and Asian Greneto.

## **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. Agro based and food processing industry is one of the thrust areas of Amreli district. Major crops grown in the district are as follows:  
Oilseed crops: Groundnut and Sesamum  
Horticulture crops: Mango and Sapota  
Spices: Garlic and Onion  
There are job opportunities in the field of sesamum processing oil mills, hand picked groundnut for export, peanut butter, coated and grilled groundnut, dehulling of groundnut, dehydration plant for onion and garlic etc.
2. Marine based industries like frozen fish, fish meal plants, fish processing, cold storages, ice units, etc. at Jafrabad and Pipavav ports.
3. Areas like power generation, port land development, SEZs, oil and gas sectors can create employment opportunities at district level.
4. Readymade garments industry has a good scope to generate employment opportunities and cluster areas of Savarkundala also have good opportunities for employment generation due to its famous weighing balance (taraju) industry and Bagasara's brass bangle industry.
5. The employment opportunities in Amreli district are mainly in the non-engineering trade such as diamond cutting / polishing, gems and jewellery.

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

Sr. No.	Trade	ITI					Total	GIA	SF
		Amreli	Rajula	Kukavav	Savarkundla	Vadia			
1.	Welder	24	12	12	-	-	48	-	-
2.	Welder cum Fabricator	24	12	-	-	-	36	-	-
3.	Mechanic (Fridge / AC)	48	-	-	-	-	48	-	-
4.	2-wheeler mechanic	16	16	-	-	-	32	-	-
5.	Fitter	32	32	-	-	16	80	-	-
6.	Armature / Motor Rewinding	48	-	-	-	16	64	-	-
7.	Mechanic (Tractor / Diesel)	16	16	-	-	-	32	-	-
8.	Mechanic (Instrument)	32	-	-	-	-	32	-	-
9.	Computer Operator / Program Asst.	60	40	-	20	40	160	-	-
10.	Draughtsman (Civil)	32	-	-	-	-	32	-	-
11.	Cutting and Sewing	16	-	16	-	16	48	-	-
12.	Instrument Mechanic (SCP)	16	-	-	-	-	16	-	-
13.	Machinist	36	-	-	-	-	36	-	-
14.	Electronic Mechanic	16	-	-	-	-	16	-	-
15.	Wireman	144	32	32	32	32	272	-	-
16.	Mechanic (Motor Vehicle)	96	-	-	16	-	112	-	-
17.	Electrician	48	-	32	16	-	96	-	-
18.	Mechanic (Diesel)	48	-	-	-	-	48	-	-
19.	CoE Electrical (Advance)	96	-	-	-	-	96	-	-
20.	IT & Electronic System Maintenance	20	-	-	-	-	20	-	-
21.	Turner	36	-	-	-	-	36	-	-
22.	Elec. Mechanic	16	-	-	-	-	16	-	-
23.	CoE Electrical (BBBT)	96	-	-	-	-	96	-	-
24.	Marine Engineering Technician	-	16	-	-	-	16	-	-
25.	Embroider and Needle Work	-	-	16	-	-	16	-	-
26.	Hair and Skin Care	-	-	-	16	-	16	-	-
27.	Steno. Cum Computer Operator	-	-	-	-	16	16	-	-
	<b>Total:</b>	<b>1016</b>	<b>176</b>	<b>108</b>	<b>100</b>	<b>136</b>	<b>1536</b>	-	-

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

**List of the Industries Selected for Field Survey**

**Vibrant Gujarat Investors' Summit 2005 & 2007 MOUs – Amreli District**

1. Torrent Power Ltd.
2. GPSC & GPCL Ltd., Gandhinagar
3. Vadinar Power Company Ltd (Essar Group)
4. Ultratech Cement Ltd.
5. Sonpal Exports Pvt. Ltd.
6. Agnee Finance Services Ltd.
7. Gujarat Ambuja Cement Ltd.

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

8. Gujarat Coop. Marketing Federation Ltd., Amreli
9. Dharamshi Maharajji Chemicals Co. Ltd.
10. Narmada Cement Co. Ltd., Babrakot
11. Ultratech Cement Co. Ltd.

# BHAVNAGAR DISTRICT ANALYSIS BASED ON SAMPLE SURVEY

## PROFILE OF BHAVNAGAR DISTRICT

### **Location and Administration**

Bhavnagar district is bounded by Ahmedabad and Surendranagar districts in the north, Rajkot and Amreli districts in the west, Gulf of Cambay in the east and the entire border of south part is with Amreli district having potential aquaculture area in Arabian Sea. The district is also a potential agriculture and horticulture zone of Saurashtra area.

Bhavnagar district can be conveniently divided into three regions geographically, topographically and economically as well as from the resources point of view. The intra-regional differences have considerable bearing on the strategy of planning and on the formation of development programme. These three regions are as under:

#### (i) Western Region

The portion of the district comprises of Botad, Gadhada and Umralla talukas. Soils are shallow and medium black and sandy loam to sandy. Major crops grown in this region are groundnut, cotton, pearl millet and sesamum. It is a dry zone having good agricultural potential.

#### (ii) Southern Region

The region known as “coastal region” consists of Talaja and Mahuva taluka. Banana and coconut crops are grown in the coastal area of Talaja and Mahuva talukas. Other crops grown in the area are groundnut, cotton, pearl millet, onion and sugarcane. In the coastal region the quality of water is not good and the soils are saline sodic in nature. In spite of the fact that Shetrunji project benefits these talukas substantial areas are under rainfed conditions.

#### (iii) Eastern Region

The eastern region of the district covers Bhavnagar, Vallabhipur and Ghogha. Soils are shallow and medium black. Vallabhipur area is known as “Bhal Area”. Major crops grown in this region are unirrigated wheat, sorghum, cotton and groundnut.

From the administration point of view the district is divided into 11 talukas. The district has an area of 8628 sq.km. and according to 2001 census it is inhabited by 20,58,569 persons. Thus the density of the population in the district is 205 per sq.km. Rural population is 62.13% of the total population of the district. SC and ST population forms 5.75% and 0.30% of the total population respectively.

### **Water Resources**

Rivers Shetrunji, Randhola and Kalubhar are seasonal sources of water. Main sources of irrigation are canal (medium and minor dams), lakes and dug wells. Seasonal irrigation is also available from Shetrunji dam in Palitana, Talaja and Mahuva talukas.

### **Climate and Rainfall**

The climate of the district is generally warm and dry hot. Summer commences in the month of March and extends upto May. The south west monsoon brings rain during June to September

which is followed by brisk winter from November to February. The average annual rainfall in the district varies from 400 mm to 700 mm.

#### **Forestry**

The forest land spreading over 31,200 ha plays a good role in the economy of the district. Main forest products are firewood and charcoal while minor forest products include grass, gum and varieties of medicinal herbs.

#### **Fisheries**

With about 152 km of coastal area, 36 sq.km. of brackish water area and 16 sq.km. area of fresh water, the Bhavnagar district possesses enormous potential for marine as well as inland fisheries. Total fish catch has increased from 3912 MT in 2001-02 to 4668 MT in 2003-04 in marine fisheries.

### **INFRASTRUCTURE**

#### **Industries**

Bhavnagar district is progressing well towards industrial development. At present there are 26 large and medium size industrial units and 651 small scale units in the district. Many large scale and multinational units are coming up around Bhavnagar, Shihor, Talaja and Mahuva talukas. Alang industrial ship breaking yard is the biggest industrial estate of Gujarat. 10 Industrial estates are developed by GIDC at Chitra, Vitthalwadi, Vartej, Mahuva, Botad, Shihor, Palitana etc. These estates have provided good opportunity for employment to the people.

There is one medium port viz. Bhavnagar and minor ports are Mahuva, Ghogha and Talaja in the district. Construction materials, chemical fertilizers, groundnut cakes, rapeseed, soyabean oil etc. are the main items imported and exported at these ports. There are 153 branches of commercial banks, 17 Regional Rural Banks (RRBs), 29 District Central Coop. Banks (DCCBs), 11 Land Development 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, Bhavnagar. 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.	Agro & Food Processing	1	
2.	Chemical & Petrochemicals	1	
3.	Power	1	



4.	Tourism	2	
	<b>Total</b>	<b>5</b>	
5.	Presently functioning (Existing)	<b>10</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 Bhavnagar, Chamber of Commerce and Industries (Bhavnagar) and GIDC (Gandhinagar). From medium and large scale units 10 entrepreneurs were selected by random sampling method for indepth study.

Accordingly, 10 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 and 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, Bhavnagar and GIDC, Gandhinagar. The field work was carried out during the month of April 2008.

#### Observation on the Sample Survey Data

As per the terms of reference, 5 MOUs and 10 medium and large scale units signed in 2005 and 2007 were to be visited for manpower demand survey assessment. Accordingly, 5 MOUs and 10 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	<b>1</b>	-	3015	<b>3015</b>
2.	Ports	4	1	<b>5</b>	110	100	<b>210</b>
3.	Chemical/Petrochemicals	-	1	<b>1</b>	-	-	-
4.	Power	1	-	<b>1</b>	-	-	-
5.	Tourism	-	2	<b>2</b>	-	70	<b>70</b>

	<b>Total:</b>	<b>5</b>	<b>5</b>	<b>10</b>	<b>110</b>	<b>3185</b>	<b>3295</b>
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Source: Industries Commissionerate, GOG, Gandhinagar.

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

7. 10 projects are proposed in the district.
8. Largest investment is proposed in the Port land development (5 projects).
9. The district is well connected with the state highway connecting it to Ahmedabad and Rajkot.
10. Bhavnagar is also connected with Ahmedabad by a broad gauge railway line.
11. The nearest ports are proper Bhavnagar and Mahuva and nearest airports are Ahmedabad, Rajkot and proper Bhavnagar.

#### **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 wise 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 are 7,466 persons and future requirement will be 10,865.

*Table 5.3 Basis of Calculation of Manpower Requirement in Bhavnagar 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>
<b>A1.</b>	Total surveyed 5 MOUs 2005 and 2007	330	1043
2.	Total 10 medium & large scale industrial Units surveyed	2781	3470
3.	Total surveyed 15 MOUs & M&L Scale industries (1+2) – 5+10=15	3111	4513
<b>B4.</b>	Average manpower required per unit	207.40	301.80

5.	Total manpower required MOUs & M&L scale industries (10+26 = 36)	7466	10865
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%)	47291	66207
7.	Total manpower requirement in the district (5+6)	54757	77072
8.	Taking figures of indirect employment @ 20% of the total manpower (7)	10951	15414
9.	Overall employment generation in Bhavnagar district	<b>65708</b>	<b>92486</b>

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

4. With 10 proposed projects, the district has total manpower requirement of 3,295 technical, managerial and unskilled workers.
5. Largest investment is in the sector of ports (port development).
6. Presently Bhavnagar district has
  - 9 ITIs offering courses in the field of engineering, IT and chemicals;
  - 3 technical institutes with an intake capacity of over 900 students every year;
  - One pharmacy college which churns out 30 students every year;
  - One medical college with a capacity of 100 students every year;
  - One Ayurvedic college and Homeopathy college;
  - One college offering MCA degree with 60 students every year;

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

At present there are 3,111 persons employed and in future there will be 5,513 persons employed at various levels in the 15 (5+10) industries surveyed out of 36 (10+26) industries. This means that average total employed (skilled and unskilled) staff & workers is 207.45 and 201.80 persons per unit. The number of units expected in Bhavnagar district is 36 units (10+26) (MOUs & medium and large scale units) and hence the total requirement of skilled and unskilled persons works out to 7,466 for the base year (2007-08) and 10,865 numbers for the fifth year (2013) respectively. An additional 47,291 small scale industries workers in the base year and in future 66,207 small scale industries workers will be required; the anticipated demand works out to 54,757 for present and 77,072 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 10,951 for the base year and 15,414 for the future. Hence the overall employment generation in Bhavnagar district due to the industrial growth can be anticipated around 65,708 employees at present and 92,486 employees in future.

Details of 5 units surveyed are presented in table 5.4 on the basis of this sample survey conducted. The manpower requirement of 10 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 Bhavnagar District

Level of Education	Qualification	Present Requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	1	2
	M.Sc.	2	4
	M.Tech.	-	-
<b>Sub-total:</b>		<b>3</b>	<b>6</b>
Degree	Electrical	1	2
	Mechanical	1	2
	Chemical	-	2
	Environmental Engg.	-	1
	Food Processing Technology	2	4
<b>Sub-total:</b>		<b>4</b>	<b>11</b>
Diploma	Electrical	2	5
	Mechanical	2	5
	Chemical	-	4
	Fabrication technology	-	2
	Others	1	4
<b>Sub-total:</b>		<b>5</b>	<b>20</b>
ITI Trade	Turner	2	6
	Fitter	2	8
	Wireman	2	12
	Welder	2	8
	Electrician	2	14
	Mechanic (AC/Fridge)	2	2
	Mechanic (Motor vehicles)	-	8
	Mechanic (Instruments)	-	10
	Machinist	2	10
	Chemical Plant Operator	4	8
	Fireman	2	8
	Lift mechanic	-	2
	Lab Assistant	-	4
	Plumber	3	13
	Mechanic (Tractor/Diesel)	4	10
	Stenographer	3	10
	E-commerce	-	2
	Others	5	15
<b>Sub-total:</b>		<b>35</b>	<b>150</b>
Graduates/ Others	B.Sc. / B.A. etc.	19	52
	B.Com. / M.Com.	5	12
	BCA	-	2
	Undergraduates	21	57
	Gardener/Peon/Packing staff	44	105
	Security	9	38
<b>Sub-total:</b>		<b>98</b>	<b>266</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>185</b>	<b>590</b>
	<b>Skilled</b>	<b>145</b>	<b>453</b>

	<b>TOTAL</b>	<b>330</b>	<b>1043</b>
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Details of 10 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 26 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*

Level of Education	Qualification	Present requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	13	13
	M.Sc.	15	16
	M.Tech.	3	4
<b>Sub-total:</b>		<b>31</b>	<b>33</b>
Degree	Electrical	11	11
	I & C	6	6
	Mechanical	17	18
	Electronics	1	1
	Chemical	12	14
	Metallurgy	4	5
	Automobile Engg.	1	1
	Environmental Engg.	5	6
	Food processing technology	2	2
	Production Engg.	4	5
	Industrial Engg.	4	5
	Others	1	1
<b>Sub-total:</b>		<b>68</b>	<b>75</b>
Diploma	Electrical	19	23
	Civil	2	2
	I & C	9	11
	Mechanical	29	36
	Chemical	20	28
	Automobile Engg.	3	4
	Fabrication technology	8	11
	Mining	1	2
	Others	8	9
<b>Sub-total:</b>		<b>99</b>	<b>126</b>
ITI Trade	Turner	20	25
	Fitter	23	26
	Wireman	34	37
	Welder	18	21
	Electrician	36	38
	Mechanic (AC/Fridge)	6	7
	Mechanic (Motor vehicles)	21	22
	Mechanic (Electronics)	6	6
	Mechanic (Instruments)	20	25
	Machinist	35	41
	Chemical Plant Operator	20	26
	Pump Mechanic	6	6

	Fireman	26	26
	Lab Assistant	14	18
	Painter	6	8
	Plumber	2	2
	Mechanic (Tractor/Diesel)	32	38
	Stenographer	26	38
	Mechatronics	6	7
	E-commerce	4	5
	Basic Sheetmetal Fabricn.	6	9
	Basic Turning / Grinding	2	3
	Others	20	27
<b>Sub-total:</b>		<b>389</b>	<b>461</b>
Graduates/ Others	B.Sc. / B.A. etc.	120	156
	B.Com. / M.Com.	34	47
	BCA	20	30
	Undergraduates	147	129
	Gardener/Peon/Packing staff	225	280
	Security	78	110
<b>Sub-total:</b>		<b>624</b>	<b>815</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>1570</b>	<b>1960</b>
	<b>Skilled</b>	<b>1211</b>	<b>1510</b>
	<b>TOTAL (skilled + unskilled)</b>	<b>2781</b>	<b>3470</b>
<b>GRAND TOTAL</b>	<b>Table 5.4</b>	<b>330</b>	<b>1043</b>
	<b>Table 5.5</b>	<b>2781</b>	<b>3470</b>
	<b>TOTAL (Skilled &amp; Unskilled manpower)</b>	<b>3111</b>	<b>4513</b>

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

Datamation Research Analyst (DRA), New Delhi has carried out a sample survey of 5 MOUs signed (with entrepreneurs) and 10 units of existing medium and large scale industries (total 15) in Bhavnagar district and on the basis of that they have made a forecast (for next five years) i.e. year 2013 of manpower requirement for 10 MOUs and 26 units of medium and large scale (total 36 units). According to this survey the requirement of manpower in the ITI trades is anticipated to be around 1,018 for the base year (2007-08) and 1,466 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 Bhavnagar district and skill gaps.

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

Trade	Base year (2007-08)			Next 5 yrs (2013)		Year-wise breakup of projection				
	Man- power Require- ment	Seats available in ITI / SF etc.	Skill Gap (2-3)	Projec- ted Require ment (5-3)	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	53	24	29	74	50	10	10	10	10	10
Fitter	60	48	12	82	34	6	6	6	6	10

Wireman	86	256	-170	118	-138	-15	-20	-25	-30	-48
Welder	48	72	-24	69	-3	-3	-	-	-	-
Electrician	91	224	-133	77	-147	-15	-20	-30	-40	-42
Mech(AC)	19	48	-29	22	-26	-5	-5	-5	-5	-6
Mech (Motor)	50	64	-14	72	8	4	4	-	-	-
Mech. Electronic	14	64	-50	14	-50	-10	-10	-10	-10	-10
Mech. (instru)	48	48	0	84	36	7	7	7	7	8
Machinist	89	24	65	122	98	15	20	20	20	23
Chem. Plant Operator	58	-	58	82	82	15	15	15	18	19
Fireman	67	-	67	82	82	15	15	15	18	19
Lab. Asst.	34	-	34	77	77	15	15	15	15	17
Mech. Diesel	86	128	-42	115	-13	-5	-5	-3	-	-
Steno.	69	32	37	115	83	15	15	15	18	20
Basic Sheet. Fabr.	14	-	14	22	22	5	5	5	5	2
Others	132	842	-710	239	-603	-85	-105	-120	-140	-153
<b>Total</b>	<b>1018</b>	<b>1874</b>	<b>-856</b>	<b>1466</b>	<b>-408</b>	<b>-31</b>	<b>-53</b>	<b>-85</b>	<b>-108</b>	<b>-131</b>

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

Sr. No.	Name of Institute	Seats Available	Proposed increase (Base year 2007-08)*
1.	ITI, Bhavnagar	1336	
2.	ITI, Palitanta	96	
3.	ITI, Ghogha	60	
4.	ITI, Vallabhipur	92	
5.	ITI, Mahuva	148	
6.	GIA, Botad	56	
7.	GIA, Pragna Chakshu, Bhavnagar	10	
8.	SF, Ghogha;	60	
9.	SF, TE Trust, Bhavnagar	16	

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 Bhavnagar District**

7. Majority of the projects proposed are to be established in and around Bhavnagar, Mahuva, Shihor and near Alang Ship Breaking Yard;
8. Majority of the projects are based on Port development, Agro & Food Processing, Tourism, Power Generation, Chemical & Petrochemicals;
9. Additional short term courses are required to meet the industrial manpower requirement. There is a shortage of mechanic (instrument), machinist, chemical plant operator, fireman, lab assistant, skilled persons for e-commerce, basic sheetmetal fabrication etc;
10. Skill Development Centres (SDC) should be established at GIDCs industrial estates at Alang, Shihor and Bhavnagar in the district where industries would be developed. Strategies for training should be planned as per the requirement of the industrialists. This will provide opportunities for local manpower development in accordance with requirement of the industries. Thus the objective of the SDCs to provide employment to the local population by building them up into high quality skilled workers on cost effective basis;
11. It is proposed to invite offers from private organizations to start self finance institutes of PPP model scheme in Bhavnagar district. M/s Asian Grenato has shown interest in PPP model at Mahuva;
12. There is scope for new courses and better job opportunities like interior design, fashion design, computer courses (e-commerce), beauty culture advance treatment, community medical assistance, jewellery design and manufacturing, etc. Such courses will help them in career development and to get jobs in services and industrial sectors.
13. The Department of Employment & Training should coordinate with line departments of Gujarat Maritime Board (GMB), Gandhinagar for new courses such as disaster management and safety management for the supervisory staff of Alang shipbreaking yard. There is a need of a SDC centre where new courses and curricula such as industrial trade (engineering) / non-industrial trade for service sectors are required.

### **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**

6. Bhavnagar is among the top districts having maximum number of people employed in ship breaking year industry at GIDC, Alang. It is India's first ship breaking industrial zone in Gujarat. It alone provides employment opportunity to over 25000 persons.
7. Agro based food processing industries are coming up in and around Bhavnagar and Shihor talukas. Talaja and Mahuva talukas are onion growing areas. Onion and garlic are exported from Bhavnagar.
8. Shihor is among the top talukas having maximum number of people employed in steel re-rolling mill industry. At least 91 steel re-rolling mills are existing in Shihor taluka and these mills alone are providing employment to over 11,000 persons.
9. Bhavnagar has abundant natural resources and manpower with an industrial culture. The entrepreneurship of Bhavnagar is well known to Gujarat and has demonstrated its mettle by setting examples in the field of diamond cutting, polishing, chemical & petrochemicals, oxygen plants around Alang estate, monofilament yarn, agro based industries, electronics, plastics, marine based industries, ancillary industries, steel re-rolling mills, detergents, ancillary engineering, induction and furnace etc. So it is suggested that there is a need of short term vocational training courses on diamond, gems & jewellery, marine engineering,



micro irrigation system, mechanics & technicians, security guards, plastic processing technicians, etc.

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

Sr. No.	Trade	ITI					ITI total	GIA			SF			Grand total
		Bhav-nagar	Pali-tana	Gho-gha	Valbhi-pur	Mahuva		Botad	PC Bhav.	GIA total	Gho-gha	TE trust	SF total	
		(1)	(2)	(3)	(4)	(5)		(1)	(2)		(1)	(2)		
1.	Turner	24	-	-	-	-	24	-	-	-	-	-	-	24
2.	Computer Operator/Programming Assistant (girls)	60	-	-	-	20	80	40	10	50	-	-	-	130
3.	Draughtsman (civil)	48	-	-	-	-	48	-	-	-	-	-	-	48
4.	Electronic Mechanic (SCP)	16	-	-	-	-	16	-	-	-	-	-	-	16
5.	Software Programming	72	-	-	-	-	72	-	-	-	-	-	-	72
6.	Electrician	96	32	16	32	32	208	-	-	-	16	-	16	224
7.	Instrument Mechanic	48	-	-	-	-	48	-	-	-	-	-	-	48
8.	CoE Automobile 9BBBT)	96	-	-	-	-	96	-	-	-	-	-	-	96
9.	Fitter	32	-	-	-	16	48	-	-	-	-	-	-	48
10.	Mechanic – Diesel	80	16	-	-	16	112	-	-	-	16	-	16	128
11.	Electronic Mechanic (Girls)	48	-	-	-	-	48	-	-	-	-	-	-	48
12.	Steno/Comp. Operator (English)	32	-	-	-	-	32	-	-	-	-	-	-	32
13.	Plumber	32	-	-	-	-	32	-	-	-	-	-	-	32
14.	Dress Making	32	-	-	-	-	32	-	-	-	-	-	-	32
15.	Marine Engineering Technician	16	-	-	-	-	16	-	-	-	-	-	-	16
16.	E-commerce	48	-	-	-	-	48	-	-	-	-	-	-	48
17.	Fridge/AC Mechanic	48	-	-	-	-	48	-	-	-	-	-	-	48
18.	Welder cum Fabricator	24	-	12	12	-	48	-	-	-	-	-	-	48
19.	Armature / Motor rewinding	64	16	-	16	16	112	-	-	-	-	-	-	112
20.	Mechanic – Motor Vehicle	64	-	-	-	-	64	-	-	-	-	-	-	64
21.	Computer Aided Design - Autocad	24	-	-	-	-	24	-	-	-	-	-	-	24
22.	IT & Electronic system maintenance	40	-	-	-	-	40	-	-	-	-	-	-	40
23.	CoE Automobile – Advance	96	-	-	-	-	96	-	-	-	-	-	-	96
24.	2-sheeler repairs	64	-	-	-	16	80	-	-	-	-	-	-	80
25.	Wireman	96	32	32	32	32	224	16	-	16	16	-	16	256
26.	Welder	12	-	-	-	-	12	-	-	-	12	-	12	24
27.	Machinist	24	-	-	-	-	24	-	-	-	-	-	-	24
28.	Fashion Technology	-	-	-	-	-	-	-	-	-	-	16	16	16
	<b>Total:</b>	<b>1336</b>	<b>96</b>	<b>60</b>	<b>92</b>	<b>148</b>	<b>1732</b>	<b>56</b>	<b>10</b>	<b>66</b>	<b>60</b>	<b>16</b>	<b>76</b>	<b>1874</b>

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

**List of the Industries Selected for Field Survey**

**Vibrant Gujarat Investors' Summit 2005 & 2007 MOUs – Bhavnagar District**

12. Bhat Hotel Pvt. Ltd.
13. Garba Hospitalities Ltd.
14. G P C L
15. Shri Saurashtra Kutch Vividhlakshi Mandal
16. Nirma Ltd., Bhavnagar

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

17. Arshit Gems
18. Axal Industries Ltd.
19. Garge Casting Pvt. Ltd.
20. Nirma Ltd.
21. Paras Ship Breakers Ltd.
22. Skaylid Chemicals
23. Steel Cast Ltd.
24. Unique Dehydrates Ltd.
25. Janak Dehydration
26. Madhu Silica

# JAMNAGAR DISTRICT ANALYSIS BASED ON SAMPLE SURVEY

## PROFILE OF JAMNAGAR DISTRICT

### Location and Administration

Jamnagar district is bounded by Kutch district in the north, Rajkot district in the east, Porbandar district in the south and the entire border of western part is formed by Gulf of Kutch and Arabian Sea great having potential for aquaculture. The district is also a potential agriculture zone of Saurashtra.

Jamnagar district can be conveniently divided into four regions geographically, topographically and economically as well as from the resources point of view. The intra-regional differences have considerable bearing on the strategy of planning and on the formation of development programme. These four regions are as under:

#### (i) Region I

This portion of the district comprises of Jamnagar, Jodia and Dhrol talukas. The area of these talukas are plain and soils are shallow and medium black with some pockets of highly calcareous soils, having good agricultural potential.

#### (ii) Region II

This portion of the district comprises of Bhanvad, Jamjodhpur and Kalawad talukas. The area of these talukas is plain; soils are shallow and medium black. Major crops grown in these talukas are groundnut, cotton, garlic, wheat etc.

#### (iii) Region III

This region covers Lalpur, Kalyanpur and Jamkhambhaliya (Vadinar) talukas which are industrially developed in comparison to other talukas. The industrial area of Jamnagar (Vadinar, Sikka Port, Roxi Bedi Port) is also developing very fast. The petrochemical field of Jamnagar has put Gujarat on the crude oil refinery map of India. The medium black soils of this region are very fertile and conducive to cotton, groundnut, garlic and wheat cop cultivation.

#### (iv) Region IV

This region is known as “Kharopat” due to its saline and sodic soils. It consists of Okha Mandal taluka. This region has the largest 355 km coastal line at the Gulf of Kutch and Arabian Sea (from Okha to Miyani – Harshad Mata Mandir). Okha Mandal taluka is industrially developed in comparison to other talukas of the district. The industrial cluster area of Mithapur and Dwarka are also developing very fast. With regard to fish processing / export units, Okha Mandal – Dwarka talukas possess enormous potential for good quality marine fisheries. Tata Chemicals produce soda ash, chemicals and caustic soda etc. at Mithapur.

From the administrative point of view the district is divided into 10 talukas. The district has an area of 14125 sq.km. and according to 2001 census it is inhabited by 19,13,685 persons. Thus the density of the population in the district is 111 per sq.km. Rural population is 56.23% of the

total population of the district. SC and ST population forms 7.94% and 0.46% of the total population respectively.

#### **Water Resources**

Rivers like Bhagodi, Fulzar, Aji, Venu, Vartu, Nagmati, Sasoi, Und etc. are also seasonal rivers flowing across the district.

#### **Climate and Rainfall**

The climate of the district is generally warm and dry hot. Summer commences in the month of March and extends upto May. The south west monsoon brings rain during June to October which is followed by brisk winter from November to February. The average rainfall in the district is 554 mm.

### **INFRASTRUCTURE**

#### **Industries**

Jamnagar district is progressing well towards industrial development. At present there are 34 large and medium size industrial units and 11745 small scale units in the district. Many large scale and multinational units are coming up around Jamnagar, Jam Khambhaliya, Dwarka, Okha, Mithapur, Varvala, Bhatiya, Kalyanpur, Jodia, Lalpur, Moti Khawadi etc. 8 industrial estates are developed by GIDC at Jamnagar 1 & 2, Kharambhda 1&2, Jam Khambhaliya, Dhrol, Bhatiya and Bhanvad for the fast industrialization in the district. Five cooperative industrial estates are also developed in Jamnagar district viz. M P Shah Udyognagar, Shankar Tekri, Patel Colony, Badeshwar and Hap estates. These estates have provided good opportunity for employment to the people.

#### **Transport and Communication**

The transport and communication facilities are a prerequisite for development of commercial activities in a region. These facilities in Jamnagar district have shown a very impressive improvement over the past decade. The total road length in the district is 3591 km. The district has the benefits of both broad gauge and meter gauge railway line (total 289 km).

There are three medium ports and six minor ports in the district. Iron scrap, fertilizers and chemicals are the main items imported, and salt, onion, bentonite, oilcakes of groundnut etc. are exported at these ports. 150 branches of commercial banks and 71 branches of DCCBs are 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, Jamnagar. 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)</b>	<b>Remarks</b>
----------------	---------------	----------------------------------	----------------

		<b>Visited</b>	
1.	Agro & Food Processing	1	
2.	Ports	4	
3.	Power	1	
4.	SEZs	2	
	<b>Total</b>	<b>8</b>	
5.	Presently functioning (Existing)	<b>12</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 Jamnagar, Chamber of Commerce and Industries (Jamnagar) and GIDC (Gandhinagar). From medium and large scale units 12 entrepreneurs were selected by random sampling method for indepth study.

Accordingly, 15 enterprises (MOUs) were visited but as the responsible person was not available 7 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, Jamnagar and GIDC, Gandhinagar. The field work was carried out during the month of April 2008.

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

As per the terms of reference, 15 MOUs and 12 medium and large scale units signed in 2005 and 2007 were to be visited for manpower demand survey assessment. Accordingly, 8 MOUs and 12 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	-	2	2	-	6000	6000

2.	Ports	6	2	<b>8</b>	-	2300	<b>2300</b>
3.	Power	-	2	<b>2</b>	-	750	<b>750</b>
4.	SEZs	-	2	<b>2</b>	-	44500	<b>44500</b>
5.	Tourism	-	1	<b>1</b>	-	-	-
	<b>Total:</b>	<b>6</b>	<b>9</b>	<b>15</b>	-	<b>53550</b>	<b>53550</b>

Source: Industries Commissionerate, GOG, Gandhinagar.

#### Summary and Field Observations of the District

12. 15 projects are proposed in the district.
13. Largest investment is proposed in the Port Sector (8 projects).
14. The district is well connected with the state highway connecting it to Ahmedabad and Okha.
15. Jamnagar has 9 ports (medium and minor).
16. Jamnagar has a domestic 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 wise 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 are 21,030 persons and future requirement will be 30,497.

Table 5.3 Basis of Calculation of Manpower Requirement in Jamnagar District

Sr. No.	Particulars	Present Manpower Requirement (base year 2007-08)	Manpower Requirement For next five Years (2013)
A1.	Total surveyed 8 MOUs 2005 and 2007	3279	5683

2.	Total 12 medium & large scale industrial Units surveyed	3791	4655
3.	Total surveyed 20 MOUs & M&L Scale industries (1+2) – 8+12=20	7070	10338
<b>B4.</b>	Average manpower required per unit	356.45	516.90
5.	Total manpower required MOUs & M&L scale industries (15+44 = 59)	21030	30497
<b>C6.</b>	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%)	48600	68040
7.	Total manpower requirement in the district (5+6)	69630	98537
8.	Taking figures of indirect employment @ 20% of the total manpower (7)	13926	19707
9.	Overall employment generation in Jamnagar district	<b>83556</b>	<b>118244</b>

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

7. With 15 proposed projects, the district has total manpower requirement of 53,550 technical, managerial and unskilled workers.
8. Largest investment is in the sector of ports (8 projects).
9. Presently Jamnagar district has
  - 12 ITIs offering courses in the field of engineering, IT and chemicals;
  - One technical institute with an intake capacity of over 400 students every year;
  - One medical college with an intake capacity of 100 students every year;
  - One college offering MBA degree with 60 students every year;

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

At present there are 7,070 persons employed and in future there will be 10,338 persons employed at various levels in the 20 (8+12) industries surveyed out of 59 (15+44) industries. This means that average total employed (skilled and unskilled) staff & workers is 356.45 and 516.90 persons per unit. The number of units expected in Jamnagar district is 59 units (15+44) (MOUs & medium and large scale units) and hence the total requirement of skilled and unskilled persons works out to 21,030 for the base year (2007-08) and 30,497 numbers for the fifth year (2013) respectively. An additional 48,600 small scale industries workers in the base year and in future 68,040 small scale industries workers will be required; the anticipated demand works out to 69,630 for present and 98,537 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 13,926 for the base year and 19,707 for the future. Hence the overall employment generation in Jamnagar district due to the industrial growth can be anticipated around 83,556 employees at present and 1,18,244 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 15 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 Jamnagar District*

Level of Education	Qualification	Present Requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	13	20
	M.Sc.	13	23
	M.Tech.	10	19
<b>Sub-total:</b>		<b>36</b>	<b>62</b>
Degree	Electrical	21	34
	Civil	6	12
	I & C	23	39
	Mechanical	53	86
	Electronics	3	3
	Chemical	30	40
	Automobile Engineering	1	2
	Environmental Engg.	7	12
	Food Processing Technology	-	6
	Production Engineering	7	12
	Industrial Engineering	7	14
	<b>Sub-total:</b>		<b>158</b>
Diploma	Electrical	32	56
	Civil	10	24
	I & C	20	35
	Mechanical	51	79
	Electronics	24	32
	Chemical	24	30
	Automobile Engineering	1	1
	Fabrication technology	20	40
	Mining	-	2
	Others	-	10
	<b>Sub-total:</b>		<b>182</b>
ITI Trade	Turner	60	99
	Fitter	71	108
	Wireman	17	37
	Welder	29	54
	Electrician	32	58
	Mechanic (AC/Fridge)	28	55
	Mechanic (Motor vehicles)	18	32
	Mechanic (Electronics)	19	34
	Mechanic (Instruments)	25	37
	Machinist	45	71
	Chemical Plant Operator	24	34
	Pump Mechanic	12	24
	Fireman	26	48
	Lift mechanic	9	15
	Lab Assistant	30	55

	Painter	12	19
	Plumber	20	33
	Mechanic (Tractor/Diesel)	22	40
	Networking Technician	8	14
	Motor Rewinding	16	22
	Stenographer	16	34
	Mechatronics	8	12
	Basic CNC	20	44
	Basic Sheetmetal Fabr.	38	64
	Basic Turning / Grinding	15	34
	Others	12	25
<b>Sub-total:</b>		<b>632</b>	<b>1102</b>
Graduates/ Others	B.Sc. / B.A. etc.	75	147
	B.Com. / M.Com.	46	78
	BCA	21	42
	Undergraduates	95	160
	Gardener/Peon/Packing staff	105	175
	Security	89	138
<b>Sub-total:</b>		<b>431</b>	<b>740</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>1850</b>	<b>3210</b>
	<b>Skilled</b>	<b>1429</b>	<b>2473</b>
	<b>TOTAL</b>	<b>3279</b>	<b>5683</b>

Details of 12 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 44 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*

Level of Education	Qualification	Present requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	18	20
	M.Sc.	22	24
	M.Tech.	13	14
<b>Sub-total:</b>		<b>53</b>	<b>58</b>
Degree	Electrical	21	22
	Civil	2	2
	I & C	5	6
	Mechanical	44	55
	Chemical	22	30
	Metallurgy	1	1

	Textile Technology	10	14
	Automobile Engg.	1	1
	Environmental Engg.	10	10
	Food processing technology	11	14
	Production Engg.	9	9
	Industrial Engg.	3	3
	Others	-	-
	<b>Sub-total:</b>	<b>139</b>	<b>167</b>
Diploma	Electrical	38	46
	Civil	2	4
	I & C	14	18
	Mechanical	62	80
	Chemical	37	43
	Automobile Engg.	1	2
	Textile Technology	28	34
	Fabrication technology	9	15
	Dress Designing	4	6
	Mining	6	8
	Others	6	8
	<b>Sub-total:</b>	<b>207</b>	<b>264</b>
ITI Trade	Turner	74	86
	Fitter	77	88
	Wireman	13	21
	Welder	7	8
	Electrician	27	30
	Mechanic (AC/Fridge)	18	21
	Mechanic (Electronics)	6	6
	Sewing / Dress Making	18	24
	Mechanic (Instruments)	29	37
	Machinist	52	57
	Chemical Plant Operator	41	53
	Pump Mechanic	19	21
	Fireman	9	12
	Lift Mechanic	2	2
	Lab Assistant	55	67
	Painter	14	16
	Plumber	16	16
	Mechanic (Tractor/Diesel)	32	33
	Motor Rewinding	2	2
	Stenographer	20	27
	Basic CNC	8	11
	E-commerce	4	6
	Basic Sheetmetal Fabricn.	25	33
	Basic Turning / Grinding	15	20
	Weaving loom operators	35	40
	Others	10	12
	<b>Sub-total:</b>	<b>628</b>	<b>749</b>
Graduates/ Others	B.Sc. / B.A. etc.	137	177
	B.Com. / M.Com.	86	101
	BCA	20	26
	Undergraduates	142	195
	Gardener/Peon/Packing staff	189	240

	Security	120	157
<b>Sub-total:</b>		<b>694</b>	<b>896</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>2140</b>	<b>2630</b>
	<b>Skilled</b>	<b>1651</b>	<b>2025</b>
	<b>TOTAL (skilled + unskilled)</b>	<b>3791</b>	<b>4655</b>
<b>GRAND TOTAL</b>	<b>Table 5.4</b>	<b>3279</b>	<b>5683</b>
	<b>Table 5.5</b>	<b>3791</b>	<b>4655</b>
	<b>TOTAL (Skilled &amp; Unskilled manpower)</b>	<b>7070</b>	<b>10338</b>

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

Datamation Research Analyst (DRA), New Delhi has carried out a sample survey of 8 MOUs signed (with entrepreneurs) and 12 units of existing medium and large scale industries (total 20) in Jamnagar district and on the basis of that they have made a forecast (for next five years) i.e. year 2013 of manpower requirement for 15 MOUs and 44 units of medium and large scale (total 59 units). According to this survey the requirement of manpower in the ITI trades is anticipated to be around 3,717 for the base year (2007-08) and 5,434 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 Jamnagar district and skill gaps.

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

Trade	Base year (2007-08)			Next 5 yrs (2013)		Year-wise breakup of projection				
	Man- power Require- ment	Seats available in ITI/ SF etc.	Skill Gap (2-3)	Projec- ted Require ment	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	395	24	371	546	522	60	80	105	130	147
Fitter	437	176	261	608	432	50	60	85	90	147
Wireman	88	304	-216	156	-148	-20	-25	-35	-35	-33
Welder	106	192	-86	183	-9	-5	-4	-	-	-
Electrician	174	320	-146	260	-60	-12	-12	-12	-12	-12
Mech(AC)	136	64	72	224	160	20	25	35	35	45
Mech (Motor V.)	53	164	-111	94	-70	-14	-14	-14	-14	-14
Mech. Electronic	74	80	-6	118	38	7	7	7	8	9
Sewing	53	192	-139	71	-121	-20	-25	-25	-25	-26

Mech. (instru)	159	64	95	189	125	25	25	25	25	25
Machinist	295	24	271	378	354	44	55	65	85	105
Chem. Plant Operator	192	16	176	227	211	20	25	40	45	81
Pump Mechanic	91	-	91	133	133	20	25	30	30	28
Fireman	103	-	103	177	177	20	25	40	45	47
Lab. Asst.	251	-	251	360	360	45	55	65	90	105
Plumber	106	-	106	145	145	20	25	30	35	35
Mech. Diesel	159	208	-49	215	7	7	-	-	-	-
Steno.	106	80	26	150	70	14	14	14	14	14
Basic CNC	82	-	82	162	162	20	30	35	35	42
Basic Sheet. Fabr.	186	-	186	286	286	34	35	50	70	97
Basic turning/ grinding	88	-	88	159	159	20	35	35	35	34
Weaving loom op.	103	-	103	118	118	20	20	25	25	28
Others	280	1721	-1441	475	-1246	-180	-220	-250	-290	-306
<b>Total</b>	<b>3717</b>	<b>3629</b>	<b>85</b>	<b>5434</b>	<b>1805</b>	<b>195</b>	<b>241</b>	<b>350</b>	<b>421</b>	<b>598</b>

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

Sr. No.	Name of Institute	Seats Available	Proposed increase (Base year 2007-08)*
1.	ITI, Jamnagar	1556	
2.	ITI, Jamnagar city	256	
3.	ITI, Kalavad	76	
4.	ITI, Dwarka	236	
5.	ITI, Bhanvad	168	
6.	ITI, Jam Khambhalia	160	
7.	ITI, Jam Jodhpur	516	
8.	ITI, Kalyanpur	508	
9.	ITI, Dhrol	92	
10.	GIA, Jam Jodhpur	16	
11.	SF, Bhanvad	41	
12.	SF, Kalavad	20	

13.	One new ITI of PPP Model (expected)	-	85
	<b>Total:</b>	<b>3629</b>	<b>85</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 Jamnagar District**

14. Majority of the projects proposed are to be established in and around Jamnagar, Dwarka, Mithapur, Sikka Bedi, Okha and Jam Kalyanpur;
15. Majority of the projects are based on Agro & Food Processing, Ports and Power Generation;
16. It is proposed to invite offers to start self finance institutions in the district from private organizations like Essar Group (Oil), Reliance Industries, Tata Chemicals Ltd., Bombay Dyeing, New Bharat Engineering Works (for machine tools and diesel engines), Brook Bond India Ltd., Digvijay Cement, Bombay Minerals, Natraj Ceramics, Oceanic Dehydration Pvt. Ltd. (for agro food processing), Balarpur Industries (salt and chemicals), Charm Marine Products Ltd. (for frozen sea food), etc. It will be for important trades like turner, fitter, wireman, carpentry, smithy, welder, electrician and machinist for different companies.
17. Skill Development Centres (SDCs) should be established at GIDCs industrial estates and SEZs like Jamnagar 1 & 2, Arambhda, Dwarka, Jam Khambhalia, Dhrol, pocket areas like Jamnagar etc. for skilled workers. The skilled workers will also be required for marine based industries at Dwarka & Mithapur, Mineral based industry near Bhatia and petrochemical based industry near Jamnagar as they are multinational companies. Other allied industries like auto service centre, Rapar re trading, transport industry, hotel & hospitality industry and other commercial services 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 the 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.
18. It is proposed to invite offers from private organizations to start self finance institutes of PPP model scheme in Jamnagar district. Tata Chemicals Ltd. Dwarka has shown interest in this regard;

#### **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**

10. The medium and large scale existing industries in Jamnagar district are Essar Oil, Reliance Industries, Reliance Petrochemicals, Solvents, edible oils, cement, yarn, soda ash, salt, fertilizers etc. New medium and large scale industries coming up are agro food processing, ports, power and SEZ. 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 to industrial standards to get job in above mentioned industries.
11. There is a need of strengthening or upgrading chosen industrial training institutes into Centres of Excellence (CoE) and they 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 Jamnagar District

Sr. No.	Trade	ITI										GIA	SF			Grand Total
		Jam nagar	Jam. city	Kala-vad	Dwar-ka	Bhan-vad	Jam. Kham.	Jam. Jodh.	Kalyan pur	Dhrol	ITI Total	Jam nagar	Bhan vad	Kala vad	SF Total	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		(1)	(1)	(2)		
1.	Surveyor	32	-	-	-	-	-	-	-	-	32	-	-	-	-	32
2.	Draughtsman (Civil)	48	-	-	-	-	-	-	-	-	48	-	-	-	-	48
3.	Compu. Operator/Programmer (Girls)	60	-	-	20	40	40	60	40	-	260	-	-	20	20	280
4.	Armature / Motor Rewinding	32	-	16	16	32	32	32	32	16	208	-	-	-	-	208
5.	Fitter	64	-	-	32	16	-	32	32	-	176	-	-	-	-	176
6.	Machinist	24	-	-	-	-	-	-	-	-	24	-	-	-	-	24
7.	Radit & TV Mechanic	48	-	-	-	-	-	-	-	-	48	-	-	-	-	48
8.	Software Programming	24	48	-	-	-	-	-	-	-	72	-	25	-	25	97
9.	Electrician	96	-	32	64	32	32	32	32	-	320	-	-	-	-	320
10.	2-wheeler repairer	32	-	16	20	-	-	-	32	16	116	-	-	-	-	116
11.	Plastic Processing Operator	16	-	-	-	-	-	-	-	-	16	-	-	-	-	16
12.	Cutting/Sewing/Dress Designing	16	32	-	-	16	32	64	-	-	160	16	16	-	16	192
13.	Hair/Skin Care (Girls)	16	32	-	-	-	-	-	-	-	48	-	-	-	-	48
14.	Mech./Operator (Electronic Systems)	16	-	-	-	-	-	12	-	-	28	-	-	-	-	28
15.	Wireman	144	-	-	32	32	-	32	32	32	304	-	-	-	-	304
16.	Mechanic (Fridge / AC)	48	-	-	-	-	-	-	-	-	48	-	-	-	-	48
17.	Marine Engineering Technician	16	-	-	-	-	-	-	-	-	16	-	-	-	-	16
18.	IT/Electronic System Mechanic	20	-	-	-	-	-	-	-	-	20	-	-	-	-	20
19.	Draughtsman (Mechanic)	16	-	-	-	-	-	-	-	-	16	-	-	-	-	16
20.	Steno/Comp. Operator (Gujarati)	80	-	-	-	-	-	-	-	-	80	-	-	-	-	80
21.	Welder	24	-	-	-	-	24	-	36	12	96	-	-	-	-	96
22.	Mechanic (General/Tractor/Diesel)	128	-	-	16	-	-	16	32	16	208	-	-	-	-	208
23.	Multimedia / DTP	-	-	-	-	-	-	72	48	-	120	-	-	-	-	120
24.	Mechanic (Instrument)	64	-	-	-	-	-	-	-	-	64	-	-	-	-	64
25.	Comp. Aided Design / Autocad	24	-	-	-	-	-	-	-	-	24	-	-	-	-	24
26.	Embroidery / needle work	-	-	-	-	-	-	32	-	-	32	-	-	-	-	32
27.	Turner	24	-	-	-	-	-	-	-	-	24	-	-	-	-	24
28.	CoE-Chemical (BBBT) – Advance	196	96	-	-	-	-	96	192	-	580	-	-	-	-	580
29.	Welder cum Fabricator	36	-	12	12	-	-	36	-	-	96	-	-	-	-	96
30.	E-commerce	72	48	-	24	-	-	-	-	-	144	-	-	-	-	144
31.	Mechanic (Electronics)	80	-	-	-	-	-	-	-	-	80	-	-	-	-	80
32.	Chemical Plant Operator/Attendant	16	-	-	-	-	-	-	-	-	16	-	-	-	-	16
33.	Mechanic (Motor Vehicle)	48	-	-	-	-	-	-	-	-	48	-	-	-	-	48
	<b>Total:</b>	<b>1556</b>	<b>256</b>	<b>76</b>	<b>236</b>	<b>168</b>	<b>160</b>	<b>516</b>	<b>508</b>	<b>92</b>	<b>3568</b>	<b>16</b>	<b>41</b>	<b>20</b>	<b>61</b>	<b>3629</b>

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

**List of the Industries Selected for Field Survey**

**Vibrant Gujarat Investors' Summit 2005 & 2007 MOUs – Jamnagar District**

27. Shriji Shipping Services Ltd.
28. Arcodia Shipping
29. Shree Venkatesh Engineering Works
30. Reliance Port Terminal Ltd.
31. Reliance Infrastructure Ltd.
32. Essar SEZ Ltd., Jamnagar
33. Essar Power Ltd.
34. Continental Warehousing Corporation Ltd.

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

35. New Digvijaysinh Tin Factor
36. Sanjay Oil Cake Industry
37. New Bharat Engineering Works
38. Oceanic Dehydrate Pvt. Ltd.
39. Digvijay Cement Co. Ltd.
40. Tata Chemicals Ltd.
41. Digvijay Woolen Mills Ltd.
42. Birla V Exel Ltd.
43. Charm Marine Products Ltd.
44. Gujarat NRI Cock Ltd.
45. Saurashtra Salt & Chemicals Ltd.
46. Century Chemicals Ltd.



# JUNAGADH DISTRICT ANALYSIS BASED ON SAMPLE SURVEY

## PROFILE OF JUNAGADH DISTRICT

### Location and Administration

Junagadh district is one of the largest districts in Saurashtra having 14 talukas. It is marked by fertile soils, extensive forest areas, high average rainfall and places of pilgrimage. spread over 10607 sq. km. of its area, Gir forest is the home of renowned Gir lion. The Somnath Jyotirlinga, Bhavnath Yatra site at Junagadh, Datar hills, Jama Masjid, Bohra temple (Veraval), Jain temples, Buddha caves, Tulshishyam, Ashoka's inscriptions, Damodar Kund, Bhalka tirth, Kankai temple and a beautiful 225 km long coastline - draw a stream of pilgrims and tourists to the district.

Geographically the district is marked by plain area except Girnar hills and Bhesan medium and low hills area. The district is bounded as under:

On north by Rajkot and Amreli districts

On south by Arabian Sea

On west by Arabian Sea and Porbandar district

On east by Amreli district

Junagadh district is spread roughly between 20.44° & 21.40° north latitude and 69.40° & 71.05° east longitude.

This is one of the progressive districts of Gujarat state. The district consists of 14 blocks viz. Una, Keshod, Junagadh, Talala, Bhesan, Manavadar, Maliya, Mangrol, Medarada, Visavadar, Veraval, Sutrapada, Vanthli and Kodinar.

### Climate and Rainfall

Junagadh district has varying climate depending upon area – coastal, forest or plain. The average rainfall is 776 mm in a year spread over about 40 rainy days between the second fortnight of June to the first fortnight of September.

### Soils and Rivers

The soil is shallow, medium and black in parts of Vanthali, Manavadar, Keshod, Junagadh, Bhesan, Una, Talala, Malia, Visavadar and Kodinar talukas, sandy soils in parts of Mangrol, Veraval, Malia and Una talukas. Coastline of Arabian Sea and low lying areas is known as "Ghed". The soil of Ghed is alluvial and more fertile in parts of Mangrol, Keshod and Manavadar talukas. The major rivers are Bhadar and Ozat flow across the district and small rivers like Hiran, Raval, Madhuvanti, Kalindri and Uban discharging water into Arabian Sea.

### Forestry

The well known Gir forest is spread over 1162.22 sq. km. Of this, 884.50 sq. km. are under reserve forest. Steps are now initiated to protect this forest pastures on which sustain the Maldharis (cattle breeders). The maximum density of forest is found in Gir forest around the

Girnar hills, parts of Visavadar, Talala talukas. Main products of the forest are teakwood, firewood, charcoal and timber, while minor products include fodder grass, bamboo, tendu leas, gum and varieties of medicinal herbs.

#### **Fisheries**

The coastal belt of Junagadh district extends from Saiyad Rajpara to Madhavpur. On this belt Veraval and Mangrol are the major fishing ports. Export of fish and fish products takes place from Veraval. Other fishing centres are Shil, Bara, Gosabara, Kotda, Simar, Sutrapada, Mandwod, Dhamlej and Muldwarka. Prawns, pomfrets, lobsters are processed and exported from Veraval as processing and storage facilities are available at this port. Fishmeal plants are established at Veraval and Mangrol. There are other fish based industries: 68 Ice plants, 36 ice cold storages, 20 fish processing plants, 20 frozen food storages and 4 fish meal plants.

### **INFRASTRUCTURE**

#### **Industries**

Junagadh district abounds in mining products like chalk, lime stone, black stone, bauxite etc. Therefore, mineral based industries and agro based industries as well as fish based industries have a good scope in the district. It is observed that urban areas like Junagadh and Veraval have a greater concentration of industries. The rural and cottage industries being unorganized and dispersed are unable to make a dent on employment. Most of the 44 large and medium scale industries are also situated around the above two centres. The new industrial policy of the state provides capital investment, subsidy, sales tax benefits, incentive to employment oriented industries, and incentive for pioneer and prestigious units to accelerate the industrial growth in Junagadh. There are 6 industrial estates of GIDC which provides a total 785 industrial sheds.

#### **Transport and Communication**

The transport and communication facilities are prerequisites for development of commerce in a region. These facilities in Junagadh have shown a very impressive improvement over the last decade. The district has the benefits of broad gauge railway line of 47 km and meter gauge railway line of 344 km. There are one major (Veraval) and eight minor ports in the district (Mangrol, Kotda, Shil, Mandvad, Simar, Rajpara, Sutrapada and Madhavpur). Coal, dry date, fertilizers and wheat are the main items imported at these ports. There are 126 bank branches of commercial banks, 63 branches of DCCBs, 22 branches of RRBs contributing to an overall economic development of the district. State Bank of Saurashtra 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, Junagadh. 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.	Agro & Food Processing	3	
2.	Ports	1	
	<b>Total</b>	<b>4</b>	
3.	Presently functioning (Existing)	<b>20</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 Junagadh, Chamber of Commerce and Industries (Junagadh) and GIDC (Gandhinagar). From medium and large scale units 20 entrepreneurs were selected by random sampling method for indepth study.

Accordingly, 7 enterprises (MOUs) were visited but as the responsible person was not available 3 units could not be contacted as per the entrepreneurs' list provided by IC as they were out of state. 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, Junagadh and GIDC, Gandhinagar. The field work was carried out during the month of April 2008.

#### Observation on the Sample Survey Data

As per the terms of reference, 6 MOUs and 20 medium and large scale units signed in 2005 and 2007 were to be visited for manpower demand survey assessment. Accordingly, 6 MOUs and 20 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	-	3	<b>3</b>	-	705	<b>705</b>
2.	Ports	1	1	<b>2</b>	-	1000	<b>1000</b>
3.	Power	-	2	<b>2</b>	-	520	<b>520</b>
4.	Automobile Engineering	-	1	<b>1</b>	-	345	<b>345</b>

5.	Tourism	1	-	1	-	-	-
	<b>Total:</b>	<b>2</b>	<b>7</b>	<b>9</b>	<b>-</b>	<b>2570</b>	<b>2570</b>

Source: Industries Commissionerate, GOG, Gandhinagar.

#### Summary and Field Observations of the District

17. 9 projects are proposed in the district.
18. Largest investment is proposed in the Agro Food Processing Sector (3 projects).
19. The district is well connected with the national highway No.8 connecting it to Ahmedabad and Mumbai.
20. Junagadh is also connected with Ahmedabad and Veraval by a meter gauge railway line.
21. The nearest port is Veraval and the nearest airports are Keshod and Rajkot.

#### 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 wise 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 are 11,602 persons and future requirement will be 16,125.

Table 5.3 Basis of Calculation of Manpower Requirement in Junagadh District

Sr. No.	Particulars	Present Manpower Requirement (base year 2007-08)	Manpower Requirement For next five Years (2013)
A1.	Total surveyed 4 MOUs 2005 and 2007	172	1320
2.	Total 20 medium & large scale industrial Units surveyed	5082	5982
3.	Total surveyed 24 MOUs & M&L Scale industries (1+2) – 4+20=24	5254	7302
B4.	Average manpower required per unit	218.91	304.25

5.	Total manpower required MOUs & M&L scale industries (9+44 = 53)	11602	16125
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%)	12511	17515
7.	Total manpower requirement in the district (5+6)	24113	33640
8.	Taking figures of indirect employment @ 20% of the total manpower (7)	4823	6728
9.	Overall employment generation in Junagadh district	<b>28936</b>	<b>40368</b>

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

10. With 9 proposed projects, the district has total manpower requirement of 2,570 technical, managerial and unskilled workers.

11. Largest investment is in the sector of Agro Food Processing (3 projects).

12. Presently Junagadh district has

- 16 ITIs offering courses in the field of engineering, IT and chemicals;
- One Fisheries college which churns out 50 students every year;
- One college offering MBA degree with 60 students every year;
- One Agricultural college with a capacity of 100 students every year;
- One B.Tech. (Agricultural Engineering college with a capacity of 50 students every year;

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

At present there are 5,254 persons employed and in future there will be 7,302 persons employed at various levels in the 24 (4+20) industries surveyed out of 53 (9+44) industries. This means that average total employed (skilled and unskilled) staff & workers is 218.91 and 304.25 persons per unit. The number of units expected in Junagadh district is 53 units (9+44) (MOUs & medium and large scale units) and hence the total requirement of skilled and unskilled persons works out to 11,602 for the base year (2007-08) and 16,125 numbers for the fifth year (2013) respectively. An additional 12,511 small scale industries workers in the base year and in future 17,515 small scale industries workers will be required; the anticipated demand works out to 24,113 for present and 33,640 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 4,823 for the base year and 6,726 for the future. Hence the overall employment generation in Junagadh district due to the industrial growth can be anticipated around 28,936 employees at present and 40,368 employees in future.

Details of 4 units surveyed are presented in table 5.4 on the basis of this sample survey conducted. The manpower requirement of 9 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 Junagadh District

Level of Education	Qualification	Present Requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	-	6
	M.Sc.	1	5
	M.Tech.	-	4
<b>Sub-total:</b>		<b>1</b>	<b>15</b>
Degree	Electrical	-	3
	Mechanical	2	10
	Metallurgy	-	2
	Automobile Engineering	-	2
	Environmental Engg.	-	5
	Food Processing Technology	1	4
	Production Engineering	-	1
	Industrial Engineering	-	1
<b>Sub-total:</b>		<b>3</b>	<b>28</b>
Diploma	Electrical	1	9
	I & C	-	2
	Mechanical	2	14
	Automobile Engineering	-	2
	Fabrication technology	-	10
	Others	2	15
<b>Sub-total:</b>		<b>5</b>	<b>52</b>
ITI Trade	Turner	2	10
	Fitter	1	9
	Wireman	1	7
	Welder	-	7
	Electrician	2	12
	Mechanic (AC/Fridge)	-	6
	Mechanic (Motor vehicles)	-	5
	Mechanic (Electronics)	-	3
	Mechanic (Instruments)	2	8
	Machinist	2	14
	Chemical Plant Operator	4	17
	Fireman	-	2
	Painter	-	2
	Lab Assistant	4	17
	Plumber	-	2
	Mechanic (Tractor/Diesel)	2	8
	Networking Technician	-	4
	Motor Rewinding	-	4
	Stenographer	1	7
	E-commerce	-	6
	Basic CNC	-	2
	Basic Sheetmetal Fabr.	-	4
	Basic Turning / Grinding	-	4
Others	-	6	
<b>Sub-total:</b>		<b>21</b>	<b>166</b>
Graduates/	B.Sc. / B.A. etc.	7	51

Others	B.Com. / M.Com.	2	18
	BCA	-	6
	Undergraduates	12	75
	Gardener/Peon/Packing staff	20	130
	Security	5	34
<b>Sub-total:</b>		<b>46</b>	<b>314</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>96</b>	<b>745</b>
	<b>Skilled</b>	<b>76</b>	<b>575</b>
	<b>TOTAL</b>	<b>172</b>	<b>1320</b>

Details of 20 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 44 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*

Level of Education	Qualification	Present requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	18	19
	M.Sc.	27	28
	M.Tech.	10	10
<b>Sub-total:</b>		<b>55</b>	<b>57</b>
Degree	Electrical	19	19
	Civil	2	2
	I & C	4	4
	Mechanical	42	42
	Computer	3	3
	IT	1	1
	Chemical	18	18
	Metallurgy	6	6
	Textile Technology	2	2
	Automobile Engg.	1	1
	Environmental Engg.	8	8
	Food processing technology	10	10
	Production Engg.	8	8
	Industrial Engg.	2	2
Others	7	7	
<b>Sub-total:</b>		<b>133</b>	<b>133</b>
Diploma	Electrical	46	46
	I & C	3	3
	Mechanical	61	61
	Computer	3	3
	IT	1	1
	Chemical	31	32
	Automobile Engg.	2	2
	Textile Technology	2	2
	Fabrication technology	10	10
	Mining	6	6
	Others	17	17

<b>Sub-total:</b>		<b>182</b>	<b>183</b>
ITI Trade	Turner	68	76
	Fitter	65	70
	Wireman	20	23
	Welder	7	8
	Electrician	36	37
	Mechanic (AC/Fridge)	7	7
	Mechanic (Motor vehicles)	13	13
	Mechanic (Electronics)	3	3
	Mechanic (Instruments)	43	48
	Machinist	73	78
	Chemical Plant Operator	47	48
	Pump Mechanic	4	4
	Fireman	8	8
	Lab Assistant	49	54
	Painter	18	18
	Mechanic (Tractor/Diesel)	42	44
	Networking Technicians	2	2
	Motor Rewinding	2	2
	Stenographer	35	41
	Mechatronics	2	2
	E-commerce	16	16
	Basic CNC	6	8
	Basic Sheetmetal Fabricn.	13	14
Basic Turning / Grinding	7	8	
Others	32	33	
<b>Sub-total:</b>		<b>618</b>	<b>665</b>
Graduates/ Others	B.Sc. / B.A. etc.	190	250
	B.Com. / M.Com.	105	128
	BCA	26	41
	Undergraduates	300	397
	Gardener/Peon/Packing staff	457	555
	Security	147	185
<b>Sub-total:</b>		<b>1223</b>	<b>1556</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>2870</b>	<b>3380</b>
	<b>Skilled</b>	<b>2212</b>	<b>2602</b>
	<b>TOTAL (skilled + unskilled)</b>	<b>5082</b>	<b>5982</b>
<b>GRAND TOTAL</b>	<b>Table 5.4</b>	<b>172</b>	<b>1320</b>
	<b>Table 5.5</b>	<b>5082</b>	<b>5982</b>
	<b>TOTAL (Skilled &amp; Unskilled manpower)</b>	<b>5254</b>	<b>7302</b>

### Addressing the Manpower Requirement in Industries

#### Coming Up in Junagadh District

Datamation Research Analyst (DRA), New Delhi has carried out a sample survey of 4 MOUs signed (with entrepreneurs) and 20 units of existing medium and large scale industries (total 24) in Junagadh district and on the basis of that they have made a forecast (for next five years) i.e. year 2013 of manpower requirement for 9 MOUs and 44 units of medium and large scale (total 53 units). According to this survey the requirement of manpower in the ITI trades is anticipated to be around 1,411 for the base year (2007-08) and 1,835 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 Junagadh district and skill gaps.

*Table 5.6 ITI Trade-wise no. of Manpower Requirement, no. of Seats Available and Skill Gaps in Junagadh 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	155	60	95	190	130	20	25	25	25	35
Fitter	146	208	-62	174	-34	-5	-5	-5	-5	-14
Wireman	46	256	-210	66	-190	-25	-30	-45	-45	-45
Welder	15	84	-69	33	-51	-10	-10	-10	-10	-11
Electrician	84	288	-204	108	-180	-20	-25	-40	-40	-55
Mech(AC)	15	48	-33	29	-19	-5	-5	-5	-4	-
Mech (Motor)	29	192	-163	40	-152	-15	-20	-30	-35	-52
Mech. Electronic	7	80	-73	13	-67	-10	-10	-15	-15	-17
Mech. (instru)	99	64	35	124	60	10	10	10	15	15
Machinist	166	24	142	203	179	25	30	35	35	54
Chem. Plant Operator	113	-	113	144	144	15	20	30	40	39
Fireman	18	-	18	22	22	5	5	5	7	-
Lab. Asst.	117	-	117	157	157	15	20	30	45	47

Painter	40	-	40	44	44	8	8	8	10	10
Mech. Diesel	97	208	-111	115	-93	-20	-20	-20	-20	-13
Steno.	79	112	-33	106	-6	-6	-	-	-	-
E-com.	35	-	35	49	49	9	10	10	10	10
Basic CNC	13	-	13	22	22	5	5	5	7	-
Basic Sheet. Fabr.	29	-	29	40	40	8	8	8	8	8
Basic Turning Grinding	15	-	15	26	26	5	5	5	5	6
Others	93	874	-781	130	-744	-110	-130	-145	-175	-184
<b>Total</b>	<b>1411</b>	<b>2498</b>	<b>-1087</b>	<b>1835</b>	<b>-663</b>	<b>-101</b>	<b>-109</b>	<b>-144</b>	<b>-142</b>	<b>-167</b>

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

Sr. No.	Name of Institute	Seats Available	Proposed increase (Base year 2007-08)*
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1.	ITI, Junagadh	1136	
2.	ITI, Una	180	
3.	ITI, Talala	196	
4.	ITI, Medarda	48	
5.	ITI, Keshod	248	
6.	GIA, Darulum, Junagadh	60	
7.	GIA, Veraval	176	
8.	GIA, Shardagram, Mangrol	80	
9.	GIA, Sardarpura, Junagadh	88	
10.	SF, ZC Seva J C, Junagadh	40	
11.	SF, Veraval	40	
12.	SF, SE Trust, Veraval	20	
13.	SF, Gir Education Trust, Kodinar	50	
14.	SF, Sutrapada	68	
15.	SF, Visavadar	16	
16.	SF, ITC, Manavadar	32	
	<b>Total:</b>	<b>2498</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 Junagadh District**

19. Majority of the projects proposed are to be established in Veraval, Sutrapada, Mangrol, around Junagadh city and cluster pocket areas;
20. Majority of the projects are based on Agro & Food Processing, Port Land Development, Power Generation, Automobile Engineering and Tourism;
21. Additional short term courses are required to meet the industrial manpower requirement. There is a shortage of manpower in service sector (non trade engineering) like e-commerce, networking technician, call centre, business process outsourcing (BPO) and in engineering trade like automobile engineering, agricultural engineering technician etc.;
22. The Department of Employment & Training should coordinate with Agricultural University, Junagadh for agriculture engineering technician, agro based industries and modernize the curricula and courses for such training. The enterprises should plan agro based industry parks for further growth of requirement of manpower;
23. There is a need of strengthening or upgrading of chosen industrial training institutes into Centres of Excellence (CoE) for skilled manpower requirement of the district;
24. It is proposed to invite offers from private organizations to start self finance institutes of PPP model scheme in Junagadh district from Hindustan Unilever Ltd., Keshod and Max Precision Bearings Ltd., Talala.

#### **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**

12. The small and large scale existing industries in Junagadh district are : mineral based cement plants, fertilizers, agro based industries, groundnut oil & cake, edible oil industry, hand picked groundnuts, marine based industry, fish processing and frozen fish units, marine products, frozen marine food packing, diamond cutting, polymers, soda ash etc. New medium and large scale industries coming up are agro food processing, port land

development, power generation, automobile engineering, tourism etc. Therefore there is a good scope for job opportunities and generation of employment.

13. There is a need to create facilities for short term courses in keeping with industrial standards to get jobs in above mentioned industries.

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

(Page-1)

Sr. No.	Trade	ITI						GIA				
		Junagadh	Una	Talala	Medarda	Keshod	ITI Total	Darulum	Veraval	Sarda-gram	Sardar-pura	GIA Total
		(1)	(2)	(3)	(4)	(5)		(1)	(2)	(3)	(4)	
1.	Computer Operator/Programmer	60	20	40	-	40	160	-	-	-	40	40
2.	Armature & Motor Rewinding	48	16	16	-	32	112	-	-	-	-	-
3.	2-wheeler repairer	48	-	-	-	16	64	-	-	-	-	-
4.	Machinist	24	-	-	-	-	24	-	-	-	-	-
5.	Welder cum Fabricator	24	-	-	-	12	36	-	-	-	-	-
6.	Turner	48	-	-	-	12	60	-	-	-	-	-
7.	Mechanic (Instrument)	48	-	-	-	-	48	-	-	-	-	-
8.	IT/Electronic System Maintenance	40	-	-	-	-	40	-	-	-	-	-
9.	Fitter (SCP)	16	-	-	-	32	48	-	-	-	-	-
10.	Steno/Comp. Operator (Gujarati)	32	-	16	-	-	48	-	32	-	16	48
11.	Mechanic (Motor Vehicle)	32	-	-	16	16	64	-	-	-	-	-
12.	Plastic Processing Operator	16	-	-	-	-	16	-	-	-	-	-
13.	Mechanic (Electronics)	64	16	-	-	-	80	-	-	-	-	-
14.	Welder	12	-	12	-	12	36	12	-	-	-	12
15.	Mechanic (Diesel)	48	32	16	-	32	128	-	32	-	-	32
16.	Mechanic (Tractor)	32	-	-	-	-	32	-	-	-	-	-
17.	Radio & Television Mechanic	32	-	-	-	-	32	-	32	16	-	48
18.	Draughtsman (Mechanic)	16	-	-	-	-	16	-	-	-	-	-
19.	Mechanic (instrument) (SCP)	16	-	-	-	-	16	-	-	-	-	-
20.	Mechanic (AC/ Fridge)	48	-	-	-	-	48	-	-	-	-	-
21.	Electrician	96	32	32	-	16	176	-	32	32	-	64
22.	CoE Agri. Machinery (Advanced)	96	-	-	-	-	96	-	-	-	-	-
23.	Fitter	32	32	32	32	-	128	-	32	-	-	32
24.	CoE Agri. Machinery (BBBT)	96	-	-	-	-	96	-	-	-	-	-
25.	Wireman	96	32	32	-	32	192	32	-	32	-	64
26.	Surveyor	96	-	-	-	-	96	-	-	-	-	-
27.	Cutting & Sewing	-	-	-	-	16	16	16	-	-	32	48
28.	Draughtsman (Civil)	-	-	-	-	-	-	-	16	-	-	16
29.	Others	-	-	-	-	-	-	-	-	-	-	-
	<b>Total:</b>	<b>1136</b>	<b>180</b>	<b>196</b>	<b>48</b>	<b>268</b>	<b>1828</b>	<b>60</b>	<b>176</b>	<b>80</b>	<b>88</b>	<b>404</b>

.....contd.

Sr. No.	Trade	S.F.								GRAND TOTAL (ITI+GIA+SF)
		ZC Seva JC	Veraval	SE Trust	Gir Edu. Trust	Sutrapada	Vasavadar	ITC Manavadar	SF Total	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)		
1.	Computer Operator/Programmer	-	40	20	-	20	-	-	80	280
2.	Armature & Motor Rewinding	-	-	-	-	-	-	16	16	128
3.	2-wheeler repairer	-	-	-	-	-	-	-	-	64
4.	Machinist	-	-	-	-	-	-	-	-	24
5.	Welder cum Fabricator	-	-	-	-	-	-	-	-	36
6.	Turner	-	-	-	-	-	-	-	-	60
7.	Mechanic (Instrument)	-	-	-	-	-	-	-	-	48
8.	IT/Electronic System Maintenance	-	-	-	-	-	-	-	-	40
9.	Fitter (SCP)	-	-	-	-	-	-	-	-	48
10.	Steno/Comp. Operator (Gujarati)	-	-	-	-	-	16	-	16	112
11.	Mechanic (Motor Vehicle)	-	-	-	-	-	-	-	-	64
12.	Plastic Processing Operator	-	-	-	-	-	-	-	-	16
13.	Mechanic (Electronics)	-	-	-	-	-	-	-	-	80
14.	Welder	-	-	-	-	-	-	-	-	48
15.	Mechanic (Diesel)	-	-	-	-	-	-	-	-	160
16.	Mechanic (Tractor)	-	-	-	-	-	-	-	-	32
17.	Radio & Television Mechanic	-	-	-	-	-	-	-	-	80
18.	Draughtsman (Mechanic)	-	-	-	-	-	-	-	-	16
19.	Mechanic (instrument) (SCP)	-	-	-	-	-	-	-	-	16
20.	Mechanic (AC/ Fridge)	-	-	-	-	-	-	-	-	48
21.	Electrician	-	-	-	-	48	-	-	48	288
22.	CoE Agri. Machinery (Advanced)	-	-	-	-	-	-	-	-	96
23.	Fitter	-	-	-	-	-	-	-	-	160
24.	CoE Agri. Machinery (BBBT)	-	-	-	-	-	-	-	-	96
25.	Wireman	-	-	-	-	-	-	-	-	256
26.	Surveyor	-	-	-	-	-	-	-	-	96
27.	Cutting & Sewing	-	-	-	-	-	-	-	-	144
28.	Draughtsman (Civil)	-	-	-	-	-	-	-	-	16
29.	Others	40	-	-	50	-	-	16	106	106
	<b>Total:</b>	<b>40</b>	<b>40</b>	<b>20</b>	<b>50</b>	<b>68</b>	<b>16</b>	<b>32</b>	<b>266</b>	<b>2498</b>

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

**List of the Industries Selected for Field Survey**

**Vibrant Gujarat Investors' Summit 2005 & 2007 MOUs – Junagadh District**

47. Noorani Exports Pvt. Ltd., Unit 2, Veraval
48. Deepmala Foods Ltd.
49. Gir Kesri Fruits & Vegetables
50. Leaders Group Pvt. Ltd.

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

51. Creative Castings Ltd., Junagadh
52. Hiravati Exports Pvt. Ltd.
53. Indian Rayon Industries Ltd., Veraval
54. Kanel Protein Ltd.
55. Siddhi Vinayak Agro Industries Ltd., Junagadh
56. Asiatic Marine Food India Ltd.
57. Deepak Vegetables Oil Industry Ltd.
58. Gujarat Siddhi Cement Ltd., Veraval
59. I V Injecta Ltd.
60. Kesri Printers Ltd.
61. Narmada Agro Chemicals Ltd.
62. Rama Fertilizers Pvt. Ltd.
63. Ostin Engineering Co. Ltd.
64. Gujarat Ambuja Cement, Kodinar
65. Gujarat Heavy Chemicals Ltd.
66. Haldar Paper Mills Pvt. Ltd.
67. Jagdish Export Industry
68. Nova Precision Bearings
69. S K Industries, Junagadh
70. Khodiar Impacts

# PORBANDAR DISTRICT ANALYSIS BASED ON SAMPLE SURVEY

## PROFILE OF PORBANDAR DISTRICT

### Location and Administration

Porbandar district is one of the smallest districts in the Saurashtra area having three talukas. It is marked by fertile soils and places of pilgrimage like Jain temples and Harshad Mata temple. It is also the birth place of Mahatma Gandhi. Porbandar has a beautiful 105 km coastline which draws a stream of pilgrims and tourists to the district. Flamingo birds too find a sanctuary at Porbandar.

Porbandar district, with a total geographical area of 2295 sq.km., accounts for about 1.18% of the total geographical area of the state. The Govt. of Gujarat in 1997 divided old Junagadh district into two districts viz. Junagadh and Porbandar. The newly formed Porbandar district comprises of three talukas namely Porbandar, Ranavav and Kutiyana. The district is bounded by Jamnagar district in the north, Junagadh district in the south, Rajkot district in the east and by Arabian Sea in the west. The district is spread roughly between 21.15° & 21.50° north latitude and 69.55° & 70.25° east longitude.

### Demographic Characteristics

The population of Porbandar district as per 2001 Census was 5.36 lakh. The density of population is 234 persons per sq.km. compared to the state average of 268 in the year 2001. The literacy level was 69.09% in the year 2001.

### Natural Resources

The average annual rainfall in the district is 660 mm in a year. The soils are shallow, medium black with some pockets of highly calcareous soils. The entire area of the district belongs to these soil groups and in general the soils are fertile. In the coastal alluvial plain the soils are salt affected and saline sodic in nature. Some part of the land is known as "Ghed Area" (it is a low lying area). This soil is very rich in organic contents and highly responsive to application of improved farm technologies to obtain better results. Major crops grown in the district are groundnut, cotton, wheat, pearl millet, sesamum, sorghum, pulses and vegetables.

### Climate and Cropping Pattern

Porbandar district has a varying climate depending upon area. The average rainfall is 660 mm spread over about 40 rainy days between the second fortnight of June and the first fortnight of September.

### Fisheries

With about 105 km stretch of coastal belt, the district possesses enormous potential for marine fisheries. On this belt, Porbandar is the major port for export of fish and fish products. Other fishing centres are Miyani, Navi Bandar, Zavar and Visavada. Prawns, Pomphrets and lobsters are processed and exported from Porbandar as processing and storage facilities are available at

this port. Other fish based industries are ice plants, ice cold storages, fish processing plants, frozen storages and fish meat plants.

## INFRASTRUCTURE

### Industries

Porbandar district abounds in mining products like chalk, limestone, black stone, bauxite etc. Therefore, mineral based industries and agro based industries as well as fish based industries have a good scope in the district. It is observed that urban area like Porbandar and Ranavav have a greater concentration of industries. Most of the 16 large and medium scale industries are situated around Porbandar taluka. There are 3 industrial estates of Gujarat Industrial Development Corporation (GIDC) which provides a total 65 industrial sheds.

### Transport and Communication

The district has the benefit of broad gauge railway line of 33 km. There is one major port (Porbandar) and three minor ports (Miyani, Navi Bandar and Visavada). Coal, LPG mixture, dry dates etc. are the main items imported at these ports. Cement, Clinker, Bauxite, fish, groundnut deoiled cake, onion, soda ash, salt etc. are the main items exported from these ports. There are 45 branches of commercial banks, 10 branches of DCCBs and 4 RRBs contributing to an overall economic development of the district. Bank of Saurashtra 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, Porbandar. 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.	Agro & Food Processing	1	
2.	Ports	3	
3.	Chemical & Petrochemicals	1	
	<b>Total</b>	<b>5</b>	
4.	Presently functioning (Existing)	<b>8</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 Porbandar, Chamber of Commerce and Industries (Porbandar) and GIDC (Gandhinagar). From medium and large scale units 8 entrepreneurs were selected by random sampling method for indepth study.



Accordingly, 10 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, Porbandar and GIDC, Gandhinagar. The field work was carried out during the month of April 2008.

#### Observation on the Sample Survey Data

As per the terms of reference, 10 MOUs and 8 medium and large scale units signed in 2005 and 2007 were to be visited for manpower demand survey assessment. Accordingly, 5 MOUs and 8 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.	Ports	4	1	5	-	150	150
2.	Chemical/Petrochemicals	-	1	1	-	1800	1800
3.	Tourism	-	1	1	-	2900	2900
4.	Agro/Food Processing	-	1	1	-	80	80
5.	Power	2	-	2	-	-	-
	<b>Total:</b>	<b>6</b>	<b>4</b>	<b>10</b>	<b>-</b>	<b>4930</b>	<b>4930</b>

Source: Industries Commissionerate, GOG, Gandhinagar.

#### Summary and Field Observations of the District

22. 10 projects are proposed in the district.
23. Largest investment is proposed in the Port Land Development (5 projects).
24. The district is well connected with the national highway No.8 connecting it to Rajkot.
25. The district is well connected with coastal highway No.6 and also is well connected with state highway No.27, 28, 95, 96 and 102 (passing through the district)
26. Porbandar is also connected with broad gauge railway line.
27. Porbandar has a domestic airport and ports.

#### 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 wise 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 are 7,678 persons and future requirement will be 10,062.

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

Sr. No.	Particulars	Present Manpower Requirement (base year 2007-08)	Manpower Requirement For next five Years (2013)
A1.	Total surveyed 5 MOUs 2005 and 2007	356	1310
2.	Total 8 medium & large scale industrial Units surveyed	4001	4636
3.	Total surveyed 13 MOUs & M&L Scale industries (1+2) – 5+8=13	4357	5946
B4.	Average manpower required per unit	349.0	457.38
5.	Total manpower required MOUs & M&L scale industries (10+12 = 22)	7678	10062
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%)	3557	4269
7.	Total manpower requirement in the district (5+6)	11235	14331
8.	Taking figures of indirect employment @ 20% of the total manpower (7)	2447	2866
9.	Overall employment generation in Porbandar district	<b>13682</b>	<b>17197</b>

**Manpower Requirement in Porbandar District from MOU 2005 and 2007**

13. With 10 proposed projects, the district has total manpower requirement of 4,930 technical, managerial and unskilled workers.
14. Largest investment is in the sector of port development (5 projects)
15. Presently Porbandar district has

- One ITI offering courses in the field of engineering, IT and chemicals;
- One technical institute with an intake capacity of over 300 students every year;

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

At present there are 4,357 persons employed and in future there will be 5,946 persons employed at various levels in the 13 (5+8) industries surveyed out of 22 (10+12) industries. This means that average total employed (skilled and unskilled) staff & workers is 349.0 and 457.38 persons per unit. The number of units expected in Porbandar district is 22 units (10+12) (MOUs & medium and large scale units) and hence the total requirement of skilled and unskilled persons works out to 7,678 for the base year (2007-08) and 10,062 numbers for the fifth year (2013) respectively. An additional 3,557 small scale industries workers in the base year and in future 4,269 small scale industries workers will be required; the anticipated demand works out to 11,235 for present and 14,331 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 2,447 for the base year and 2,866 for the future. Hence the overall employment generation in Porbandar district due to the industrial growth can be anticipated around 13,682 employees at present and 17,197 employees in future.

Details of 5 units surveyed are presented in table 5.4 on the basis of this sample survey conducted. The manpower requirement of 10 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 Porbandar District*

Level of Education	Qualification	Present Requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	1	5
	M.Sc.	-	4
	M.Tech.	-	1
<b>Sub-total:</b>		<b>1</b>	<b>10</b>
Degree	Electrical	-	6
	Civil	-	5
	I & C	-	2
	Mechanical	1	9
	Chemical	-	2
	Automobile Engineering	-	1

	Environmental Engg.	1	4
	Food Processing Technology	-	2
	Production Engineering	1	3
	Industrial Engineerng	1	3
<b>Sub-total:</b>		<b>4</b>	<b>37</b>
Diploma	Electrical	2	10
	Civil	2	10
	Mechanical	2	12
	Chemical	-	4
	Automobile Engineering	-	2
	Fabrication technology	2	6
	Others	-	2
<b>Sub-total:</b>		<b>8</b>	<b>46</b>
ITI Trade	Turner	1	9
	Fitter	1	7
	Wireman	1	9
	Welder	1	7
	Electrician	2	14
	Mechanic (AC/Fridge)	-	2
	Mechanic (Motor vehicles)	2	6
	Mechanic (Instruments)	2	9
	Machinist	3	17
	Chemical Plant Operator	-	8
	Pump Mechainic	-	2
	Fireman	2	10
	Lab Assistant	-	4
	Painter	1	2
	Plumber	-	2
	Mechanic (Tractor/Diesel)	2	10
	Networking Technician	-	2
	Stenographer	1	9
	Basic Sheetmetal Fabrnr.	2	6
	Basic turning / grinding	2	6
Others	-	6	
<b>Sub-total:</b>		<b>23</b>	<b>147</b>
Graduates/ Others	B.Sc. / B.A. etc.	12	50
	B.Com. / M.Com.	1	13
	BCA	-	9
	Undergraduates	38	90
	Gardener/Peon/Packing staff	56	120
	Security	12	48
<b>Sub-total:</b>		<b>119</b>	<b>330</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>201</b>	<b>740</b>
	<b>Skilled</b>	<b>155</b>	<b>570</b>
	<b>TOTAL</b>	<b>356</b>	<b>1310</b>

Details of 8 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 12 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*

Level of Education	Qualification	Present requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	17	17
	M.Sc.	6	6
	M.Tech.	13	13
<b>Sub-total:</b>		<b>36</b>	<b>36</b>
Degree	Electrical	13	13
	I & C	5	5
	Mechanical	15	15
	Electronics	1	1
	Chemical	4	4
	Textile Technology	10	10
	Environmental Engg.	7	7
	Food processing technology	6	6
Others	-	-	
<b>Sub-total:</b>		<b>61</b>	<b>61</b>
Diploma	Electrical	22	22
	I & C	6	6
	Mechanical	24	24
	Chemical	8	8
	Textile Technology	12	12
	Dress Designing	6	6
	Mining	1	1
	Others	12	12
<b>Sub-total:</b>		<b>91</b>	<b>91</b>
ITI Trade	Turner	16	16
	Fitter	16	16
	Wireman	20	20
	Welder	16	16
	Electrician	28	28
	Mechanic (AC/Fridge)	10	10
	Mechanic (Motor vehicles)	10	10
	Mechanic (Electronics)		
	Mechanic (Instruments)	16	16
	Machinist	28	28
	Chemical Plant Operator	20	20
	Pump Mechanic	2	2
	Fireman	8	8
	Lab Assistant	4	4
	Networking	12	12
	Plumber	2	2
	Mechanic (Tractor/Diesel)	18	18
	Stenographer	16	24
	E-commerce	2	2
	Weaving Loom Operators	30	30
Others	12	15	
<b>Sub-total:</b>		<b>286</b>	<b>297</b>
Graduates/ Others	B.Sc. / B.A. etc.	260	315
	B.Com. / M.Com.	58	69

	BCA	26	36
	Undergraduates	355	425
	Gardener/Peon/Packing staff	490	575
	Security	84	117
<b>Sub-total:</b>		<b>1273</b>	<b>1537</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>2260</b>	<b>2620</b>
	<b>Skilled</b>	<b>1741</b>	<b>2016</b>
	<b>TOTAL (skilled + unskilled)</b>	<b>4001</b>	<b>4636</b>
<b>GRAND TOTAL</b>	<b>Table 5.4</b>	<b>356</b>	<b>1310</b>
	<b>Table 5.5</b>	<b>4001</b>	<b>4636</b>
	<b>TOTAL (Skilled &amp; Unskilled manpower)</b>	<b>4357</b>	<b>5946</b>

### Addressing the Manpower Requirement in Industries

#### Coming Up in Porbandar District

Datamation Research Analyst (DRA), New Delhi has carried out a sample survey of 5 MOUs signed (with entrepreneurs) and 8 units of existing medium and large scale industries (total 13) in Porbandar district and on the basis of that they have made a forecast (for next five years) i.e. year 2013 of manpower requirement for 10 MOUs and 12 units of medium and large scale (total 22 units). According to this survey the requirement of manpower in the ITI trades is anticipated to be around 523 for the base year (2007-08) and 745 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 Porbandar district and skill gaps.

*Table 5.6 ITI Trade-wise no. of Manpower Requirement, no. of Seats Available and Skill Gaps in Porbandar 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	29	-	29	42	42	8	8	8	8	10
Fitter	29	32	-3	40	8	4	4	-	-	-
Wireman	36	32	4	49	17	5	5	5	2	-
Welder	29	24	5	39	15	5	5	5	-	-
Electrician	51	-	51	71	71	14	14	14	14	15
Mech(AC)	17	-	17	20	20	5	5	5	5	-
Mech (Motor)	20	32	-12	27	-5	-5	-	-	-	-
Mech. (instru)	30	-	30	42	42	8	8	8	8	10
Machinist	52	-	52	76	76	15	15	15	15	16
Chem. Plant	34	-	34	47	47	9	9	9	9	11

Operator										
Fireman	17	-	17	30	30	6	6	6	6	6
Lab. Asst.	7	-	7	14	14	5	5	4	-	-
Mech. Tractor Diesel	34	32	2	47	15	5	5	5	-	-
Network. Tech.	20	-	20	24	24	5	5	5	5	4
Steno.	29	-	29	50	50	10	10	10	10	10
Weaving Loom Operator	51	-	51	51	51	10	10	10	10	11
Basic Sheet. Fabr.	3	-	3	10	10	5	5	-	-	-
Basic Turn.Gr.	3	-	3	7	7	7	-	-	-	-
Others	32	120	-88	59	-61	-12	-12	-12	-12	-13
<b>Total</b>	<b>523</b>	<b>272</b>	<b>251</b>	<b>745</b>	<b>473</b>	<b>109</b>	<b>107</b>	<b>97</b>	<b>80</b>	<b>80</b>

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

Sr. No.	Name of Institute	Seats Available	Proposed increase (Base year 2007-08)*
1.	ITI, Porbandar	272	51
2.	GIA	-	-
3.	SF	-	-
4.	Two new ITIs of PPP model (expected)	-	200
	<b>Total:</b>	<b>272</b>	<b>251</b>

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

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

25. Majority of the projects proposed are to be established in Porbandar and Ranavav areas;
26. Majority of the projects are based on port development, power generation and agro & food processing;
27. Additional short term courses are required to meet the industrial manpower requirement;
28. The Department of Employment & Training should coordinate with Agricultural University, Junagadh for agro based industries and marine food product based industries, marine engineering, ship breaking, ship building, marine chemicals, aquaculture, fishing/fishing business and exports, infrastructure like cold storage facilities – modernizing the curricula and courses for such training;
29. It is proposed to invite offers from private organizations to start self finance institutes of PPP model scheme in Porbandar industrial area;

#### 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

14. The small and large scale existing industries in Porbandar district are fish net making, rope making, soda ash, chemicals, cement, frozen fish / marine products, cold storage, ice factory, etc. New medium and large scale industries coming up are port land development, chemical & petrochemicals, tourism, power generation, agro food and marine food processing based industries, 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 requirements to get jobs in above mentioned industries.
15. There is scope for better job opportunities for fishermen & sailors of villages of Porbandar taluka as it is a coastal area. At present the youth of fisherman/sailor community lack communication skill and self confidence. The ITIs should develop short term courses for them. The courses will also help them in personality development and to get jobs in industrial sector. It is essential to make fisherman/ sailor youth aware of the industrial job opportunities and relevance of the courses.



Table 5.7 Trade-wise Seats Available in ITIs/GIAs/SFs of Porbandar District

Sr. No.	Trade	ITI Porbandar	GIA	SF
1.	Computer Operator/Programming Assistant	40	-	-
2.	Mechanic – Diesel	32	-	-
3.	Fitter	32	-	-
4.	Wireman	32	-	-
5.	Mechanic – Motor Vehicle	32	-	-
6.	Dress Making	16	-	-
7.	Electronic Mechanic	32	-	-
8.	Welder	24	-	-
9.	Armature and Motor Rewinding	32	-	-
	<b>Total:</b>	<b>272</b>	-	-

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

**List of the Industries Selected for Field Survey**

**Vibrant Gujarat Investors' Summit 2005 & 2007 MOUs – Porbandar District**

71. Project Consultancy Group / Ouram Ship Yard
72. Ouram Shipyards Ltd.
73. Keyur Shipping
74. Nirma Ltd.
75. Mangal Oil Pvt. Ltd.

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

76. Cham Gill Nets Industries
77. Cham Sinthrops Industries
78. Cham Trol Nets Organization
79. Saurashtra Chemical Ltd.
80. Saurashtra Cement Ltd.
81. Amar Ice & Cold Storage
82. Hoddar Exports Pvt. Ltd.
83. Silver Sea Food Ltd.

# RAJKOT DISTRICT ANALYSIS BASED ON SAMPLE SURVEY

## PROFILE OF RAJKOT DISTRICT

### Location and Administration

Rajkot district is situated in the central part of Saurashtra region and it is one of the seven districts of Saurashtra. It lies between 20.58° to 23.13° north latitude and 70.20° to 73.18° east longitude. The district is surrounded by parts of Surendranagar, Bhavnagar and Amreli districts in the east, Jamnagar district in the west, Gulf of Kutch & Rann of Kutch in the north and parts of Junagadh and Amreli districts in the south. Total geographical area of the district is 11203 sq.km. The district has 14 talukas viz. Maliya-Miyana, Morbi, Tankara, Vankaner, Paddhari, Rajkot, Lodhika, Kotda, Sanghani, Jasdan, Gondal, Jamkandorna, Upleta, Dhoraji and Jetpur.

### Demographic Characteristics

The population of Rajkot district as per the year 2001 census was 31.68 lakh. The density of population was 283 people per sq.km. compared to the state average of 268 in the year 2001. Urban population constitutes 51.28% of the total population of the district. About 7.71% of the total population was SC and 0.42% was ST and literacy level was 74.85% in the year 2001. There were 16.41 lakh males and 15.26 lakh females in the total population.

### Climate, Rainfall, Water Resources & Agriculture

Rajkot district has extreme climate and wide variation in temperature during summer. Average annual rainfall in the region is between 540 mm and 600 mm. The soils are shallow, medium black with some pockets of highly calcareous soils. Major crops grown in the district are groundnut, cotton, wheat, pearl millet, sorghum, pulses and castor. Important fruit crops grown in the district are ber, sapota, mango, lime, pomegranate, sitaphal (custard apple), guava and papaya. The distribution of rainfall is uneven and the crops suffer water stress conditions at one or the other stages. The district faces problem of drought at every 2-3 years interval, partial or complete failure of crops occur often in the district.

## INFRASTRUCTURE

Rajkot district has got a well developed infrastructure which is conducive for the growth of both industries as well as agriculture. The district has a better literacy rate at 74.85%. Rajkot city is very well connected by rail, road and air transport system with rest of the country and other parts of the state. The district has a very good network of all weather roads. 264 km of national highway and 1261 km of state highway pass through the district. There are 1206 km of major district roads and 517 of other district roads apart from 2109 km of rural roads in the district. The total length of railway line in the district is 302 km, of which 240 km is broad gauge line and 62 km is meter gauge line.

### Industries

Rajkot 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 textile (screen printing) machinery, glazed tiles (floor & wall), metal products, diesel oil engines,

ceramics, plastics, electrical appliances, electronics, quartz / analogue clocks and time pieces etc. are located in the district. Well developed infrastructures, prudent industrial policy of the state government and peaceful industrial atmosphere have been vital factors which have contributed to the industrial growth in the district. However, the industrial development is restricted to the surrounding areas of the metropolitan city of Rajkot and certain big towns of the district only. Jamkandorna is industrially backward taluka of the district. The state government under new industrial policy identified certain areas of backward talukas of the district in a special category for its development by providing attractive incentives to the investors. Due to this, many industrial units have come up on Rajkot-Jetpur-Dhoraji-Upleta road, Rajkot-Jasdan road, Rajkot-Tankara-Morbi-Vankaner road. There are 17 GIDC industrial estates in Rajkot district. There are 100 medium and large scale industrial units with capital investment of Rs.587 crores. There are 241 branches of commercial banks and 146 branches of DCCBs, 13 branches of RRBs 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, Rajkot. 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.	Agro & Food Processing	3	3 did not respond as the responsible person was not available. 2 were out of the state.
2.	Ports	2	
3.	Textile & Apparels	1	
4.	Automobile Engineering	1	
	<b>Total</b>	<b>7</b>	
5.	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 Rajkot, Chamber of Commerce and Industries (Rajkot) and GIDC (Gandhinagar). From medium and large scale units 12 entrepreneurs were selected by random sampling method for indepth study.

Accordingly, 10 enterprises (MOUs) were visited but as the responsible person was not available 3 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, Rajkot and GIDC, Gandhinagar. The field work was carried out during the month of April 2008.

### Observation on the Sample Survey Data

As per the terms of reference, 10 MOUs and 25 medium and large scale units signed in 2005 and 2007 were to be visited for manpower demand survey assessment. Accordingly, 10 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	-	4	4	-	3253	3253
2.	Ports	3	-	3	20	-	20
3.	SEZs	-	1	1	-	9000	9000
4.	Textile & Apparels	1	-	1	-	-	-
5.	Automobile Engineering	1	1	2	-	400	400
6.	Tourism	-	1	1	-	660	660
	<b>Total:</b>	<b>5</b>	<b>7</b>	<b>12</b>	<b>20</b>	<b>13313</b>	<b>13333</b>

Source: Industries Commissionerate, GOG, Gandhinagar.

### Summary and Field Observations of the District

28. 12 projects are proposed in the district.
29. Largest investment is proposed in SEZ and Agro Food Processing Sectors (Rs.800 crores and Rs.21 crores).
30. The district is well connected with the national highway No.8B connecting it to Ahmedabad and Mumbai.
31. Rajkot is also connected with Ahmedabad and Mumbai by a broad gauge railway line
32. The nearest ports are Navlakhi and Jamnagar. Kandala port is easily accessible via national highway no.8A and 8
33. Rajkot has a domestic 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 wise 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 are 23,607 persons and future requirement will be 31,933.

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

Sr. No.	Particulars	Present Manpower Requirement (base year 2007-08)	Manpower Requirement For next five Years (2013)
A1.	Total surveyed 7 MOUs 2005 and 2007	748	1820
2.	Total 25 medium & large scale industrial Units surveyed	5997	7304
3.	Total surveyed 32 MOUs & M&L Scale industries (1+2) – 7+25=32	6745	9124
B4.	Average manpower required per unit	210.78	285.12
5.	Total manpower required MOUs & M&L scale industries (12+100 = 112)	23607	31933
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%)	124947	174926
7.	Total manpower requirement in the district (5+6)	148554	206859
8.	Taking figures of indirect employment @ 20% of the total manpower (7)	29710	41372
9.	Overall employment generation in Rajkot district	<b>178264</b>	<b>248231</b>

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

16. With 12 proposed projects, the district has total manpower requirement of 13,333 technical, managerial and unskilled workers.
17. Largest investment is in SEZ and agro & food processing sectors (4 projects).
18. Presently Rajkot district has

- 24 ITIs offering courses in the field of engineering, IT and chemicals;
- 8 technical institutes with an intake capacity of over 1,850 students every year;
- One pharmacy college with an intake capacity of 80 students every year;
- One medical college with an intake capacity of 100 students every year;
- One college offering MCA degree with 180 students every year;
- One college offering MBA degree with 60 students every year.

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

At present there are 6,745 persons employed and in future there will be 9,124 persons employed at various levels in the 32 (7+25) industries surveyed out of 112 (12+100) industries. This means that average total employed (skilled and unskilled) staff & workers is 210.78 and 285.12 persons per unit. The number of units expected in Rajkot district is 112 units (12+100) (MOUs & medium and large scale units) and hence the total requirement of skilled and unskilled persons works out to 23,607 for the base year (2007-08) and 31,933 numbers for the fifth year (2013) respectively. An additional 1,24,947 small scale industries workers in the base year and in future 1,74,926 small scale industries workers will be required; the anticipated demand works out to 1,48,554 for present and 2,06,859 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 29,710 for the base year and 41,372 for the future. Hence the overall employment generation in Rajkot district due to the industrial growth can be anticipated around 1,78,264 employees at present and 2,48,231 employees in future.

Details of 7 units surveyed are presented in table 5.4 on the basis of this sample survey conducted. The manpower requirement of 12 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 Rajkot District

Level of Education	Qualification	Present Requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	1	4
	M.Sc.	4	9
	M.Tech.	1	4
<b>Sub-total:</b>		<b>6</b>	<b>17</b>
Degree	Electrical	3	8
	Civil	-	1
	Mechanical	5	13

	Textile Technology	3	3
	Automobile Engineering	-	3
	Environmental Engg.	-	1
	Food Processing Technology	7	8
	Production Engineering	1	2
	Industrial Engineering	-	1
	<b>Sub-total:</b>	<b>19</b>	<b>40</b>
Diploma	Electrical	7	15
	Civil	-	2
	Mechanical	9	19
	Automobile Engineering	-	4
	Fabrication technology	-	4
	Textile Technology	5	5
	Others	8	10
	<b>Sub-total:</b>	<b>29</b>	<b>59</b>
ITI Trade	Turner	11	29
	Fitter	10	24
	Wireman	3	9
	Welder	1	8
	Electrician	8	17
	Mechanic (AC/Fridge)	2	4
	Mechanic (Motor vehicles)	4	6
	Sewing / Dress Making	2	2
	Mechanic (Instruments)	4	13
	Machinist	10	27
	Chemical Plant Operator	6	14
	Fireman	-	4
	Weaving Loom Operators	6	8
	Lab Assistant	8	16
	Painter	2	8
	Mechanic (Tractor/Diesel)	8	16
	Networking Technician	-	2
	Motor Rewinding	-	2
	Stenographer	6	14
	E-commerce	2	3
	Basic CNC	-	4
	Basic Sheetmetal Fabr.	2	11
	Basic Turning / Grinding	1	8
	Others	8	17
	<b>Sub-total:</b>	<b>104</b>	<b>260</b>
Graduates/ Others	B.Sc. / B.A. etc.	28	71
	B.Com. / M.Com.	16	34
	BCA	1	6
	Undergraduates	39	104
	Gardener/Peon/Packing staff	72	170
	Security	26	72
	<b>Sub-total:</b>	<b>182</b>	<b>457</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>408</b>	<b>990</b>
	<b>Skilled</b>	<b>340</b>	<b>830</b>
	<b>TOTAL</b>	<b>748</b>	<b>1820</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 100 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*

Level of Education	Qualification	Present requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	21	22
	M.Sc.	29	29
	M.Tech.	28	28
<b>Sub-total:</b>		<b>78</b>	<b>79</b>
Degree	Electrical	28	29
	I & C	18	21
	Mechanical	66	74
	Electronics	9	12
	Ceramics	6	6
	Chemical	10	10
	Metallurgy	4	5
	Textile Technology	7	9
	Automobile Engg.	9	9
	Environmental Engg.	8	8
	Food processing technology	2	2
	Production Engg.	19	22
	Industrial Engg.	4	5
	Others	19	23
<b>Sub-total:</b>		<b>209</b>	<b>235</b>
Diploma	Electrical	54	60
	I & C	34	38
	Mechanical	91	94
	Electronics	13	17
	Ceramics	9	10
	Chemical	16	18
	Automobile Engg.	11	12
	Textile Technology	4	4
	Fabrication technology	29	39
	Others	31	38
<b>Sub-total:</b>		<b>292</b>	<b>330</b>
ITI Trade	Turner	102	118
	Fitter	113	127
	Wireman	26	33
	Welder	18	21
	Electrician	55	64
	Mechanic (AC/Fridge)	4	4
	Mechanic (Motor vehicle)	8	10
	Mechanic (Electronics)	28	34
	Sewing / Dress Making	4	4
	Mechanic (Instruments)	63	76
	Machinist	97	112
	Chemical Plant Operator	36	42

	Pump Mechanic	2	2
	Fireman	8	9
	Lab Assistant	61	72
	Painter	41	49
	Plumber	4	4
	Mechanic (Tractor/Diesel)	50	58
	Networking Technician	19	25
	Motor Rewinding	15	19
	Stenographer	30	41
	Mechatronics	11	14
	Mechanic (Radio/TV)	2	4
	Basic CNC	19	24
	Basic Sheetmetal Fabricn.	31	38
	Basic Turning / Grinding	21	32
	Weaving loom operators	18	22
	Others	41	57
<b>Sub-total:</b>		<b>927</b>	<b>1115</b>
Graduates/ Others	B.Sc. / B.A. etc.	184	244
	B.Com. / M.Com.	114	147
	BCA	32	44
	Undergraduates	286	373
	Gardener/Peon/Packing staff	479	567
	Security	221	299
<b>Sub-total:</b>		<b>1316</b>	<b>1674</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>3260</b>	<b>3974</b>
	<b>Skilled</b>	<b>2737</b>	<b>3330</b>
	<b>TOTAL (skilled + unskilled)</b>	<b>5997</b>	<b>7304</b>
<b>GRAND TOTAL</b>	<b>Table 5.4</b>	<b>748</b>	<b>1820</b>
	<b>Table 5.5</b>	<b>5997</b>	<b>7304</b>
	<b>TOTAL (Skilled &amp; Unskilled manpower)</b>	<b>6745</b>	<b>9124</b>

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

Datamation Research Analyst (DRA), New Delhi has carried out a sample survey of 7 MOUs signed (with entrepreneurs) and 25 units of existing medium and large scale industries (total 32) in Rajkot district and on the basis of that they have made a forecast (for next five years) i.e. year 2013 of manpower requirement for 12 MOUs and 100 units of medium and large scale (total 112 units). According to this survey the requirement of manpower in the ITI trades is anticipated to be around 3,608 for the base year (2007-08) and 4,812 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 Rajkot district and skill gaps.

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

Trade	Base year (2007-08)			Next 5 yrs (2013)		Year-wise breakup of projection				
	Man- power	Seats available	Skill Gap	Projec- ted	Skill Gap	2008- 09	2009- 10	2010- 11	2011- 12	2012- 13

	Require- ment	in ITI / SF etc.	(2-3)	Require ment	(5-3)					
<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	395	60	335	514	454	50	70	100	120	114
Fitter	430	128	302	529	401	35	55	80	100	131
Wireman	101	448	-347	147	-301	-40	-50	-60	-70	-81
Welder	66	72	-6	102	30	6	6	6	6	6
Electrician	220	64	-156	283	219	20	25	45	55	74
Mech(AC)	22	48	-26	28	-20	-4	-4	-4	-4	-4
Mech (Motor V.)	44	192	-148	56	-136	-22	-22	-25	-25	-42
Mech. (Instru.)	234	176	58	311	135	22	22	25	25	41
Mech. Electronic	98	144	-46	119	-25	-5	-5	-5	-5	-5
Machinist	375	48	327	486	438	50	70	100	110	108
Chem. Plant Operator	147	80	67	196	116	20	20	20	25	31
Lab. Asst.	242	-	242	308	308	40	50	60	80	78
Painter	151	-	151	200	200	40	40	40	40	40
Mech. Tractor. diesel	203	192	11	259	67	12	12	12	15	16
Steno.	126	-	126	192	192	35	40	40	40	37
Basic CNC	67	-	67	98	98	20	20	20	20	18
Basic Sheet. Fabr.	115	-	115	171	171	30	35	40	40	26

Basic turning/ grinding	77	-	77	140	140	25	30	30	30	25
Weaving loom op.	84	-	84	105	105	20	20	20	20	25
Others	711	292	-2210	568	-2353	-470	-470	-470	-470	-473
<b>Total</b>	<b>3608</b>	<b>4573</b>		<b>4812</b>	<b>239</b>	<b>-116</b>	<b>-16</b>	<b>74</b>	<b>142</b>	<b>155</b>

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

Sr. No.	Name of Institute	Seats Available	Proposed increase (Base year 2007- 08)*
1.	ITI, Rajkot	1656	
2.	ITI, Rajkot city	136	
3.	ITI, Gondal	1068	
4.	ITI, Vankaner	124	
5.	ITI, Dhoraji	156	
6.	ITI, Morbi	144	
7.	ITI, Upleta	200	

8.	GIA, Morbi	56	
9.	GIA, Tankara	96	
10.	GIA, Gondal	64	
11.	GIA, Bumiyani	96	
12.	GIA, Jetpur	104	
13.	GIA, Bhutvad	48	
14.	SF, Malaviya college, Rajkot	25	
15.	SF, Gandhigram, Rajkot	25	
16.	SF, GC Trust, Rajkot	50	
17.	SF, AE Trust, Rajkot	26	
18.	SF, Yogidham, Rajkot	136	
19.	SF, Bhaktinagar, Rajkot	40	
20.	SF, Limda Chowk, Rajkot	76	
21.	SF, Vankaner	32	
22.	SF, Jasapar, Jasdan	48	
23.	SF, Bhutvad, Dhoraji	36	
24.	SF, VTC, Jetpur	131	
	<b>Total:</b>	<b>4573</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 Rajkot District**

30. Majority of the projects proposed are to be established in and around Rajkot city and Shapur-Veraval estates and cluster areas;
31. Majority of the projects are based on Agro & Food Processing, Ports, SEZ, Textile & Apparels, Automobile Engineering, Tourism and Multi Services;
32. It is proposed to invite offers to start self finance institutions in the district from private entrepreneurs of solvent plants, steel forging, cotton yarn spinning mills, machine tools, glazed tiles, pharmaceuticals, paper industry, oxygen gas, etc.
33. Additional short term courses are required to meet the industrial manpower requirement in the field of tourism, hotel management/hospitality management, food cooking, computer engineering, computer science, automobile engineering and ITI.
34. There is a need of strengthening or upgrading chosen industrial training institutes (ITIs) into Centres of Excellence (CoE) and one ITI is to be developed under PPP model scheme for skilled manpower requirement of the district.
35. The Department of Employment and Training should coordinate with private industries for need based courses like agro food processing, mineral based industry in Morbi and Vankaner talukas, marine based industry in Navlakhi port in Maliya-Miyana talukas, engineering industry, machine tools, automobile engineering, foundry, casting, forging, bearing industry, diesel oil engines, chemical industry, plastic and electronic industry etc. in Rajkot 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**

16. Rajkot has abundant natural resources and manpower with an industrial culture. The entrepreneurship of Rajkot is well known in Gujarat in the field of diesel oil engines,

foundry, forging, machine tools, dyeing and manufacturing, printing in textile industry in Jetpur, Manglori tiles, ceramic, flooring tiles, glazed tiles, watch & clock industry in Morbi and Vankaker, gems & jewellery, textile industry, agro based industry, electronics and plastic industries, ancillary industry, ginning & pressing, induction furnace, detergents, pharmaceuticals etc. So it is suggested that there is a need of vocational training courses on gems and jewellery, textile, chemicals & dyeing technology and service sectors, e-commerce, networking technology, computer hardware & software, etc.

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

Sr. No.	Trade	ITI								GIA						
		Raj-kot	Raj-city	Gon-dal	Vanka-ner	Dho-raji	Morbi	Up-leta	ITI Total	Morbi	Tan-kara	Gon-dal	Bumi-yani	Jet-pur	Bhut-vad	GIA Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)		(1)	(2)	(3)	(4)	(5)	(6)	
1.	Software programming	48	-	48	-	-	-	-	96	-	-	-	-	-	-	-
2.	IT/Electronic system maintenance	40	-	-	-	-	-	-	40	-	-	-	-	-	-	-
3.	Comp. Operator/ Programming Asst.	30	40	-	-	-	-	40	110	-	-	-	-	40	-	40
4.	Armature & Motor Rewinding	48	-	48	-	32	-	32	160	-	-	-	-	-	16	16
5.	Mechanic (Motor Vehicle)	96	-	48	16	-	32	-	192	-	-	-	-	-	-	-
6.	CoE Production & Mfg. (BBBT)	96	-	96	-	-	-	-	192	-	-	-	-	-	-	-
7.	Mechanic (Electronics)	32	-	-	32	-	-	-	64	-	-	-	-	-	-	-
8.	Steno. / Comp. Operator (Gujarati)	16	64	32	-	-	-	32	144	-	-	-	16	-	-	16
9.	Welder cum Fabricator	12	-	24	12	12	-	-	60	-	-	-	-	-	-	-
10.	CoE Production & Mfg. (Advance)	96	-	96	-	-	-	-	192	-	-	-	-	-	-	-
11.	Wieman	192	-	96	32	32	-	-	352	-	32	-	32	-	-	64
12.	Hardware Tech. / Networking-Admn.	24	-	-	-	-	-	-	24	-	-	-	-	-	-	-
13.	E-commerce	48	-	-	-	-	-	-	48	-	-	-	-	-	-	-
14.	Fitter	32	-	-	32	16	-	16	96	32	-	-	-	-	-	32
15.	Draughtsman (Civil)	48	-	32	-	-	-	-	80	-	32	32	-	-	-	64
16.	Draughtsman (Mechanic)	48	-	16	-	-	-	16	80	-	32	-	-	-	-	32
17.	Instrument Mechanic (SCP)	16	-	48	-	-	32	-	96	-	-	-	-	-	-	-
18.	Fridge / AC Mechanic	32	-	16	-	-	-	-	48	-	-	-	-	-	-	-
19.	Mechanic (Instrument)	80	-	-	-	-	-	-	80	-	-	-	-	-	-	-
20.	Mechanic (Electronics – Girls)	32	-	16	-	-	32	-	80	-	-	-	-	-	-	-
21.	Chemical Plan Mechanic	32	-	32	-	-	-	-	64	-	-	-	-	-	-	-
22.	Turner	24	-	12	-	-	-	-	36	24	-	-	-	-	-	24
23.	Chemical Plan Operator	48	-	32	-	-	-	-	80	-	-	-	-	-	-	-
24.	Mechanic (Diesel / Tractor)	64	-	112	-	16	-	-	192	-	-	-	-	-	-	-
25.	Radio / TV Mechanic	32	-	16	-	-	-	-	48	-	-	32	-	-	-	32
26.	Electrician (SCP)	16	-	96	-	32	32	32	208	-	-	-	-	32	-	32
27.	Machinist	24	-	24	-	-	-	-	48	-	-	-	-	-	-	-
28.	Computer Aided Design – Autocad	24	-	-	-	-	-	-	24	-	-	-	-	-	-	-
29.	Electrician	176	-	-	-	-	-	-	176	-	-	-	-	-	-	-
30.	2-wheeler Repairer	32	-	48	-	16	-	-	96	-	-	-	-	-	-	-
31.	Mechanic – Diesel (SCP)	48	-	-	-	-	-	-	48	-	-	-	-	-	-	-
32.	Comp. Operator/Programng (Girls)	40	-	40	-	-	-	-	80	-	-	-	-	-	-	-
33.	Dress Making / Cutting	-	32	16	-	-	16	32	96	-	-	-	16	-	32	48
34.	Multimedia Technician – DTP	-	-	24	-	-	-	-	24	-	-	-	-	-	-	-
35.	Surveyor	-	-	24	-	-	-	-	-	-	-	-	32	32	-	64

36.	MLT - Multi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37.	Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Total:</b>	<b>1656</b>	<b>136</b>	<b>1068</b>	<b>124</b>	<b>156</b>	<b>144</b>	<b>200</b>	<b>3484</b>	<b>56</b>	<b>96</b>	<b>64</b>	<b>96</b>	<b>140</b>	<b>48</b>	<b>464</b>

### Self Finance Institutes

Sr. No.	Trade	Malaviya Rajkot (1)	G'gram Rajkot (2)	GC Trust (3)	AE Trust (4)	Yogidam Rajkot (5)	Bhakti-nagar (6)	Limda Chowk (7)	Vankar (8)	Jasapar Jaldan (9)	Bhutvad Dhoraji (10)	VTC Jetpur (11)	SF Total	Grand total
1.	Software programming	-	-	-	-	25	-	-	-	-	-	25	50	146
2.	IT/Electronic system maintenance	-	-	-	-	-	-	-	-	-	-	-	-	40
3.	Comp. Operator/ Programming Asst.	-	-	-	-	-	-	-	-	20	20	-	40	190
4.	Armature & Motor Rewinding	-	-	-	-	-	-	-	-	-	-	-	-	176
5.	Mechanic (Motor Vehicle)	-	-	-	-	-	-	-	-	-	-	-	-	192
6.	CoE Production & Mfg. (BBBT)	-	-	-	-	-	-	-	-	-	-	-	-	192
7.	Mechanic (Electronics)	-	-	-	-	-	-	-	-	-	-	-	-	64
8.	Steno. / Comp. Operator (Gujarati)	-	-	-	-	-	-	-	-	-	-	-	-	160
9.	Welder cum Fabricator	-	-	-	-	-	-	-	-	12	-	-	12	72
10.	CoE Production & Mfg. (Advance)	-	-	-	-	-	-	-	-	-	-	-	-	192
11.	Wireman	-	-	-	-	-	-	-	-	16	16	-	32	448
12.	Hardware Tech. / Networking-Admn.	-	-	-	-	16	-	-	16	-	-	-	32	56
13.	E-commerce	25	25	25	-	25	-	-	-	-	-	25	125	173
14.	Fitter	-	-	-	-	-	-	-	-	-	-	-	-	128
15.	Draughtsman (Civil)	-	-	-	-	-	-	-	-	-	-	-	-	144
16.	Draughtsman (Mechanic)	-	-	-	-	-	-	-	-	-	-	-	-	112
17.	Instrument Mechanic (SCP)	-	-	-	-	-	-	-	-	-	-	-	-	96
18.	Fridge / AC Mechanic	-	-	-	-	-	-	-	-	-	-	-	-	48
19.	Mechanic (Instrument)	-	-	-	-	-	-	-	-	-	-	-	-	80
20.	Mechanic (Electronics – Girls)	-	-	-	-	-	-	-	-	-	-	-	-	80
21.	Chemical Plan Mechanic	-	-	-	-	-	-	-	-	-	-	-	-	64
22.	Turner	-	-	-	-	-	-	-	-	-	-	-	-	60
23.	Chemical Plan Operator	-	-	-	-	-	-	-	-	-	-	-	-	80
24.	Mechanic (Diesel / Tractor)	-	-	-	-	-	-	-	-	-	-	-	-	192

25.	Radio / TV Mechanic	-	-	-	-	-	-	-	-	-	-	-	-	-	80
26.	Electrician (SCP)	-	-	-	-	-	-	-	-	-	-	-	-	-	240
27.	Machinist	-	-	-	-	-	-	-	-	-	-	-	-	-	48
28.	Computer Aided Design – Autocad	-	-	-	-	45	-	-	-	-	-	-	-	45	69
29.	Electrician	-	-	-	-	-	-	-	-	-	-	-	-	-	176
30.	2-wheeler Repairer	-	-	-	-	-	-	-	-	-	-	-	-	-	96
31.	Mechanic – Diesel (SCP)	-	-	-	-	-	-	-	-	-	-	-	-	-	48
32.	Comp. Operator/Programng (Girls)	-	-	-	-	-	-	-	-	-	-	-	-	-	80
33.	Dress Making / Cutting	-	-	-	-	-	-	-	-	-	-	-	-	-	144
34.	Multimedia Technician – DTP	-	-	25	-	25	-	-	-	-	-	41	91	115	
35.	Surveyor	-	-	-	-	-	-	-	-	-	-	-	-	-	64
36.	MLT - Multi	-	-	-	10	-	-	-	-	-	-	-	10	10	
37.	Others	-	-	-	16	-	40	76	16	-	-	40	188	188	
	<b>Total:</b>	<b>25</b>	<b>25</b>	<b>50</b>	<b>26</b>	<b>136</b>	<b>40</b>	<b>76</b>	<b>32</b>	<b>48</b>	<b>36</b>	<b>131</b>	<b>625</b>	<b>4573</b>	

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



**List of the Industries Selected for Field Survey**

**Vibrant Gujarat Investors' Summit 2005 & 2007 MOUs – Rajkot District**

84. Bhagra dehydrates
85. Rajendra Agro Storage, Rajkot
86. Atop Food Products, Virpur
87. Sanghi Industries Ltd.
88. Shreeji Shipping Services Ltd.
89. Jyoti Dyeing & Printing Association
90. Jetpur Dyeing & Printing Association

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

91. K S Diesels Ltd.
92. Echjay Industries Pvt. Ltd.
93. Saurashtra Paper & Board Mills Ltd.
94. Forge & Forge Ltd.
95. Roto Screentech Pvt. Ltd.
96. Rajkot Dist. Coop. Milk Producers' Union Ltd.
97. Patel Brass Works
98. Glory Ceramics Ltd.
99. Angel Ceramics Ltd.
100. Croma Ceramics Ltd.
101. Ajanta Transistor Clock Manufacturing Company
102. Ellora Time Pvt. Ltd.
103. Ajanta Electronics Pvt. Ltd.
104. Ajanta Watch Ltd.
105. Orchav Pharma Pvt. Ltd.
106. Gujarat Intrux Ltd.
107. Raju Engineers Ltd.
108. Muscat Polymers Pvt. Ltd.
109. Atul Auto Ltd.
110. Galaxy Agrico Export Ltd.
111. Gujarat Agro Industries Corporation Ltd.
112. Vikram Steel Pvt. Ltd.
113. Ramboo Cene (India) Pvt. Ltd.
114. Gujarat Goldcoin Ceramics Ltd.
115. Shri Amarsinhji Mills

# SURENDRANAGAR DISTRICT ANALYSIS BASED ON SAMPLE SURVEY

## PROFILE OF SURENDRANAGAR DISTRICT

### Location and Administration

Geographically Surendranagar district is marked by low hills in the southwest, gradually merging into undulating central part, northern portion adjoining Kutch district, which is arid, barren and saline. Chotila is one of the landmarks in Saurashtra peninsula. The district is bound as under:

- On north – by Rann of Kutch and Mehsana district
- On south – by part of Ahmedabad and Bhavnagar districts
- On west – by Rajkot district
- On east – by Ahmedabad district

Surendranagar district, having a total geographical area of 10,469 sq.km. accounts for about 5.35% of the total geographical area of Gujarat state. The district is spread roughly between 22.08° & 23.03° north latitude and 71.00° & 72.00° east longitude. This is one of the backward districts of Gujarat state. The district consists of 10 blocks namely Chotila, Dasada, Dhrangadhra, Halvad, Lakhtar, Limdi, Muli, Sayla, Wadhwan and Chuda.

### Soils and Rivers

The soil is shallow, medium black in Wadhwan, Muli, Chotila and Sayla talukas. Sandy and alluvial in Halvad, Dhrangadhra and Dasada talukas in the north, bordering the Little Rann of Kutch. Medium black, poorly drained and saline in Lakhtar, Chuda and Limdi talukas. The major rivers are Limbdi, Wadhwan and Bhogavo flowing east to join Sabarmati and discharging water into the Gulf of Cambay and Nal Sarovar. Other minor rivers are Falku, Chandrabhaga, Ughni, Sukhbhadar, Vansar, Brahmini and Rupen.

### Climate and Rainfall

It is characterized as semi arid climate. The whole district is drought prone. The average annual rainfall of the district is 487 mm. Moreover, the rainfall is irregular and hence the district frequently faces scarcity. The general climate of the district is extreme.

### Demographic Characteristics

The population of Surendranagar district as per 2001 census was 15.15 lakh. The density of population was 144 persons per sq.km. compared to the state average of 268 in 2001. The literacy level was 52.41% in the year 2001.

## INFRASTRUCTURE

### Industries

Surendranagar district has been declared as industrially backward area by Govt. of India. Industries set up in the district are therefore eligible for many incentives. There are 7320 SSI units having investment of Rs.11,720 lakh providing employment to 46,507 persons. There are also 24 medium and large scale industries established in the district. Under new Industrial Policy 7 blocks have been covered under backward zone and the benefits of all incentives such

as subsidy, sales tax exemption, infrastructural facilities etc. were extended by state and central governments for setting up industry. There are 23,413 cottage/ household industries as on 2004 comprising handlooms, cotton spinning, leather work, carpentry, village pottery etc. There are 162 industrial coop. societies. GIDC has also set up 6 industrial estates and 2 more are being set up for promoting industrial units.

The handloom / khadi and village industry is also one of the major activities aimed at providing employment to thousands of people in the district. There were 363 handloom weavers' cooperative societies producing varieties of products such as Bharvadi Pachhedi (shawl), Kangaliya (long scarf), cotton pan (turban), bedsheets, towels, khadi terricots, woolen carpets etc. As such the district occupies the first place in handloom industry in Gujarat.

#### **Transport and Communication**

The district has National Highway of 125 km and State Highway of 1130 km. The district has the benefit of broad gauge railway line of 234 km and 85 km of meter gauge railway line. There are 67 branches of commercial banks, 41 branches of DCCBs and 26 branches of RRBs contributing to an overall economic development of the district. Bank of Saurashtra 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, Surendranagar. 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.	Agro & Food Processing	3	
2.	Textile	1	
	<b>Total</b>	<b>4</b>	
3.	Presently functioning (Existing)	<b>12</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 Surendranagar, Chamber of Commerce and Industries (Surendranagar) and GIDC (Gandhinagar). From medium and large scale units 12 entrepreneurs were selected by random sampling method for indepth study.

Accordingly, 4 enterprises (MOUs) were visited as per the entrepreneurs' list provided by IC as they were out of state. 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, Surendranagar and GIDC, Gandhinagar. The field work was carried out during the month of April 2008.

#### Observation on the Sample Survey Data

As per the terms of reference, 4 MOUs and 12 medium and large scale units signed in 2005 and 2007 were to be visited for manpower demand survey assessment. Accordingly, 4 MOUs and 12 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	-	3	3	-	1950	1950
2.	Textile	1	-	1	-	-	-
	<b>Total:</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>-</b>	<b>1950</b>	<b>1950</b>

Source: Industries Commissionerate, GOG, Gandhinagar.

#### Summary and Field Observations of the District

34. 4 Projects are proposed in the district.
35. Largest investment is proposed in the Agro Food Processing Sector (3 projects).
36. The district is well connected with National Highway No.8 connecting it to Ahmedabad and Rajkot.
37. Surendranagar is also connected with Ahmedabad and Mumbai by a broad gauge railway line.
38. The nearest port is kandla and the nearest airports are Ahmedabad and Rajkot.

#### 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 wise 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 are 7,586 persons and future requirement will be 7,098.

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

Sr. No.	Particulars	Present Manpower Requirement (base year 2007-08)	Manpower Requirement For next five Years (2013)
A1.	Total surveyed 4 MOUs 2005 and 2007	585	1627
2.	Total 12 medium & large scale industrial Units surveyed	375	4389
3.	Total surveyed 11 MOUs & M&L Scale industries (1+2) – 4+12=16	4335	6016
B4.	Average manpower required per unit	270.93	376.0
5.	Total manpower required MOUs & M&L scale industries (4+24 = 28)	7586	10528
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%)	46626	55951
7.	Total manpower requirement in the district (5+6)	54212	66479
8.	Taking figures of indirect employment @ 20% of the total manpower (7)	11042	13295
9.	Overall employment generation in Surendranagar district	<b>65254</b>	<b>79774</b>

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

19. With 4 proposed projects, the district has total manpower requirement of 1,950 technical, managerial and unskilled workers.
20. Largest investment is in the Agro Food Processing Sector (3 projects).
21. Presently Surendranagar district has :
- 10 ITIs offering courses in the field of engineering, IT and chemicals;
  - 3 technical institutes with an intake capacity of over 500 students every year;
  - One medical college with 100 students every year;
  - One college offering MCA degree with 60 students every year;

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

At present there are 4,335 persons employed and in future there will be 6,016 persons employed at various levels in the 16 (4+12) industries surveyed out of 28 (4+24) industries. This means that average total employed (skilled and unskilled) staff & workers is 270.93 and 376.00 persons per unit. The number of units expected in Surendranagar district is 28 units (4+24) (MOUs & medium and large scale units) and hence the total requirement of skilled and unskilled persons works out to 7,586 for the base year (2007-08) and 10,528 numbers for the fifth year (2013) respectively. An additional 46,626 small scale industries workers in the base year and in future 55,951 small scale industries workers will be required; the anticipated demand works out to 54,212 for present and 66,479 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 11,042 for the base year and 13,295 for the future. Hence the overall employment generation in Surendranagar district due to the industrial growth can be anticipated around 65,254 employees at present and 79,774 employees in future.

Details of 4 units surveyed are presented in table 5.4 on the basis of this sample survey conducted.

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

Level of Education	Qualification	Present Requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	7	26
	M.Sc.	6	16
	M.Tech.	-	-
<b>Sub-total:</b>		<b>13</b>	<b>42</b>
Degree	Electrical	1	4
	Civil	1	4
	I & C	-	1
	Mechanical	1	3
	Computer	2	5
	IT	2	8

	Chemical	3	12
	Environmental Engg.	1	3
	Food Processing Technology	2	2
	Production Engineering	3	16
	Textile Technology	-	14
	Industrial Engineering	2	12
	Others	-	-
	<b>Sub-total:</b>	<b>18</b>	<b>84</b>
Diploma	Electrical	5	8
	Civil	2	4
	IT	1	4
	Mechanical	7	16
	Electronics	1	1
	Chemical	2	3
	Textile Technology	-	20
	Dress Making	-	10
	Others	-	10
	<b>Sub-total:</b>	<b>18</b>	<b>76</b>
ITI Trade	Turner	-	2
	Fitter	4	9
	Wireman	5	9
	Welder	4	8
	Electrician	5	10
	Mechanic (AC/Fridge)	-	2
	Mechanic (Motor vehicles)	-	2
	Dress Making	-	4
	Mechanic (Instruments)	5	8
	Machinist	7	17
	Chemical Plant Operator	7	19
	Pump Mechanic	2	2
	Fireman	2	4
	Lab Assistant	6	9
	Painter	1	3
	Plumber	1	4
	Mechanic (Tractor/Diesel)	6	14
	Stenographer	4	8
	Embroidery	-	10
	E-commerce	1	5
	Others	15	21
	<b>Sub-total:</b>	<b>75</b>	<b>170</b>
Graduates/ Others	B.Sc. / B.A. etc.	20	55
	B.Com. / M.Com.	12	31
	BCA	3	9
	Undergraduates	29	75
	Gardener/Peon/Packing staff	53	130
	Security	14	35
	<b>Sub-total:</b>	<b>131</b>	<b>335</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>330</b>	<b>920</b>
	<b>Skilled</b>	<b>255</b>	<b>707</b>
	<b>TOTAL</b>	<b>585</b>	<b>1627</b>

Details of 12 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 24 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*

Level of Education	Qualification	Present requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	22	22
	M.Sc.	20	20
	M.Tech.	9	9
<b>Sub-total:</b>		<b>51</b>	<b>51</b>
Degree	Electrical	13	13
	I & C	3	3
	Mechanical	21	21
	Ceramics	14	14
	Chemical	12	12
	Metallurgy	2	2
	Textile Technology	2	2
	Automobile Engineering	3	3
	Environmental Engg.	16	16
	Production Engineering	3	3
	Industrial Engineering	5	5
<b>Sub-total:</b>		<b>949</b>	<b>949</b>
Diploma	Electrical	24	24
	Ceramics	25	30
	I & C	7	7
	Mechanical	28	28
	Automobile Engineering	4	4
	Chemical	23	23
	Textile Technology	4	4
	Fabrication Technology	5	5
	Mining	2	2
	Others	10	11
<b>Sub-total:</b>		<b>132</b>	<b>138</b>
ITI Trade	Turner	21	21
	Fitter	21	21
	Wireman	22	22
	Welder	23	23
	Electrician	31	32
	Mechanic (AC/Fridge)	9	9
	Mechanic (Motor vehicles)	16	16
	Mechanic (Electronics)	4	4
	Mechanic (Instruments)	20	20
	Machinist	41	44
	Chemical Plant Operator	28	28
	Pump Mechanic	9	9
	Fireman	26	29
	Lab Assistant	18	18
Painter	7	7	



	Plumber	5	5
	Mechanic (Tractor/Diesel)	24	24
	Networking Technician	2	2
	Stenographer	26	32
	Mechatronics	6	6
	Basic CNC	1	1
	Basic Sheetmetal Fabr.	6	6
	Basic Turning / Grinding	7	7
	E-commerce	6	6
	Others	24	34
<b>Sub-total:</b>		<b>403</b>	<b>426</b>
Graduates/ Others	B.Sc. / B.A. etc.	159	203
	B.Com. / M.Com.	38	54
	BCA	26	42
	Undergraduates	225	289
	Gardener/Peon/Packing staff	385	445
	Security	118	160
<b>Sub-total:</b>		<b>951</b>	<b>1193</b>
<b>TOTAL:</b>	<b>Unskilled</b>	<b>2120</b>	<b>2480</b>
	<b>Skilled</b>	<b>1630</b>	<b>1909</b>
	<b>TOTAL (skilled + unskilled)</b>	<b>3750</b>	<b>4389</b>
<b>GRAND TOTAL</b>	<b>Table 5.4</b>	<b>585</b>	<b>1627</b>
	<b>Table 5.5</b>	<b>3750</b>	<b>4389</b>
	<b>TOTAL (Skilled &amp; Unskilled manpower)</b>	<b>43351</b>	<b>6016</b>

### Addressing the Manpower Requirement in Industries

#### Coming Up in Surendranagar District

Datamation Research Analyst (DRA), New Delhi has carried out a sample survey of 4 MOUs signed (with entrepreneurs) and 12 units of existing medium and large scale industries (total 16) in Surendranagar 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 24 units of medium and large scale (total 28 units). According to this survey the requirement of manpower in the ITI trades is anticipated to be around 833 for the base year (2007-08) and 1,043 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 Surendranagar district and skill gaps.

*Table 5.6 ITI Trade-wise no. of Manpower Requirement, no. of Seats Available and Skill Gaps in Surendranagar 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 (5-3)	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	37	48	-11	40	-8	-4	-4	-	-	-
Fitter	44	224	-180	53	-171	-20	-25	-35	-45	-46
Wireman	47	288	-241	54	-234	-40	-45	-45	-45	-59

Welder	47	36	11	54	18	6	6	6	-	-
Electrician	63	208	-145	74	-134	-15	-20	-25	-35	-39
Mech(AC)	16	-	16	19	19	5	5	5	4	-
Mech (Motor)	28	148	-120	32	-116	-20	-25	-25	-25	-21
Mech. Electronic	7	64	-57	7	-57	-10	-10	-10	-15	-12
Mech. (instru)	44	16	28	49	33	5	5	8	8	7
Machinist	84	48	36	107	59	10	10	10	14	15
Chem. Plant Operator	61	32	29	82	50	10	10	10	10	10
Pump mechanic	19	-	19	19	19	5	5	5	4	-
Fireman	49	-	49	58	58	10	10	10	12	16
Lab. Asst.	42	-	42	47	47	10	10	10	10	7
Mech. Tractor / diesel	53	176	-123	67	-109	-15	-20	-22	-22	-30
Steno.	53	48	5	70	22	10	10	2	-	-
E-com.	12	49	-37	19	-30	-6	-6	-6	-6	-6
Basic Sheet. Fabrn.	10	-	10	10	10	5	5	-	-	-
Basic Turning Grinding	12	12	-	12	-	-	-	-	-	-
Others	109	714	-605	170	-544	-65	-85	-110	-130	-154
<b>Total</b>	<b>837</b>	<b>2111</b>	<b>-1274</b>	<b>1043</b>	<b>-1068</b>	<b>-119</b>	<b>-164</b>	<b>-212</b>	<b>-261</b>	<b>-312</b>

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

Sr. No.	Name of Institute	Seats Available	Proposed increase (Base year 2007-08)*
1.	ITI, Surendranagar	1128	
2.	ITI, Chotila	148	
3.	ITI, Patdi	148	
4.	ITI, Dhrangadhra	312	
5.	GIA, Vaghada, Surendranagar	32	
6.	GIA, Limdi	96	
7.	GIA, Tech., Limdi	50	
8.	GIA, Halvad	136	
9.	GIA, Pragnachakshu, Surendranagar	20	
10.	SF, Joravarnagar, Surendranagar	41	
	<b>Total:</b>	<b>2111</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 Surendranagar District

36. Majority of the projects proposed are to be established in Wadhwan, Dhrangadhra, Limdi and Wankaner areas;
37. Majority of the projects are based on agro food processing and textile & apparels;
38. Additional short term courses are required to meet the industrial manpower requirement. There is a shortage of mechanic (instrument), mechanic (tractor/diesel), mechanic (electronics), chemical plant operators, lab assistants, firemen and welders etc.;
39. Skill Development Centres (SDCs) should be established at selected GIDC industrial estates and SEZs in the district where industries will develop strategies for training as per their own requirements. This will provide opportunities to 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.
40. It is proposed to invite offers from private organizations to start self finance institutes of PPP model scheme in Surendranagar district from DCW Company, Dhrangadhra.

#### **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**

17. Medium and large scale existing industries in Surendranagar district are textile, agro based industries, cotton ginning and processing gins, ceramic industry, chemical industry etc. New medium and large scale industries coming up are textile apparel parks 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 non-engineering trades like call centres, business process outsourcing, safety and security guards, fireman, plastic processing industry etc suitable for industrial standards to get jobs in above mentioned areas.

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

Sr. No.	Trade	ITI					GIA						SF	Grand Total
		S'ngr	Cho-tila	Patdi	Dhran-gdhra	ITI total	Vagh-odia	Limdi	Tech. Limdi	Hal-vad	PC S'ngr	GIA total	Joravar nagar	
		(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)	(5)		(1)	
1.	Wireman (SCP)	96	-	32	32	160	-	-	-	-	-	-	-	160
2.	Surveyor	16	-	-	-	16	-	-	-	-	-	-	-	16
3.	Mechanic (Diesel/Tractor)	112	16	-	32	160	16	-	-	-	-	16	-	176
4.	Chemical Plant Operator	-	-	-	32	32	-	-	-	-	-	-	-	32
5.	Comp. Operator/Programmer	100	20	20	40	180	-	-	-	40	10	50	-	230
6.	CoE Prodn. & Manufacturer	96	-	-	-	96	-	-	-	-	-	-	-	96
7.	Welder	24	-	-	-	24	-	-	-	-	-	-	-	24
8.	2-wheeler mechanic	20	-	16	-	36	-	-	-	-	-	-	-	36
9.	Electrician (SCP)	144	-	-	-	144	-	-	-	-	-	-	-	144
10.	Machinist / Grinder	12	-	-	-	12	-	-	-	-	-	-	-	12
11.	Mechanic (Electronics)	48	-	-	16	64	-	-	-	-	-	-	-	64
12.	Draughtsman (Mechanical)	16	-	-	-	16	-	-	-	-	-	-	-	16
13.	Fitter	112	-	16	32	160	-	32	-	32	-	64	-	224
14.	Machinist	48	-	-	-	48	-	-	-	-	-	-	-	48
15.	Welder cum Fabricator	12	-	-	-	12	-	-	-	-	-	-	-	12
16.	Hair & Skin Care (Girls)	32	-	-	-	32	-	-	-	-	10	10	-	42
17.	Dress Making (Girls)	32	16	16	32	96	-	-	-	16	-	16	-	112
18.	Mechanic (Motor Vehicle)	96	-	16	-	112	-	-	-	-	-	-	-	112
19.	Turner	48	-	-	-	48	-	-	-	-	-	-	-	48
20.	Wireman	16	32	-	-	48	16	32	-	32	-	80	-	128
21.	Steno. Cum Comp. Operator	48	-	-	-	48	-	-	-	-	-	-	-	48
22.	Armature / Motor Rewinding	-	32	32	16	80	-	-	-	16	-	16	-	96
23.	Electrician	-	32	-	32	64	-	-	-	-	-	-	-	64
24.	Software Programmer	-	-	-	24	24	-	-	25	-	-	25	-	49
25.	E-commerce	-	-	-	24	24	-	-	25	-	-	25	-	49
26.	Mechanic (Radio / TV)	-	-	-	-	-	-	32	-	-	-	32	-	32
27.	Multimedia / DTP	-	-	-	-	-	-	-	-	-	-	-	25	25
28.	Hardware Tech./Networking	-	-	-	-	-	-	-	-	-	-	-	16	16
	<b>Total:</b>	<b>1128</b>	<b>148</b>	<b>148</b>	<b>312</b>	<b>1736</b>	<b>32</b>	<b>96</b>	<b>50</b>	<b>136</b>	<b>20</b>	<b>334</b>	<b>41</b>	<b>2111</b>

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

**List of the Industries Selected for Field Survey**

**Vibrant Gujarat Investors' Summit 2005 & 2007 MOUs – Surendranagar District**

- 116. Rushil Decori Ltd.
- 117. Shri Jigarkumar R Solanki, Wankaner
- 118. Jewel Industries Ltd.
- 119. Atithi Gokul Pvt. Ltd.

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

- 120. Rushabh Precision Bearings Pvt. Ltd.
- 121. Saurashtra Steel Industries Ltd.
- 122. Decora Ceramics Pvt. Ltd.
- 123. Swastic Laminates Pvt. Ltd.
- 124. Gujarat Bottling Pvt. Ltd.
- 125. Sunrise Soaps and Chemicals Pvt. Ltd.
- 126. Diamond Tiles Ltd.
- 127. Parshuram Pottery Works Ltd.
- 128. Dhrangadhra Chemical Works Pvt. Ltd.
- 129. Maradia Chemicals Pvt. Ltd.
- 130. Adeshwar Cotton Industries Ltd.
- 131. Maradia Steels Ltd.