

**Survey & Assessment Of
Manpower Demand & Supply
For Industries &
Service Sectors
In Gujarat**

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

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CHAPTER – I : INTRODUCTION

General

Human resources development is a crucial and most important input particularly for accelerated development of industries and its allied sectors. Manpower is the basic input for industries development. The scientists combined up gradation of communication skills, positive attitude, imparting knowledge of new skills etc to adopt the improved production techniques. Active positive participation, involvement, team working, productivity and good management has provided the Indian entrepreneurs with a built in permanent improvement. This was possible due to the availability of the accumulated superior manpower of the rest of the world, particularly of America and Europe, Germany, Japan, the sectors like power, auto engineering, information technology, chemicals and petrochemicals, and education. A proper combination and exploitation of the great pools of human resources development resulted in the breakthrough currently experienced in Indian industries and allied sectors. Among the input costs of projects, manpower forms a minor portion of the total project cost. However, manpower which was formerly only a non-purchased input has now become an important paid (purchased) input because of these changes, the human resources employment generation industries has started developing since the last decade. As technology advances and industries and allied sectors gets modernized, the industries will grow from its present infant stage to adulthood. The present report attempts to study some of the problems that come up during this change from infancy to adulthood like demand and supply of skilled manpower requirement.

The Past Record

Although the importance of good human resources requirement has been recognized in the state from early times, some of the most significant steps were undertaken only recently. The most important of these steps was the establishment of GIDB and the establishment of catalyzing organization of government proactive GIDC, GIIC, GSFC, GNFC, GPCL, GMB, Index TB, TCGL etc. A significant development in the employment generation and requirement of human power industries is the investment profile of MOUs signed in 2005 and 2007 for various sectors. It has an ambitious plan of total employment generation of 13,28,190. The several new various sector/industries which have come up during the last decade are proof of the growth of the employment generation and manpower requirement. Small, medium and large scale industries have been recognized. Several factories and cottage industries have been set up. Development of the state industrial and allied sectors through the Vibrant Gujarat Global Investors' summit 2003, 2005 and 2007 has resulted in an ambitious plan of employment generation, that is a total of 13,26,387 technical and non-technical manpower requirement.

Various Summits held in Gujarat

- Vibrant Gujarat Summit 2005 and 2007 were organized to attract investment into Gujarat. The sectors targeted was food processing, textiles and apparels, chemicals, petro-chemicals and pharmaceuticals, engineering, auto and ceramics, tourism and

medical tourism, gems and jewellery, SEZ and port-related development, power, oil and gas, biotechnology, information technology and urban development.

- IT Summit 2007 created a platform for all big names in IT industry to rub shoulders with local CEOs and IT professionals. The event has led to big strides being undertaken by NASSCOM in association with a nodal agency of Government of Gujarat with the sole purpose of creating awareness and promotion and development interest amongst the cross section of population
- Urban Summit 2007: Urban economy has been stated to be the bridge between the domestic and global economy, infrastructure development, environmental management and quantum enhancement in service/quality levels in water supply, sanitation, waste management, street lighting, housing and public transportation.

Objectives of the Present Study

The main purpose of this investigation is to assess the demand for vocationally skilled manpower over the next five years on industry and service sector in Gujarat and the current level of vocationally skilled manpower available and to forecast the gap between demand and supply and suggest strategies for skill development of manpower over the next five years. It will also assess the requirement of employment generation of human resources of technical and non-technical manpower including ITI trainees at a future point of time, i.e. next five years from 2008-09 to 2012 and then to indicate strategies for the development of human resources industry so that it can efficiently meet the estimated demand. The specific objectives of the study are:

- To assess the demand for vocationally skilled manpower over the next five years on industry and service sector in Gujarat.
- To assess the role of Directorate of Employment and Training in terms of its reach and contribution in fulfilling the manpower need of industrial and service sectors of the state.
- To assess the current activities of Directorate of Employment and Training in terms of its effectiveness and available infrastructure to undertake intended activities and programmes throughout the state.
- To assess current capacity in terms of quality and quantity in skill impartment and to suggest effective ways for capacity building.
- To analyse the investment coming to Gujarat state through the MOUs (Memorandum of Understanding) signed during Vibrant Gujarat Global Investors' Summit in 2005 and 2007, Urban Summit 2007, IT Summit 2007 and other investment and to forecast the sector-wise and district-wise manpower requirement in view of the upcoming investments.

Scope of Work

The objective of the survey is to assess the demand for vocationally skilled manpower over the next five years on industry and service sector in Gujarat and the current level of vocationally skilled manpower available, to forecast the gap between demand and supply and suggest strategies for skill development of manpower over the next five years.

Data and Methodology

The secondary data on physical and financial progress of the project have been collected from the Directorate of Employment and Training and nodal agencies and nodal departments for overall project implementation.

The field data have been collected from the existing industries and MOUs of Vibrant Gujarat Summit 2005 and 2007 investors. The survey was conducted by visiting industries personally, meeting the responsible persons, 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 persons were 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. In addition, to seek the views of the state government and implementing nodal agencies nearly two dozen officials who were involved in implementation also were interviewed for assessing their experience with the project.

Gujarat is a vibrant state with rapid industrialization and economic growth. Progressive governance, people with good entrepreneurship skills and excellent infrastructure facilities such as good road network, uninterrupted electricity supply and good communication systems have made Gujarat one of the favourite destinations for investors.

Gujarat has good assets as under:

1. Highly productive and peaceful workforce;
2. Ranks second in terms of industrial development in the country;
3. Ranks 8th in case of electronic industries;
4. Proactive approach vis-à-vis the era of competition;
5. Rich heritage of entrepreneurial skill;
6. A coastline of 1600 km – longest in India and 40 minor, 1 intermediate ports having a strategic location with a tremendous potential for exploitation;
7. Journey of industrial growth – textiles; fertilizers; pesticides; water; agriculture; dairy; petrochemicals etc.
8. Tremendous potential in the area of tidal power generation, tourism, aquaculture, fishing, marine chemicals and surface transportation;
9. Substantial investments in several industries including chemicals, petrochemicals, engineering, electronics, food processing and ceramics;
10. Encouragement to non-polluting industries such as electronics, software, readymade garments, export oriented business, port based industries, marine based industries etc.
11. Proposed infrastructure projects are 157 and the total investment envisaged in these projects is to the tune of Rs.3,77,628 crores.

The Directorate of Employment & Training

Government of Gujarat which was formed in 1971 has been in the forefront of implementing various skill building programmes with the aim of helping people get jobs and thus, facilitating industrial development. Four regional Dy. Directors assist in the governance of the it is/TVET/IT and other vocational institutions. The districts are Ahmedabad, Rajkot, Surat and Vadodara.

Every year, more than 7,00,000 students annually appear for secondary school certificate (SSC) and higher secondary school certificate (HSC) (standard 10 & 12 respectively) examinations. All of these students constitute the prospective workforce and jobseekers. Skilled workers however are the pivotal factors in any growing economy. It is therefore necessary for a state to supply good quality and cost effective manpower in the market for sustainable growth.

CHAPTER – II: PROFILE OF THE STATE

Gujarat is the western most state of India located between 21.4° & 24.7° N Latitude and 68.4° & 74.4° E Longitude. The state is surrounded by hilly region bordering Pakistan & Rajasthan in the north, Madhya Pradesh & Rajasthan in the east, Maharashtra in the south and Arabian Sea on the west. The geographical area of the state is 1.96 lakh km² which accounts for 5.96 percent of the country. The state has the largest coastline of 1640 km which is almost 1/3rd of the country. Administratively the state was divided in 19 districts and 184 talukas but reorganization in 1997, now there are 25 districts and 225 talukas covering 18025 inhabited villages and 264 urban areas. The population of the state according to 2001 census is 49.8 million accounting for nearly 5% of the country. The density of population is 211 persons per sq.km., and it is lower than all India figure of 274 persons. Urban population accounts for 34.5 percent as against 25.7 percent for the country and rank 4th among the states of India. Scheduled Castes and Scheduled Tribes as per 2001 census, was 7.4% and 14.9% respectively. The main and marginal workers constitute about 34.1% and 6.1% of the total population respectively, while 22.9% of the total main workers are the agricultural labourers. The literacy rate was 61.3% of which 73.1% among males and 46.7% among females.

Geographically the state is divided into mainland comprising of south, middle and north Gujarat regions and Saurashtra and Kutch peninsula. Agroclimatically Gujarat has 8 regions and 156 ecological situations. The state is having variety of soils ranging from heavy black to sandy soils. Clayey soils confined to heavy rainfall and coastal areas while loamy to sandy soils in middle part of north Gujarat. Sandy soils found in Kutch, north Banaskantha and Surendranagar districts.

Gujarat is having tropical climate viz. sub-humid, semi arid and arid spread over different parts of the state on the northern side district of Kutch having extreme arid climate while Banaskantha and Mehsana having arid climate. Sub-humid climate is in Dangs, Surat, Navsari and Valsad districts. But rest of the area, i.e. 52% of the total geographical area of the state is having semi-arid climate.

Rainfall (90-95%) is confined in mid September through south west monsoon. Total rainfall varies from about 300 mm in western half of Kutch to 1500 mm in extreme south region in Valsad and Dangs. The distribution of rainfall has been extremely uneven and irregular causing uncertainty in agricultural production. Agriculture is the prime occupation for the large majority of the people of Gujarat.

Energy Sector

For economic development of the state and better livelihood of the people energy is an important input among other requirements. Looking to the present scenario of development in the energy is in increasing demand over time. The sources of energy are conventional (electricity, coal, crude, petroleum, natural gas) and non-conventional (wind, solar and tide). Among different sources of energy electricity is the most preferred as compared to others. Now a days, electricity is no more a luxury and has become commodity of

continuous consumption at all places of work including domestic, industrial, agriculture, transport (railways) etc.

Over time consumption of electricity has been increasing due to population and also due to availability of new electrical devices for modern living, modernization in business of production in industries, agriculture and other areas of developmental activities. The demand of electricity increases leading to extremely difficult situation to cope up with generation of power resulting in staggering on industries and domestic power consumption.

Considering the importance of electricity as infrastructure for comprehensive development in livelihood, industrial development and agricultural growth, particular attention has been given for development of electricity in the state since its inception with formation of Gujarat Electricity Board (GEB) on 1st May 1960. The installed capacity of power generation was 315 MW in 1960, and it has been increased to 8685 MW at the end of 2001-02 with a sharing ratio of 52:48 between GEB and private and central sector shares.

Road and Transport

Gujarat state is in the forefront of progressive Indian states. Among other infrastructural facilities, transportation is key factor for development and attainment of higher growth rate. Roads are the most important mode of transport infrastructure. Industrial growth for economic development depend on adequate road network as it plays vital role in the connectivity between producers and customers in rural and urban areas, dispersion in industries to backward areas, employment and exposure to rural population to modern way of life. The roads form a basic infrastructure facility for sectorial development through transport and communication. For hinterland transport roads and railways are the mode of transportation. The share of railways in total traffic was 80% while only 20% by roads at the time of independence. It is now reversed though railways is more fuel efficient and less polluting mode of transport especially for long haul and bulk transport.

Industries

The industrial structure in the state has been gradually diversifying with the development of industries like chemicals, petrochemicals, fertilizers, engineering, electronics etc.

Industrial Investment

Under the liberalized procedure introduced by Government of India, Gujarat has continued to witness impressive industrial development. Since August 1991 the state has received acknowledgement of 7561 industrial entrepreneurs memorandum (IEM) filed by entrepreneurs till October 2005 with estimated investment of Rs.2,84,506 crore. The state has also received 804 letter of intent (LoI) having proposal investment of Rs.61,661 crore in the state. The state also received 1,460 letters of permission (LoP) for setting up 100 percent export oriented units (EOU) having total investment of Rs.6,935 crore till October 2005. Gujarat has set up a mechanism to monitor implementation of all investment proposals. As on 31st October 2005 there were 4,633 project implemented aggregating total investment of Rs.1,14,882 crore. In addition, 1,600 projects are under implementation aggregating total investment of Rs.1,11,727 crore. This includes 929 projects each having

less than Rs.5 crore of investment, 576 projects having investment between Rs.5 to 100 crore and 95 projects each having investment of over Rs.100 crore.

Port Development

The state of Gujarat, located on the west coast of India, has 1640 km long coastline, representing a third of the nation's water front. Gujarat is strategically positioned to serve the west, north and central Indian hinterland. The state has 40 minor and intermediate ports geographically dispersed across south Gujarat (13 ports), Saurashtra (23 ports) and Kutch region (4 ports). Also in the state of Gujarat the major port of Kandla is under the administrative control of the central government. The total cargo handled by the Kandla port in quantitative terms has increased from 415.23 lakh tones in the year 2003-04 to 415.51 lakh tones in the year 2004-05.

Intermediate and Minor Ports

Gujarat has 40 out of 142 minor and intermediate ports in the country, handling about 80\5 of the tonnages handled by the intermediate and minor ports in the country. The minor and intermediate ports of Gujarat handled a total cargo of 971.28 lakh tones during the year 2004-05 as against 893.48 lakh tones during the preceding year showing an increase of about 8.70%. During the year 2005-06 (April-October 2005) intermediate and minor ports of Gujarat handled a total cargo of 583.50 lakh tones.

Employment and Manpower Position

As per 2001 census the population of Gujarat is 5.06 crore. Out of this, male population is 2.64 crore and female population is 2.42 crore. The decade growth is 22.63% as against 21.19% in the 1991 census.

Industry-wise Employment in Organized Sectors in Gujarat

The total employment in public and private organized sector in Gujarat based on data provided by the Directorate of Employment and Training, Govt. of Gujarat, Gandhinagar is as under.

(Employment in lakhs) As on 31st March

Description of Industries with Code No.		1985	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2007
		Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
1	Agriculture, Hunting, Forestry & Fishing	0.21	0.25	0.24	0.20	0.20	0.23	0.19	0.18	0.19	0.19	0.26	0.27	0.23
2	Mining & quarrying	0.19	0.22	0.23	0.22	0.21	0.21	0.20	0.19	0.17	0.13	0.15	0.15	0.15
3	Manufac- turing	5.90	6.04	6.43	6.50	7.04	6.99	6.87	6.55	6.21	6.08	6.14	6.17	7.30
4	Electricity, Gas and water	0.38	0.44	0.44	0.45	0.45	0.46	0.45	0.45	0.44	0.45	0.54	0.53	0.56
5	Construc- tion	0.69	0.70	0.70	0.71	0.71	0.91	0.85	0.68	0.63	0.61	0.48	0.49	0.52
6	Wholesale & retail trade, hotels & restaurant	0.19	0.24	0.23	0.24	0.25	0.26	0.26	0.26	0.26	0.24	0.31	0.33	0.51
7	Transport, Storage & Communication	1.77	1.77	1.89	1.85	1.86	1.88	1.94	1.86	1.87	1.84	1.71	1.60	1.51
8	Financing, Insurance & real estate	0.81	0.94	1.05	0.06	1.05	1.07	1.07	1.06	1.04	1.02	1.10	1.10	1.23
9	Community Social& Personal services	4.99	5.62	5.96	5.96	5.94	5.88	5.86	5.67	5.41	5.30	5.62	5.58	6.00
	Total	15.13	16.22	17.17	17.19	17.71	17.89	17.69	16.90	16.22	15.86	16.31	16.22	18.01

Source: Directorate of Employment & Training, Govt. of Gujarat, Gandhinagar.

As described in the above table, it is seen that the total employment in the year 1985 was 15.13 lakh, while in the year 1995 it was 17.17 lakh. In this decade total 2.04 lakh employment is increased, so it is increased by 13.48%.

- Total employment in the year 1990 was 16.22 lakh, while in the year 2000 it is 16.90 lakh. In this decade 0.68 lakh employment is increased. Hence it is increased only by 4.19%.
- Total employment in the year 2000 was 16.90 lakh, while in the year 2007 it is 18.01 lakh. In this 7 year period 1.11 lakh employment is increased. Hence it is increased by 6.56%.

Above trend needs to be reversed by an appropriate policy intervention by the government as a facilitator in terms of promoting knowledge based industries like IT & service sector which have very high employment potential.

Upgrading the technology in small scale industries, enabling them more efficient to face the competition may also retain and maintain the employment already generated in these small scale sectors.

Closure of sick textile mills particularly in Ahmedabad was responsible for the decline in the employment in public sector employment.

Public & Private Sector Contribution to Employment in the Organized Sector in Gujarat

During 2004, 16.22 lakh were in the organized sector. Out of this, the public sector contribution was to the extent of 8.19 lakh i.e. 51%, while private sector employed 8.03 lakh (49%).

The share of the public sector in the organized sector employment reached the peak in the early 1991 but has since come down to 51% as on 31.3.2004. Simultaneously, the private sector's contribution increased substantially and reached around 49% in 2004. Thus, it is clear that public sector no longer provides any incremental employment in the organized sector. The public sector employment figure was 9.60 lakh in 1996, 9.54 lakh in 1997 and 9.55 lakh in 1998, 9.49 lakh in 1999, 9.20 lakh in 2000, 8.80 lakh in 2001 and 8.49 lakh in 2002, 8.51 lakh in 2003 and 8.19 lakh in 2004. Now there is hardly any recruitment either in the government or public sector.

The above data suffers from the limitation of the inadequate coverage and the fact that industries like textile, handlooms, power looms, textile processing and diamond industries have contributed substantial employment in the organized sector through contract labour system but the same had not been accounted for in the above table.

The Educated Unemployed

The figures available in the Employment Exchange show that the number of educated unemployed persons not having any vocational skill has been rising and it had gone up from 2.54 lakh in 1980 to 8.21 lakh in 2004 and had marginally declined to 7.71 lakh in the year 2005. The prevalence of higher level of unemployment amongst educated youth is of

serious concern for structuring the education and generation of employment. This mismatch between the demand and supply for the educated manpower in the state calls for reorientation of the present educational system.

Number of educated job seekers on Live Register as on the terminal years of Five Year Plans – 1990, 1997, 2002, 2003, 2004 & 2005.

(Figures in '000)

Sr. No.	Categories	March ending of the year					
		1990	1997	2002	2003	2004	2005
1.	SSC and undergraduates	513	530	650	649	595	551
2.	Diploma holders	9	11	23	25	24	24
3.	Graduates/Post graduates in arts, science, commerce & Law	62	99	104	193	193	190
4.	Graduate/Post graduates in technical & professional subjects	4	4	8	9	9	9
	Educated total	588	644	875	876	821	774
5.	Below SSC & uneducated	366	281	195	171	143	126
	Grand total	954	925	1070	1047	964	900

Source: Employment Exchange office.

Gujarat has as much as 7.74 lakh educated job seekers at the end of March 2005. In order to improve their employability, it is essential to improve their skills. Therefore the state government has given very high priority to the skill formation as well as multi skilled. In order to enhance the seats in the vocational and professional training, education programmes, self financing institutions are being encouraged. Similarly to achieve multi skilled, short term training programmes have also been launched.

CHAPTER – III : PROJECT IMPACT ANALYSIS

General

The Vibrant Gujarat Global Investors Project in all districts of Gujarat State is expected to increase the employment generation of various industries and service sectors like oil & gas, agro food processing, chemical & petrochemicals, engineering & auto, tourism, healthcare & medical tourism, infrastructure (roads & railways), information technology, textile & apparels, SEZs, biotechnology, power, ports & port development etc.

It is also expected to improve the supply of manpower demand and increase the production as well as improve the skills of manpower in the industries and service sector. In order to examine whether the suggested objectives are attained the present chapter concentrates on an impact analysis of project benefits. This is done by sample survey of MOUs signed by investors during Summit 2005 & 2007. The analysis in this chapter looks into the changes in employment generation, technical / non-technical manpower requirement, institutional network and progress of the MOUs signed. Sector-wise profile of MOUs signed in 2005 and 2007 showing investment and employment generation is given in Table-1. District-wise and Sector-wise investment profile of MOUs signed in 2005 and 2007 are given in Table-2 (4 pages).

SECTOR-WISE INFRASTRUCTURAL CHARACTERISTICS

Special Economic Zones (SEZs)

1. 28 MOUs and announcements with Rs. 1,70,889 crore for project across the SEZ sectors;
2. A large number of these projects are located in the districts of Bharuch, Ahmedabad and Kutch;
3. Majority of the SEZs being established are for the engineering, auto and pharmaceuticals sectors;
4. In addition to product specific SEZs several multi-product SEZs are also being established;
5. 6,32,640 skilled and unskilled workers would be required for the implementation of these projects.

Table – 1: Investment Profile of MOUs signed in 2005 and 2007 in Gujarat

Sr.No.	Sectors	MOUs & total announcement			Investment (INR Crores)			Employments		
		2005	2007	Total	2005	2007	Total	2005	2007	Total
1	SEZs	0	28	28	0	170889	170889	0	632640	632640
2	Power	18	15	33	45383	55139	100522	0	6560	6560
3	Oil & Gas	24	11	35	13256	19488	32744	5343	14015	19358
4	Auto & Engineering	32	36	68	16266	14963	31229	19679	44090	63769
5	Information Technology	22	21	43	338	14811	15149	2365	330200	332565
6	Port	35	22	57	15610	13518	29128	2885	12100	14985
7	Chemical & Petrochemicals	13	31	44	3720	13412	17132	1495	15169	16664
8	Tourism	14	34	48	7351	10793	18144	0	26870	26870
9	Agro & Food Processing	35	61	96	1197	10375	11572	2008	73401	75409
10	Civil Aviation	0	4	4	0	10028	10028	0	10200	10200
	Total:	193	263	456	103121	333416	436537	33775	1165245	1199020

Investment Profile of MOUs signed across sectors

11	Textiles & Apparels	10	29	39	330	8283	8613	1252	106230	107482
12	Urban Development	13	5	18	1884	6985	8869	250	0	250
13	Road & Rail Projects	4	6	10	649	2516	3165	0	575	575
14	Health care	0	8	8	0	2092	2092	0	9250	9250
15	Paper Industries	0	6	6	0	1577	1577	0	2813	2813
16	Biotechnology	0	19	19	0	1541	1541	0	7714	7714
17	Financial Sector	0	0	0	0	0	0	0	0	0
18	Education	0	2	2	0	510	510	0	0	0
19	Pharmaceuticals	0	5	5	0	347	347	0	1060	1060
20	Other sectors	7	0	7	428	0	428	26	0	26
	Revised Total	34	80	114	3291	23851	27142	1528	127642	129170
	Revised grand total	227	343	570	106412	357267	463679	35303	1292887	1328190
	Original	226	363	589		461835			1326387	

Source: Industries Commissionerate, GOG, Gandhinagar.

Table-2 (page-1)

District-wise and Sector-wise Investment Profile of MOUs Signed in 2005 in Gujarat

Sr. No.	Sector	A'bad	Bharuch	Surat	Kutch	G'nagar	Vado-dara	Multi-dist.	Meh-sana	Valsad	Anand	Amreli	Jam-nagar	Juna-gadh
1	2	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Agro Food Process	4	1	4	3	1	1	11	0	1	1	1	0	0
2	Power	0	1	8	2	0	0	5	0	0	0	0	0	0
3	Oil & Gas	2	0	3	1	0	0	13	0	0	2	0	0	0
4	Engg. Tech. It & Bt	4	0	0	0	11	0	2	1	0	0	0	0	0
5	Tourism	2	0	0	1	4	0	0	1	1	0	0	0	1
6	Urban Dev.	8	0	0	0	3	0	1	0	0	0	0	0	0
7	Chemical	3	3	1	2	1	0	3	0	0	0	0	0	0
8	Textile & Apparels	5	0	3	0	0	0	1	0	0	0	0	0	0
9	Other sectors	0	1	3	0	0	0	0	0	0	0	0	0	0
10	Port	0	4	3	5	0	0	1	0	0	0	1	6	1
11	Railways/GIDB	0	1	1	0	0	1	0	0	0	0	0	0	0
12	Engg. Automobiles	2	2	2	15	2	1	3	1	0	0	0	0	0
	Total	30	13	28	29	22	3	40	3	2	3	2	6	2

Table-2 (Page-2)

Sr. No.	Sector	Rajkot	Por-bandar	Bhav-nagar	Kheda	Banas-kantha	Navsari	S'nagar	Nar-mada	Sabar-kantha	Godh-ra	Raj-pipla	Infor. Not available	Total sectors
		14	15	16	17	18	19	20	21	22	23	24	25	
1	Agro Food Process	0	0	0	0	0	7	0	0	0	0	0	0	35
2	Power	0	0	1	0	0	0	0	1	0	0	0	0	18
3	Oil & Gas	0	0	0	0	0	0	0	0	0	0	0	3	24
4	Engg. Tech. It & Bt	0	0	0	0	0	0	0	0	0	0	0	4	22
5	Tourism	0	0	0	0	0	1	0	1	0	0	0	2	14
6	Urban Dev.	0	0	0	0	0	0	0	0	0	0	0	1	13
7	Chemical	0	0	0	0	0	0	0	0	0	0	0	0	13
8	Textile & Apparels	1	0	0	0	0	0	0	0	0	0	0	0	10
9	Other sectors	0	0	0	0	0	0	1	0	0	0	0	2	7
10	Port	3	4	4	0	0	1	0	0	0	0	0	2	35
11	Railways/GIDB	0	0	0	0	1	0	0	0	0	0	0	0	4
12	Engg. Automobiles	1	0	0	1	0	0	0	0	0	1	0	1	32
	Total	5	4	5	1	1	9	1	2	0	1	0	15	227

Source: Industries Commissionerate, GOG, Gandhinagar.

District-wise and Sector-wise Investment Profile of MOUs Signed in 2007 in Gujarat

Sr. No.	Sector	A'bad	Bharuch	Surat	Kutch	G'nagar	Vado-dara	Multi-dist.	Meh-sana	Valsad	Anand	Amreli	Jam-nagar	Juna-gadh
1	2	1	2	3	4	5	6	7	8	9	10	11	12	13
1	SEZs	6	8	1	6	1	0	0	0	1	0	1	3	0
2	Power	0	1	2	3	0	0	0	0	0	1	4	2	2
3	Oil & Gas	0	1	0	2	0	0	7	0	0	0	1	0	0
4	Auto & Engg.	8	3	0	8	2	3	3	2	2	1	1	0	1
5	Information Tech.	9	0	0	0	5	1	6	0	0	0	0	0	0
6	Port	0	1	3	5	0	1	3	1	0	2	1	2	1
7	Chemical/Petro.	2	16	1	1	0	5	0	0	2	2	0	0	0
8	Tourism	10	0	5	4	4	0	5	0	0	1	0	1	0
9	Agro & food	8	3	16	1	0	5	9	2	3	2	0	0	3
10	Civil Aviation	0	1	0	0	0	0	1	1	0	0	1	0	0
11	Textile / Apparels	8	3	4	0	4	0	0	1	1	0	0	0	0
12	Urban Dev.	3	0	1	0	0	0	1	0	0	0	0	0	0
13	Roads/Railways	0	1	0	0	2	0	2	0	0	0	0	0	0
14	Health care	4	0	1	1	0	1	0	0	1	0	0	0	0
15	Paper industry	0	1	1	0	0	0	0	1	3	0	0	0	0
16	Biotechnology	1	0	0	0	4	8	4	1	0	0	0	0	0
17	Financial sector	0	0	0	1	0	0	0	0	0	0	0	0	0
18	Education	0	0	0	0	0	1	0	0	0	0	0	0	0
19	Pharmaceuticals	2	1	1	0	0	1	0	0	0	0	0	0	0
20	Other sectors	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	61	40	36	32	22	26	41	9	13	9	9	8	7

Table-2 (page-4)

District-wise and Sector-wise Investment Profile of MOUs Signed in 2007 in Gujarat

Sr. No.	Sector	Rajkot	Por-bandar	Bhav-nagar	Kheda	Banas-kantha	Navsari	S'nagar	Nar-mada	Sabar-kantha	Godh-ra	Raj-pipla	Un-known	Total sectors
		14	15	16	17	18	19	20	21	22	23	24	25	
1	SEZs	1	0	0	0	0	0	0	0	0	0	0	0	28
2	Power	0	0	0	0	0	0	0	0	0	0	0	0	15
3	Oil & Gas	0	0	0	0	0	0	0	0	0	0	0	0	11
4	Auto & Engg.	1	0	0	0	0	0	0	0	0	0	0	0	36
5	Information Tech.	0	0	0	0	0	0	0	0	0	0	0	0	21
6	Port	0	1	1	0	0	0	0	0	0	0	0	0	22
7	Chemical/Petro.	0	1	0	1	0	0	0	0	0	1	0	0	31
8	Tourism	1	1	2	0	0	0	0	0	0	0	0	0	34
9	Agro & food	4	1	0	0	0	1	3	0	0	0	0	0	61
10	Civil Aviation	0	0	0	0	0	0	0	0	0	0	0	0	4
11	Textile / Apparels	0	0	0	1	0	0	0	0	1	0	0	0	23
12	Urban Dev.	0	0	0	0	0	0	0	0	0	0	0	0	5
13	Roads/Railways	0	0	0	0	0	0	0	0	0	0	0	0	6
14	Health care	0	0	0	0	1	0	0	0	0	0	0	0	8
15	Paper industry	0	0	0	0	0	0	0	0	0	0	0	0	6
16	Biotechnology	0	0	0	0	0	0	0	0	0	0	0	0	19
17	Financial sector	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Education	0	0	0	0	0	0	0	0	0	0	0	0	2
19	Pharmaceuticals	0	0	0	1	0	0	0	0	0	0	0	0	5
20	Other sectors	0	0	0	0	0	0	0	0	0	0	0	6	6
	Total	7	4	3	3	1	1	3	0	1	1	0	6	343

Power

1. 33 MOUs and announcements with Rs.1,00,522 crore signed for projects to be established in the power sector;
2. Majority of the projects proposed are to be established in Kutch, Surat and Amreli districts;
3. These regions have proximity to established ports at Hazira, Pipavav, Mundra and Dahej as well as upcoming ports at Tuna, Vansi Bori and Mithi Viridi;
4. Majority of the projects are based on generating power from imported coal with the remaining utilizing the sources of wind energy and gas;
5. 6,560 skilled and unskilled workers would be required for the implementation of these projects;

Oil and Gas

1. 35 MOUs and announcements with Rs.32,744 crore in the oil and gas sector;
2. While a majority of the projects related to the laying of pipelines would be located across several districts. Other projects would be located in the districts of Mehsana, Kutch, Bharuch and Ahmedabad;
3. Projects are related to exploration and production activities, crude oil production, development of LNG terminals, establishing pipelines, establishing petroleum university, biodiesel plantation and gas distribution;
4. Several projects involve the construction of gas pipelines and some others include biodiesel plantation, offshore drilling and coal gasification do not require gas pipelines;
5. 19,358 skilled and unskilled workers would be required for the implementation of these projects.

Engineering, Auto and Ceramics

1. 68 MOUs and announcements worth Rs.31,229 crore signed for this sector;
2. The projects are spread across the state in several districts including Ahmedabad, Vadodara, Amreli, Kutch, Bharuch, Gandhinagar and Mehsana;
3. Projects are related to cement plants, ceramic manufacturing, industrial parks, development and fabrication of electronics, automobiles, float glass and processed glass units and manufacturing of boilers and heaters;
4. The proposed locations of the projects are mostly connected via –
 - Broad gauge railway network and highways (NO8 / 8A);
 - Connectivity to the key ports of Kandla, Mundra, Pipavav and Dahej;
 - 63,769 skilled and unskilled workers would be required for the implementation of these projects.

Ports and Port Land Development

1. 57 MOUs and announcements with Rs.29,128 crore for this sector;
2. Projects are located in coastal regions (Jamnagar, Kutch, Amreli and Khambhat) as well as inland regions (Surat, Mehsana and Vadodara);
3. Majority of the projects involve extension of berths at established ports, new port development, cruiseliner services, development of new container facilities and establishment of maritime institutes;

4. Regions where the projects are proposed to be located are connected viz.
 - Roads and Rail networks including state highways (SH25, 48) and national highways (NH 6, 8A, 8E),
 - Airports at Surat, Bhuj, Vadodara, Ahmedabad, Jamnagar and Rajkot,
 - Projects of container terminals are proposed in the vicinity of ports.

Chemicals and Petrochemicals

1. 44 MOUs and announcements with Rs.17,132 crore signed;
2. Projects are related to establishing industrial parks, production of basic and fine chemicals, special and performance chemicals, organic and inorganic chemicals, dyes and intermediates;
3. The projects are proposed to be executed in the districts of Ahmedabad, Bharuch and Vadodara which are connected with:
 - Primarily broad gauge and some narrow gauge railway networks;
 - State highways and national highways (NH8 and 8A);
 - Airports at Ahmedabad, Bhuj and Vadodara;
 - Rail and road connectivity to the key ports of Kandla, Pipavav and Dahej;
 - Chemical and petrochemical units have high requirement of water and power;

Agro and Food Processing

1. 96 MOUs and announcements worth Rs.11,572 crore have been signed;
2. Projects include the development of commercial horticulture and floriculture farms, establishment of food processing and manufacturing units, fish processing, biodiesel production and cold storage facilities;
3. Majority of these projects are proposed to be located in the districts of Surat and Ahmedabad;
4. These regions have excellent connectivity with cities within and outside the state;
5. A well established road and rail network and airport connectivity – Road and road connectivity to major ports in Kandla and Pipavav;
6. Support infrastructure requirement of the project would include an uninterrupted water and power supply which would vary with each project;

STATISTICAL ANALYSIS OF THE PROJECT

Employment Generation

- Vibrant Gujarat MOUs are expected to provide employment to 13,28,190 people;
- Largest number of projects across the district are proposed in the sectors of agro and food processing, chemicals & petrochemicals, oil & gas and engineering and auto;
 - Oil and gas – 19,358 including technical and non-technical staff;
 - Agro food processing – 75,409, including agriculture graduates and labourers;
 - Chemicals and Petrochemicals – 16,664, including chemical engineers, chemistry graduates and post graduate and unskilled labourers;
 - Engineering and auto – 63,769, including engineering graduate (electrical, mechanical, IT graduates and unskilled labourers);

Sub total employment generation: 1,75,200

Technical & non-technical manpower requirement

- Tourism – 26,870 including hotel management graduates and unskilled staff
- Health care, medical tourism – 9,250, including physicians, nurses, para medical technicians and non-technical staff;
- Road and Rail – 575, including civil engineers, skilled and unskilled labourers;
- Information and Technology – 3,32,585, including computer engineers, graduates and post graduates in computer science, ITI graduates and non-technical staff;
- Textiles & Apparels - 1,07,482 including textile engineers, ITI graduates, apparel designers, skilled and unskilled labourers;
- SEZs – 6,32,640, including technical and non-technical staff.
- Biotechnology – 7,714, including post graduates in biotechnology (medical, agriculture, industrial), Ph.D. and non-technical staff;
- Pharmaceuticals – 1,060 including pharmacy graduates and post graduates and unskilled labourers;
- Power – 6,560, including technical and non-technical staff;
- Port & Portland development – 14,985, including marine engineers, skilled and unskilled labourers;
- Civil aviation – 10,200, including technical and non-technical staff;

Available Institutions

- More than 100 technical institutions offering degree/diploma, around 349 ITI colleges;
- Around 13 medical colleges;
- Around 50 pharmacy colleges, institutes and around 38 colleges offering graduation and post graduation in biotechnology;
- Around 34 colleges and institutions offering masters degree in computer application (MCA);
- 1 hotel tourism management institution with 60 students graduating every year;
- The current availability of technical manpower in the field of engineering is around 38,301 and post graduation in the field of IT is around 1,920. The capacity has more than doubled in the last five years;
- English education through SCOPE will further help people and industry.

Details regarding MOUs signed, infrastructure facilities, investments, employment generation and gap analysis are discussed in the respective district analysis.

PART – I

DISTRICT: KUTCH

KUTCH: ANALYSIS BASED ON SAMPLE SURVEY

PROFILE OF THE KUTCH DISTRICT

Location and Administrative

Kutch district with a total geographical area of 45,652 sq.km² (including the Rann area) accounts for about 23 percent of the total geographical area of the state. It is the largest district of the state and second largest in the country. In fact, it is bigger than the state of Haryana, lying in the north-western part of Gujarat. Kutch district is located between 22.44° & 24.41° N Latitude and 68.9° & 71.54° E Longitude. The border district is bounded by Pakistan on the north and north-west, Rajasthan in the north-east, Banaskantha, Patan & Mehsana districts of Gujarat to the east, Surendranagar, Rajkot & Jamnagar districts to the south-east. The Arabian Sea lies on the western side of Kutch on the south. It has a coastal line of about 352 km. The district is divided into nine talukas. They are: (1) Abdasa; (2) Anjar; (3) Bhachau; (4) Bhuj; (5) Lakhpat; (6) Mandvi; (7) Mundra; (8) Nakhatrana; and (9) Rapar; (see map 3.1). There are a total of 948 villages in the district. In this, 61 villages are uninhabited. The density of population shows that the district is very sparsely populated. The overall density in the district is just 64 persons per sq.km. This is one of the lowest in the country and the overall sex ratio in the district is 964 females per 1000 males. The overall literacy rate in the district is nearly 42 percent. The sex-wise breakup shows that the female literacy rate is 33.7% which is considerably less than the male literacy rate (49.1%).

Population of Kutch

As per the 1991 census the Scheduled Caste (SC) population in Kutch district is nearly 12 percent and the Scheduled Tribe (ST) population is a little less than 9 percent. Thus, the combined population of SC & ST is sizeable as they form a little more than 20 percent of the total population of the district.

The district is characterized by erratic rainfall, severe water scarcity, recurring droughts, high degree of salinity both in soil and water, problem of desertification, refractory soil, adverse climatic conditions, heavy grazing practices etc. It is therefore quite challenging for the activities like forestry and wild life. There are quite a few rivers but they go dry almost soon after monsoon. Along the river banks wherever alluvial soils deposit the species like deshi baval, gando baval, limdo, khijado etc. are found.

Employment Pattern

The employment pattern of the working population in the district shows that a little over 52% of the workers are engaged in the field of agriculture, either as cultivators or agricultural labourers. In a total of a little more than 4 lakh main workers nearly 27% are cultivators and a little less than 26% are agricultural labourers. The remaining workers (47.6%) are engaged in various occupations like livestock and fishing, trade and commerce, transport and communications, household industries and construction activities. Among these activities the transport and communication (13%) trade and commerce (9%)

and household industries (10%) are the prominent. Thus the single largest group of working population is the cultivators and the second largest are agricultural labourers.

Industries

The district has 369 medium and large industrial units having a total investment of Rs.37,817 crore and the number of persons employed is 71,718. The new industrial policy of state provides capital investment subsidy, sales tax benefits, incentives to employment oriented industries, incentives for pioneer and prestigious units and special incentives for SEZ and for setting up 100% export oriented units to accelerate the industrial growth in Kutch. Lakhpat, Abdasa, Rapar and Bhachau are declared as special backward areas and thus have become attractive location for entrepreneurs.

Forestry

The district has 6.3% of its geographical area (i.e. 2863 sq.km.) under forests, of which 1718 sq.km. is reserved forests while the rest is unclassed forest. Of its 9 talukas, Anjar has the least forest area of 39 sq.km. while Abdasa taluka has the maximum forest area of 685 sq.km. Thus Kutch is a forest deficient district. Main forest products are firewood, charcoal and other timber while minor forest products include fodder, grass, gugal, tendu leaves, mahua flowers, gum, and variety of medicinal herbs. According to social forestry officials there is enormous scope of generating employment through developing soft wood, fire wood and fodder production, particularly in Banni area and coastal area.

Fisheries

With 357 km stretch of coast of Kutch district, it possesses enormous potential for marine as well as inland fisheries. Total fish catch has been increased from 63766 MT in 1993-94 to 73,040 MT in 1995-96 in marine fisheries.

TRANSPORT AND COMMUNICATION

Roads and Railways

The transport and communication facilities are a prerequisite for development of commercial activities in a region. These facilities in Kutch district have shown a very impressive improvement over the past decade. The total road length in the district has increased. The district has the benefit of both broad gauge and meter gauge railway line.

There are one major port viz. Kandla in the district and existing minor and intermediate ports are Mundra, Mandvi, Jakhau and Koteshwar. Wood, construction material, fertilizers, chemicals are the main items imported and exported at these ports. 158 branches of commercial banks, 21 of district cooperative and central banks, 4 land development banks and 20 regional rural banks are 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 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 list collected from Industries Commissionerate, Gandhinagar and respective nodal departments. Thus, in all 66 entrepreneurs were selected for indepth study. The details regarding sectors, number of entrepreneurs etc are given in the following table as well as Annexure V.I. The data from entrepreneurs was 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	2	(1) 6 not responding due to being out of district (2) 16 not responding due to being out of Gujarat/ abroad; and (3) 13 Due to multidistrict and responsible person not available.
2.	Chemicals & Petrochemicals	2	
3.	Engineering, Automobiles & Ceramics	17	
4.	Oil & Gas	1	
5.	Ports	1	
6.	Power	4	
7.	Tourism	3	
8.	Road and Rail	1	
	Total	31	
9.	Presently functioning (Existing)	30	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 Industrial Center (Bhuj), Chamber of Commerce and Industries (Gandhidham), and GIDC (Gandhinagar). From medium and large scale units 30 entrepreneurs were selected by random sampling method. 30 entrepreneurs were selected for indepth study.

Accordingly, 40 enterprises (MOUs) were visited but due to wrong addresses 5 units could not be contacted as per the entrepreneurs' list provided by IC. The remaining 4 entrepreneurs on personal visits informed that they required time and they will send information within a few days and there was no response from them later. The survey methodology was visiting of industries personally, meeting the responsible person; explain 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 time 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). 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, Gandhidham and GIDC, Gandhinagar. The field work was carried out during the month of February 2008.

Observation on the Sample Survey Data

As per the terms of reference, 31 MOUs and 30 medium and large scale units signed in 2005 and 2007 were to be visited for manpower demand survey assessment. Accordingly, 31 MOUs and 30 present industries/units were visited, but due to wrong address, contact persons being out of state/district, short time, others could not be contacted. 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. Yet 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.	Engg. & Automobiles	15	10	25	11569	15880	27449
2.	Ports	5	5	10	245	5550	5795
3.	SEZs	0	6	6	-	136500	136500
4.	Power	2	5	7	-	2800	2800
5.	Tourism	1	4	5	-	1650	1650
6.	Agro & Food Processing	3	1	4	360	100	460
7.	Oil and Gas	1	3	4	-	3240	3240
8.	Chemical/Petrochemical	2	1	3	-	1350	1350
9.	Roads/Railways	0	1	1	-	375	375
10.	Biotechnology	0	1	1	-	1000	1000
	Total:	29	37	66*	12,174	1,68,445	1,80,619

* Including multidistrict projects.

Source: Industries Commissionerate, GOG, Gandhinagar.

Summary and Field Observations of the District

1. The total number of upcoming projects in Kutch district is 66.
2. The sector having maximum projects in the district is Auto & engineering with 25 projects in the pipeline.
3. Presently, the district is connected by several state highways as well as railway lines. However, owing to its remote location, it is not well connected as the other districts of the state.
4. The nearest ports are Kandla, Mundra and Mandvi; and the nearest airports are Kandla and Bhuj.
5. Bhuj is connected to Kandla (45 kms) from Bhuj by a state highway via Anjar.

Manpower Requirement in Kutch District from MOU 2005 and 2007

1. With 66 projects, the district has total manpower requirement of 1,80,619 technical, managerial and unskilled workers.
2. The sector of engineering and auto has witnessed largest investment (25 units) and has the largest manpower requirement of 27,449.
3. Presently; Kutch district has;
 - 12 ITI offering technical courses in engineering (including textile engineering) and IT with an approximate intake of 2,570 students;
 - 3 technical institutions churning out 600 graduates every year;
 - Kutch will need utmost attention in this regard so that the employment benefit goes to the manpower of the district;

Employment Generation in Industries after MOUs Signed in 2005 & 2007

At present there are 16,460 persons employed and in future there will be 29,789 persons employed at various levels in the 61 (31+30) industries surveyed out of 216 (66+150) industries. This means that average total employed (skilled and unskilled) staff & workers is 269.83 and 488.34 persons per unit. The number of units expected in Kutch district is 216 units (66+150) (MOUs & medium and large scale units) and hence the total requirement of skilled and unskilled persons works out to 58,283 for the base year (2007-08) and 1,05,408 numbers for the fifth year (2013) respectively. An additional 5000 power loom workers in the base year and in future 7000 weaving loom workers required the anticipated demand works out to 63,283 for present and 1,12,408 for future.

There will be indirect employment generation in various activities like goods transport, dhabas, pan shops, various contract works, travel service, workshops for automobile repairs, steel fabrication, engineering works, machinery works, machinery parts, material supply business and many other activities due to industrial growth in the district. Taking the figures of indirect employment at 20% of the total of the above figures, the growth in the indirect employment can be expected around 12,656 for base year and 22,481 for the future. Hence the overall employment generation in Kutch district due to the industrial growth because of the tax holiday declared by the Central and State Governments can be anticipated around 75,939 employees at present and 1,34,889 employees in future.

Details of 31 units surveyed are presented at Annexure IV.1 of this report. On the basis of this sample survey conducted, the manpower requirement of 66 units which includes even those units that are in the pipeline has been derived as under.

Table 5.3 Anticipated Requirement of Manpower after MOUs Signed In 2005 and 2007 of Kutch District

Level of Education	Qualification	Present Requirement Base year (2007-08)	Future Requirement (next 5 years) (2013)
Post Graduates/ Professionals	MBA/CA/CWA	164	300
	M.Sc.	59	100
	M.Tech.	37	85
Sub-total:		260	485
Degree	Electrical	108	344
	Civil	72	318
	I & C	26	89
	Mechanical	282	818
	Electronics	30	49
	Computer	2	3
	I T	5	25
	Ceramics	3	5
	Chemical	22	50
	Metallurgy	20	35
	Automobile Engg.	3	5
	Environmental Engg.	11	23
	Food Processing Technology	5	25
	Production Engg.	49	89
	Industrial Engg.	23	50
Sub-total:		657	1926
Diploma	Electrical	97	279
	Civil	16	69
	I & C	23	55
	Mechanical	229	594
	Electronics	31	62
	Computer	4	7
	Ceramics	5	8
	Chemical	24	35
	Automobile Engg.	2	3
	Fabrication technology	94	173
	Others	1	17
	Sub-total:		509
ITI Trade	Turner	137	249
	Fitter	137	299
	Wireman	75	186
	Welder	51	106
	Electrician	84	202
	Mechanic (AC/Fridge)	16	76

	Mechanic (Motor vehicles)	16	43
	Mechanic (Electronics)	42	105
	Mechanic (Instruments)	11	35
	Machinist	151	277
	Chemical Plant Operator	17	43
	Pump Mechanic	17	60
	Fireman	11	59
	Lift Mechanic	-	19
	Lab Assistant	20	31
	Painter	70	105
	Plumber	29	90
	Mechanic (Tractor/Diesel)	41	81
	Networking Technicians	1	11
	Motor Rewinding	13	17
	Stenographer	59	113
	Mechatronics	17	34
	Mechanic (Radio / TV)	-	32
	Basic CNC	22	33
	Basic Sheetmetal Fabricn.	46	82
	Basic Turning / Grinding	38	69
	Others	10	27
Sub-total:		1140	2518
Graduates/ Others	B.Sc. / B.A. etc.	220	431
	B.Com. / M.Com.	203	419
	BCA	44	96
	Undergraduates	144	282
	Gardener/Peon/Packing staff	581	1128
	Security	300	488
Sub-total:		1446	2834
TOTAL:	Unskilled	4924	10013
	Skilled	4058	9123
	TOTAL	8982	19136

Details of 30 medium and large scale units surveyed are presented at Annexure IV.1 of this report. On the basis of this sample survey conducted, the manpower requirement of 150 units which includes even those units that are in the pipeline has been derived as under.

Table 5.4 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	81	120
	M.Sc.	40	59
	M.Tech.	13	18
Sub-total:		131	197
Degree	Electrical	54	76
	Civil	11	16

	I & C	10	16
	Mechanical	74	103
	Electronics	33	47
	Computer	24	31
	I T	10	13
	Ceramics	4	7
	Chemical	32	48
	Metallurgy	14	21
	Textile Technology	2	3
	Automobile Engg.	20	25
	Environmental Engg.	4	5
	Food Processing Technology	15	20
	Production Engg.	33	48
	Industrial Engg.	27	38
	Sub-total:	359	517
Diploma	Electrical	82	115
	Civil	25	40
	I & C	19	30
	Mechanical	111	161
	Electronics	34	49
	Computer	12	17
	I T	10	12
	Ceramics	8	14
	Chemical	52	76
	Automobile Engg.	20	28
	Textile Technology	4	5
	Fabrication technology	47	66
	Dress Designing	32	41
	Mining	10	13
	Others	1	2
	Sub-total:	466	667
ITI Trade	Turner	196	297
	Fitter	178	259
	Wireman	89	130
	Welder	92	128
	Electrician	100	149
	Mechanic (AC/Fridge)	20	30
	Mechanic (Motor vehicles)	38	51
	Mechanic (Electronics)	40	61
	Sewing / Dress making	30	40
	Mechanic (Instruments)	23	36
	Machinist	219	317
	Chemical Plant Operator	36	53
	Pump Mechanic	45	63
	Fireman	20	27
	Lift Mechanic	10	14
	Lab Assistant	42	62

	Painter	71	107
	Plumber	60	86
	Mechanic (Tractor/Diesel)	58	84
	Embroidery	20	25
	Networking Technicians	10	13
	Motor Rewinding	48	69
	Stenographer	53	42
	Mechatronics	34	49
	Mechanic (Radio / TV)	30	42
	Basic CNC	39	57
	Basic Sheetmetal Fabricn.	64	90
	Basic Turning / Grinding	81	103
	Weaving Loom Operators	2	3
	Sub-total:	1761	2537
Graduates/ Others	B.Sc. / B.A. etc.	137	194
	B.Com. / M.Com.	143	211
	BCA	25	41
	Undergraduates	231	318
	Gardener/Peon/Packing staff	543	769
	Security	245	340
	Sub-total:	1324	1867
TOTAL:	Unskilled	3422	4868
	Skilled	4056	5785
	TOTAL (skilled + unskilled)	7478	10653
GRAND TOTAL	Table 5.3	8982	19136
	Table 5.4	7478	10653
	TOTAL (Skilled & Unskilled manpower)	16460	29789

Addressing the Manpower Requirement in Industries Coming Up in Kutch District

Datamation Research Analyst, New Delhi has carried out a sample survey of 31 MOUs signed (with entrepreneurs) and 30 units of medium and large scale industries (total 61) in Kutch district and on the basis of that they have made a future forecast (for next five years) i.e. year 2013 of manpower requirement for 66 MOUs and 150 units of medium and large scale (total 216 units). According to this survey the requirement of manpower in the ITI trades is anticipated to be around 10368 base year (2007-08) and 17928 future (2013). The table presented above gives a picture of the anticipated manpower requirement. The table 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 Kutch district and skill gaps.

Table 5.5 ITI Trade-wise no. of Manpower Requirement, no. of Seats Available and Skill Gaps in Kutch District

Trade	Base year (2007-08)			Next 5 yrs (2013)		Year-wise breakup of projection				
	Man-power Requirement	Seats available in ITI / SF etc.	Skill Gap (2-3)	Projected Requirement	Skill Gap (5-3)	2008-09	2009-10	2010-11	2011-12	2012-13
1	2	3	4	5	6	7	8	9	10	11
Turner	1187	60	1127	1933	1873	250	350	400	450	458
Fitter	1134	416	718	1974	1518	125	225	345	365	458
Wireman	588	384	204	1118	734	75	140	150	167	240
Welder	432	132	300	864	732	75	140	150	165	240
Electrician	648	320	328	1296	976	95	175	225	200	281
Machinist	1296	12	1284	2112	2100	275	350	400	500	575
Painter	514	0	514	650	650	50	75	125	175	225
Plumber	315	64	251	622	568	55	75	120	150	168
Mech.dies	349	0	349	583	583	60	80	130	150	163
Metal Fabricn.	390	0	390	620	620	60	90	140	150	180
Turner/Grinder	434	0	434	620	620	60	90	140	150	180
Others	3081	1824	1257	5538	3714	500	600	720	900	994
Total:	10368	3212	7156	17928	14716	1680	2390	3045	3487	4000

Table 5.6 Details of Seats Available and Proposed Increase in Seats in Various ITIs of Kutch District

Sr. No.	Name of Institute	Seats Available	Proposed increase (Base year 2007-08)
1.	ITI, Gandhidham	488	600
2.	ITI, Bhuj	656	700
3.	ITI, Mandvi	292	400
4.	ITI, Pandhro	128	200
5.	ITI, Anjar	184	350
6.	ITI, Mundra	504	600
7.	ITI, Rapar	504	600
8.	GIA, ITC, Kera	92	250
9.	GIA, ITC, Madhapar	32	150
10.	GIA, ITC, Bhachau	32	250
11.	SFI, Madhapar	40	50
12.	SFI, Mundra	216	250
13.	SFI, Abdasa	44	250
14.	Two new SFIs (expected)	-	200
15.	Four new ITIs of PPP model (expected)	-	1000
	Total:	3212	7156

As per personal discussions at the time of field survey.

Strategies to Address Future Manpower Requirement in Kutch District

1. Majority of the projects proposed are to be established in Gandhidham, Anjar, Mundra, Mandvi, Bhachau and Bhuj areas.
2. Majority of the projects are based on engineering, automobiles, ceramics, port and port land development, glass industry, energy and wind energy,
3. It is proposed to invite offers from private organizations to start Self Finance Institutes in Kutch district particularly in important trades like turner, fitter, wireman, welder and others. 1500 new seats will be introduced vide new SF ITIs.
4. Additional short term courses are required to meet the industrial manpower requirement. There is a shortage of masonry workers for construction activities.
5. Skills Development Centres (SDC) should be established at all GIDC's Industrial Estates and SEZs 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 requirements of the industries. SDCs work as organizations managed by private industries. The manpower and skill development is organized by the private companies. SDC is funded through annual membership fees. The Human Resource Managers of the member companies guide the strategy, planning, training etc for the SDCs. 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. The Department of Employment and Training should select appropriate location for ITI establishment in consultation with private industrialists to make it more need based along with their technological support.

Manufacturing (BBBT)																	
COE Fabrication (BBBT)	-	-	-	-	-	96	16	112	-	-	-	-	-	-	-	-	112
Offset Printing & Book Biding	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	10	10
Total:	656	184	488	292	128	504	504	2756	92	32	32	156	40	44	216	300	3212

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

General Field Observations, Summary and Suggestions

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

Skilled Manpower

Gujarati labour is not quality conscious and their productivity is low as compared to other industrially developed states like Karnataka. In view of this it is necessary to upgrade existing skills as well as train unskilled manpower to suit the requirement of industries. In this regard it is suggested to frame suitable vocational training courses with visiting faculties from the industries so as to meaningfully train Gujarat based persons which could provide immediate opportunities for large scale employment.

Agro Based Industries

Agro based and food processing industry is one of the thrust areas of Gujarat. Union Government has also announced Agriculture Policy recently. Tissue culture is the one activity which supports increasing agriculture production and sapling are developed for use to get more yield per hectare for crop and therefore the industry should be considered at par with agriculture for power tariff. Other states like Maharashtra have already considered this issue. It would be in fitness of thing that govt. of Gujarat also come forward like other states with no loss of time for bringing tariff of electricity for tissue culture at par with agriculture. In view of Public Private Participation (PPP) with Cadila Laboratories and other tissue culture laboratories, Gujarat Green Revolution Company (GGRC) for short time vocational training in tissue culture activities should be provided by the ITIs. Short term courses in operation and maintenance of micro irrigation system are also very much required in Kutch district, particularly as it has maximum number of installation of drip irrigation sets.

Opportunities

Gujarat has abundant natural resources and manpower with an industrial culture. The entrepreneurship of Gujarat is best known to the world and has demonstrated its metal by setting examples in the field of textiles, pharmaceuticals, chemicals, petrochemicals, detergents etc. Gujarat offers immense potential for investment, which includes ports and port land development. So it is suggested that there is a need of marine engineering colleges or pipeline of vocational training courses or ITI in Kutch. Construction works, engineering, automobiles, mineral based industries, lignite for power generation, pollution control related activities etc. are other areas which require further support through appropriate short term courses.

The industry has a high demand of human resources in all fields. University and institutes put out freshers lacking the attitude that the industries demand. The curricula and courses are probably not suitably updated to match the industrial requirement so there is an imbalance between the demand of industry and supply of appropriate skilled manpower.

There is a need for these specialized skills and also there is need for such courses that prepare students with the help of industries, the sponsorship of which is a kind of bonus.

Conclusion

One could conclude that the industrial development projects have a positive impact on manpower requirement and employment generation and the estimated demand cannot be met efficiently unless the industries are organized on proper lines. To handle the increased volume of industrial growth (business), infrastructure facilities will have to be created. This report is an examination of the present facilities and of what needs to be done to meet the future demands.

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

1. Bharat Food Cooperative Ltd.
2. Gokul Refoils & Solvents Ltd.
3. Sanghvi Industries Ltd.
4. Solaris Chemtech Ltd.
5. Suzlon Industries Ltd.
6. Kutch Steels Pvt. Ltd.
7. Ratnamani Metal & Tubes Ltd.
8. Anchor Deewoo India Ltd.
9. Mann Industries India Ltd.
10. Electrotherm (India) Ltd.
11. PSL Ltd.
12. Global Hightech India Ltd.
13. Ajanta Manufacturing Ltd.
14. Mid India Engineering Ltd.
15. Neelkanth Cements Pvt. Ltd.
16. Electrotherm (I) Ltd.
17. Welspun Gujarat State Rohren Ltd.
18. Deepak Cement Pvt. Ltd.
19. Videocon International
20. SAL Steel India Ltd.
21. Indian Steel Co. Ltd.
22. Adani Energy Ltd.
23. Adani Group (Port & Mundra SEZ)
24. Adani Power Pvt. Ltd.
25. Gujarat Mineral Development Corporation (GMDC)
26. Suzlon Energy Ltd.
27. Sanghi Industries Ltd.
28. CL Sharma Resort
29. Kutch Hotels & Resorts
30. Surkhab Bird Resort
31. Sandhi Industries & Kutch

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

32. Anchor Electricals Pvt. Ltd.
33. ASR Multimedia (Pvt) Ltd.
34. Chamunda Minerals (Pvt.) Ltd.
35. Euro Ceramics Ltd.
36. Euro Merchandise (India) Ltd.
37. Euro Multivision Ltd.
38. GTP Steel Industries
39. Hari Om Steel Rolling Mills
40. Jayesh Mineral Industries
41. Koteswar Minerals
42. Makwana Engineering Works
43. New Tech Forge & Foundry (P) Ltd.
44. Pooja Pipes & Structures (P) Ltd.
45. Sumangal Glass Industries (P) Ltd.
46. Ankur Chemfood Products (Gujarat) Ltd.
47. Aquagel Chemicals Ltd.
48. Friend Salt Works & Allied Industries
49. Gautam Freights
50. Gautam Overseas (P) Ltd.
51. Global Oil & Fats Ltd.
52. Kutch Chemicals (India) Ltd.
53. Kutch Salt & Allied Industries
54. Gargil (India) Ltd.
55. JMD Oils (P) Ltd.
56. Ruchi Soya (India) Ltd.
57. Welspun (India) Ltd.
58. Deep Industries
59. Bahuchar Paper Mills Ltd.
60. Small Scale Industries, Anjar
61. Small Scale Industries, Gandhidham