N·S·D·C
National Skill Development Corporation

District wise skill gap study for the State of Gujarat (2012-17, 2017-22)

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1. Executive Summary

National Skill Development Corporation (NSDC) had mandated KPMG Advisory Services Pvt Ltd to undertake a District-level Skill Gap Study of the state of Gujarat, involving various Departments of the Government of Gujarat, and Industry Bodies, as key stakeholders. The study focused on identifying district-wise incremental skilling requirements in Gujarat during the period 2012-22, for the potential growth sectors in the state. A roadmap for skill development initiatives in the state is proposed, with recommendations for key stakeholders. Extensive district level primary interactions including discussions with industries, vocational training providers and Government officers, were conducted. Focused group discussions were organized to understand youth aspirations towards employment. Global and Indian best practices in skill training have also been studied.

The demographic and social profile of Gujarat presents a unique human resource opportunity for economic growth through manpower skilling. As per KPMG estimates, Gujarat has a significant demographic dividend in the near term, with a rising working age population. Between 2012 and 2017, an additional 60.51 lakh[1] are expected to enter the working age group population followed by another 56.67 lakh during 2017-22[2] (these are Gross numbers, without netting off retirees). Considering the historical trends in labour participation rates of Gujarat, the state would witness a gross addition of 35.15 lakh and 32.90 lakh people to labour force (i.e. portion of the working age population willing to seek employment and work) during 2012-17 and 2017-22 periods respectively. Accommodating for retirement from the existing pool of labour force, Gujarat is expected to register a net addition of 20.41 lakh to the labour force during 2012-17, and another 15.83 lakhs during 2017-22.

Period	Demand for Human Resource due to new jobs created (Lakhs)	Gross Addition to Working Age Population-Supply (Lakhs)	Gross Addition to Labour Force – Supply (Lakhs)	Net Addition to Labour Force-Supply (Lakhs)	Gap between Demand & Net Supply (Lakhs)
2012-17	30.95	60.51	35.15	20.41	10.54
2017-22	26.34	56.67	32.90	15.83	10.51

Manpower supply has regional variations along social and gender dimensions in Gujarat. District-wise incremental supply estimates indicate significant regional concentration in the leading six districts of Ahmedabad, Surat, Vadodara, Rajkot, Banas Kantha, Bhavnagar and Junagadh, accounting for nearly half of the total supply. Tribal regions like The Dangs, Narmada, Dohad, Navsar and Valsad have to be given special focus, considering the seasonal work-related migration, stemming from socio-economic backwardness and lack of sustainable local livelihood/employment opportunities in these areas. Role of women in capacity building – especially in improving labour participation rates - cannot be undermined, with a high proportion of rural female engaged in agri-allied activities in the rural districts of Dahod (91.01 percent rural population), Tapi (90.21 per cent rural population) and Narmada (89.56 percent rural population). Considerations of industry towards employing female workforce in manufacturing enterprises, specifically in medium-small scale category, should be addressed through suitable

[1] *KPMG Analysis*
[2] *KPMG Analysis*

awareness creation and policy initiatives that can help improve labour participation rates of women and help Gujarat bridge its human resource demand-supply gap in future. Further, there is a need to emphasize special focus on skilling and empowering of women in districts like Surat with a low proportion of female population.

Keeping in view the current position of the state, along with possible economic growth that could be facilitated in various sectors through favorable policies, an estimate of the additional increase in incremental manpower requirement during XII plan (2012-17) and XIII plan (2017-22) periods, would be over 3 million and 2.63 million respectively. In XII plan period, the targets of job opportunities to be created per annum, could be set at around six lakhs on an annualized basis.

Incremental human resource requirements in the state have significant geographical and sectoral variations. Priority sectors from a manpower development perspective include Textiles and Apparel, Chemical and Chemical Products, Auto and Auto Components, Engineering Goods, Port based industries, Banking and Financial Services, Transportation and Logistics, Retail and IT/ITES. Priority districts from a manpower development perspective include Ahmedabad, Vadodara, Surat, Kutch, Rajkot, Jamnagar, Gandhinagar and Bharuch.

District	Incremental Manpower Requirement 2012-17	Incremental Manpower Requirement 2017-22	Focus Sectors
Ahmedabad	403,268	344,929	Textiles and Apparel, chemicals & chemical products, Drugs and Pharmaceuticals, Agro and Food Processing, Automobiles, Engineering, Electronics, IT-ITES, Hospitality, Banking & Financial Services
Surat	379,442	328,062	Textiles & Apparels, Gems & Jewelry, Chemicals & Petrochemicals, Ports and IT- ITES
Vadodara	261,543	223,794	Chemicals & Petrochemicals, Pharmaceuticals, Biotechnology
Rajkot	200,565	173,261	Engineering & electronics, Textiles & apparel, Chemicals, Infrastructure
Kutch	154,526	131,970	Minerals, Port based industries, Marine Chemicals, Engineering, Infrastructure Projects, Chemicals, Ceramics and Textiles
Valasad	134,276	114,841	Chemicals, textiles, horticulture and paper industry
Bhavnagar	133,884	113,537	Diamond cutting & polishing, cement & gypsum, inorganic salt-based and marine chemicals, shipbuilding, ship-repairs, oxygen, foundry, re-rolling, ceramics, fabrication and food processing industries
Gandhinagar	125,415	104,313	Food Processing, Electronics, Textiles, IT -ITES
Bharuch	122,874	105,740	Chemicals, Petrochemicals & Pharmaceuticals, Engineering, Ports & Ship building, Textiles
Kheda	109,427	92,949	Agriculture, Mineral-based industries, Plastics, Engineering and IT-ITES
Mehsana	108,073	92,158	Cultivation, Engineering Industry and Food processing

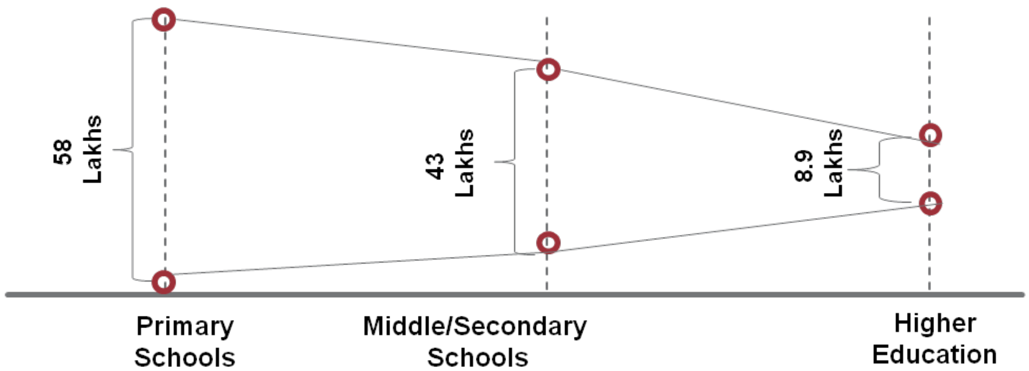
Banas Kantha	103,264	88,783	Food Processing, Tourism, Mineral Based Industries, Construction material
Junagadh	102,474	89,401	Mineral based cement industry, Fish processing industry, Agriculture based industry, Power sector
Jamnagar	99,648	85,788	Brass Parts, Petroleum and Petrochemicals, Salt and Ports
Sabar Kantha	94,737	81,790	Agriculture, ceramics, chemicals and milk processing
Panchmahal	85,765	74,370	Tourism, minerals, engineering & automobiles, irrigation projects, dairy farming
Anand	76,021	64,703	Food & Agriculture, Engineering & Auto parts, Chemicals, Port & Ship Building, Minerals, Cement
Surendranagar	71,283	60,950	Textiles, chemicals, and Ceramics
Dahod	64,919	56,323	Food products, rubber and plastic products, and mineral based industries
Navsari	61,337	52,061	Food processing, textiles, drugs & pharmaceuticals
Amreli	56,666	48,645	Engineering Goods, Port and Ship building, Mineral Processing and Cement
Patan	46,027	39,067	food processing, paper and pulp and cotton-based industry
Porbandar	28,898	23,643	Port and Ship Building, Cement industry, Mineral-based Industries
Tapi	28,162	24,077	Agro-based industries, Textiles
Narmada	26,332	22,020	Textiles, food & agriculture and chemicals
The Dangs	17,610	15,218	Agri- Allied Activities, wood & wooden products, food processing

An overview of the current enrollment status across levels of education, helps provide an estimate of emerging capacity gaps over the next decade or so. With current primary enrollments (5 years) in Gujarat standing at 58 lakhs, there is a need to increase higher education capacity, to accommodate this population as they graduate from school, in line with the GER targets (set at 30% by the end of 12th plan period 2012-17, pan-India). Even on conservative estimates, Gujarat will need to nearly double higher education capacity by 2017, to achieve this.

Our estimates also indicate that the human resource demand-supply gap will be quite high in the semi-skilled category, and a portion of those with higher education degrees, would also get absorbed in this category of jobs. Hence vocational education needs to be provided to them as well.

Enrollments in Gujarat across Education Levels[3]

[3] *KPMG Analysis*



Vocational education has a key role to play in the educational system of Gujarat, which has a relatively low capacity in higher education. While significant drop out rates are witnessed after school education across the state, resulting in low enrollments in higher education, districts of The Dangs, Narmada and Tapi have considerably high dropouts even at the school level. Interventions in vocational education to bridge the gaps in the educational system (within the schooling stage itself) and provide seamless options for students to pursue vocational education, would be crucial in developing a holistic approach to address the skilling needs of the state. A comparison of vocational education capacities in the state would show that density of vocational infrastructure measured as number of seats available for 1000 people is high in the districts of Navsari, Bharuch, Sabar Kantha, Gandhinagar and low in Porbandar, Surat and Bhavnagar. Level of private participation is low in The Dangs, Navsari, Porbandar and Jamnagar districts. Capacity expansion in vocational education and augmentation of private participation is needed through region specific initiatives considering the current level of variations among the districts.

Assessment of existing training infrastructure in comparison to human resource demand over XII Plan period, indicates significant capacity expansion requirement for semi-skilled category through vocational education. Demand-Supply gap estimates indicates a need to improve participation rates in semi-skilled categories along with providing vocational skills to high skilled labour force as well, considering the high level of employment opportunities in semi skilled category within the state. Further, employability of highly skilled graduates is an issue owing to misalignment of courses with industry needs and poor quality of institutes. Issue of low employability of graduates has to be addressed through suitable up-skilling considering local industrial requirements in order to ensure availability of industry ready manpower.

Gujarat Human Resource Supply-Demand Gap Estimations for 2012-17

Gujarat Human Resource Supply-Demand Gap Estimations for 2017-22

District level variations in Demand-Supply gap indicate the need for geography specific initiatives to address the skilling issues. Skill Category wise Demand-Supply gap estimations for the districts of Gujarat are presented in the table below.

District Wise Supply- Demand Gap in Gujarat (2012-22)								
	2012-17				2017-22			
Region	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Gujarat	**(1,637)**	**939,383**	**116,890**	**915,489**	**(58,092)**	**651,365**	**457,174**	**1,067,007**
Kachchh	1,326	46,100	48,944	(42,733)	159	35,366	51,289	86,813
Banaskantha	(11,355)	14,068	(4,332)	(1,620)	(11,883)	5,133	14,094	7,350
Patan	(2,896)	9,002	(11,270)	(5,168)	(3,955)	4,337	(1,064)	(685)
Mehsana	(2,179)	29,969	713	28,505	(4,499)	20,438	17,465	30,379
Sabarkantha	(5,973)	19,336	(8,942)	4,416	(6,665)	12,358	5,972	11,664
Gandhinagar	13,215	55,324	3,643	72,175	8,775	41,340	12,861	62,980
Ahmadabad	4,134	139,893	66,247	210,268	(2,250)	105,400	91,935	195,078
Surendranagar	(2,834)	17,243	(5,317)	9,089	(4,307)	10,729	6,240	12,663
Rajkot	792	64,624	15,601	81,018	(2,509)	49,060	33,892	80,440
Jamnagar	133	28,472	481	29,083	(1,683)	20,918	11,759	30,996
Porbandar	1,267	11,576	(4,617)	8,224	(57)	7,654	(6)	7,590
Junagadh	(5,777)	22,715	(10,811)	6,127	(8,707)	(11,297)	9,375	14,568
Amreli	(2,225)	14,117	(12,924)	(1,034)	(3,816)	8,686	(1,025)	3,846
Bhavnagar	(332)	41,645	1,848	43,161	(3,765)	27,723	19,139	43,094
Anand	(3,610)	16,009	(11,734)	658	(5,505)	8,751	2,950	6,192
Kheda	(4,462)	28,316	(1,653)	22,199	(6,279)	19,037	16,015	25,223
PanchMahal	(6,614)	15,347	(16,840)	(8,109)	(7,379)	8,708	151	1,474
Dohad	(7,713)	8,767	(14,398)	(13,345)	(6,874)	4,179	(1,754)	(4,448)
Vadodara								

	8,650	94,358	12,656	115,664	3,542	72,254	34,736	110,530
Narmada	238	7,741	(6,554)	1,427	(550)	5,050	(1,819)	2,681
Bharuch	3,791	40,887	23,383	68,062	1,114	31,324	32,788	63,183
The Dangs	1,910	7,493	(724)	8,678	1,748	5,951	585	8,285
Navsari	(2,818)	16,674	(4,885)	8,972	(4,941)	10,175	6,168	11,404
Valsad	864	44,916	26,047	71,826	1,043	35,984	29,330	66,351
Surat	12,523	132,032	55,495	200,046	550	98,239	89,986	188,772
Tapi	172	6,451	(8,654)	(2,036)	(520)	4,222	(3,070)	634

*(Indicates excess supply)

The state has significant scheme training opportunities through Government schemes. During the five year period 2012-17 major schemes have a potential to train nearly 19 lakh people with SJSRY, SDI-MES and Agricultural training program accounting for a major share of this. Details of scheme/department wise training targets are presented in the table.

Key Schemes with Training Mandate	Estimated Potential Training Capacity in Gujarat (2012-17)
SJSRY	375,000
SDI-MES	300,000
M/O Agriculture	250,000
SGSY	200,000
Using Construction Cess	190,000
ISDS – Textiles	125,000
Others	115,000
D/O IT	110,000
ART - M/o Tribal Affairs	50,000
SCA under TSP - M/o Tribal Affairs	30,000
Hunar Se Rozgar	25,000
CSR Funds from Central PSUs	25,000
Credit Scheme	105,000

Youth aspiration study indicates a clear mismatch between student aspiration and job opportunities available in the state. Sectors such as retail, construction, agri-allied activities, textile and transportation and logistics need to work on building a positive image, and providing the right working environment/perks, to attract talent.

Increasing entrepreneurial activity in the state of Gujarat has to be matched with appropriately skilled managerial and technical workforce. Interactions with industry in the state, have revealed that challenges are often related to quality of the workforce, rather than quantity. Most of the industry personnel opined that quality issues in the state are two-fold - technical knowledge and soft skills/behavioral aspects - with prospective employees lacking in either, or both of them. Manufacturing industries are facing serious issues to employ appropriate manpower, as most skilled graduates prefer to work in services sector than in manufacturing.

Recommendations for stakeholders (Government, NSDC/SSC, Industry and Training Institutes) are aimed at developing a comprehensive approach for the skill development activities in Gujarat.

Key recommendations for the Government include:

- Building systematic mechanisms to identify and assist potential school dropouts transition into vocational programs
- Developing the Gujarat Skill Development Mission in line with its charter, as a focal agency for skilling
- Focus on Enhancing Skill Training Capacities in Districts With Low Penetration of Vocational Education
- Setting up Anchor Institutes in more focus industries and broadening their scope

Key recommendations for the Industry/Industry Bodies include:

- Aligning CSR Goals (especially mandatory 2% CSR requirement) towards skilling, and play an active role in PPP initiatives. Share annual plan of recruitment with government and industry nodal agencies for skilling
- Support training institutes in development/delivery of programs
- Align recruitment policies to ensure hiring certified manpower from Govt/SSC accredited training institutions
- Invest in up-skilling of existing manpower and formulate formal HR policies and mechanisms to encourage employees to train in institutions

Key recommendations for NSDC include:

- Facilitating development of Curriculum and Standards for Focus Sectors/ Vocational Courses in Schools
- Promoting Private Sector Participation in Focus Sectors & Supply Clusters

Key recommendations for Training Institutes include:

- Focus on high growth/ aspirational sectors where student acquisition is easier -Transportation & Logistics, IT-ITES, Banking & Financial Services, Healthcare, Auto & Auto Components, Tourism & Hospitality and Retail
- Create capacities in districts with lower penetration of training infrastructure - Kutch, Vadodara, Patan, Jamnagar, Anand, Valsad, Banas Kantha, Rajkot, Ahmedabad, Narmada, Bhavnagar, Surat & Porbandar. Districts where low penetration of training infra is coupled with high industry growth, are high potential for future growth of skilling
- Explore scheme-based training potential to address the skilling needs of under privileged/BPL population - key schemes with high training potential are SJSRY, MES, SGSY, Textile Department and Construction Cess
- Emphasize offering accredited programs (SSC certifications) to ensure industry acceptance for certifications
- Leverage existing infrastructure to build optimal delivery models (ITI premises, GIDC space where offered, industrial space during lean production hours etc)

- Build industry linkages in areas of development and delivery of training programs- placements, curriculum formulation, apprenticeships, faculty training
- Engage credible local networks (SHGs, NGOs, student groups such as UDISHA groups) for student acquisition

District wise skill gap details and further detailed recommendations, are provided in the full report. We suggest that the recommendations of the study should be treated in toto by all the stakeholders, to realize the intended objective of a robust skill development ecosystem in Gujarat.

2. Report Structure

The report is structured in the following manner

- Part I includes Foreword, Acknowledgements, Study Objectives, Approach and Methodology and Study Limitations
- Part II concentrates on the profile of Gujarat from a socio-economic and human capital perspective and state-level recommendation on skill development in Gujarat
- Part III consists of detailed analysis of all districts of Gujarat from a socio-economic and human capital perspective and specific district-level recommendations
- Part IV consists of Appendix

PART- I

3. Acknowledgement

We are grateful to the Government of Gujarat and its various departments for their contribution towards the successful completion of the study. Our special thanks to Shri Maheshwar Sahu (I.A.S), Shri P. Panneervel (I.A.S.), Smt. Sonal Mishra (I.A.S), Dr Chandan Chatterjee and Shri Parekh who gave their time for focused and intense discussions, guided the study, and facilitated our information gathering and interactions with the Government of Gujarat.

We acknowledge with gratitude, the support provided by the skill Training Institutions, NGOs, Industry Representatives and the youth of the state, for their contribution towards the study.

We would like to thank all industry association partners, training partners for their active support for this study. The success of the study has been possible through their collaborative efforts.

In addition, we convey our gratitude to all those who have, in some way or other, contributed towards the successful completion of this study.

4. Study Objectives

National Skill Development Corporation (NSDC) had mandated KPMG Advisory Services Pvt Ltd to undertake the District level Skill Gap Study of the state of Gujarat.

Study objectives included the following at the state as well as district levels:

- Socio-economic profile – demography, economic profile of district by industry, state of education.
- Identify developmental opportunities keeping in mind, factor endowments and stakeholder perspectives.
- Identify specific developmental initiatives/projects which have an impact on employment generation.
- Articulate the aspirations of the youth.
- Identify the current and future (2012- to 2017) skills and manpower requirements by industry and estimate the existing gap
- Study the existing VT infrastructure both in the private sector, and the government domain.
- Suggest suitable interventions/recommendations to address the skills gap.
- Recommendations were to be specific and actionable.
- Recommendations were also to include specific initiatives that NSDC can take based on the mandate of the organization.
- Create an action plan with indicative timelines.

5. Approach and Methodology

KPMG has adopted a structured methodology to study the skill ecosystem in Gujarat, assess incremental manpower needs, and collate insights, to arrive at recommendations to address the manpower skill gaps in the districts of the state – which in turn provides a picture of the manpower skill gaps in the entire state.

The approach involved understanding skill gaps for formal/informal employment in both private and public enterprises among key manufacturing and services sectors in Gujarat.

Salient features of the study

Socio-economic Profile: Detailed analysis of demographic and socio economic factors such as population, population growth trends, population density, urbanization, overall literacy, female literacy, healthcare indices, school education, higher/vocational education, dropout rates, domestic product, per capita income, labour force participation, worker participation rate, migration, primary, secondary & tertiary sector profiles at a state and district level.

Sectoral Focus: The study focused on analyzing manpower skilling requirements from the perspective of high growth sectors of the state, along with localized sectors that have a good growth potential at the level of the district. Since over two-thirds of the population of Gujarat is involved in agriculture and agri-allied activities, the study also focused on manpower skilling requirements in these areas. Government policies of related sectors were studied to understand thrust and growth targets for different sectors in the state, which would translate to priority sectors from the perspective of investment in manpower skilling as well.

Voice of Stakeholders: Detailed interactions were undertaken with various stakeholders, such as youth, private skill training providers, Government departments with skill training mandate and industry players - to understand their perspectives on manpower training and placement.

Manpower Demand-Supply Gap: Manpower Demand-Supply gap would be the difference between projected workforce participation and industrial manpower requirements, estimated for 2017 and further for 2022.

Estimation of Manpower Supply: Based on estimations of population growth rate, working age group population and labour force participation, manpower supply in 2017 and 2022 has been estimated at district and state level.

Assessment of Existing Skill Training Capacity: Existing skill training capacity has been calculated based on sanctioned intake and enrolment in formal skill training institutions – government and private institutions offering Higher Education, Vocational Education (ITI/ ITC) and Diploma programs, at both the state and district levels along with Government sponsored training schemes. A dipstick study was undertaken at the district level, to understand the institutional readiness of skill training institutions.

Computation of Incremental Employment Potential: District level and state level data on categories of investment and employment were analyzed to arrive at the composition of economic activity, and their respective growth rate in each district. The proposed sectoral growth rate for the state of Gujarat and its districts, have been estimated based on a triangulation of several factors such as past growth trend, state government's policy impetus to sectors, inputs from industry personnel, presence of industrial infrastructure, besides a state-comparable analysis. Labour elasticity estimates have been used to determine sector wise employment growth projections at the district and state level. Based on industry inputs and published literature, incremental employment potential has been classified as highly skilled, skilled, semi skilled and minimally skilled. Further, critical skills required for the focus sectors have been highlighted, keeping in view the adoption of technology in industries.

Detailed approach for the human resource requirement estimation is given below.

<table>
<tr><th colspan="3">Table 1: Human Resource Requirement Estimation Approach-Secondary Sector</th></tr>
<tr><th>Sub Sectors</th><th>Factors considered for estimation of district wise incremental manpower during 2012-22</th><th>Key stakeholders</th></tr>
<tr><td>Large Scale Industries</td><td>Estimated district wise/sector wise investment during 2012-22 in a district from sector wise projected investment, estimated based on an analysis of
Gujarat Manufacturing Policy Targets, Investment Trends from Vibrant Gujarat Summits, Proposed Investments(IEM) from Index-Tb
Achievability of targets from interaction with nodal bodies for identified priority sectors, historical trends (IEM data) and commissioning rates of proposed investments
Estimated sector wise manpower intensity based on historical trends for investment to employment ratio (IEM data) and inputs from industry bodies.</td><td>Gujarat Industries and Mining Department, Index-Tb, Industries Commissionerate-Gujarat, Industry bodies/key players in sectors including
Petroleum and petroleum products
Chemicals
Basic Metal Industries
Electrical Tele & Electronics
Glass, Ceramic & Cement
Pharmaceuticals
Food processing
Textiles
Machinery and equipment
Non-metallic mineral based products
Plastic and rubber products
Fabricated metal products
Auto and auto components
Gems and Jewellery
Energy(Conventional/Green)
Salt Industry</td></tr>
<tr><td>MSMEs(Medium-Small Scale Enterprises)</td><td>Estimated sector wise MSME growth potential in the district from analysis of
Inputs from DIC on potential MSME sectors in the district
Historical trends in sector wise MSME growth from Entrepreneurship Memorandum-II (EM-II)
Qualitative inputs from MSME units.
Employment generation capacity in MSME units based on analysis of
EM-II data
Qualitative inputs from MSME units from identified priority clusters</td><td>Industries Commissionerate, District Industries Officers, Promoters of MSME units from key identified sectors including
Textile and textile articles
Wood cork, thermocol , paper
products
Metal Processing
Chemical and Chemical Products
Ore /Mineral Processing
Railway/Ship manufacturing parts
District specific MSME units</td></tr>
</table>

<table>
<tr><th colspan="3">Table 2: Human Resource Requirement Estimation Approach-Tertiary Sector</th></tr>
<tr><th>Sub Sectors</th><th>Factors considered for estimation of district wise incremental manpower during 2012-22</th><th>Key stakeholders</th></tr>
<tr><td>IT-ITES</td><td>Estimated district wise IT-ITES output(IT-ITES Exports/Domestic) growth during 2012-22 based on analysis of
Output growth targets from Department of IT
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Interaction with IT-ITES industry bodies and key IT Players in Gujarat
Estimated Manpower intensity in IT-ITES industry based on:
Inputs from IT-ITES industry bodies
Historic trends in output linked employment generation potential in IT-ITES Industry</td><td>Department of Information Technology
IT-ITES Industry bodies
Key IT-ITES Players in Gujarat</td></tr>
<tr><td>Tourism</td><td>Estimated growth in number of tourist visits to major tourist destinations in the district during 2012-22 based on analysis of
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Employment generation potential for tourist visits based on interactions with regional tourism development bodies</td><td>Department of Tourism, Govt of Gujarat</td></tr>
<tr><td>Hospitality</td><td>District wise estimated growth in number of hotel rooms/restaurants during 2012-22, based on analysis of
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<tr><td>Healthcare</td><td>District wise estimated growth of healthcare institutions during 2012-22, estimated based on analysis
Universal healthcare access targets(number of PHCs/CHCs/SHCs/ beds /healthcare professionals per 1000 population)
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Primary healthcare
Secondary healthcare
Tertiary healthcare
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<table>
<tr><td></td><td>doctors/nurses/technician per number of hospital beds)</td><td></td></tr>
<tr><td>Education</td><td>Estimated district wise growth of education institutions during 2012-22 based on analysis
Universal and state level penetration targets for educational institutes (Schools/Higher Education Institutions /Vocational Education Institutions)
Achievability of targets from proposed fund allocation towards education
Manpower intensity in educational institutions, estimated based on human resource requirement in educational institutions(student to teacher ratio)</td><td>Department of School Education, Government of Gujarat
Department of Higher Education, Government of Gujarat
Department of Technical Education & Training, Government of Gujarat
Department of Employment and Training, Government of Gujarat</td></tr>
<tr><td>Logistics</td><td>Projected contribution from logistics sector to the district economy based on analysis of
Historic growth trends in logistics sector to the district economy
Investment into logistics hubs (Railways/Roadways/Airways)
Interaction with key Logistics players
Employment potential in logistics industry based on analysis of
Current employment patterns in logistics industry
Inputs from key logistics players in Gujarat</td><td></td></tr>
<tr><td>Transportation</td><td>Estimated district wise growth in number of commercial vehicles during 2012-22 based on analysis of historic trends in commercial vehicle registrations in the district and interactions with transportation companies
Estimated requirement of manpower per vehicle based on Inputs from transportation companies</td><td>Transportation Companies</td></tr>
<tr><td>Retail</td><td>District wise estimated growth in organized/un-organized retail sector
Penetration of organized retail
Key growth drivers like per capita income trends, spending patterns
Employment generation potential estimates</td><td>Key organized retail players in Gujarat</td></tr>
<tr><td>Banking Sector</td><td>Estimated district wise growth in number of bank branches during 2012-22 based on analysis of
Financial inclusion targets
Historic growth trends in deposits/loans
Manpower requirements in banking outlets</td><td></td></tr>
<tr><td>Financial Services</td><td>Estimated growth in Non Banking Financial Companies (NBFC) in the district
Projected growth trends in bank</td><td></td></tr>
</table>

	deposits/loans • Historic growth trends in NBFC operations • Manpower intensity in NBFCs	

Table 3: Human Resource Requirement Estimation Approach-Primary Sector

Sub Sectors	**Factors considered for estimation of district wise incremental manpower during 2012-22**	**Key Stakeholders**
Agriculture	• Based on analysis of district level crop pattern, irrigation pattern and extent of mechanization, the training potential in agriculture has been estimated	• Department of Agriculture, • District Agricultural Officers, Agricultural promotion councils in major agro clusters of Gujarat

Agriculture Allied Activities	• District wise/category wise estimated growth in Agri-Allied output by 2022 based on analysis of
	  • Growth targets from Nodal Agencies for key Allied activities in Gujarat
	  • Historic growth trends, funding allocation from nodal agencies
	• Category wise employment potential in Agri-Allied activities
		• Nodal Agencies for Individual Allied Sectors
		  • Horticultural
		  • Sericulture Department
		  • Fisheries Department

Assessment of Manpower Demand-Supply Gap: Demand-Supply gap at the district and state level is estimated from the incremental manpower supply and projected employment growth during 2012-17 and 2017-22.

Research Methodology of the Study

The study was carried out through both primary and secondary research methodology, as well as qualitative and quantitative techniques.

Primary Research: Primary research inputs were collected through research techniques such as in-depth discussions, formal interviews, and Focus Group Discussions (FGD). Interview schedules, FGD Guidelines and points for field observations were developed in accordance to the study objectives. Consultation meetings were conducted with the following stakeholders to understand their perspectives on skill development.

Activity	Number of Interviews
Primary Interviews	300
FGDs across Gujarat	26
Number of Participating Students	730

State Government Officials: Department of Employment & Training, Department of Mining & Industries, Industries Commissionerate, Gujarat Skill Development Mission, Department of Rural Development, Gujarat Higher Education Commission, Department of Transportation, Department of Tourism, Department of School Education.

District Administration Officials: District Collector, Officials from Department of Rural Development, District Employment Officer, Sarpanch/Patwari from a sample of villages.

Skill Training Providers: Government ITI Principals and Training Officers, Private ITC Principals and Training Officers, KVK Coordinators, CED coordinators, NGOs involved in Skill Training.

Skill Training Beneficiaries: Students who are currently pursuing vocational education, and focus groups such as BPL women trained under government programs.

Industry Representatives: HR and Operations personnel from key industries and members representing industry associations in the respective districts.

Migrant Labor: Dipstick survey in tribal belts and non-tribal belts of Gujarat.

Focus Group Discussions (FGDs) were conducted with groups of 20-25 students in each district to understand their aspirations in terms of social life, career, expected economic standards of living and work related mobility - and the outcome was correlated to the level of industrialization of the district. The group discussions were carried out in a systematic manner with both skill training beneficiaries and skill training providers. The discussions were designed to be participatory in nature, and evoke inputs from all stakeholders, with due representation from various sections of trades and courses besides gender, both at trainer and trainee level.

Secondary Research: Secondary Data were collected from a number of sources including central, state and district government/administration agencies, especially the Department of Industries and Department of Planning and Statistics and program specific information from departments with a mandate in skill training, and from studies commissioned by funding agencies, NGOs etc.

Part II

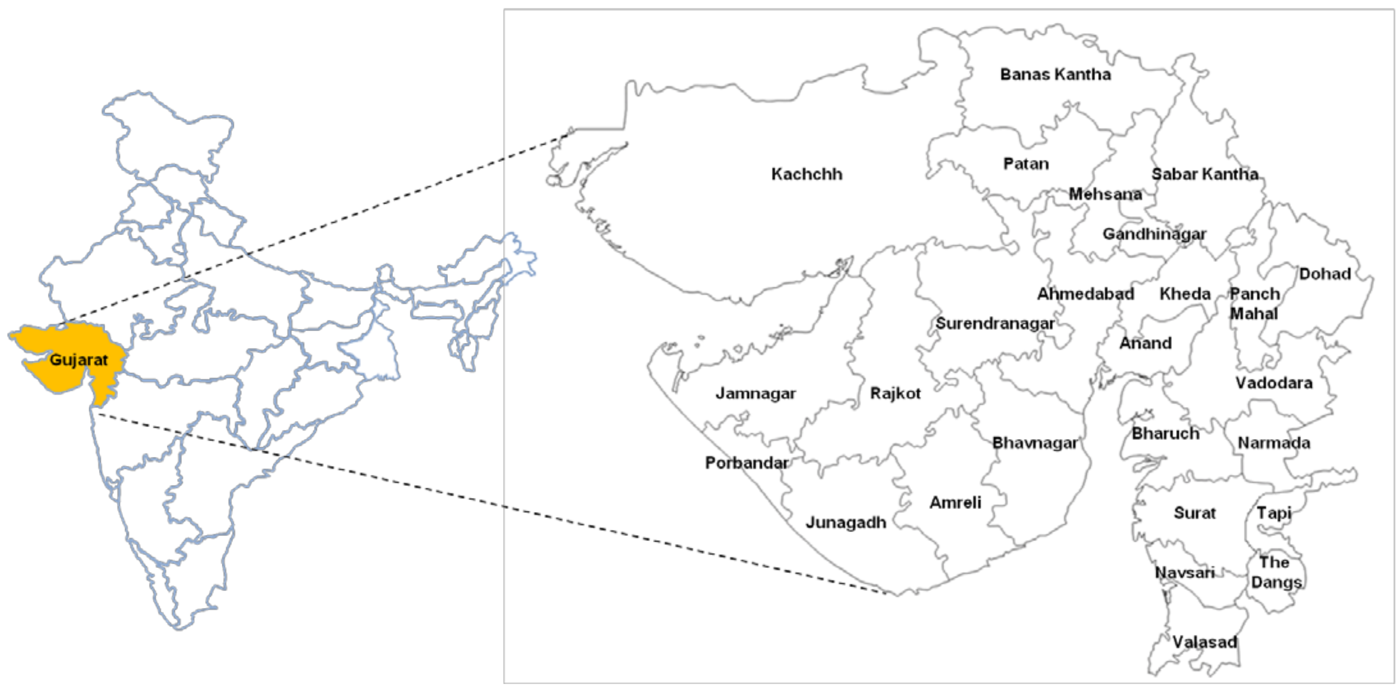
6. Skill Gap Assessment of Gujarat

6.1. Socioeconomic Profile

6.1.1. Administrative Profile

Gujarat is situated in the western part of India shares borders with Rajasthan, Maharashtra, Gujarat, Arabian Sea and Pakistan. The state has a geographical area of 2,03,800 sq.km[4] with Gandhinagar as the capital city. While Gujarati is the official language in the state many local languages in tribal regions are prominent. Administratively, Gujarat is distributed into 26 districts[5] with Gandhinagar, Ahmedabad, Baroda, Vadodara, Surat and Kutch being the key districts. Geographical spread of the districts varies significantly within the state ranging from Kutch-45,652 sq.km[6] (largest district in India) to The Dangs- 1,764 sq.km[7].

Figure 1: Administrative Map of Gujarat[8]



6.1.2. Demographic Profile

Gujarat is a moderately populated state in India. As per Census 2011 estimates, state has a population of 6.04 Crore[9] accounting for 5.00 percent of India population[10]. Decadal growth of population has normalized to 17.64 percent[11]

[4] *State Economic Review 2012-13*
[5] *State Economic Review 2012-13*
[6] *State Economic Review 2012-13*
[7] *State Economic Review 2012-13*
[8] *Gujarat State Profile, State Economic Review 2012-13, KPMG Analysis*
[9] *Census 2011 Data, Government of India*

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during 2001-11, from 21.53 percent[12] during 1991-2001, in line with the drop of decadal growth rate across Indian states. Successful implementation of population control schemes is a partial reason for the reduced decadal growth rate - along with literacy and changing socioeconomic scenarios. Study of population distribution along socio, regional, gender, education attainment and concentration dimensions, would be crucial to understand the demographics in the state. Summary of key demographic indicators in Gujarat, and comparison with national level indicators, is presented in the table.

Table 4: Demographic Comparison of Gujarat with India[13]

Indicator	Gujarat	India
Population(2011)	6,03,83,628	121,01,93,422
Gender Ratio- Females Per 1000 Males(2011)	918	940
Percentage of Children in Overall Population(2011)	12.41%	13.12%
Population Density-Persons Per Sq.km(2011)	308	382
Level of Urbanization(2011)	42.50%	31.10%
Decadal Growth Rate(2001-11)	19.17%	17.64%
Decadal Growth Rate-Urban(2001-11)	35.80%	31.80%
Decadal Growth Rate-Rural(2001-11)	9.23%	12.18%
Percentage of SC Population(2001)	7.09%	16.20%
Percentage of ST Population	14.76%	8.20%
Literacy Rate(2011)	79.31%	74.04%
Male Literacy Rate(2011)	87.23%	82.14%
Female Literacy Rate(2011)	70.73%	65.46%
Urban Literacy Rate(2011)	87.58%	84.98%
Rural Literacy Rate(2011)	73.00%	68.91%
Number of Districts	26	640
Number of Talukas	224	5,924
Number of Towns	153	3,894
Number of Villages	18,225	6,40,867

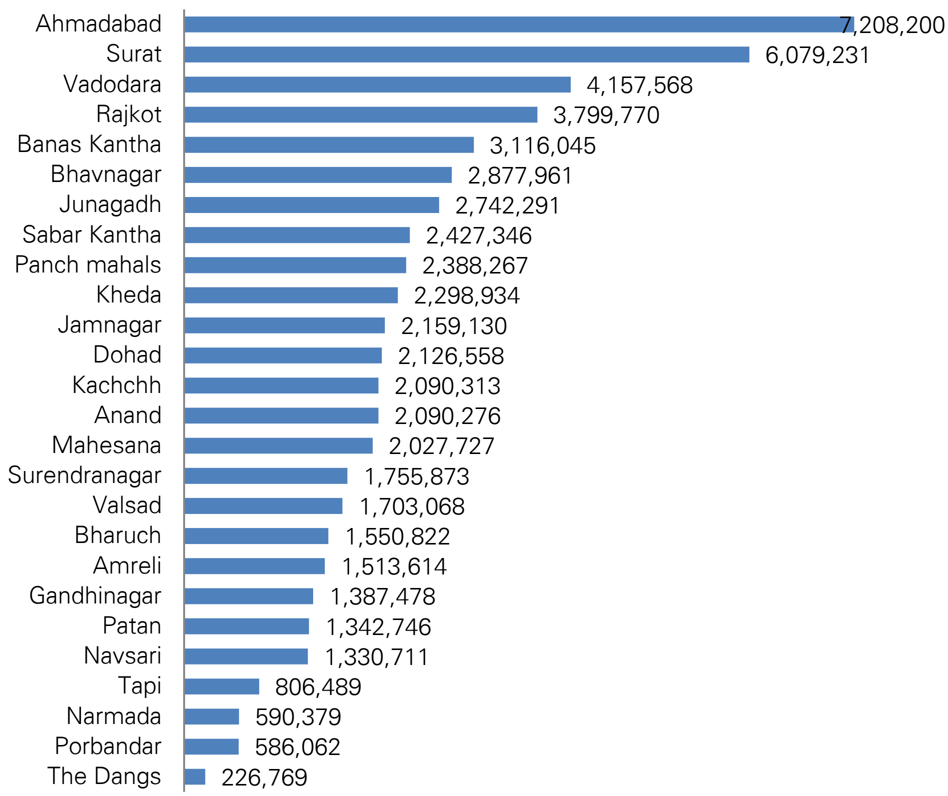
Key Demographic Characteristics in Gujarat:

Regional Distribution: Over six crore population in the state, is unevenly distributed across the districts. Ahmedabad, Surat, Vadodara, Rajkot, Banas Kantha, Bhavnagar and Junagadh districts account for almost half of the total state population. Industrial growth-led migration, large geographical spread and historical factors, are the prime

[10] *Census 2011 Data, Government of India*
[11] *Census 2011 Data, Government of India*
[12] *Census 2011 Data, Government of India*
[13] *Census 2011, 2001 statistics*

reasons for high human resource composition in these districts. On the other hand, The Dangs, Porbandar, Narmada and Tapi have significantly low population of less than 10 lakhs[14] in each district, owing to low geographical spread.

Figure 2: Regional Distribution of Population in Gujarat (2011) [15]



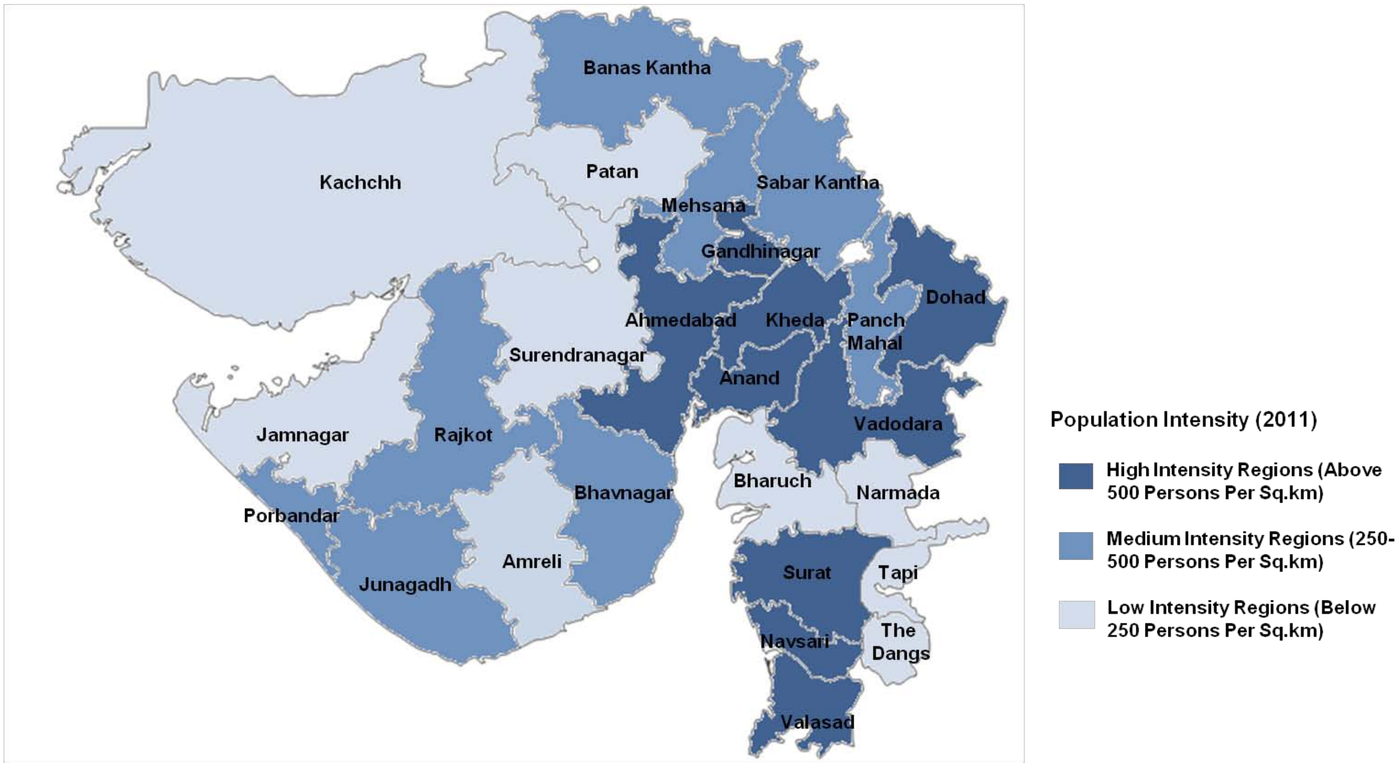
Population Intensity: Over six crores population of Gujarat is distributed in the state at an average of 308 persons per sq.km[16]. Population density of the state is significantly lower than the national average of 382 persons per sq.km[17]. Lower human resource intensity in the state, coupled with increasing employment opportunities across organized and unorganized sectors, has played a crucial role in promoting inward migration of skilled workers predominantly from Uttar Pradesh, Bihar, Rajasthan and Gujarat.

Further, concentration of population has intra state variations with the districts of Surat and Ahmedabad having highest density on one hand, and Kutch and The Dangs having the lowest density on the other hand. While the state has a population density less than the national average, the eleven most-densely populated districts in the state, have higher densities than the national average. Classification of districts based on distribution of population as per average population density as high intensity, medium intensity and low intensity regions, would indicate the human resource intensity in these regions. High population intensity districts have evolved with gradual migration of

[14] *Census 2011 Data, Government of India*
[15] *Census 2011 Data, Government of India*
[16] *Census 2011 Data, Government of India*
[17] *Census 2011 Data, Government of India*

workforce into these clusters from industrially less-developed regions within the state, as well as from outside the state.

Figure 3: Regional variations in population density among the districts of Gujarat[18]

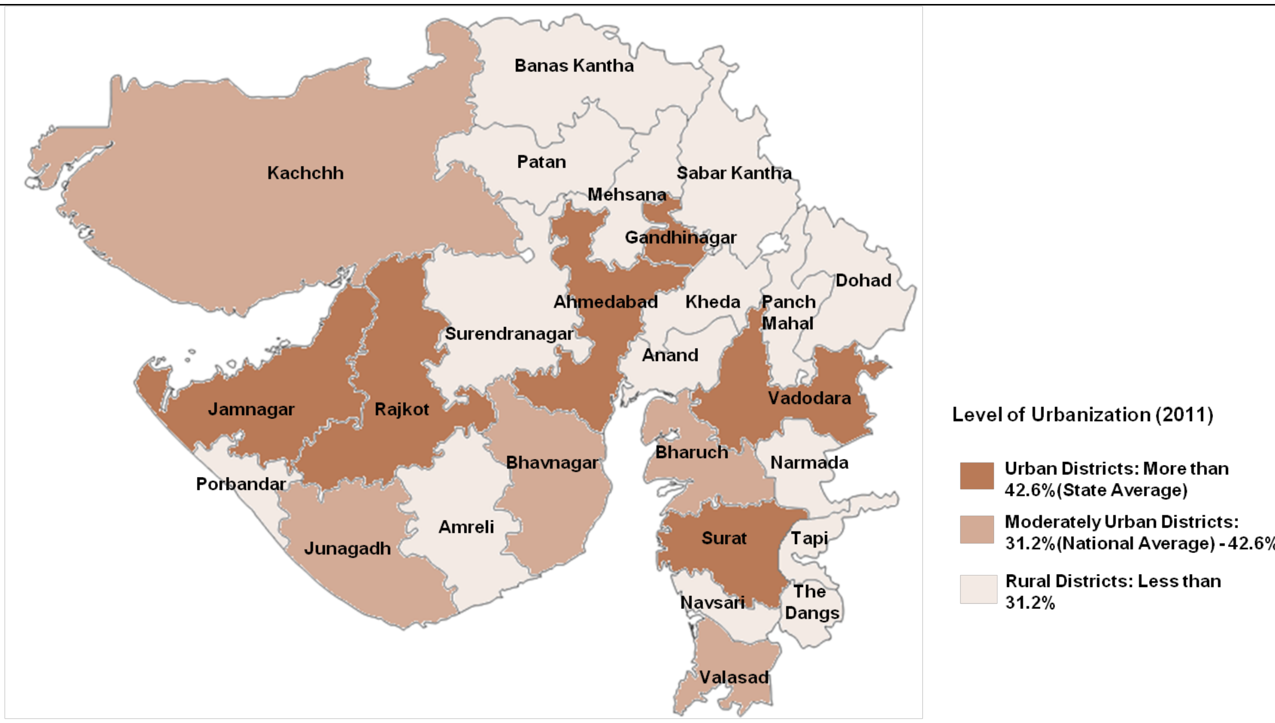


Level of Urbanization: Human resource intensity in a region is closely related to level of urbanization. Growth of industrial and commercial activity in urban regions has led to a high population increase in urban population over the last few decades in Gujarat. Level of urbanization in Gujarat has reached 42.58 percent[19] in 2011, in comparison to national average of 31.2 percent[20]. Rapid growth of urban population in Gujarat during 2001-11 driven by rural-urban migration, is the key reason for high urbanization within the state. Urban population in the state has witnessed 35.83 percent growth during 2001-11 in comparison to 9.23 percent growth in rural population during the same period. Valsad district has recorded the highest decadal growth rate in urban areas at 66.35 per cent[21] and Surat district has shown the lowest decadal growth rate in rural areas at (-)8.43 per cent[22], both indicating the rapid urbanization trends in the state. While there is a clear trend of urbanization in certain regions, districts like Dohad (91.01 percent rural population), Tapi (90.21 per cent[23] rural population) and Narmada (89.56 percent rural population) are still

[18] *Census 2011 Data, Government of India*
[19] *Census 2011 Data, Government of India*
[20] *Census 2011 Data, Government of India*
[21] *Census 2011 Data, Government of India*
[22] *Census 2011 Data, Government of India*
[23] *Census 2011 Data, Government of India*

predominantly rural. Urban regions are usually associated with high employment intensity in commercial and services sectors and higher proportion of affluent population.

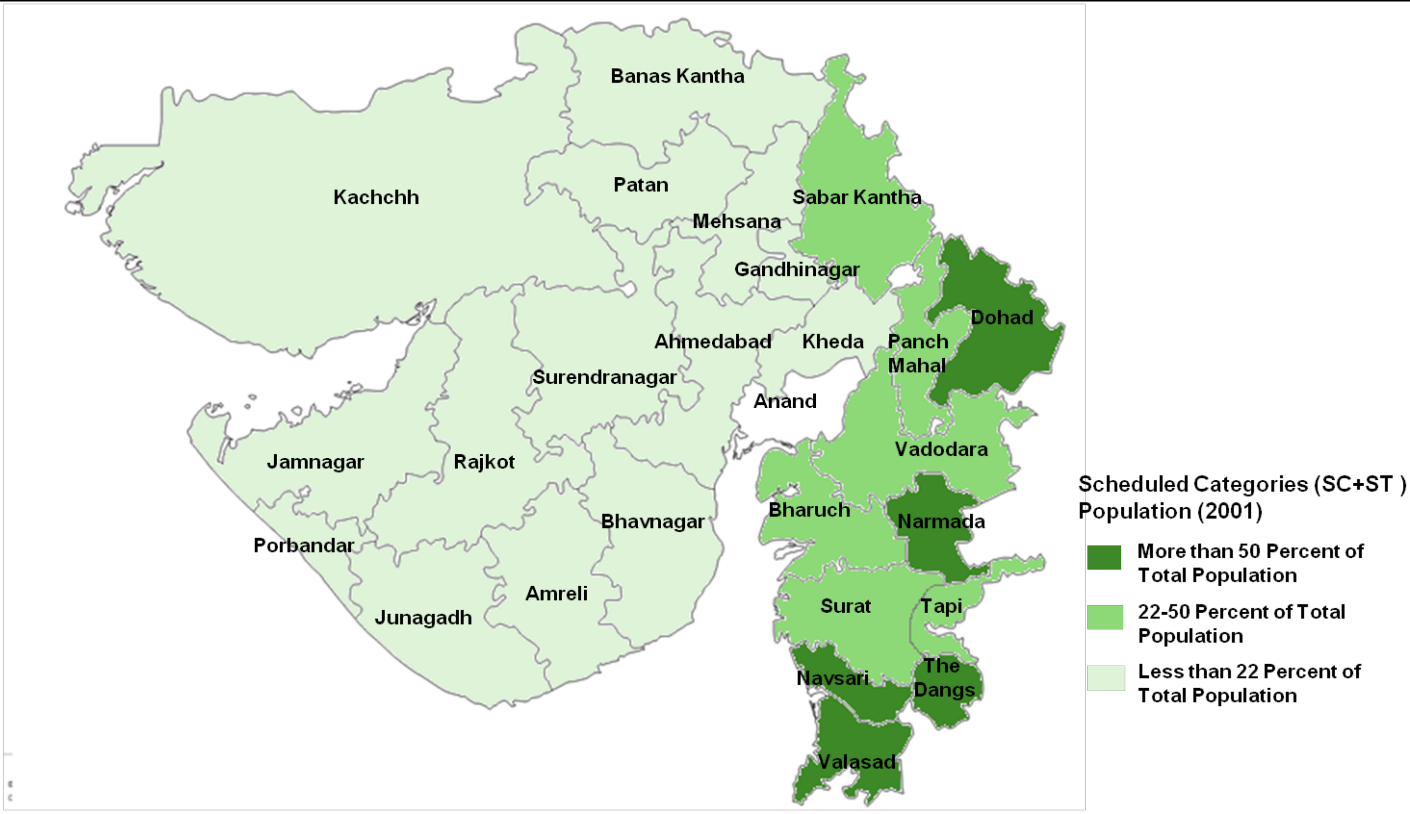
Figure 4: Regional variations in level of urbanization among the districts of Gujarat[24]



Proportion of backward communities: As the reserved categories' population statistics based on 2011 Census are not available, 2001 statistics are analyzed to understand the historical characteristics in the population of marginalized communities in Gujarat. As per 2001 estimates, 21.85 percent[25] of total population comprised of backward classes. While Scheduled Tribes account for 14.76 percent[26], Scheduled Castes account for 7.09 percent[27] of the total population. Considering the high proportion of STs in the state population, adequate focus should be given for the upliftment of these communities targeting regions with high concentration of tribals. Bhil is the major scheduled tribe in Gujarat accounting for 46 percent[28] of the total ST population. In terms of regional concentration, The Dangs, Narmada, Dohad, Navsar and Valsad have a high proportion of STs in the overall district population. On expected lines, major share of ST population (91.8 percent) [29] in Gujarat lives in rural areas. Analysis of regional distribution of SC/ST population would help understand the occupational patterns and social relevance of these activities. Policy interventions for the welfare of these marginalized communities through skilling and empowerment have to address these concerns at large.

[24] *Census 2011 Data, Government of India*
[25] *Census 2001Data, Government of India*
[26] *Census 2001Data, Government of India*
[27] *Census 2001Data, Government of India*
[28] *Census 2001Data, Government of India*
[29] *Census 2001Data, Government of India*

Figure 5: Regional variations in composition of scheduled categories population among the districts of Gujarat[30]

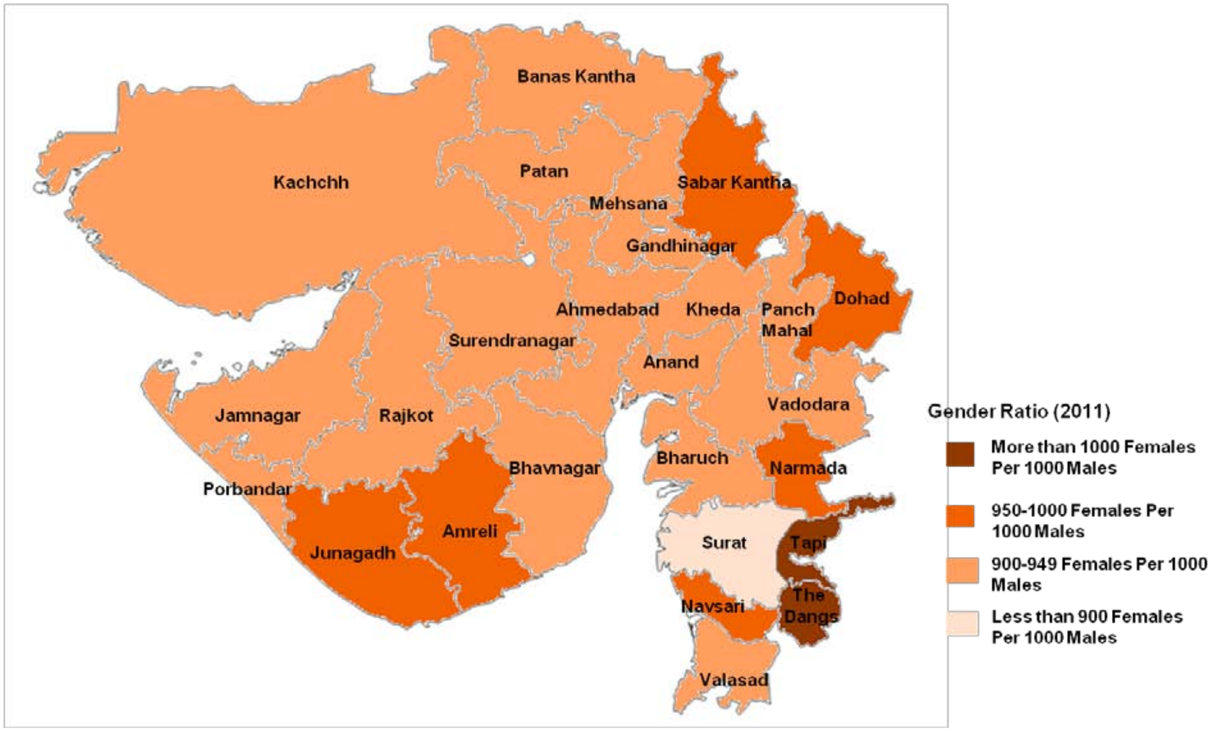


Gender Composition: Gender is another important demographic parameter which has relevance to education, occupational characteristics of the population considering the social compulsions in communities. Trends in the gender composition in Gujarat do not present a promising picture. Proportion of females in overall population has decreased from 920 females per 1000 males[31] in 2001 to 918 females per 1000 males in 2011. While the gender ratio in the state is skewed to a greater degree than the national average (940 females per 1000 males), declining proportion of female population is another major concern for the state. Social and economic conditions are among the reasons for gender bias. Further, district of Surat, which has been witnessing high degree of migrant worker influx, has an alarmingly low at 757 females per 1000 males. Characteristics of migration and occupational patterns are key reasons for the low proportion of female population in Surat. On the other hand, districts of The Dangs and Tapi have more female population than males. Considering these gender variations in population is important for any inclusive framework of manpower development. While districts with skewed gender composition need attention towards creating equity, districts with high female proportion would require women-centric initiatives for education and employment generation.

[30] *Census 2001Data, Government of India*

[31] *Census 2011 Data, Government of India*

Figure 6: Regional variations in gender composition of population among the districts of Gujarat[32]

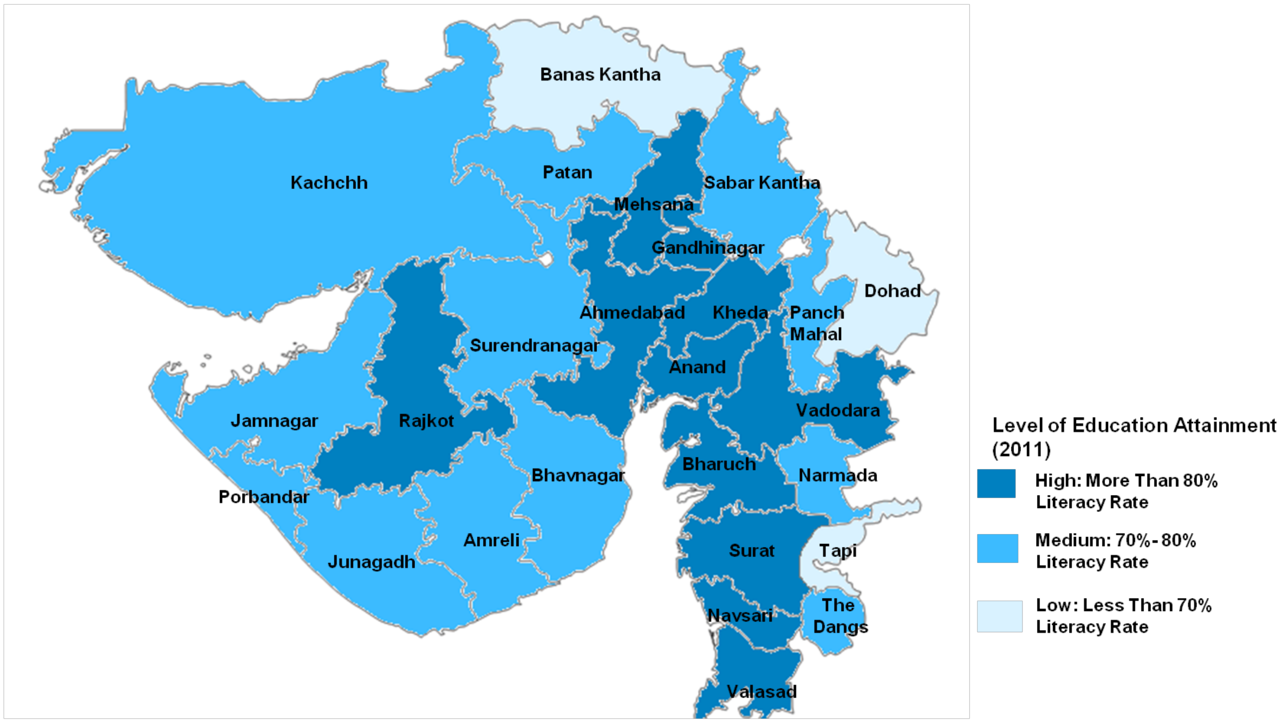


Education Attainment: Literacy rate is a good measure for the attainment of basic education in a region. As per 2011 Census, Gujarat has registered a literacy rate of 79.31 percent[33] in comparison to national average of 74.02 percent[34]. During 2001-11, the literacy rate has improved from 69.11 percent[35] to the current levels - increasing the number of literates to 4,19,48,677[36]. Growth in overall literacy of the state is attributed to successful implementation of mass education schemes at school level along with settlement of educated migrants in Gujarat in various organized/ unorganized sectors across the state. Education attainment has to be analyzed through gender, regional and social dimensions to identify the focus areas for improvement.

Literacy rate in Gujarat has significant regional variations with the districts of Ahmadabad, Surat, Anand and Gandhinagar, on one side, having high literacy rate of over 85% - and Dohad, Banas Kantha and Tapi having lower rates. District of Dohad has the lowest literacy rate of 61%. Literacy rate variations in districts are attributed to level of urbanization with continuing disparities in urban-rural literacy rates over the years. As per 2011 literacy estimates, the state has a urban-rural literacy gap of 16.75% indicating an immediate need to address the issues and look at inclusivity.

[32] *Census 2011 Data, Government of India*
[33] *Census 2011 Data, Government of India*
[34] *Census 2011 Data, Government of India*
[35] *Census 2011 Data, Government of India*
[36] *Census 2011 Data, Government of India*

Figure 7: Regional variations in literacy rates among the districts of Gujarat[37]



Further, gender linked analysis of literacy rates presents the case of gender based disparities in the education attainment. Female literacy rate of Gujarat standing at 70.73 percent[38] is better than the national average female literacy rate of 65.46 percent[39]. However, there is a substantial gender literacy disparity within Gujarat with a male-female literacy rate gap of 16.5 percent[40] which is comparable to the urban-rural disparity (urban-rural literacy gap-16.75%).There is a wide gap of 20.69 per cent in literacy rates of rural males and rural females due to socio economic reasons. Disparities in education attainment arising from region, gender and social dimensions have to be considered to develop a holistic growth map for the state in creating a knowledge economy.

Healthcare: Gujarat has performed significantly well across key healthcare parameters- Crude Birth Rate (CBR), Crude Death Rate (CDR) and Infant Mortality Rate (IMR) in comparison to the national averages. Focus on primary health care has helped the state in overcoming some critical challenges in producing healthy workforce. Details of healthcare infrastructure would be covered in healthcare sector which is a priority sector for human resource growth in the state. A comparative view of Gujarat with India in select health indicators is presented in the table[41].

[37] *Census 2011 Data, Government of India*
[38] *Census 2011 Data, Government of India*
[39] *Census 2011 Data, Government of India*
[40] *Census 2011 Data, Government of India*
[41] *Annual Health Survey India 2010*

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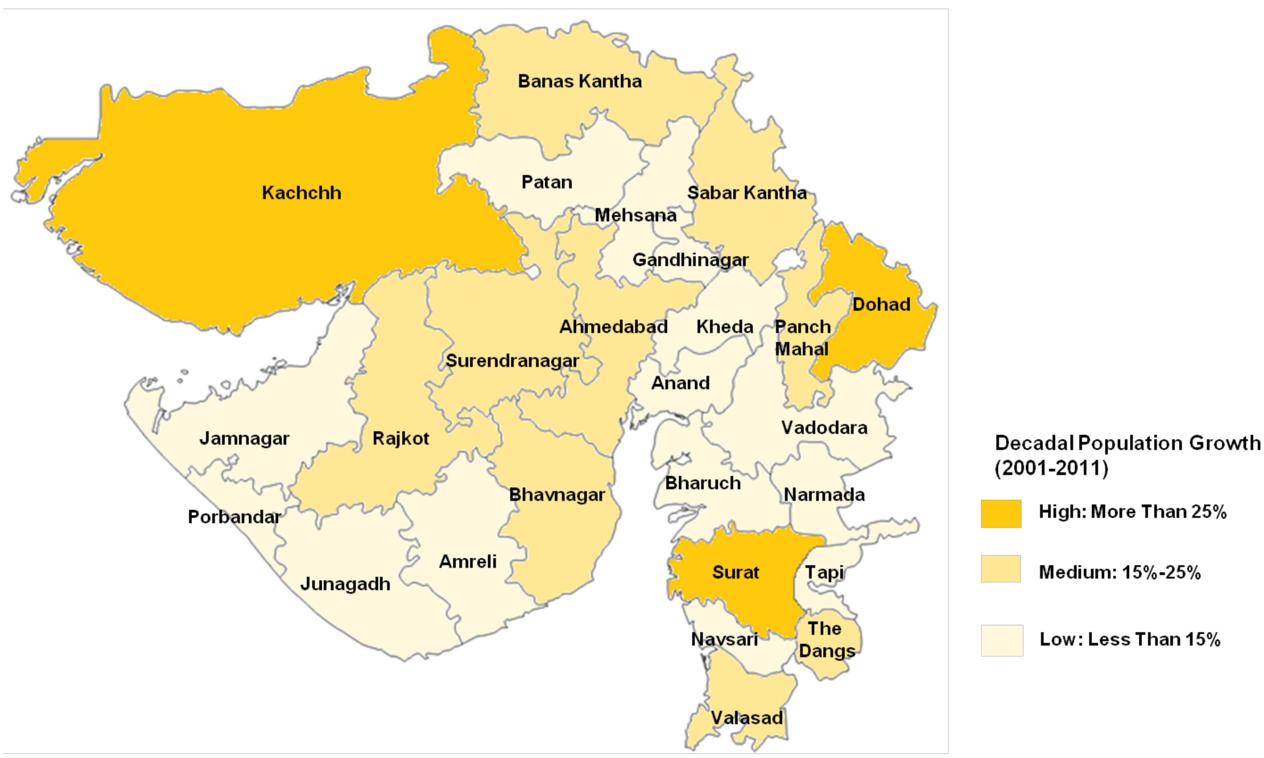
Health Indicators-2010	Gujarat	India
Birth Rate	22.7	22.1
Death Rate	5.5	7.2
Infant Mortality Rate(IMR)	7	47

Migration: Migration in Gujarat in both forms is a common phenomenon. Post globalization Gujaratis started migrating to other counties like US, UK and middle eastern economies for jobs. Migration in Gujarat can be classified into major categories including; seasonal migration, outward migration from less fertile hilly regions like The Dangs, migration to coastal regions into fisheries and salt fields, migration into industrial clusters of Surat, Ahmedabad, Kutch and Bhavnagar. Decadal population growth trends indicate a pattern in migration with Gujarat though often interstate migration and seasonal migration are not visible in Census Statistics with the labour not accounted for permanent population living in a region. Classification of districts by the decadal population growth indicates that districts of Surat and Kutch have witnessed high level of permanent migration while Navsari, Amreli and Tapi have seen significant outward displacement of population.

Figure 8: Regional variations in decadal population growth rates among the districts of Gujarat[42]



Gujarat has emerged as an industrial agglomerate. Over the years, it has been a preferred destination for in-ward migration. Along with Delhi, Haryana and Maharashtra, Gujarat has recorded positive net migration resulting in a growth of population. While agrarian based rural to rural migration is significant in the state, Industrial driven rural to urban and urban to urban migration has gained prominence over the years. Migrant workers from neighboring states like Rajasthan, especially tribal women, come to work in cotton fields, tobacco units and other major industries.

[42] *Census 2011 Data, Government of India*

Inward migration from other states has socio-regional characteristics, with Orissa being a major source for migrant workers in Handloom industries in Surat and Port based industries in the Kutch region. A high proportion of migrant workers come from a select few districts of Orissa mostly through referrals by relatives/ family members. This type of migration does not involve relocating families owing to the culture of joint families allowing husbands to go on work-related migration leaving their families back home. However, families from Kerala come to work in salt fields in Kutch, Bhavnagar region. Increased mechanization and usage of earth moving equipment has curtailed such migratory patterns. Factory work in Gujarat is preferred by upper caste migrants who often refrain from choosing manual labor work.

Non availability of skilled professionals for ship building and ship breaking industries force industrial units to acquire skilled professionals from southern states like Tamil Nadu. While an even higher proportion of workers come as groups from Uttar Pradesh, Bihar and Gujarat as contract workers for working in the industry. Adequate skilling of local youth in related segments could provide local employment opportunities and reduce job based outward migration from these niche industrial clusters like Bhavnagar.

Rural areas in Gujarat have witnessed significant instances of intra state seasonal to permanent migration due to low employment opportunities for skilled professionals. However in recent years there has been an increase in the level of average employment and reduction in migration from rural areas. Growth in number of commercial units in rural areas like cyber cafes, fax and photocopying shops along with employment in MNREGA activities during offseason periods have had widespread socioeconomic benefits in these regions resulting in curtailing of migration. Growing efforts towards developing rural industries have helped workers and skilled personnel from industrial belts to reverse migration trends in order to setup their own manufacturing/servicing units in villages. Reverse migration led by the promotion of industrial activities is observed in diamond polishing, textile, dairy farming, flour and rice mills, fisheries, rubber/plastic processing and lathe based units.

6.1.3. State Economic Profile

Gujarat continues to occupy a distinctive position in the Indian economy. A state with nearly 5 percent of the country's population and 6 percent of the country's geographical area, Gujarat contributes to 7.39 percent[43] of Gross Domestic Product of India. As per quick estimate, Gross State Domestic Product (GSDP) at factor cost at current prices in 2011-11 has been estimated at INR 6,11,767 crore [44] as against INR 2,83, 693 crore [45] in 2005-06, registering a cumulative growth of 16.61 percent[46] during the five year period. However, GSDP estimation at constant prices of base year which is a measure of real growth in the state output has grown at 9.5 percent during the same period. A comparison of Gujarat with India on select economic parameters is shown in the table.

Table 5: Comparison of Economic Performance of Gujarat with India[47]

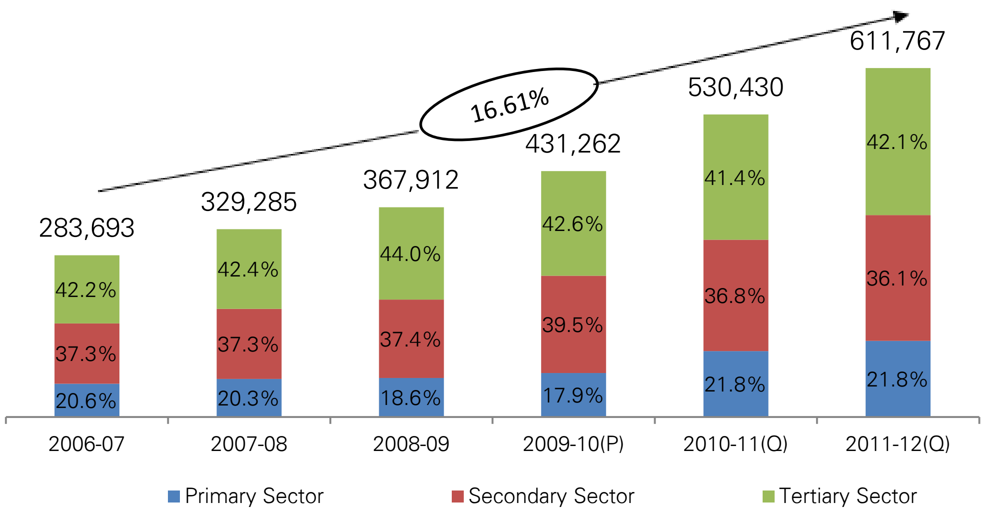
Indicator	Gujarat	India
GDP in INR Cr (At Current Prices-2012)	6,11,767	83,53,495
Net Domestic Product in INR Cr (At Current Prices-2012)	5,33,390	74,76,764
Per Capita Income in INR(At Current Prices-2011)	89,668	61,564
Monthly Per Capita Consumer Expenditure in INR (NSS 66th Round)		
Rural	1,065	953
Urban	1,914	1,856
Population in BPL Category (NSS 61st Round)	16.80%	27.50%
Primary Sector		
Total Cropped Area(h.a)	11,571	1,95,104
Net Irrigated Area(h.a)	4,238	63,196
Area Under Horticultural Land(h.a)	1,054	20,875
Total Livestock in 000s	23,515	5,29,698
Fish Production in 000 tonnes(2009-10)	771	7853
Value of Mineral Production in INR Cr(2009-10)	13,701	1,87,717
Secondary and Manufacturing Sector		
Number of Factories(2010-11)	21,282	2,11,660
Output Value in INR Cr(2010-11)	8,06,783	46,85,213
Industrial Employment in Lakhs (2010-11)	19.12	287.10
Services and Tertiary Sector		
Number of Scheduled Banks(2012)	5,076	92,960
Total Road Length in km	1,46,630	30,47,783

[43] *Directorate of Economics & Statistics, Government of Gujarat*
[44] *Directorate of Economics & Statistics, Government of Gujarat*
[45] *Directorate of Economics & Statistics, Government of Gujarat*
[46] *Directorate of Economics & Statistics, Government of Gujarat*
[47] *Directorate of Economics & Statistics, Govt of Gujarat*

Total Railway Length(2008)	5,328	63,273
Ports	42	199
Villages Served Per PHC(2012)	16	27
Villages Served Per CHC(2012)	60	133

Macroeconomic statistics look more impressive on a closer look at the subsector composition of the State Domestic Product. The share of primary, secondary and tertiary sectors has been reported at 21.8 percent, 36.1 percent and 42.1 percent respectively to the total GSDP in 2011-12 at current prices. Contribution of secondary sector comprising manufacturing, electricity, energy and construction is significant among the Indian states indicating the crucial role that the sector has played to the growth of the state. As per 2011-12 estimates, contribution of secondary sector to the state GDP stood at 36.1 percent as against national average of 23.69 percent. Share of manufacturing in the overall economy remained constant over the years indicating the uniform growth across three major economic activities.

Figure 9: Gujarat Economic Performance (GSDP at Current Prices-INR Cr) [48]

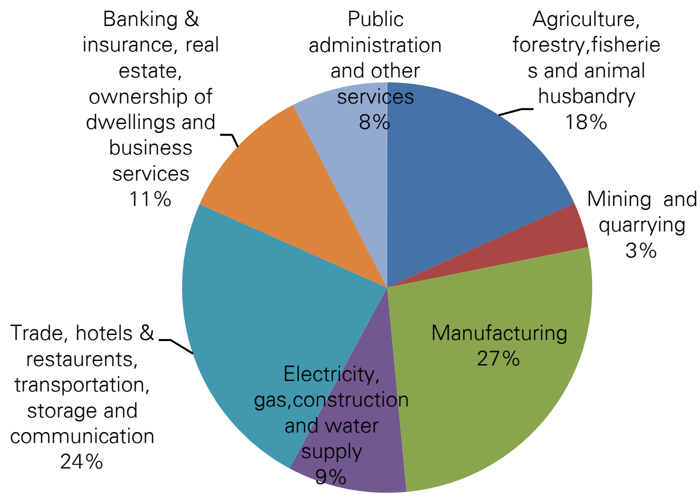


Sectoral Analysis-GSDP: Accounting for 27 percent[49] of the total state GDP, manufacturing is a leading contributor to the state economy among the seven key economic sub sectors in Gujarat. Along with manufacturing, agriculture and allied activities account for a significant portion of the state output. However, assessment of economic output of

48 *Directorate of Economics & Statistics, Government of Gujarat*
49 *Directorate of Economics & Statistics, Government of Gujarat*

a subsector along with employment intensity would be critical to understand the growth of human capital in these economic activities.

Figure 10: Distribution of GSDP among key economic activities (2011-12) [50]



Non availability of District Level GDP Estimations:

While district-level income estimates are a crucial input for policy making, few states publish these estimates at this level. And even if some states have taken the initiative to publishing these estimates, there have been time lags involved.

For several states and UT's of India district level GDP estimates have been made available across primary, secondary and tertiary sector. District-level GDP estimations are arrived by broadly following the methodology published by CSO with appropriate changes, wherever required due to inconsistency in data availability across time, districts and states using data sources used for the analysis are NAS, CSO, RBI, Census (2001), National Sample Survey Organization, NDSSPI, etc. Income estimates across districts can be helpful in recognizing industries/sectors that are driving or retarding economic growth at the district level. Also, these estimates can be very much useful in facilitating better resource management for policy implementation at micro and macro levels and to remove the constraints imposed by lack of reliable data on latest situation at the district level.

From the perspective of the corporate sector, this can help in understanding the vast Indian market and its wide variations within districts. Last but not the least, this can provide valuable background information to credit facilitating companies and investors to prioritize locations for further investment. However, for Gujarat official GDDP (Gross District Domestic Product) estimates are not available. Hence, our study focuses on using other forms of economic data including investments, banking, public expenditure at district level to understand the economic state of various districts and assess inter district comparisons.

[50] *Directorate of Economics & Statistics, Government of Gujarat*

Accounting for 17.3 percent (As per 2009-10 CSO estimates) of the industrial production of India, Gujarat has demonstrated leadership in many areas of manufacturing and infrastructure sectors. Almost 50 percent of the country's refined petroleum products and 45 percent of the drugs and pharmaceuticals are from Gujarat. The State's exports stand at 14 percent of India's total exports, exhibiting a strong global orientation of the industrial structure. The above indicators are a result of the economy's robust foundation. Focus on some key growth accelerators for the Gujarat economy would help understand the ramifications of these accelerators and future outlook of the economy. Over the period of time for any economy the desired push in their growth journey would depend on trade, infrastructure, policy, demographics and technology. Even in Gujarat, at a broad level these five components have been primarily responsible for the economic vibrancy of the State. An analysis of the four indicators, excluding demographics, is covered in the following sections.

Trade: Historically trade, driven by traditional comparative advantage, has been a key growth accelerator for economic expansion and national differentiation. As economies advance and diversify internally, trade helps to bring economies of scale, better market access and well integrated supply chain for various economic agents of any nation. Singapore and Dubai are good examples of nations which have fully leveraged their geography and made trade the basis of growth and development. Gujarat has also taken this path after the emergence of key ports in the state leading to growth of various allied sectors. Kandla, Mundra ports have seen phenomenal growth of trade over the recent years. However the state has relatively low exposure to air trade due to limited airports operating with integrated cargo facilities. Regions under Delhi- Mumbai corridor have started witnessing considerable jump in trade over the recent past. Supportive policies are crucial to drive the trade in an economy and globalization through free trade is a path that countries like Dubai have adopted. Steps in this direction would have a long lasting impact in making the trade flourish in the state.

Favorable Policy Environment fostering Industrial Growth

Policy-led development entails direct and proactive public intervention to build economic capacity leading to increased investment and/or productive growth. ASEAN countries in the second half of the last century followed a focused export led growth with active support and encouragement from their policy environment.

Gujarat is among the few Indian states which have initiated adequate policy thrust to develop the manufacturing sector. While the other Indian state economies are predominantly service based, a flourishing manufacturing sector has been the building block for Gujarat's economy. These imperatives have positioned Gujarat not just as a leading State of India, but also put forth the focus to design its growth story similar to those of other developed countries. A lot of policy initiatives that have been implemented and are underway would make the State a strong contender for becoming a model state at the global level.

Various governments at the state and center have placed a greater emphasis on developing the manufacturing sector as evident from the National manufacturing policy. Formulated in 2011, the National Manufacturing Policy aims to increase the present share of manufacturing sector in GDP from 18% to 25% by 2025 at an all India level. In Gujarat, considering the high and diversified industrial base, the state has set up ambitious growth targets for the next five years. The State Government plans to increase the current share of manufacturing sector to state GDP to 32% by 2017 through specific interventions in the sub sector of technical textiles, food and agro business park, auto and components, specialty and fine chemicals, solar and wind equipments manufacturing and electronic system design and manufacturing (ESDM).

The government of Gujarat has introduced a modified scheme to provide financial assistance to Industrial Park with a view to promote and encourage the establishment of Industrial Parks by private institutions to accelerate industrial infrastructure in the state.

Development of Special Investment Regions (SIR): The process of making land available for economic development through the process of land acquisition is becoming difficult day by day. The Government of Gujarat has decided some interventions for land aggregation through the enactment of Special Investment Regional Act. The process is a win-win situation for the farmers, the State and the stake holders in the integrated economic development. The rich experience of Gujarat in preparation of Development Plan (DP) and Town Plans (TP) is being used in the process of land aggregation. The process is under implementation in the Dholera SIR.

The government of Gujarat has introduced Investment Facilitation Portal (IFP). The portal is helpful in investor facilitation and monitoring of projects. IFP portal captures most of the data of investment intention since Vibrant Gujarat 2003 to Vibrant Gujarat 2013 event. As far as implementation of these investment intentions are concerned the projects commissioned and under implementation stands at 57.43% of all the investment intentions of Vibrant Gujarat 2003 to Vibrant Gujarat 2011. Making available industry responsive manpower is very critical to the growth of industry in Gujarat.

Micro, Small and Medium Enterprises: MSME, the back bone of industrial development, has always been accorded high priority. Before the inception of the MSMED Act 2006 there were 312752 SSI units registered[51] generating 1489216 jobs in Gujarat. A total of 140587 MSME enterprises[52] were acknowledged between 1/10/2006 to 31/12/2012. Thus, the total MSME stood at 453339[53] on 31/12/2012 providing employment to 2504856 people[54]. The Vibrant Gujarat 2011 Summit saw over 54% MoUs being signed by SMEs. Vibrant Gujarat 2013 saw an over encouraging response of 72.72% of the MoUs signed by SMEs.

The Government of Gujarat has announced a new textile policy in 2012 to enhance the growth of cotton farms, to strengthen the whole value chain, to facilitate the state to be a leader in manufacturing of yarn, fabric and garment. .

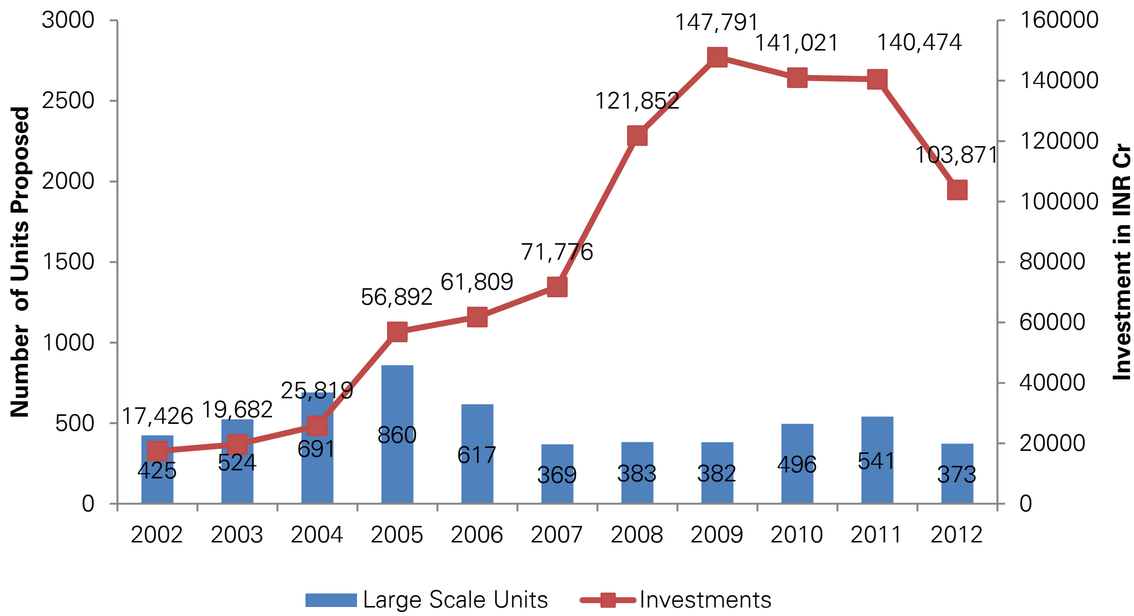
6.1.3.1. Investment Scenario

Traditionally, Gujarat has been able to attract some of the highest levels of investments, including Foreign Direct Investments (FDI) in India. The Vibrant Gujarat Summit has acted as an effective catalyst in the journey of growth of industry in Gujarat. Year on year investment growth trends in industrial and large scale service enterprises, according to IEM data, indicates a clear shift in the investment outlook since 2006. Over the last five years, the state has witnessed over Rupees One lakh Crore of investments[55] proposed per year as shown in the chart. This impressive

[51] *MSME Part-II statistics, Industries Department, Govt of Gujarat*
[52] *MSME Part-II statistics, Industries Department, Govt of Gujarat*
[53] *MSME Part-II statistics, Industries Department, Govt of Gujarat*
[54] *MSME Part-II statistics, Industries Department, Govt of Gujarat*
[55] *IEM Data, Index-Tb, Gandhinagar*

investment focus has been a prime driver for Gujarat to generate and sustain accelerated economic and employment growth in the state[56].

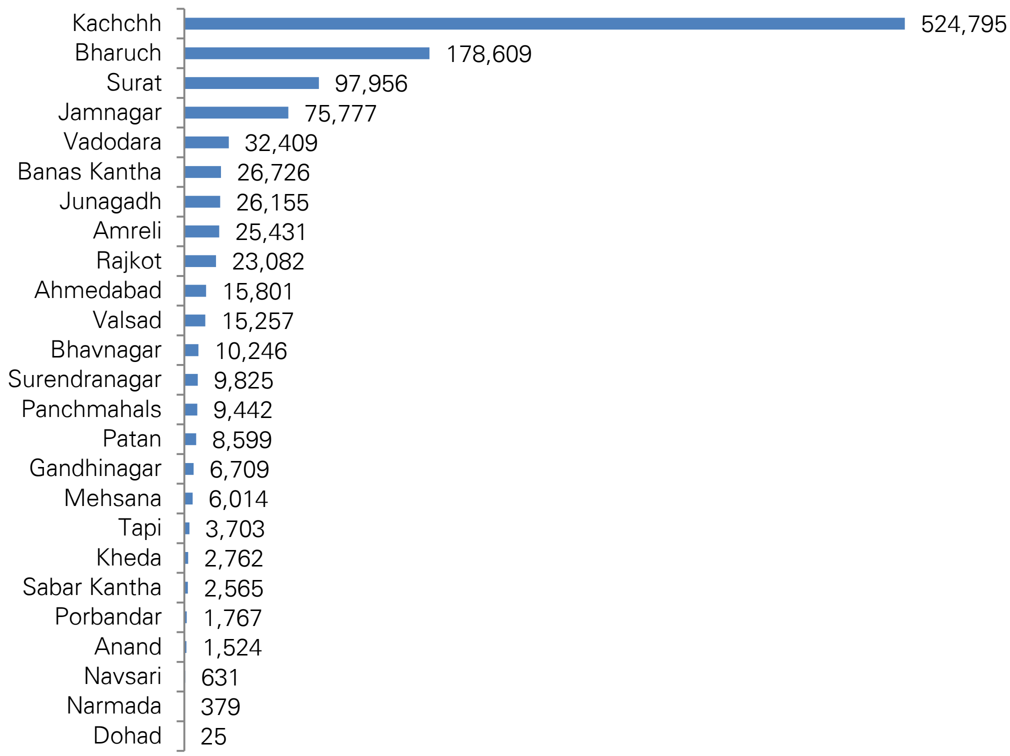
Figure 11: Investment Growth Trend in Gujarat[57]



Analysis of regional distribution of investments in Gujarat indicates that the industrial development is concentrated around few districts of Kutch, Bharuch, Surat, Vadodara, Bhavnagar, Banas Kantha, Rajkot, Jamnagar while other regions including The Dangs, Narmada, Dahod, Navsari remain backward in terms of industrial development. Over the recent years State Government has initiated measures to enhance the industrial growth in backward districts across the state through suitable incentives leading to an increased investment potential of these regions over the next decade. Details of region wise large scale investments in Gujarat till 2012 is presented in the chart.

[56] *IEM Data, Index-Tb, Gandhinagar*
[57] *IEM Data, Index-Tb, Gandhinagar*

Figure 12: Regional Distribution of Investments in Gujarat (INR Cr) [58]

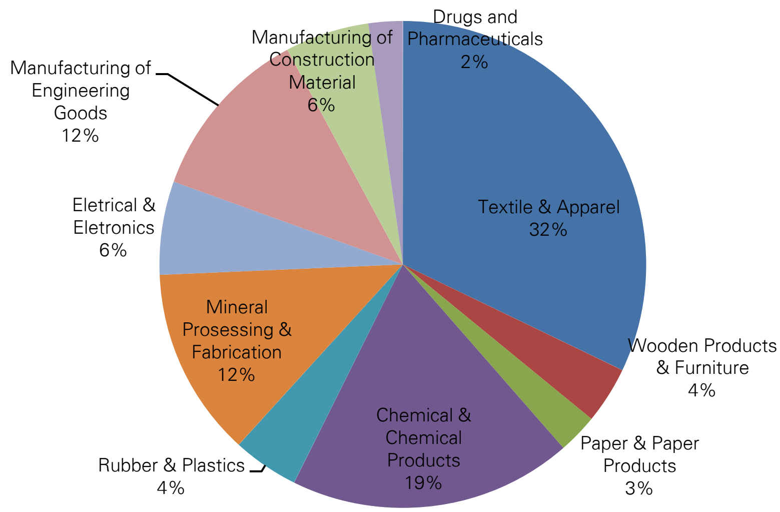


Rapid growth of industrialization in the state has widened the scope for establishment of ancillary units in the MSME segment. Ancillary Industries in Mechanical sectors are services & repairing, auto parts, spares, rubber parts, plastics components and parts for auto industries are prominent in the state along with allied services activities. District wise details of MSME categories and investment trends are presented in the respective district sections of this report. Composition of MSME enterprises in terms of number of employment opportunities generated, indicates that Textile & Apparel, Manufacturing of Engineering Goods (Auto/Auto Components), Chemical & Chemical Products, Mineral Processing & Fabrication units, are the prominent MSME sectors in the state of Gujarat. However, significant regional variations are observed among the districts, which are analyzed in the respective district sections. Details of category wise MSME employment breakup is presented in the chart[59].

[58] *IEM Data, Index-Tb, Gandhinagar*

[59] *MSME Part-II statistics, Industries Department, Govt of Gujarat*

Figure 13: Category wise Employment Outlook in MSME Manufacturing Units[60]



6.1.3.2. Key Growth Sectors in Gujarat

The future economic growth of Gujarat will depend in large part, on fostering excellence in key traditional industrial and services segments, and being a pioneer in emerging sectors. In this section, we have tried to give a deeper understanding that reflects not just the statistical facts, but also the enablers, constraints and imperatives linked to each sector, and cover aspects of regional concentration of sectors leading to cluster development.

Secondary Sector

1) Port and Logistics:

Gujarat is one of the fast growing states in India in the maritime sector. The state has witnessed significant growth of non-major ports over the years. Gujarat Maritime Board (GMB) manages 41 non-major ports in the state with a traffic handling capacity of 323 MMT. During the year 2011-12, non-major ports in the State together handled about 259 million tonnes of cargo, which accounted for 28 percent of the total cargo handled by all the ports of India. Further, capacity handling in these ports has been registering a healthy growth rate over the recent years. The cargo handled during the year 2011-12 has increased by 12%, compared to 2010-11. Growth in cargo trade is expected to be sustained, driven by conducive export policies and industrial activity in the state over the next decade.

Gujarat Maritime Board has embarked on various measures to stimulate the growth in port sector through Private/ Joint Sector Ports, Private Jetties, Captive Jetties and GMB Jetties along with identifying 10 regions for developing Greenfield Ports.

[60] *MSME Part-II statistics, Industries Department, Govt of Gujarat*

Captive Jetties on BOMT (Build, Operate, Maintain and Transfer) basis are operational in Hazira, Sikka, Dahej, Muldwaraka, Pipavav, Okha, Mandvi. Twenty seven captive jetties operational along the coast of Gujarat have accounted for as high as 56% of total capacity handled during 2011-12. Development of Captive Jetties has realized private investment to the tune of INR 750 Cr in 2011-12. Further, GMB has identified Private Port locations that can be operated under BOOT model in Mundra, Hazira, Dahej, Dholera and Poshitra, Simar, Vansi-Borsi, Nargol, Bedi along with Kachchigadh, Mahuva, Khambhat, Dahej (north of DHIL jetty) and Modhawa for future development. Pipav, Dahej, Mundra, Hazira are key regions for the growth of the industry with significant expansion plans including specialty terminals. Increasing cargo activity and port capacities, would result in high demand for specific skills in core and allied areas.

2) Chemical & Chemical Products:

Gujarat is looking at moving forward to become the 'Petro capital' of India. Gujarat accounts for more than half of India's onshore crude Production. The State offers immense opportunities across the energy value chain. Progressive and investor friendly industrial policies, including rationalization of tax regime, power reforms and SEZ development coupled with the logistical proximity to Middle East gas resources, are among the significant growth enablers for the sector. The State contributes to around 20 percent of India's total chemical production. It produces about 98 percent of total soda ash, 90 percent of liquid chlorine and 66 percent of phosphatic fertilizers. Gujarat also houses India's only chemical port terminal, which has a capacity of 3 million metric tonnes.

Gujarat has a well-established distribution gas network and the LNG terminals at Hazira and Dahej have led to a strong local consumer base. Presence of cooperatives such as IIFCO, KRIBHCO, power companies like NTPC and GEB and industrial majors such as Reliance, have led to a vibrant energy sector in Gujarat. The Jamnagar refinery is the largest in India in terms of refining capacity, and is also considered the biggest grassroots refinery in the world. Gujarat has oil & gas reserves located at Ankleshwar, Mehsana, Tapti High, Hazira, Bharuch, Gandhar, Dahej, Jambussar, Palej, Kalol and isolated gas fields around Ahmadabad. In addition to this, it has discovered oil reserves in Dholka and Khambat.

3) Drugs & Pharmaceuticals:

The state of Gujarat accounts for 40 percent of India's total pharmaceutical production and 17 percent of its exports. There exist over 3,000 drug manufacturing units. The State houses several established companies such as Torrent Pharma, Zydus Cadila, Alembic Pharma, Sun Pharma and Dishman Pharmaceuticals, that have operations in the world's major pharma markets.

Several factors have contributed to Gujarat's well-established pharmaceutical industry. Gujarat is a strong pharmaceutical manufacturing hub having a large number of small and medium manufacturing units. Its rich base of supply of active pharmaceutical ingredients has attracted several multinational players such as Wyeth, Sanofi-Aventis and Abbott to set up facilities in Gujarat. There are several pharma clusters around Ahmedabad, Baroda, and Vapi. Over 300 large projects in the sector have already been commissioned; while over 100 are under implementation. Gujarat has a strong infrastructure backbone with good connectivity of road, rail, air and water. The well established linkages with raw material and machinery suppliers are significant growth drivers for the industry.

4) Gems & Jewellery:

The Gems & Jewellery industry is a fascinating industry in many ways: traditional, on one hand and glamorous on the other. It is undergoing a gradual change from an object of investment to a fashion accessory. It is one of the fastest growing industries in the country, and contributes to about 15 percent of India's total exports. With diamond and jewellery units located in the cities of Gujarat — Ahmedabad, Palanpur, Bhavnagar, Valsad, Navsari and Surat — the state becomes one of the main contributors to the gems & jewellery industry in India.

Almost 80 percent of the cutting & polishing of diamonds (processing) is done in Gujarat. Ninety percent of total diamonds in Gujarat are processed by about 10,000 diamond units located in and around Surat, alone. Gujarat's Gems & Jewellery sector is expected to grow at a rate of 15-20 percent in the current financial year. The future growth is likely to be driven by increased exports to US and other international markets and through domestic consumption.

Gujarat offers a unique combination of demographics, supply base, government initiatives and production capacity. Gujarat has the talent pool needed to support this industry. India's leading institutes in this field, such as Indian Diamond Institute and National Institute of Fashion Technology, are located in Gujarat. In addition to this, skilled labour is easily available and the labour costs are relatively lower as compared to other states in India. Gujarat offers economies of scale for capacity expansion due to large number of units and technology upgradation.

5) Textile:

The textile Industry is one of the oldest and the most important sectors of the Indian economy. Gujarat's textile industry contributes in a big way to the industrialization of the State. About 33 percent of cotton production in the country is from Gujarat, and the state contributes to about 35 percent of the woven fabrics from the organized sector in India. The city of Surat alone, contributes 40 percent of art silk fabric produced in India, and is the largest production base for man-made fabrics. Further, 23 percent of the State GDP comes from textiles. Gujarat contributes around 20 percent of textile exports from India and 6 percent of garments export in India.

In the early 1990s, Gujarat saw a dramatic change in the textile industry scenario with the entry of denim manufacturing. Arvind Mills, Soma Textiles, Modern Denim started manufacturing denim in Gujarat, and soon the State was known as 'India's land of denim'.

Large availability of raw material like cotton has significantly contributed to the growth of textile sector in Gujarat. Proximity to ports and other modes of transport, liberal labour policies, cheap raw material and well developed textile machinery industry, are all factors attracting companies to set up units in Gujarat. In recent times, there has been a shift in the textile hub from Mumbai to Gujarat, largely due to lower cost of real estate in Gujarat. The State is also supporting development of SEZs by giving tax incentives.

6) Food Processing:

The Indian farming sector has come a long way since independence. India is the world's second largest producer of food, next only to China. Over the last few years, a shift has been observed in the Indian food consumption pattern.

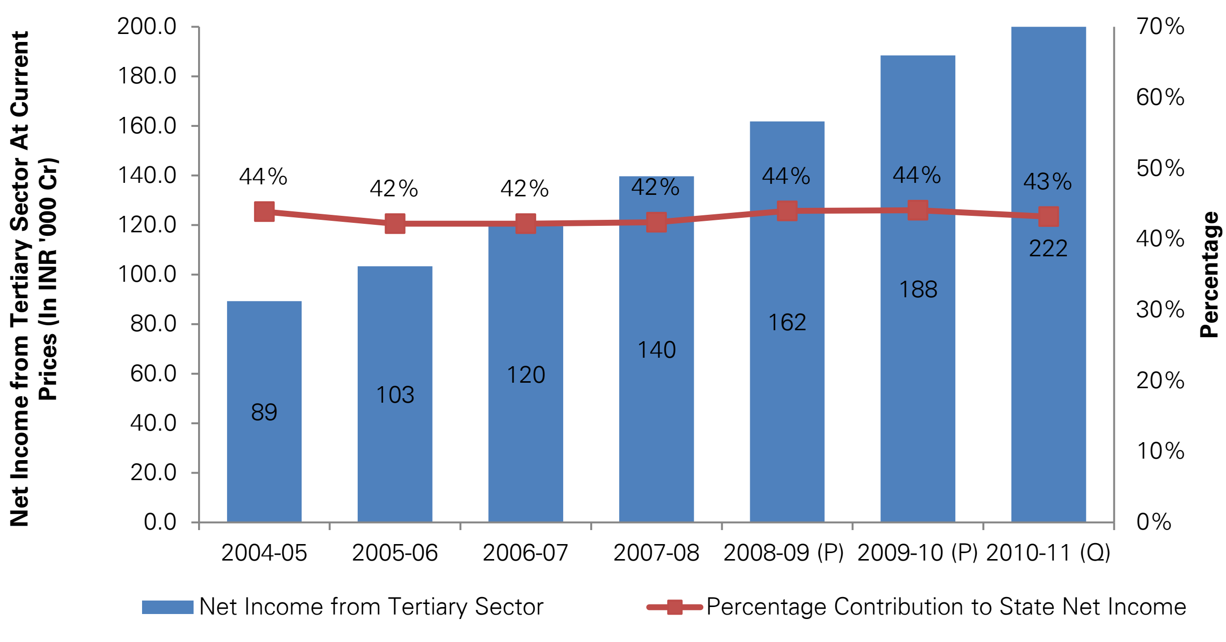
These changes have given rise to the emerging industry of food processing. This industry is one of the largest industries in India; as it constitutes about 13 percent of manufacturing GDP and employs over 12 million people. Gujarat has witnessed an impressive agricultural growth in the last five years and is the largest producer of castor and tobacco in India. Gujarat boasts of being the leader in exports of processed food and vegetables in India with a strong base of 3,700 small scale and 150 large & medium scale food processing units. Companies such as ITC, Amul, Hindustan Lever, McCain have explored the potential of this sector in Gujarat.

Gujarat with a strong agricultural base, 3.6 million hectares of irrigated land and well developed agro research capabilities is well positioned to drive the growth of food processing industry. Gujarat offers a large number of incentives to set up food processing units. Hassle free policies such as single window clearance, a strong agricultural marketing network with over 200 Agricultural Produce Marketing Committees (APMCs) and over 110 cold storages, are some of the enablers that have facilitated the rapid growth of this industry. The State also provides financial incentives by offering interest subsidies to agro-industrial units and air & sea freight subsidies for agro exports.

Tertiary Sector

Tertiary sector is a key economic sector in the Gujarat economy contributing to 43 percent of total Gross State Domestic Product. The net income from the tertiary sector has witnessed a CAGR of 16.3 percent between 2004-05 to 2010-11[61]. Growth trends of tertiary sector income in the state are presented in the chart[62].

Figure 14: Tertiary Sector Growth in Gujarat[63]

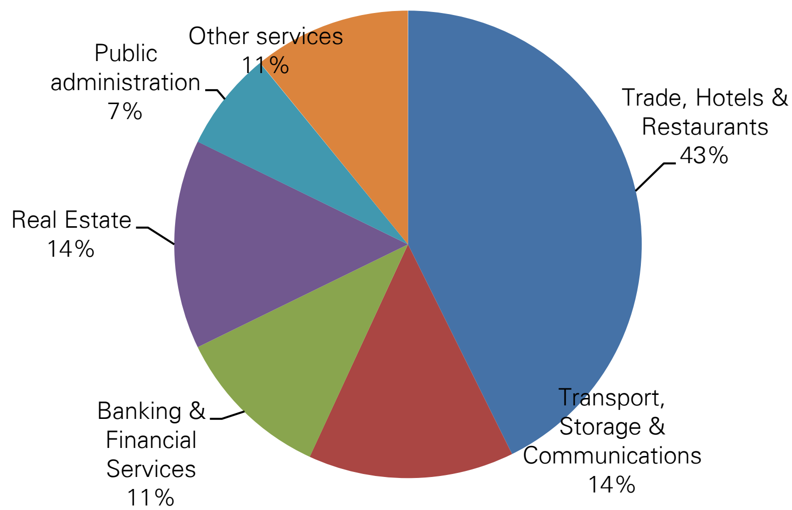


[61] *Directorate of Economics & Statistics, Government of Gujarat*
[62] *Directorate of Economics & Statistics, Government of Gujarat*
[63] *Directorate of Economics & Statistics, Government of Gujarat*

Note: The numbers for 2009-10 and 2010-11 are provisional (P) and the number for 2010-11 is quick estimate (Q)

The growth of the tertiary sector in Gujarat can be majorly attributed to trade, hotels and restaurants, transport, storage and communication. Breakup of the contribution of the different sectors towards the total state services income is presented in the following chart.

Figure 15: Category wise Contribution to Services Economy in Gujarat (2010-11) [64]



The Gujarat government has devised the Blueprint for Infrastructure in Gujarat 2020 (BIG 2020) for industrial development and targets to expand the service sector and stimulate the per capita income of Gujarat. The Vibrant Gujarat Global Investment Summit (VGGIS) which are held twice in a year, have been successful in projecting Gujarat, as a preferred investment destination. Further, the Gujarat Government has been granted approval by the central government for setting up the Gujarat International Finance Tec-City (GIFT) SEZ, Gandhinagar which would be the first operational International Financial Services Centre (IFSC) in India. This promises high growth for the services sector.

7) IT/ITES:

Currently, there are more than 1000 ICT and BPO firms operating in Gujarat. Apart from that, 1250 firms are registered with Gujarat Electronics & Software Industries Association (GESIA). IT exports from Gujarat are estimated to be Rs. 1150 Cr for the year 2010-11. IT exports have risen by 11 percent as against the for the numbers in 2009-10. While there are IT and ITES firms like TCS, Patni Computers Ltd and Mphasis which are already present in the State, there are other firms including Collabera, Syntel Inc, Vora Technology Park, e-Infochips and others which are expected to set up and expand their operations in the state.

Total investment planned in terms of the various IT projects has been estimated to be around 4,289 Cr INR by 2020. Special Economic Zones (SEZs) have been planned for IT/ITES industry out of which 7 are notified SEZs and 7 have

[64] *Directorate of Economics & Statistics, Government of Gujarat*

been granted formal approval. Of the 7 notified SEZs, 4 are in Gandhinagar, 2 are in Ahmadabad and 1 is in Vadodara. Of the 7 SEZs which have been granted formal approval, 4 are in Ahmadabad, 2 are in Vadodara and 1 is in Valsad.

The IT Policy in Gujarat has been formulated with the following key features -

1. Provision of employment to 200,000 persons.
2. Identification of land and reserve for setting up of IT Industry/ IT Parks.
3. Assistance to IT industry/infrastructure for land acquisition.
4. Advisory to Municipal Corporations for designing of town planning schemes to accommodate IT parks.
5. Grant of SEZ status to IT Parks.

Apart from the above policies, there have been policies to provide capital subsidy to new IT units, turnover incentives for IT units and reduction of sales tax for purchase of computer hardware and peripherals. There are other initiatives taken by The Gujarat government in the form of Gujarat State Wide Area Network which is the largest internet protocol-based network to connect the capital, districts and block HQs, creation of comprehensive directory of Gujarat's ICT industry and formation of IT Program Implementation Committee in Department of Science & Technology. Apart from the above initiatives, the govt. of Gujarat has planned to develop the Gujarat International Finance Tec-City as global financial hub which opens up multiple promising opportunities in IT/ITES sector.

Gujarat has a couple of IT parks – Infocity in Gandhinagar and GNFC Infotower in Ahmedabad. Two recently set up IT SEZs viz., "Mindspace", Gandhinagar by M/s K Raheja and "Knowledge Park", Vadodara by M/s L&T, have also become operational. Further, Ahmedabad – Gandhinagar knowledge corridor is going to be an IT SEZ hub. According to Mr. Som Mittal, former President of NASSCOM, the IT industry in Gujarat is expected to grow at 15 percent over the next 10 years.

8) Tourism and Hospitality:

Gujarat has witnessed strong growth in the tourism industry with an 85 percent growth in tourist arrivals from 2005-2011. The total tourist arrival as of 2010-11 has been around 19 million. The overall growth in the total tourist arrivals on a YoY (Year on Year) basis has been higher than the national figures which underlines the strong performance by Gujarat tourism.

The international tourist arrivals has grown at a CAGR of 15% from 2005 which has been boosted by the growth importance of the state as a global business hub.

Gujarat comprises of five major tourism circuits – Kutch circuit, North Gujarat circuit, Ahmedabad Circuit, Saurashtra Circuit and South Gujarat Circuit.

The tourism potential of Gujarat is amazingly multi-faceted. It comprises of –

a. Religious and spiritual destinations - Dwarka, Somnath and Akshardham Temple at Gandhinagar

b. Wildlife tourism – 4 National Parks and 21 Sanctuaries

c. Beaches – One of the longest coastlines along Ahmedpur Mandvi and Surat

d. Hill Stations – Saputara and Pavagadh

e. Heritage Sites – World Heritage Site at Champaner, archaeological sites at Kutch and historical forts at Junagarh

f. Rural tourism site – Kutch

g. Cultural Festivals – Navratri celebrations (Longest dance festival in the world), Modhera dance festival

Tourism sector in Gujarat is governed by the Tourism Corporation of Gujarat Limited (TCGL) which has setup Gujarat Tourism Opportunities Limited (GUJTOP) for the development of tourist sites and Guj-Tour Development Company Ltd (GUJTOUR) to develop, create and market tourism-related infrastructure and projects. Further, the Gujarat government has appointed Amitabh Bachchan as the brand ambassador of Gujarat tourism. Apart from the above initiatives, the budgetary allocation towards tourism sector has also increased from Rs. 183 crore in FY11 to Rs. 200 crore in FY 12.

9) Trade and Retail:

The retail sector in Gujarat has grown with the increase in the per capita income and changes in consumer behavior. There is a mix of unorganized and organized retail players in Gujarat. There have been multiple entries of big private retail firms like Champion Agro, Future Group and ACIL Cotton Industries. Further, food retail chains like Food Bazaar, Reliance Fresh and Spencer have setup operations in Gujarat with sourcing from local farmers. The government has spearheaded the initiative to strengthen the rural sector in Gujarat with setup of Village Malls where fair prices shops are setup to cater to the needs of local population. There has also been support from the government for firms to setup firms in rural Gujarat.

10) Transport and Logistics:

As of Jan 2013, the total road length in the state is 74,038 km out of which National Highways account for 3,229 km (4 percent of total road length) and State Highways account for 18,556 km (25 percent of total road length). Further, out of 18,066 villages in Gujarat, 17,856 villages (98.84 percent) are connected with pucca roads[65]. Hence, 98.84% villages are connected by "pucca" roads. Gujarat has a total rail route of 5,271 km (as of 2010-11) which is the fourth highest in the country after Uttar Pradesh (8,763 km), Rajasthan (5,784 km) and Maharashtra (5.602 km). The state government has taken up various steps to improve transport options. These include conversion of existing railway lines from narrow/meter gauge to broad gauge and setting up new railway lines to connect the industry points, logistic hubs and ports. Apart from the railways and roads, Gujarat has 41 minor and intermediate ports. The ports in Gujarat handle a total traffic of 342 MMT as of 2011-12, which accounts for 37 percent of total traffic[66].

[65] *Directorate of Road Transportation, Gujarat*
[66] *India Port Statistics 2012-13*

Category	Infrastructure
Rail	5271 km length[67]
Total Road Length	74038 km[68] National highway = 3229 km State Highway = 18556 km Major District Road = 20641 km Other District Road = 10493 km Village Road = 21119 km Non Plan Roads = 28463 km
Road Density	38 km per 100 sq.km
Airways	12 Domestic Airports and 1 International Airport
Ports	4 Major Ports – Kandla, Jamnagar, Sikka and Okha

11) Medical Services:

Penetration of medical institutions has been calculated as the number of people who can avail the services of a medical institution. Considering that there are 1,823 hospitals for a total population of 6.04 crores, the penetration of medical services stands at one medical institution per 33,123 people. Coverage of healthcare in Gujarat as against national average can be better understood from the indicators of density of PHCs and CHCs. As per 2012 estimates, Gujarat has one PHC serving 16 villages in comparison to 27 in India while one CHC in Gujarat served 60 villages as against 133 in India. Both these indicators show better penetration of healthcare services in Gujarat. However, district wise analysis presents regional variations within the state, highlighting the need to enhance Government focus on improving healthcare accessibility in those regions. While coverage of healthcare infrastructure in rural areas is crucial, urban regions would have significant private participation to compensate for the low accessibility of Government healthcare institutions. Districts of Surat, Ahmedabad and Vadodara seem to have significantly high private participation in Gujarat. Details of district wise healthcare penetration comparisons are presented in the table[69].

Table 6: Regional Penetration of Healthcare Facilities in Gujarat

Classification	Region	Penetration of Medical Institutions in the Economy (Number of people/ medical institution) [70]
High Penetration Regions	Tapi	20162
	The Dangs	20615
	Gandhinagar	22378
	Narmada	22706
	Sabar Kantha	24518
	Mehsana	25033

[67] *State wise Railways Statistics, Govt of India*
[68] *Directorate of Road Transportation, Gujarat*
[69] *Directorate of Healthcare, Govt of Gujarat*
[70] *Directorate of Healthcare, Govt of Gujarat*

	Navsari	25107
	Panch Mahal	25680
Medium Penetration Regions	Amreli	26096
	Bharuch	27207
	Dohad	27981
	Valsad	29363
	Kheda	29856
	Banas Kantha	29961
	Junagadh	30469
	Patan	30516
	Kutch	31671
	Surendranagar	31924
Low Penetration Regions	Vadodara	32996
	Anand	33178
	Bhavnagar	35974
	Jamnagar	37226
	Rajkot	40423
	Porbandar	41861
	Ahmadabad	50761
	Surat	63325

The government of Gujarat has introduced various health sector reforms like (a) E-Mamta to minimize mother-infant death rate through provision of health services at pre and post delivery times. (b) School Health Programme (SHP) aimed at better health for school children and Chiranjeevi Yojana in providing safe deliveries to women primarily from financially weaker sections of society. Apart from the above initiatives, the government has also come up with social health insurance schemes, community health welfare schemes and employee state insurance schemes. The key industry players in healthcare are Sterling, Apollo, Fortis, Wockhardt and Mayflower.

12) Financial Services:

As on March 2012, there is a presence of 5,279 scheduled commercial banks in Gujarat out of which 1,099 banks belong to SBI and its associates, 3,012 are nationalized banks and 476 are regional rural banks. As of March 2012, Gujarat has a total deposit of Rs. 3,06,113 crores and a total credit of Rs. 2,13,447 crores. Penetration of Banking and Financial Services has been calculated as the number of people who can avail the services of a bank. Considering that there are 5,279 banks for a total population of 6.04 crores, the penetration of banking and financial services stands at a 15,782 number of people per bank as against national average of 13,379. District wise penetration in Gujarat has significant variations with Navsari having the highest penetration with 7,393 people having access to a bank and Dohad having the least penetration with 28,354 people having access to a bank. Details of district and state penetration comparisons are presented in the table[71].

[71] *RBI Statistics, 2012-13*

Classification	Region	Penetration of Financial Services in the Economy (Number of people/ bank)
High Penetration	Navsari	7,393
	Kutch	7,858
	Ahmadabad	8,247
	Vadodara	8,590
	Bharuch	8,811
	Anand	9,088
	Gandhinagar	9,375
	Porbandar	9,608
Medium Penetration	Jamnagar	10,532
	Rajkot	10,555
	Mehsana	10,843
	Amreli	11,296
	Valsad	11,665
	Surendranagar	12,724
	Surat	12,990
	Kheda	13,289
	Junagadh	13,643
Low Penetration	Bhavnagar	14,177
	Sabar Kantha	15,077
	Narmada	15,536
	Patan	15,797
	Panch mahal	20,069
	Tapi	21,223
	The Dangs	22,677
	Banas Kantha	26,185
	Dohad	28,354

Primary Sector

Agriculture and Allied activities have a significant place in the economy of the state. The geographical regions of Gujarat can be divided into three distinct regions, a corridor having the industrial mainland, the peninsular region of Saurashtra and the Kutch region consisting of desert and marshland. The state has a number of rivers like Narmada Sabarmati, Tapi, Purna, Damanganga and Rukmavati flowing through it which helps in the development of irrigation facilities and fishery. The climatic zones of the state based on the location have the following specifications[72]:

Agro climatic zone	Type of soil	Rain fall (mm)
South Gujarat (Heavy Rain	Deep black with few patches of coastal alluvial, laterite and	1500 and more

[72] *Directorate of Agriculture, Government of Gujarat*

Area)	medium black	
South Gujarat	Deep black clayey	1000-1500
Middle Gujarat	Deep black, medium black to loamy sand	800-1000
North Gujarat	Sandy loam to sandy	625-875
Bhal & Coastal Area.	Medium black, poorly drained and saline	625-1000
South Saurashtra	Shallow medium black calcareous	625-750
North Saurashtra	Shallow medium black	400-700
North West Zone	Sandy and saline	250-500

The state has a prominent agriculture profile with 60.62 percent of the net geographical area under cultivation. Kheda, Mehsana, Amreli, Surat, Gandhinagar, Anand, Patan, Bhavnagar and Banaskantha districts have more than 70 percent of their net geographical area under cultivation. The state lags behind in irrigation facilities with only 36.33 percent of the net cultivated lands under irrigation although regions like Anand have 89.49 percent of the net sown area under irrigation. Open wells and bore wells are the major sources of irrigation responsible for 71 percent of the net irrigated land. The presence of several rivers in the state opens several opportunities for the improvement of irrigation facilities in the state. Large scope for the operation and maintenance of pumps and tube wells would mandate requirement of skilled manpower with skilling on repair and maintenance. Further there is an increasing need to promote micro irrigation and water management programs in the district.

The soil fertility index of the state soil is moderate for agriculture. Most of the districts have low organic carbon, nitrogen and phosphorus content indicating large scale usage of nitrogen rich fertilizers. Awareness levels of organic farming and vermi compost methods are low, indicating a need to improve the same in order to promote sustainable agricultural practices.

Wheat, Paddy, Sugarcane, Ground nut, Cotton, Castor, Bajra, and Pulses, are the main crops in Gujarat which covered 74,49,176 Ha. in Kharif and Rabi seasons. The major horticulture crops in Gujarat state are Mango, Sapota, Citrus, Banana (Fruit crops), Brinjal, Potato, Onion, Cabbage, Cucurbits (Vegetables) Cumin, etc. There are 23 taluka seed farms in the district, targeted to improve the availability of quality seeds.

The state has around 10 percent of its net area under forest cover consisting of tropical deciduous, tropical thorn and tropical swamp forest. Tropical moist Deciduous Forest in the Southern most part of the state, forms the main source of commercial timber in the state.

Cow and buffalos are the main cattle varieties in Gujarat with their population being 83,75,672 and 81,15,062 respectively[73]. Other prominent domestic animals under animal husbandry activities are sheep and goat. Availability of large pasture lands indicates significant potential to promote animal husbandry in the district. Along with strengthening animal husbandry activities among small and marginal farmers through advanced rearing training, there is a need for integrating animal husbandry with promotion of organic farming.

Educating farmer communities/ groups on marketing and processing would be crucial to enhance the revenue benefits to marginal communities by limiting the role of middlemen. Government initiatives to set up agricultural collection centers towards achieving this objective have to be supplemented by relevant training programs.

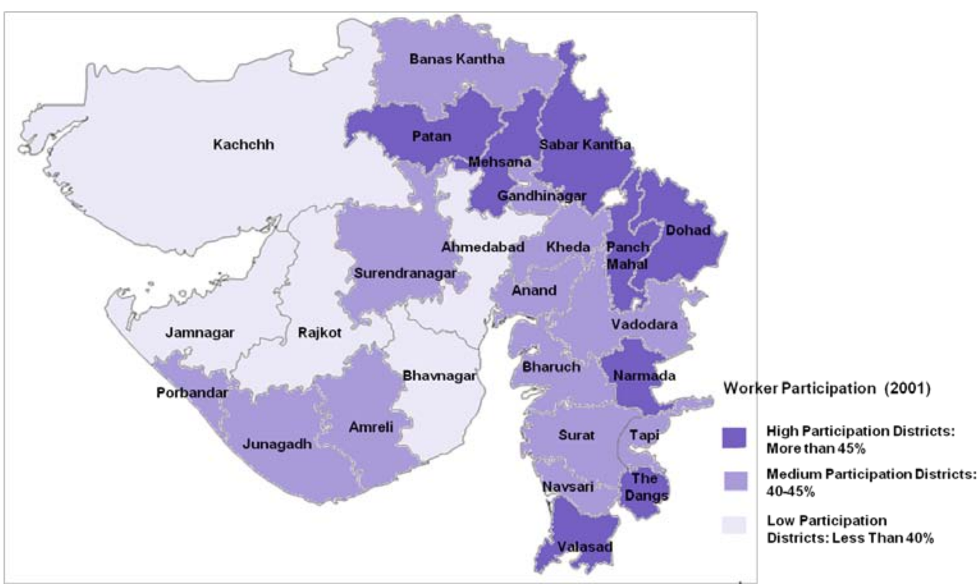
[73] *Gujarat Animal Census 2006-07*

6.2. Work Force Distribution in the State

Gujarat has witnessed significantly high participation of working age group in economic activities. As per NSSO 66th Round Employment Survey, Labour Participation Rate (LPR) per 1000 persons from 15-59 age group in the state, based on current daily status, stood at 581 - in comparison to the national average of 546. While the overall LPR has been better than national average, low female participation across both urban and rural areas is a key concern. Urban female participation in the labor force is lower than rural regions due to dependency on agricultural and allied activities among rural female population. Low female labor force participation in urban areas is linked to limited employment opportunities available to minimally skilled/semi skilled women. This represents enormous opportunities to create additional employment - especially in household industries through specific training and support.

Worker Participation Rate (WPR) per 1000 persons from 15-59 age group in Gujarat at 552 is higher than the national average of 509 in line with Labour Participation Rate. While there is a significant difference in participation rates across urban and rural regions with the participation rates better in rural areas, seasonal nature of agricultural work would mean underemployment for a significant section of the agricultural workforce force in the state especially in Saurashtra region. Proportion of unemployed youth in the working age group standing at 30 persons per 1000 people in 15-59 age groups is lower than the national average of 37. Issue of unemployment has to be addressed through skill development initiatives aimed at ensuring employability. District wise variations in participation rates are significant in Gujarat. As per 2001 estimates, rural districts of Narmada, Dahod, The Dangs have registered high participation rates while urban areas of Ahmedabad, Jamnagar and Rajkot have registered lower participation rates. High participation rates in rural regions are attributed to high dependency on agriculture and allied activities. Detailed classification of districts into high, medium and low worker participation regions is presented in the chart.

Figure 16: Regional variations in worker participation rates among the districts of Gujarat[74].

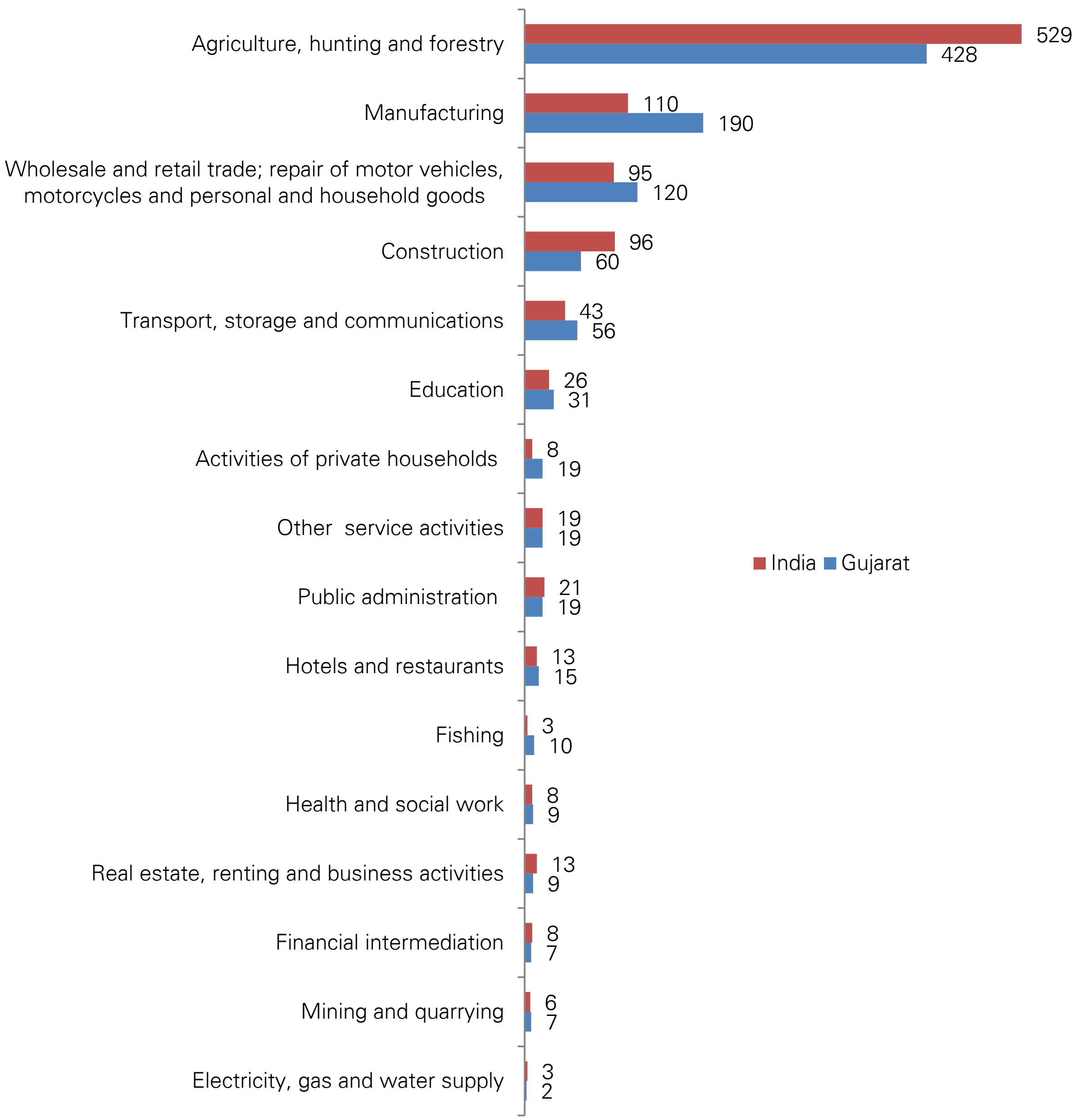


[74] *Census Workforce Estimations, 2001*

N·S·D·C National Skill Development Corporation

Category-wise employment intensity in Gujarat according to usual status approach among employment categories of NIC -2004 industry classification, indicates considerable deviation from the national average. While agriculture and allied activities still remain prime source of livelihood for a majority of the workforce, the state has a high dependency on manufacturing, retail and series activities in comparison to national standards. Detailed industry wise classification of workforce in Gujarat and India as per NSSO 66th Employment Survey is presented in the chart.

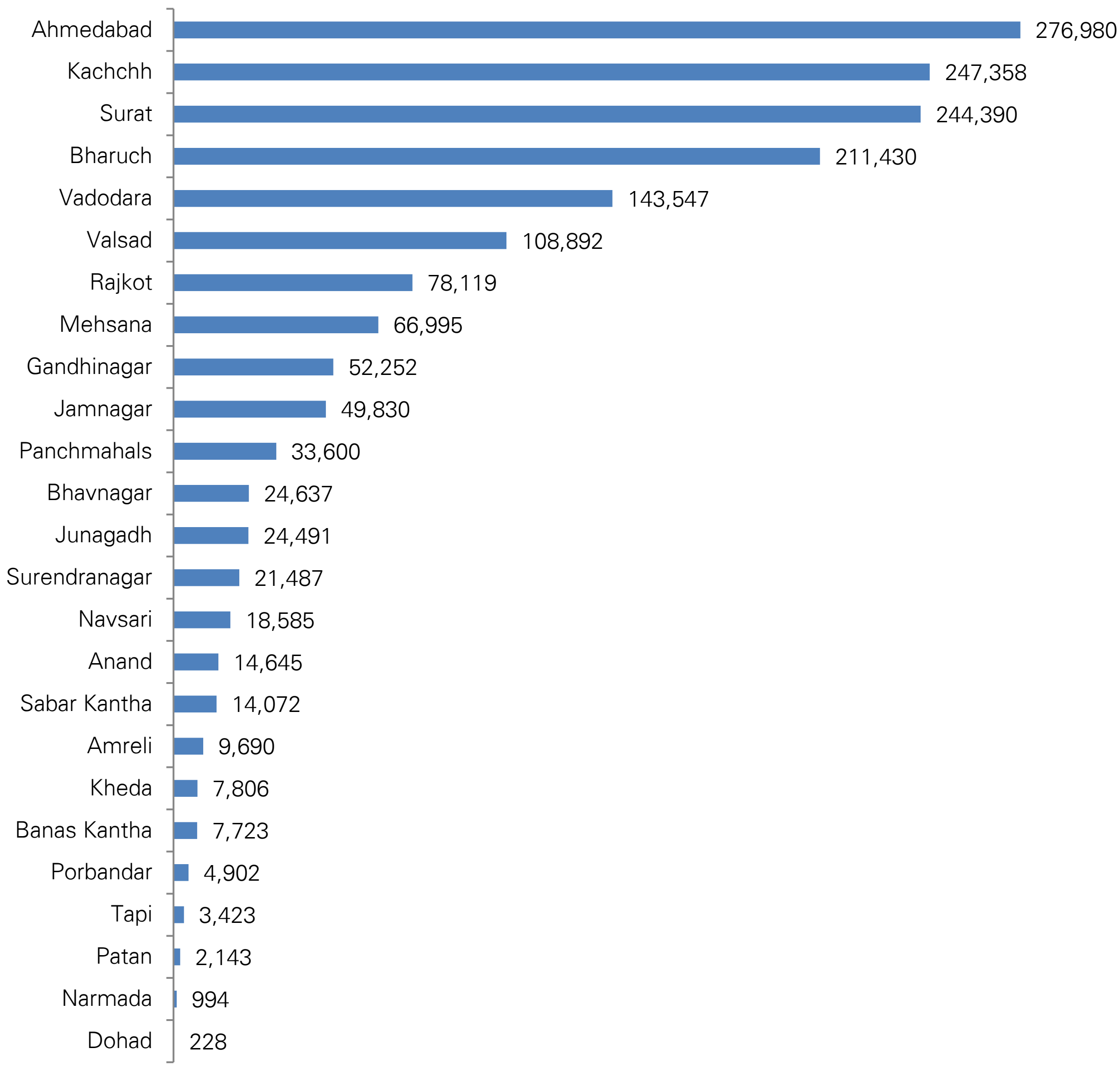
Figure 17: Comparison of Workforce Distribution in Gujarat with India[75]



[75] *NSSO 66th Round Employment, Unemployment Sample Survey*

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors within key districts. Ahmedabad, Kutch, Bharuch, Vadodara, Surat and Rajkot account for a majority share of employment in this category, while other districts like Dahod, Narmada and Patan have lower levels of industrial employment opportunities. Regional break up of large scale industrial employment is presented in the chart[76]

Figure 18: Regional Distribution of Organized Industrial Employment in Gujarat[77]

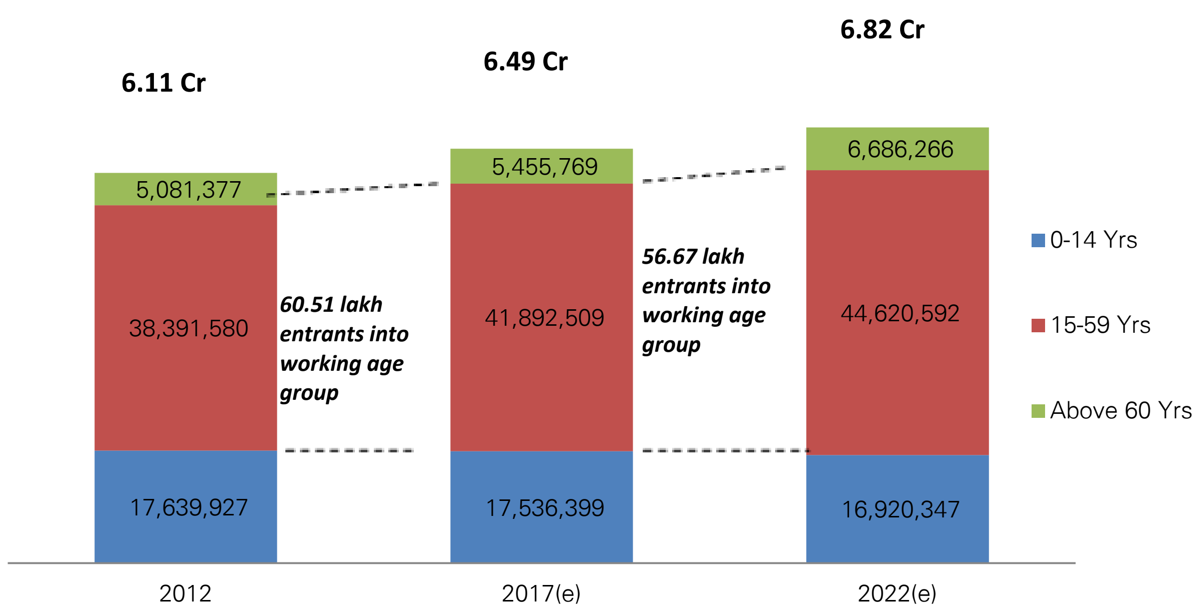


[76] *IEM Data, Index-Tb, Gandhinagar*
[77] *Gujarat IEM Data, MSME Part II Details, KPMG Analysis*

6.3. Human Resource Supply Scenario in the state (2012-17, 2017-22)

The demographic composition of Gujarat has been witnessing significant changes largely due to control of population growth and regional migration of working age. As per KPMG estimations, in the near term, Gujarat has significant demographic dividend, with a rising working age population. Between 2012 and 2017, an additional 60.51 lakh[78] are expected to enter the working age group population followed by another 56.67 lakh during 2017-22[79]. However, with significant population entering the 60+ age group proportion of working age population is expected to show a marginal growth over the next decade. Demographic composition trends in state population are presented in the chart.

Figure 19: Gujarat Demographic Estimations[80]



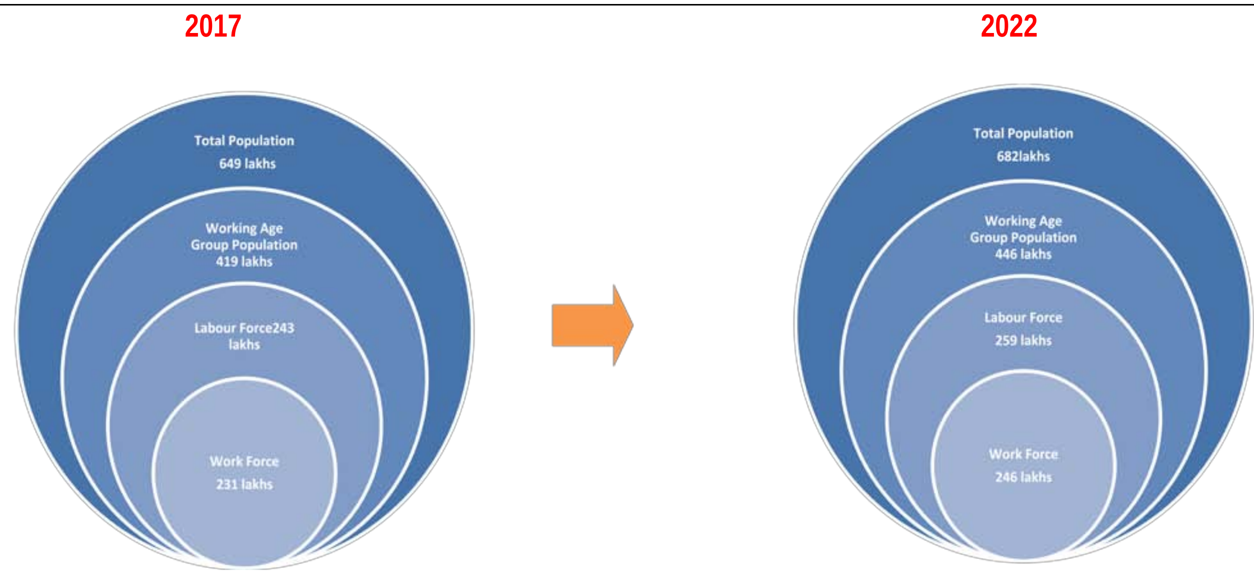
Availability of working age group population in a district is an indication of human resource potential present in the economy. However, migration would play a crucial role in determining the exact composition of the population. Ensuring adequate skilling of the available workforce is necessary to increase productivity in the economy, and thus propel state economic growth.

Gujarat workforce projections for 2012, 2017 and 2022 are estimated considering the WPR from the NSSO 66th Round Employment Survey, and applying it over the estimated population in the 15-59 age group for these periods.

78 *KPMG Analysis*
79 *KPMG Analysis*
80 *KPMG Analysis*

The overall workforce numbers would change because of the change in working age group population (15-59 age population). Availability of working age population measured from the 15-59 age group population is estimated to grow to 419 lakhs by 2017 and 446 lakhs by 2022. Labour force measured from number of people looking for employment in the working age group is expected to reach 259 million[81] by 2022, increasing the need for employment creation over the next decade even to sustain the current levels of labour force and worker participation rates.

Figure 20: Expected Demographic Composition in Gujarat 2017 and 2022 [82]



District-wise incremental supply estimates were arrived based on Planning Commission Population Estimates from the 2001 population, extrapolated considering birth rate, death rate and life expectancy. Further, districts were classified into high growth, medium growth, low growth categories based on incremental supply during 2012-22.

Table 7: District Wise Labour Force Estimations

Region	2012-17			2017-22		
	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
Gujarat	6,051,859	3,553,511	2,041,412	5,667,176	3,336,960	1,585,016
Kachchh	200,506	95,295	58,158	219,075	101,138	45,156

[81] *KPMG Analysis*
[82] *KPMG Analysis*

Banaskantha	371,356	214,245	104,882	368,150	209,703	81,434
Patan	150,654	99,015	51,192	137,952	92,064	39,747
Mehsana	204,983	138,966	79,569	179,565	124,973	61,780
Sabarkantha	255,224	163,435	90,320	250,323	161,398	70,127
Gandhinagar	149,895	99,164	53,237	127,768	85,902	41,334
Ahmadabad	621,668	285,647	192,997	599,899	273,742	149,849
Surendranagar	196,756	119,975	62,191	180,122	110,788	48,287
Rajkot	338,798	183,119	119,548	320,481	172,910	92,821
Jamnagar	216,295	121,793	70,519	196,327	112,300	54,753
Porbandar	59,866	36,474	20,659	51,111	32,039	16,040
Junagadh	289,452	175,045	96,115	243,561	150,229	74,627
Amreli	153,029	100,860	57,697	133,421	90,641	44,798
Bhavnagar	317,500	172,242	90,720	286,459	156,483	70,438
Anand	204,570	127,216	75,362	187,353	118,634	58,513
Kheda	236,245	154,598	87,227	214,336	142,759	67,726
PanchMahal	269,503	182,042	93,808	260,708	176,672	72,836
Dohad	257,486	161,955	78,233	283,596	174,005	60,743
Vadodara	393,227	237,767	145,880	363,174	222,577	113,266
Narmada	63,600	46,179	24,884	57,987	42,601	19,321
Bharuch	154,681	94,267	54,812	134,876	83,558	42,558
The Dangs	163,983	110,855	8,931	184,351	123,919	6,934
Navsari	81,807	55,675	52,366	73,451	51,584	40,658
Valsad	116,878	73,594	62,450	140,361	88,032	48,488
Surat	507,976	255,044	179,396	406,154	194,431	139,288

Tapi	75,920	49,042	30,195	66,615	43,881	23,444

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the districts are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement of labour force. District wise incremental supply estimations for 2012-22 are provided in the table below.

Table 8: District Wise Incremental Manpower Supply in Gujarat (2012-22)

	2012-17				2017-22			
Region	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Gujarat	**297,057**	**230,302**	**1,514,053**	**2,041,412**	**326,746**	**283,419**	**974,851**	**1,585,016**
Kachchh	12,967	10,053	35,138	58,158	12,620	10,947	21,589	45,156
Banaskantha	18,257	14,154	72,471	104,882	19,267	16,712	45,455	81,434
Patan	7,103	5,506	38,583	51,192	7,890	6,844	25,013	39,747
Mehsana	10,788	8,364	60,417	79,569	12,391	10,748	38,641	61,780
Sabarkantha	12,856	9,967	67,498	90,320	13,446	11,663	45,018	70,127
Gandhinagar	7,100	5,504	40,632	53,237	8,466	7,343	25,525	41,334
Ahmadabad	34,352	26,633	132,012	192,997	37,026	32,116	80,706	149,849
Surendranagar	9,014	6,988	46,190	62,191	10,082	8,745	29,460	48,287
Rajkot	18,055	13,998	87,495	119,548	19,751	17,132	55,939	92,821
Jamnagar	8,478	6,573	55,467	70,519	9,498	8,238	37,017	54,753
Porbandar	2,973	2,305	15,380	20,659	3,496	3,033	9,511	16,040
Junagadh	13,589	10,536	71,990	96,115	16,356	14,187	44,085	74,627
Amreli	7,575	5,873	44,249	57,697	8,707	7,552	28,539	44,798
Bhavnagar	15,146	11,742	63,832	90,720	17,220	14,936	38,281	70,438
Anand	11,034	8,554	55,774	75,362	12,221	10,601	35,691	58,513
Kheda	11,514	8,926	66,787	87,227	12,879	11,171	43,676	67,726

PanchMahal	12,734	9,873	71,201	93,808	13,553	11,756	47,526	72,836
Dohad	12,063	9,353	56,817	78,233	11,598	10,060	39,085	60,743
Vadodara	19,754	15,315	110,811	145,880	21,797	18,907	72,562	113,266
Narmada	2,790	2,163	19,931	24,884	3,124	2,709	13,487	19,321
Bharuch	7,828	6,069	40,915	54,812	9,122	7,913	25,523	42,558
The Dangs	326	253	8,351	8,931	302	262	6,371	6,934
Navsari	9,869	7,651	34,845	52,366	11,002	9,544	20,112	40,658
Valsad	12,878	9,984	39,587	62,450	11,121	9,646	27,721	48,488
Surat	23,664	18,346	137,385	179,396	32,063	27,811	79,414	139,288
Tapi	2,486	1,927	25,782	30,195	2,869	2,489	18,086	23,444

6.4. Human Resource Requirement in the State

6.4.1. Incremental Manpower Requirement Projections (2012-17, 2017-22)

Incremental manpower requirement in Gujarat has been estimated based on several parameters such as investment trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Gujarat. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net out flux of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in the marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities (farmers, agricultural labourers).
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat.
- Employment potential in agri-allied activities in the state considering the level of involvement in the respective activities and regional conditions.

Manufacturing Sector:

Manpower requirement in the secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the state. Human resource requirement projections for manufacturing sub sectors in the state are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within Gujarat based on a study of the existing industrial base and primary interactions with experts
- Estimation of growth targets for Gujarat based on analysis of investment trends, state comparable analysis, available infrastructure, policy thrust on key manufacturing segments identified
- Labour elasticity factors in the potential sectors.

Tertiary Sector:

Employment growth in some of the services sectors is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking, while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also, segments like IT-ITES, transportation & logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- IT-ITES
- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Manpower growth in the districts of Gujarat is driven by secondary and tertiary sectors. Incremental manpower requirement in the state is dependent on the setting up of new industries, and on expansion of existing industries along with the trend of workforce migration. According to KPMG estimates, an additional increase in incremental manpower requirement during XII plan and XIII plan periods will be 3 million and 2.65 million. Significant portion of the new jobs created, especially in Agri-Allied activities (0.42 million during XII Plan), Construction (0.26 million during XII Plan), Trade & Retail (0.21 million during XII Plan) and Textiles (0.16 million during XII Plan) would witness mere realignment of workforce displaced from agriculture - due to the expected impact of mechanization on cultivation activities.

Skilled workers category denotes those skills acquired through professional degrees (study duration greater than 5 years after Std X), Semi Skilled Category denotes skills acquired through vocational training (study duration greater than 3 years after Std X) and Minimally skilled category requires basic understanding of job which require minimal or no formal training. Details of sector wise skill requirements during 2012-22 are presented in the table[83].

Table 9: Incremental Human Resource Requirement in Gujarat (2012-22)

	2012-17				2017-22			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Agriculture & Allied Activities	NA	NA	426677	426677	NA	NA	357322	357322
Agro & Food Processing	3655	14619	18273	36547	3272	13089	16362	32723
Textile & Apparel	16564	66254	82818	165635	14815	59260	74075	148150
Wooden Products & Furniture	1801	7004	10205	19010	1671	6336	9407	17414
Paper & Paper Products	1358	5431	6789	13578	1214	4858	6072	12145
Chemical & Chemical Products	9692	38769	48461	96922	8669	34676	43345	86690
Rubber & Plastics	2266	9063	11329	22658	2027	8106	10133	20266
Mineral Processing & Fabrication	6471	25884	32355	64710	5788	23152	28939	57879
Electrical & Electronics	3192	12769	15962	31924	2855	11421	14277	28553
Manufacturing of Engineering Goods	5990	23962	29952	59904	5358	21432	26790	53580
Manufacturing of Construction Material	2885	11541	14426	28853	2581	10323	12904	25807
Drugs and Pharmaceuticals	1168	4670	5838	11676	1044	4177	5222	10443
Misc. Manufacturing	2263	9051	11314	22627	2024	8095	10119	20239
Construction	13392	26785	227669	267846	11979	23957	203635	239570
Trade, Retail	21632	32447	162237	216316	23646	35469	177347	236463
Transportation & Logistics	17976	285441	339601	643019	14707	233543	277856	526106
IT-ITES	60000	150000	NA	210000	50000	120000	NA	170000
Hospitality & Tourism	24963	37445	187223	249630	19970	29956	149778	199704
Banking & Financial	64000	192000	NA	256000	44800	134400	NA	179200

[83] *KPMG Analysis*

Services								
Healthcare	12080	54359	NA	66438	16093	80466	NA	96559
Education & Training	24116	162346	NA	186462	36174	97408	NA	133581

Further, the state has significant regional variations in incremental manpower requirements with the districts of Ahmedabad, Surat, Vadodara, Rajkot, Kutch, Bhavnagar and Gandhinagar expected to drive the employment growth during 2012-22. On the other hand, The Dangs, Narmada, Tapi would have low potential to absorb trained youth, indicating that these regions could become training ground for skilled manpower to be placed in industrial clusters of Ahmedabad, Surat, Vadodara. Details of district wise incremental manpower break up along with key sectors accounting for the major employment share are presented in the table[84].

Region	Incremental Manpower Requirement 2012-17	Incremental Manpower Requirement 2017-22	Focus Sectors
Ahmedabad	403,268	344,929	Textiles and Apparel, chemicals & chemical products, Drugs and Pharmaceuticals, Agro and Food Processing, Automobiles, Engineering, Electronics, IT-ITES, Hospitality, Banking & Financial Services
Surat	379,442	328,062	Textiles & Apparels, Gems & Jewelry, Chemicals & Petrochemicals, Ports and IT- ITES
Vadodara	261,543	223,794	Chemicals & Petrochemicals, Pharmaceuticals, Biotechnology
Rajkot	200,565	173,261	Engineering & electronics, Textiles & apparel, Chemicals, Infrastructure
Kutch	154,526	131,970	Minerals, Port based industries, Marine Chemicals, Engineering, Infrastructure Projects, Chemicals, Ceramics and Textiles
Valasad	134,276	114,841	Chemicals, textiles, horticulture and paper industry
Bhavnagar	133,884	113,537	Diamond cutting & polishing, cement & gypsum, inorganic salt-based and marine chemicals, shipbuilding, ship-repairs, oxygen, foundry, re-rolling, ceramics, fabrication and food processing industries
Gandhinagar	125,415	104,313	Food Processing, Electronics, Textiles, IT -ITES
Bharuch	122,874	105,740	Chemicals, Petrochemicals & Pharmaceuticals, Engineering, Ports & Ship building, Textiles
Kheda	109,427	92,949	Agriculture, Mineral-based industries, Plastics, Engineering and IT-ITES
Mehsana	108,073	92,158	Cultivation, Engineering Industry and Food processing
Banas Kantha	103,264	88,783	Food Processing, Tourism, Mineral Based Industries, Construction material
Junagadh	102,474	89,401	Mineral based cement industry, Fish processing industry, Agriculture based industry, Power sector
Jamnagar	99,648	85,788	Brass Parts, Petroleum and Petrochemicals, Salt and Ports
Sabar Kantha	94,737	81,790	Agriculture, ceramics,

[84] *KPMG Analysis*

			chemicals and milk processing
Panchmahal	85,765	74,370	Tourism, minerals, engineering & automobiles, irrigation projects, dairy farming
Anand	76,021	64,703	Food & Agriculture, Engineering & Auto parts, Chemicals, Port & Ship Building, Minerals, Cement
Surendranagar	71,283	60,950	Textiles, chemicals, and Ceramics
Dahod	64,919	56,323	Food products, rubber and plastic products, and mineral based industries
Navsari	61,337	52,061	Food processing, textiles, drugs & pharmaceuticals
Amreli	56,666	48,645	Engineering Goods, Port and Ship building, Mineral Processing and Cement
Patan	46,027	39,067	food processing, paper and pulp and cotton-based industry
Porbandar	28,898	23,643	Port and Ship Building, Cement industry, Mineral-based Industries
Tapi	28,162	24,077	Agro-based industries, Textiles
Narmada	26,332	22,020	Textiles, food & agriculture and chemicals
The Dangs	17,610	15,218	Agri- Allied Activities, wood & wooden products, food processing

6.4.2. Summary of Skill Requirements in High Growth Sectors

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[85].

Secondary Sector (Manufacturing, Construction & Energy):

- **Port Based Logistics:**

Category of Skills	Skills
Core Skills	Electrical Technician(Distribution, Cabling, Instrumentation, Maintenance, Automation, PLC, HMI Equipments), Mechanical Technician(Lubrication, Hydraulic Systems, Pneumatic Systems, Gear Systems), Crane Operators, Conveyor Belt Operators, Earthmoving Equipment Operator, Locomotive Engine Operator, LMB Driver, HMB Driver, Machine Operators(MVU, Baking, Stacker Reclaimer)
Allied Skills	Skilled Fireman, Radio Officer, Under water divers**,** Minimally skilled Marine Crew, Project Management Workforce (Surveyor, Draftsman Civil, Construction Workers, Auto CAD Engineers)
Skills with acute shortage	Marine Engineers, Instrumentation, Advanced Equipment Technicians, Crane& Machine Operators, Radio Officer , Skilled Fireman

- **Auto & Auto Components**

Subsector	Skills
Auto Assembling and Component	**Core Skills:** Motor Mechanic, Diesel Mechanic, Fitter, Welder, Fabricators

[85] *KPMG Analysis*

Manufacturing	**Allied Skills:** Electrician, Wireman **Acute Skill Deficits:** Specialized welders in Arc welding who can work in extreme conditions on advanced fabrication equipments
Auto/Industrial Manufacturing	**Core Skills:** Shop floor technical workers **Allied Skills:** Maintenance(Mechanical, Electrical, mechatronics, automobile electronics) **Acute Skill Deficits:** Painting, Body Building (spot welding), Sheet Metal Work, Machining & Casting.

- **Ship Building:**

Subsector	Skills
Core Skills	Hull Construction(Heavy metal fabrication with latest technology), QC, Painting, Piping, Electricals/ Electronics, A/C and Refrigerator(pertaining to marine industry), Riggers
Allied Skills	Basic computer knowledge, Accounting, Store Management
Skills with acute shortage	Fire fighting, Safety systems knowledge

- **Textile & Apparel:**

Category of Skills	Skills
Core Skills	Ring frame operator, weaver, processing operator (CDR, BDR, Stuntor), Bar-coding machine operator
Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions.

- **Food Processing:**

Category of Skills	Skills
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists

Skills with acute shortage	PPO is required in industries having in house packing development.

- **Chemical & Chemical Products:**

Category of Skills	Skills
Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant, AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Electrical & Electronics:**

Category of Skills	Skills
Core Skills	Electronics, PPO, Electrical, Instrumentation
Allied Skills	Fitter
Skills with acute shortage	PPO trade is a key deficit in all industries involving plastic processing Electronics and Instrumentation

- **Metal & Mineral Processing:**

Category of Skills	Skills
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Drugs & Pharmaceuticals:**

Category of Skills	Skills
Core Skills	Process Operator, Packaging Operator, Process Technicians, Lab QC Technicians -Lab Technicians (Analytical), R&D Technicians
Allied Skills	Electrician, Instrumentation

Skills with acute shortage	Bio-instrumentation

- **Thermal Power:**

Category of Skills	Skills
Core Skills	Mechanical, Electrical, Instrumentation& Control, Master Chemists, Civil Engineers
Allied Skills	Fitter, Electrician ITI trades
Skills with acute shortage	Instrumentation, Chemists

- **Pipe Industry:**

Category of Skills	Skills
Core Skills	Welder, Fitter, Electrician, Wireman, Machinist,
Allied Skills	PPO, CNC Operators, Gas Cutter, Turner
Skills with acute shortage	ID & OD Welding, CNC Machinist, Crane Operators, PPO, Gas Cutter trades

- **Wind Farm Equipment:**

Category of Skills	Skills
Core Skills	Fitter, Welder, Plastic Polymer Operator(PPO)
Allied Skills	Electrician, Wireman
Skills with acute shortage	PPO, Advanced Welding(TIG, MIG) trade candidates are not available in the district

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers

Skills with acute shortage	Machine operators

- **Salt Production:**

Category of Skills	Skills
Core Skills	Earth moving equipment operators, tractor drivers
Allied Skills	Minimally skilled workers
Skills with acute shortage	Chemists

Services:

- **Banking & Financial Services:**

Category of Skills	Skills
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Healthcare :**

Category of Skills	Skills
Core Skills	MBBS Doctors, MD/MS specialists, Physician Assistants/Compounders, Radiologists, Dialysis technician, Respiratory technician and OT Assistants & Perfusionist.

Allied Skills	Lab technicians, pharmacists
Skills with acute shortage	Physiotherapists, Biomedical Instrumentation technicians

- **Organized Retail:**

Category of Skills	**Skills**
Core Skills	Shop floor executives/supervisors, computer operator
Allied Skills	Transportation & logistics staff
Skills with acute shortage	Store management, stock planning

- **Education:**

Category of Skills	**Skills**
Core Skills	School teachers, higher education faculty
Allied Skills	Knowledge on advanced teaching tools
Skills with acute shortage	Technical education trainers

Primary Sector:

- **Cultivation:**

Category of Skills	**Skills**
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	**Skills**
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries

Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.5. Human Resource Development Scenario in Gujarat

In order to promote economic and industrial development in a state, the essential requirement is the capacity to develop skilled manpower of good quality in adequate number. Gujarat being an industrially developed state with significant opportunities for organized employment, there is an ever increasing need for graduates and skilled professionals. Further, considering the entrepreneurial aspirations of the youth, education would play a crucial role to develop professionally trained human resources in the area of entrepreneurship, to augment the industrial development in the state. While historically, Gujarat has been a knowledge society with educational infrastructure comparable to the national average, the situation has changed very rapidly during 2001-11 as the Government of Gujarat has embarked on various initiatives in higher education and technical education. Continuous efforts directed towards enhancing the capacity and quality of education has resulted in substantial increase in number of students from other states coming to Gujarat to access quality education.

6.5.1. School Education

The State has witnessed a steady decline in the number of enrollments across the levels of primary, upper primary, secondary and higher secondary levels[86]. While Ahmadabad has the highest number of total enrollments across the various levels, The Dangs has had the lowest number of enrollments in the period of 2010-11. District wise details of school statistics are presented in the table[87].

Table 10: Current Status of School Education in Gujarat

Districts	Total Enrollments (2010-11) [88]				
	Primary Level (Std 1-5)	Upper Primary Level (Std 6-8)	Secondary Level (Std 9-10)	Higher Secondary Level (Std 11-12)	Total
Ahmadabad	571,571	207,119	262,964	96,665	1,138,319
Amreli	148,865	57,157	57,264	51,858	315,144
Anand	209,387	83,366	110,054	15,389	418,196
Banas Kantha	419,256	116,532	97,535	26,477	659,800
Bharuch	151,347	57,999	64,896	18,617	292,859
Bhavnagar	323,269	112,873	123,506	27,635	587,283

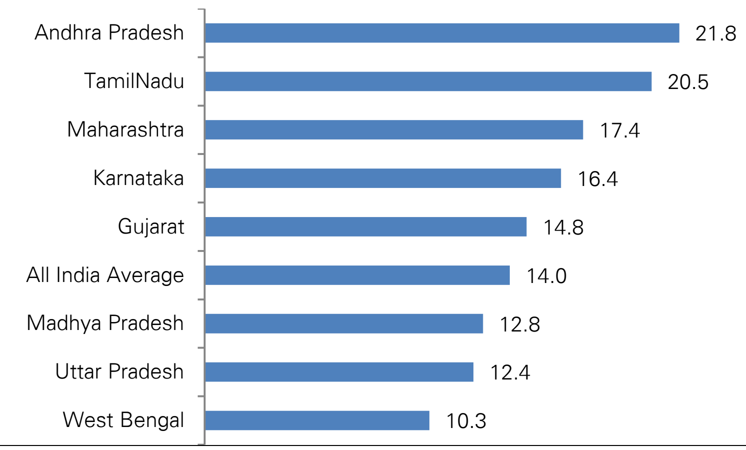
[86] *District Education Statistics 2010-11*
[87] *District Education Statistics 2010-11*
[88] *District Education Statistics 2010-11*

Dohad	280,744	78,269	72,666	25,635	457,314
Gandhinagar	148,675	54,510	78,623	44,199	326,007
Jamnagar	164,614	57,171	64,190	20,518	306,493
Junagadh	278,225	112,561	120,062	57,894	568,742
Kutch	238,859	67,351	57,808	13,447	377,465
Kheda	229,403	95,482	97,560	32,987	455,432
Mahesana	211,809	75,040	93,930	37,235	418,014
Narmada	58,202	23,096	21,710	6,078	109,086
Navsari	117,958	46,806	63,351	21,623	249,738
Panch Mahals	277,805	92,875	99,436	28,618	498,734
Patan	154,436	47,169	20,540	39,839	261,984
Porbandar	59,015	23,166	23,134	6,243	111,558
Rajkot	310,906	120,586	172,556	48,785	652,833
Sabar Kantha	261,508	93,517	118,793	40,537	514,355
Surat	423,591	152,406	170,293	85,146	831,436
Surendranagar	195,476	65,131	57,653	18,452	336,712
The Dangs	45,532	9,431	6,701	2,528	64,192
Vadodara	361,952	122,543	153,505	58,235	696,235
Valsad	170,612	57,541	62,366	27,603	318,122
Gujarat	5,813,017	2,029,697	2,271,096	852,243	10,966,053

6.5.2. Higher and Technical Education

As per 2010-11 statistics, Gujarat has over 8.9 lakh enrollments in higher education across streams standing eighth among the states in India. Penetration of higher education in a region is better indicated by number of enrollments per 1000 population. While Gujarat has a marginally better penetration of higher education compared to national average, other progressive knowledge economies like Andhra Pradesh, Tamil Nadu and Karnataka have higher penetration than Gujarat. Comparison of Gujarat with other Indian states and national average is shown in the chart.

Figure 21: Penetration of Higher Education in Key Indian States (Number of Enrollments per 1000 Population) [89]



Faculty wise breakup of enrollments in Gujarat brings out clear focus that the state has laid down on improving technical education over the years with Engineering/Technology enrollment proportions higher than the national average. Another striking difference is in the state impetus to develop quality faculty across education streams primarily in schools through graduate/post graduate programs (B.Ed/M.Ed) in education. State has a significantly high proportion of 8.5% total enrollments in education in comparison to national average of 3.2%. High focus on training adequate faculty is crucial to try and solve the issues of faculty shortages in schools over the next decade.

In Gujarat the institutional framework consists of Universities established by an Act of Parliament (Central Universities) or of a State Legislature (State Universities), Deemed Universities (institutions which have been accorded the status of a university with authority to award their own degrees through central government notification), Institutes of National Importance (prestigious institutions awarded the said status by Parliament), and Institutions established by State Legislative Act and colleges affiliated with the University (both government-aided and unaided). Overview of educational institutions in Gujarat is presented in the table.

Category	Number of Institutions [90]
Universities, Research Institutes, Institutes of National Importance	62(Including IIT Gandhinagar, IIM Ahmedabad and NIT Surat)
Govt Colleges	71
Grant in Aid Colleges	356
Self financed institutions	605

Technical education governed by AICTE is treated as a separate segment at the state level and is monitored by Directorate of Technical Education. Gujarat has leading technical education institutions like IIM Ahmedabad, IIT Gandhinagar, NIT Surat, NID, NIFT, IIT-RAM along with GTU (Gujarat Technical University) set up by the State Government. These eminent institutions provide immense opportunities to leverage their research capabilities to mentor other institutions in related domains. Intake of engineering institutions has witnessed significant growth from

[89] *MHRD Statistics 2012*
[90] *Gujarat Higher education Commission*

2006-07 to 2010-11 reaching the current levels of over one lakh seats in both degree and diploma categories. Overview of technical education institutions in Gujarat is presented in the table[91].

Category of Institutions	Number of Institutions	Intake
Engineering Degree	114	53,773
Engineering Diploma	102	56,918
MBA	132	13,365
Degree Pharmacy	80	5,005

Gujarat currently has about 20 universities of which 10 are private universities (6 already existing and 4 new have been approved and will commence operations soon). Gujarat has over 900 institutions of higher learning and research which educate approximately 551,398 students. Gujarat has instituted approximately 34,323 engineering seats and approximately 47,753 diploma engineering seats. At the post-graduation (Masters) level approximately 10,492 seats are available across various disciplines. While Gujarat has made tremendous progress in terms of industrial development and is considered to be one of the fastest developing states, the higher education system in Gujarat has had challenges in delivering graduates fit to be readily employed in the market.

6.5.3. Vocational Education

Vocational Education is another stream of higher education in Gujarat catering to the ever increasing manpower needs of burgeoning industrial growth in the state. Public and private polytechnics and vocational training institutions (ITI s/ ITCs / VTPs) exist in the state which are controlled and supervised by National Council for Vocational Training (NCVT) and Gujarat Council for Vocational Training (GCVT). Training capacities in Government institutions still forms major share (73.8 percent) of overall vocational training capacity. Vocational training infrastructure in institutions offering accredited courses under NCVT/GCVT is presented in the table[92].

Category of Institutions	Training Capacity
ITI s	1,01,973
ITCs	14,864
VTPs	21,269
All Vocational Training Institutions	1,38,106

6.5.4. Key Government Initiatives

Gujarat Government has embarked various initiatives to augment capacity in higher and technical education along with improving quality of education and focusing on employability of youth. Engaging the private sector more actively in both formal and non formal modes of education is a key initiative considering the financial constraints for Government expenditure on education. The key initiatives of the government to improve the quality and further the development of higher education in Gujarat, are as follows:

Attracting Private Investments into Education:

[91] *Gujarat Technical Education Statistics, 2012*
[92] *Directorate of Labour & Training Gujarat*

- Private Universities Bill: The Government of Gujarat has passed the Private Universities Bill allowing the formation of private universities without having to pass legislation through the Assembly. Any private institution applying for a private university would be evaluated by the Department of Education and the Department would amend the schedule of the Private Universities Bill on meeting eligibility criteria. This initiative is aimed at enabling hassle free processing of applications there by attracting private investments.
- PPP Initiatives: Public Private Partnerships are initiated in higher education and vocational education in areas of capacity building, training and faculty training
- Promotional Schemes under Industries Department for Manpower Development: Government of Gujarat has initiated promotional schemes through Center for Entrepreneurship Development (CED) aimed at increasing private participation in vocational education. Schemes for (i) setting up extension centers/Skill Up gradation Centers(SUCs) at GIDC estates, ITI premises, industrial clusters, industrial parks, SEZs, investment regions (ii) Specialized Skill Development Centers, providing financial assistance towards capital expenditure (building/land/equipment), are currently undertaken by the Government.

Prominent private vocational institutes including NSDC, partners have setup training centers in Gujarat under these schemes. Currently there are 49 approved SUCs in the state. Everonn Skill Development Limited (12 centers), Gurukul Online Learning Solution(16 centers), Teamlease Services Ltd(4 centers), EdServe(3 centers), CIDC(3 centers), TOPS(3 centers), New Horizon India Pvt Ltd(3 centers), Kohinoor Technical Institute Pvt Ltd(2 centers), Centum(1) have started training centers. Currently 11 proposals have been approved for SDCs with prominent industrial players and training institutes like Apollo Tyres, ABG Shipyard and Ahmedabad Textile Industry's Research Association (ATIRA).

These initiatives are a significant step towards garnering higher private participation in the vocation education stream and reducing the burden on Government in capacity building to cope up with the increasing demand for skilled professionals in the state. Performance details of these schemes from the date of inception are given in the table[93].

Scheme	No of training programs conducted till date	No of trainers skilled till date
Extension centers/Skill Upgradation Centers(SUCs) at GIDC estates, ITI premises, industrial clusters, industrial parks, SEZs, investment regions	156	4282
Skill Development Centers(SDCs)	98	2123

Promoting Industrial Participation in Education and Training

Government of Gujarat has initiated promotional scheme through Center for Entrepreneurship Development (CED) for running Short Term Bridge Courses in PPP mode. This scheme provides interested industrial players with options to either run existing courses or implement special programs in partner institutes. Currently

[93] *CED Gujarat*

seven PPP initiatives have been approved with players including General Motors, Tata Motors Pvt Ltd and Powai Labs. Performance status of the scheme till date is presented in the table[94]

Scheme	No of training programs conducted till date	No of trainers skilled till date
Short Term Bridge Courses under PPP mod	5	110

Introducing Flexible Curriculum:

State has implemented measures to provide flexibility in curriculum selection for students across levels of higher education

- Introducing Choice Based Credit System (CBCS) allowing students to choose courses as electives from different streams in UG/PG programs
- Introducing CoE in vocational education targeting multi skilled workforce suitable for the current industry needs
- Active Learning Methodology(ALM)- Student centric practical learning approach in teaching at higher education institutions

Improving Quality of Education:

State Government in Gujarat has initiated various measures aimed at enhancing the quality of learning at higher education institutes like

- Introducing ICT in teaching and learning processes in classrooms through initiatives like SANDHAN
- Introduced Academic and Administrative Audit (AAA) to monitor the quality of higher education institutions
- Initiated implementation of TEQUIP-I in technical education institutions
- University Granth Nirman Board- Providing quality educational resources in local languages at affordable prices
- Setting up of GEIC(Gujarat Educational Innovations Commission) with district, block and cluster level cascading structure integrating schools with higher education to promote the innovation in education

Improving Employability of Students

Employability enhancement measures through initiatives like UDISHA (Universal Development of Integrated Employability Skills through Higher Education Agencies) and finishing school, language training programs (SCOPE) are undertaken by the state Government.

- Initiated in 2008 UDISHA is targeted to improve employability of students in higher education institutes across Gujarat by organizing career development programs, training for the clubs through faculty incharges
- Technoseva and Viswakarma Yojana provide earning opportunities to students by engaging them in social sector projects in rural and urban areas
- SCOPE- Targeted to train 5 lakh youth in English proficiency over a period of 5 years through PPP and education institutions

[94] *MHRD Statistics 2012*

- Started in 2008 emPower provides basic computer training to youth in schools, higher education institutions, ITI s/ ITPs and also through employment exchanges, KVKs (Kaushal Vikas Kendras) and PPP. Initiative has trained over 3.3 lakh youth till 2012
- Finishing School and Life Skills programs under Gujarat Knowledge society

Inclusion measures in education

Government has ensured special focus on improving accessibility of education and training for disadvantaged sections on regional, social and gender basis

- Special training programs for girls in schools through Gujarat Knowledge Society in collaboration with training partners like IL&FS, NIIT and HCL.
- Girl Child Education Program providing free education to girls in technical education institutions.
- Tuition fee waiver for students from economically backward communities in Technical Education.
- Developing community colleges for skill development.
- Setting up of Kaushalya Vikas Kendras in rural areas for skilling local youth on livelihood trades.

Institutional Collaboration

Special thrust has been given to improving opportunities for inter institute collaborations through the use of ICT. Some of the initiatives include

- Anchor Institutes initiative through CED providing financial assistance to support research and faculty training in respective sectors. So far, six Anchor Institutes have been selected under the scheme in Engineering and Auto, Gems & Jewellery, Textile, Garment & Apparel, Plastic and Packaging, Chemical and Infrastructure. A review committee headed by IIT Gandhinagar is set up to monitor the performance of the anchor institutes. Across sectors, around 400 training programs have been conducted training over 10,000 trainers/students till date.
- Mission Mode Implementation initiative to promote inter collage collaboration has been initiated in 2009. State/district/zonal level networks are crated to conduct faculty training, knowledge sharing and research

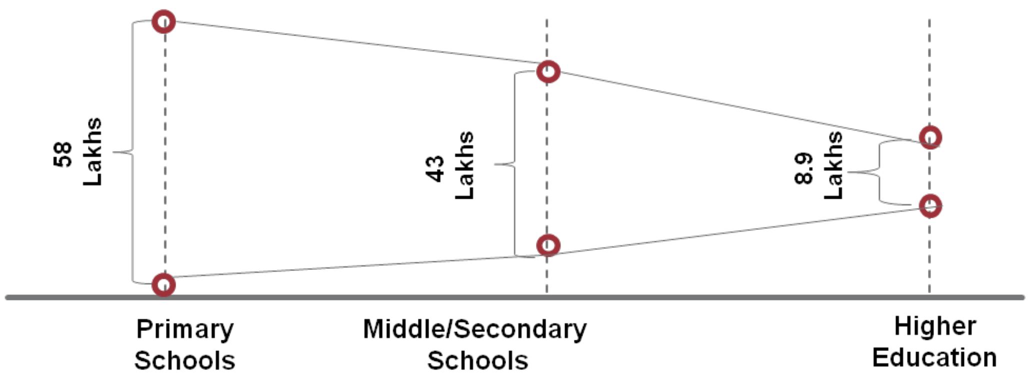
6.5.5. Challenges in the Current Education System

Demand-Supply Gap:

Successful implementation of universal education programs at school level has triggered the need to expand higher education facilities across India, and more specifically in Gujarat, which has witnessed a steep raise in school enrollments over the last decade. While the higher education capacities have registered significant growth, considering the low base of higher education institutes, gaps in the educational system continued to exist. Capacity gaps and affordability are key reasons for drop outs. A measure of the spread of higher education is the Gross Enrolment Rate (GER). GER is an index which measures the enrolment in higher education of the population in the age group of 18-24. GER scenario in Gujarat is on par with of the national average as per 2007-08 estimates. However, if we compare the GER of other countries like China - 22 per cent, Brazil-73 per cent, UK-59 per cent and USA-82 per cent, Gujarat has a long way to improve on this front through strategic interventions in capacity building to augment private participation.

A view of the current enrollment status across levels of education would provide a picture of emerging capacity gaps over the next decade or so. Current primary enrollments (5 years) in Gujarat standing at 58 lakhs would indicate that in the next decade when this age group moves into the stage of higher education, there would be only opportunities for 8.9 lakhs, depriving the other students of higher education access. It would suggest that current capacities can match a GER of only 15.35 by the end of the next decade. This is a serious concern faced by a majority of the states in India. Considering the need to create trained manpower for growing industries and to develop Gujarat into a knowledge economy, significant capacity expansion is required in higher education. On conservative estimates, if the GER targets for India (30% by the end of 12th plan period 2012-17) have to be matched, current education infrastructure in the state has to nearly be doubled by 2017.

Figure 22: Enrollments in Gujarat across Education Levels[95]



Low Penetration of Vocational Education:

Vocational education can play the role of bridging the skill gap. The vocational educational system in Gujarat needs significant growth in order to match the standards of some leading countries that focus on vocational education like Germany, Singapore and China.. The state should emphasize improving the vocational education infrastructure.

Regional imbalances in Capacities:

Concerns of inclusion across regions are central to the expansion of education and training in Gujarat as is the case with other states in India. Historically, private institutions have focused on urban regions while in rural areas it is predominantly Governments that drive the education system. Low affordability for private education in rural areas is the key reason for limited interest from private players. Government policies on capacity creation have been traditionally based on population prorate basis in a region. This has resulted in limited capacities across rural areas leading to fewer graduating students due to either non-enrolment in higher education or high drop-out rate at the school level. A comparison of vocational education capacities in the state would show that density of vocational infrastructure measured as number of seats available for 1000 people is high in the districts of Navsari, Bharuch, Sabar Kantha, Gandhinagar and low in Porbandar, Surat and Bhavnagar. Level of private participation is low in The Dangs, Navsari, Porbandar and Jamnagar districts. Capacity expansion in vocational education and augmentation of

[95] *KPMG Analysis*

private participation has to initiate region specific initiatives considering the current level of variations among the districts. Details of district wise variations in vocational training infrastructure are presented in the table.

Table 11: Vocation Education Capacities in Gujarat

Penetration	Region	No. of ITI/ ITCs/VTP	Seat Capacity	NSDC Partners		Vocational Training. Density*
				Institutes	Capacity	
High	Navsari	15	6,125			4.60
	Bharuch	21	6,256	3	886	4.03
	Sabar Kantha	47	8,382	5	87	3.45
	Gandhinagar	29	4,666	2	26	3.36
	Mahesana	37	6,377			3.14
	Panchmahals	45	7,488	3	247	3.14
Medium	Kheda	31	6,803	5	188	2.96
	Junagadh	63	8,051	1	28	2.94
	Dohad	38	5,770	2	221	2.71
	The Dangs	1	600	1	45	2.66
	Amreli	18	3,940			2.60
	Surendranagar	27	4,356			2.48
	Tapi	7	1,930			2.39
	Kachchh	19	4,712			2.25
	Vadodara	48	9,168	4	143	2.21
	Patan	12	2,952			2.20
	Jamnagar	17	4,656			2.16
	Anand	29	4,230	2	24	2.02
Low	Valsad	11	3,319	3	173	1.95
	Banas Kantha	32	5,676	1	80	1.82
	Rajkot	36	6,920	1	43	1.82
	Ahmedabad	61	12,141	24	1926	1.68
	Narmada	6	932	2	156	1.58
	Bhavnagar	28	4,346	1	21	1.51
	Surat	30	7,750	1	20	1.27
	Porbandar	3	560			0.96
Gujarat		**711**	**138,106**	**61**	**4,314**	**2.36**

**** Measured as seats per 1000 population***

6.6. Demand-Supply Gap Analysis for the State

Demand supply gap based on assessment of existing training infrastructure in comparison to human resource demand, highlights opportunities for implementing a suitable skill development strategy for the state. While the approach can be used for estimating the needs of a decade, considering the possibility of changes in training infrastructure and employment prospects, the current study has analyzed the demand supply gap for a five year term. Estimation of demand supply gap over XII plan period indicates the significance of Gujarat as an employment hub for the workforce in semi skilled category, considering the high level of industrial growth to provide employment opportunities to the semi skilled workforce. Human resource surplus is observed in skilled category considering the current level of industrial growth. However, the future state of industrial development could potentially change the scenario. Considering the limitations to the inclusiveness of informal and unorganized sector employment, the minimally skilled segment would be a human resource deficit category with potential opportunities for migration from other states. For the XII plan period, the state needs to focus on improving the current state of training infrastructure for semi skilled workers both in formal and informal segments along with undertaking suitable measures to promote entrepreneurship among skilled workers considering the surplus scenario in the segment.

Assessment of existing training infrastructure in comparison to human resource demand over XII Plan period, indicates significant capacity expansion requirement for semi-skilled category through vocational education. Supply Demand-Supply gap estimates indicates a need to improve participation rates in semi-skilled categories along with providing vocational skills to high skilled and minimally skilled labour force to ensure adequate considering the high level of employment opportunities in semi skilled category within the state. Further, employability of highly skilled graduates is an issue owing to misalignment of courses with industry needs and poor quality of institutes. Issue of low employability of graduates has to be addressed through suitable up skilling considering local industrial requirements in order to ensure availability of industry ready manpower.

Figure 23 A: Gujarat Supply Demand Gap Estimations for 2012-17

Figure 23 B: Gujarat Supply Demand Gap Estimations for 2017-22

District level variations in Demand-Supply gap indicate the need for geography specific initiatives to address the skilling issues. Category wise Demand-Supply gap estimations for the districts of Gujarat are presented in the table below.

Table 12: District Wise Variations in Demand- Supply Gap for Gujarat

District Wise Supply- Demand Gap in Gujarat (2012-22)								
	2012-17				2017-22			
Region	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Gujarat	**(1,637)**	**939,383**	**116,890**	**915,489**	**(58,092)**	**651,365**	**457,174**	**1,067,007**
Kachchh	1,326	46,100	48,944	(42,733)	159	35,366	51,289	86,813
Banaskantha	(11,355)	14,068	(4,332)	(1,620)	(11,883)	5,133	14,094	7,350
Patan	(2,896)	9,002	(11,270)	(5,168)	(3,955)	4,337	(1,064)	(685)
Mahesana	(2,179)	29,969	713	28,505	(4,499)	20,438	17,465	30,379
Sabarkantha	(5,973)	19,336	(8,942)	4,416	(6,665)	12,358	5,972	11,664
Gandhinagar	13,215	55,324	3,643	72,175	8,775	41,340	12,861	62,980
Ahmadabad	4,134	139,893	66,247	210,268	(2,250)	105,400	91,935	195,078
Surendranagar	(2,834)	17,243	(5,317)	9,089	(4,307)	10,729	6,240	12,663
Rajkot	792	64,624	15,601	81,018	(2,509)	49,060	33,892	80,440
Jamnagar	133	28,472	481	29,083	(1,683)	20,918	11,759	30,996
Porbandar	1,267	11,576	(4,617)	8,224	(57)	7,654	(6)	7,590
Junagadh	(5,777)	22,715	(10,811)	6,127	(8,707)	(11,297)	9,375	14,568
Amreli	(2,225)	14,117	(12,924)	(1,034)	(3,816)	8,686	(1,025)	3,846
Bhavnagar	(332)	41,645	1,848	43,161	(3,765)	27,723	19,139	43,094
Anand	(3,610)	16,009	(11,734)	658	(5,505)	8,751	2,950	6,192
Kheda	(4,462)	28,316	(1,653)	22,199	(6,279)	19,037	16,015	25,223
PanchMahals	(6,614)	15,347	(16,840)	(8,109)	(7,379)	8,708	151	1,474
Dohad								

	(7,713)	8,767	(14,398)	(13,345)	(6,874)	4,179	(1,754)	(4,448)
Vadodara	8,650	94,358	12,656	115,664	3,542	72,254	34,736	110,530
Narmada	238	7,741	(6,554)	1,427	(550)	5,050	(1,819)	2,681
Bharuch	3,791	40,887	23,383	68,062	1,114	31,324	32,788	63,183
The Dangs	1,910	7,493	(724)	8,678	1,748	5,951	585	8,285
Navsari	(2,818)	16,674	(4,885)	8,972	(4,941)	10,175	6,168	11,404
Valsad	864	44,916	26,047	71,826	1,043	35,984	29,330	66,351
Surat	12,523	132,032	55,495	200,046	550	98,239	89,986	188,772
Tapi	172	6,451	(8,654)	(2,036)	(520)	4,222	(3,070)	634

*(Indicates excess supply)

6.7. Skill Training through Government Endowments

Skill development is one of the national priorities for the Government of India. In the Central Government, around 20 Ministries are closely involved with skill development initiatives either through setting up their own skill training capacity (done by Ministry of Labour and Employment, Ministry of Higher Education etc) or by providing per-trainee costs of training for specific target populations (done by Ministry of Housing and Urban Poverty Alleviation, Ministry of Rural Development, Ministry of Minority Affairs etc). While some schemes target state level training mandates on a population prorate basis others would be linked to sectoral development of respective ministries. Detailed summary of key Government schemes with training mandate is presented in the table[96].

Table 13: Scheme Training Details-Gujarat

Ministry under Central Govt.	Training Scheme Details
Building and Other Construction Workers' Welfare Cess	Skill Training for Construction Activity based on the availability of Construction Cess with the State Government, of which around 50% can be deployed in manpower training initiatives.
Ministry of Agriculture	Skill Training for agri and allied sectors based on national targets of the sector and state's employment share in the agriculture and allied activities.
Ministry of Labour	The state is expected to receive funds based on national targets set for Modular Employability Scheme under Skill Development Initiative Scheme, proportionate to its contribution to secondary sector activities.
Ministry of	Scheme wise national targets for software export industry including setting up of

96 *National Skill Development Mission*

Communication and IT	DOEACC Centers/RIELIT and up gradation of existing centre, Special Manpower Development Programme in the area of VLSI Design and related software (SMDP-II). Estimations are based on national targets and the state's aspiration to sectoral growth in IT/ITEs.
Ministry of MSME	National MSME manpower development targets apportioned to state based on state's employment share in MSME segment.
Ministry of HUPA	Physical training targets from an estimated allocation of INR 38.86 crores towards skill training component STEP-UP under Swarna Jayanthi Shahari Rozgar Yojana.
Ministry of Textiles	Manpower training targets under Integrated Skill Development Scheme for Textiles and Apparel Sector including Jute and Handicrafts, apportioned based on state's contribution to textile sector.
Ministry of Higher Education	Manpower training targets apportioned based on state's population in higher education age group.
Ministry of Health and Family Welfare	Scheme training targets for ASHA Training, Personnel trained on IMNCI, Doctors trained on LSAS, Doctors trained on EMoC, ANMs/SNs/LHVs trained as SBA and Navjat Shishu Suraksha Karyakram (NSSK); apportioned based on state's share of national population.
Ministry of Women and Child Development	Training targets under Women Empowerment Scheme apportioned based on female population in the state.
Ministry of Road Transport and Highways	Training targets under "Refresher training to drivers" apportioned based on state's share in national highway length.
Ministry of Social Justice and Empowerment	Training targets apportioned based on state's share of Scheduled Caste population.
Ministry of Food Processing	Training targets apportioned based on state's share of contribution to food processing sector.
Ministry of Chemicals and Fertilizers	Training targets apportioned based on state's share of employment in manufacturing segment.
Ministry of Tourism	Estimated funding of INR 1.54 Cr towards flagship" Hunar se Rozgar" scheme, based on the state's contribution to tourism industry.
Ministry of Minority Affairs	Training targets under Leadership Development of Minority Women apportioned based on state's share of minority population.
Heavy Industries	Training targets apportioned based state's employment share in manufacturing segment.

National level scheme funding targets demarcated for Skill Development are apportioned to Gujarat considering the following parameters-population, industrial output, land, economic output and social composition of population. Based on indicated cost per trainee for the identified schemes state level scheme wise training potential has been estimated for the period 2012-17. During the five year period 2012-17 major schemes have a potential to train nearly

19 lakh people with SJSRY, SDI-MES and Agricultural training program accounting for a major share of this. Details of scheme/department wise training targets are presented in the table[97].

Key Schemes with Training Mandate	Estimated Potential Training Capacity in Gujarat (2012-17)
SJSRY	375,000
SDI-MES	300,000
M/O Agriculture	250,000
SGSY	200,000
Using Construction Cess	190,000
ISDS – Textiles	125,000
Others	115,000
D/O IT	110,000
ART - M/o Tribal Affairs	50,000
SCA under TSP - M/o Tribal Affairs	30,000
Hunar Se Rozgar	25,000
CSR Funds from Central PSUs	25,000
Credit Scheme	105,000

[97] *National Skill Development Misssion, KPMG Analysis*

6.8. Youth Aspirations in Gujarat

Having estimated the skill requirements from an industry perspective, it is important to understand the career aspirations of youth, who would be the ultimate beneficiaries of employment generation in the state.

Preference for Employment Vs Entrepreneurship: Several factors such as entry level salaries, work environment, job location, and socio-cultural factors, seem to influence youth preferences towards employment. While certain communities have established preferences for entrepreneurship in skilled/minimally skilled businesses, low entry level salaries in industries is another key factor influencing youth preference. Youth in semi urban and rural areas have expressed higher level of inclination towards entrepreneurship than their urban counterparts due to above mentioned reasons.

Migration: Migration is linked to socio-regional factors in Gujarat. While youth from certain communities have aspirations for migrating to US, UK and Middle Eastern countries for jobs, others from industrially less advanced areas are open for migrating to Surat, Ahmedabad, Kutch and Bhavnagar within Gujarat for better employment prospects. While industrial belts have the potential to absorb and employ migrants, preference for centrally located regions like Ahmedabad, Vadodara clusters is high over far away regions like Kutch. Low entry level salaries across industries is another key factor against migration from even areas with limited organized employment potential where people would get engaged in self employment otherwise.

Choice of Education and Training Stream: Economic background of an individual is one of the key factors influencing the program chosen for study. Along with economic background, awareness level about the programs, typically acquired through family members/seniors, is another major influencing parameter. Students from weaker sections of the society, both economically and socially, prefer vocational courses over higher education programs. Vocational streams are considered as strenuous especially in the mechanical sector, which is not preferred by girls considering the nature of employment involved in these sectors.

Significant influence by peers and family in career decisions: Students in both graduate and ITI categories are significantly influenced by their peer circle and family members, in their preference for courses. While ITIs in Gujarat have started awareness programs in schools and during the time of standard X results, career decisions are still influenced by elders in their families.

Preference for government jobs over private: Youth seem to show higher inclination for jobs in Govt/Govt Undertaking Sectors like Railways, GEB, IOCL, NTPC and other PSUs. However, considering the limited opportunities in these segments, private sector jobs offering high job security (Large Corporate like Tata, Reliance, Adani), are the preferred option for youth in private sector as the salary differences in private sector are not very prominent across industrial for blue collar jobs.

Awareness of career opportunities high in industrialized districts: Awareness of career opportunities seemed correlated to the level of economic progress of the districts. Higher awareness levels were observed in students from the economically developed districts like Ahmedabad, Gandhinagar, Surat and Kutch compared to those from backward districts like The Dangs, Navsari and Panchmahals. ITI students had moderately high awareness of the job opportunities in the government sector. Government initiatives like Computer facilities, Job fairs, UDISHA and SCOPE have helped in enhancing the awareness about career opportunities among youth across sectors.

Preference for white collar jobs: Youth from vocational/higher education have expressed strong aspiration for white collar jobs over blue collar jobs. Amongst ITI students from streams that would cater to the shop floor, the preference for normal working conditions is high due to health and safety reasons.

Higher than market level salary expectations from first job: Youth in the state seem to have marginally higher expectations than market level salaries.

Sectoral Preference for Employment: Based on interactions with youth on a sample study across the districts of Gujarat, sectors taken for manpower estimations were classified as high, medium and low aspiration categories based on their preference to work. Regional considerations along with work place environment and salaries have significant influence on preferences for sectors. Summary of sector-wise preferences from youth across the state are presented in the table[98].

Sector	Aspiration To work	Sample Characteristics
Primary Sector		
Cultivation	Low	Farming communities/ Minimally skilled Youth
Allied Activities	Medium	Farming communities/ Minimally skilled Youth
Secondary Sector		
Agro & Food Processing	Medium	Vocational Training Students
Textile & Apparel	Low	Vocational Training Students
Wooden Products & Furniture	Low	Vocational Training Students
Paper & Paper Products	Medium	Vocational Training Students
Chemical & Chemical Products	Medium	Vocational Training Students
Rubber & Plastics	Low	Vocational Training Students
Mineral Processing & Fabrication	Low	Vocational Training Students
Electrical & Electronics	High	Vocational Training Students
Manufacturing of Engineering Goods	High	Vocational Training Students
Manufacturing of Construction Material	Low	Vocational Training Students
Drugs and Pharmaceuticals	Medium	General Youth
Construction	Medium	General Youth

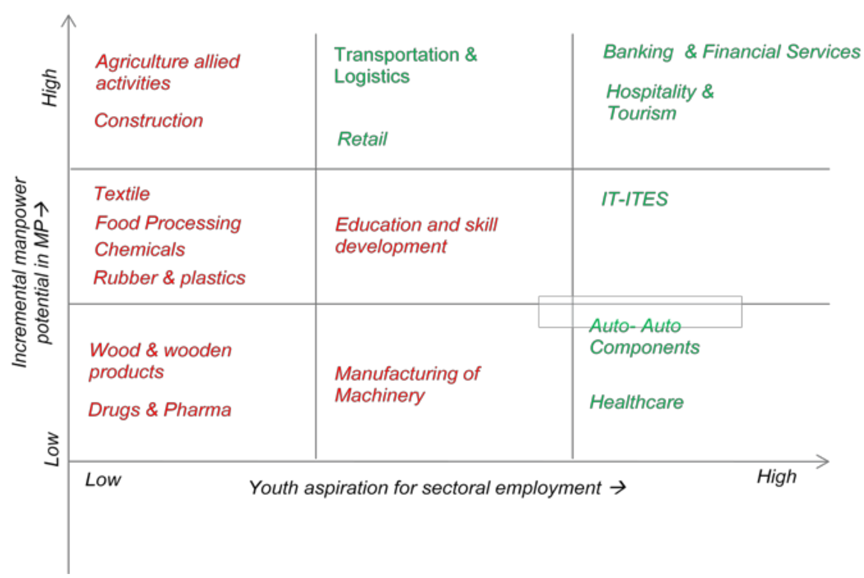
[98] *FGDs in Gujarat, KPMG Analysis*

Energy	High	General Youth
Services Sector	Medium	General Youth
Trade, Retail	Low	General Youth
Transportation & Logistics	Medium	General Youth
IT-ITES	High	General Youth
Hospitality & Tourism	Medium	General Youth
Banking & Financial Services	High	General Youth
Healthcare	High	General Youth
Education & Training	Medium	General Youth

Skill Development Attractiveness Matrix for the State:

Skill Development matrix based on incremental employment potential in a sector mapped against preferences of skilled youth for a career in the respective sectors highlights opportunities for implementing sector level skill development initiatives. Skill Development Matrix for Gujarat indicates a clear gap between student aspiration and jobs available in the state. Sectors such as Textile, Construction and Retail need to work on building a positive image and providing the right working environment/perks to become aspirational sectors and attract talent. Traditional high employment generating organized sectors like IT/ITES, Healthcare, Banking & Financial Services, Energy and Education etc, have high employee work preference. Stakeholders in skill development & training need to consider the youth aspirations while drafting policies/strategies. Skill Development Matrix for the state is presented below.

Figure 24: Skill Development Matrix for Gujarat [99]



[99] *KPMG Analysis*

6.9. Institutional Recommendations for Skill Development in the State

6.9.1. Recommendations for the Government of Gujarat

1. Systematic mechanisms to identify and assist potential school dropouts transition into vocational programs

Scheme Objectives:

- In Gujarat, currently less only one-sixth of students move on to Higher Education. Students likely to opt out of school education should be proactively identified and brought into the fold of the vocational education system.
- Integrate vocational courses in school curriculum to equip students with industry relevant skills, as well as skills for starting businesses and self-employment. This will also ensure reduction in dropout rates.
- Establish Systems for Integrated Learning with Industry through Multi Level (4 Levels) learning structure, where Level 1 and 2 trainings are provided in school, and supplemented by Level 3 and 4 trainings in industry.

Implementation:

- Class 9th To 12th should be the focus, considering low transition levels from secondary to higher secondary (38%).
- Districts with high capacity gaps in secondary and higher secondary systems- Anand(86%), Bhavnagar(78%), Kutch(77%), Porbandar(73%), Banas Kantha (73%)and Narmada (72%), should be the focus
- Focus on sectors that are high preference as well as high growth sectors of Gujarat (Auto-Auto Components, Banking & Financial Services, Hospitality & Tourism, Organized Retail, IT-ITES, and Transportation & Logistics).
- Upon successful completion of Level 1 and Level 2, candidates can join industry for Level 3 and Level 4 learning within the industry, or opt for self employment opportunities.

Scheme Enablers:

- Vocational modules for schools need to be standardized to ensure uniform learning outcomes for Level 1 and 2 courses in schools. Local Industry collaborations can be established for Level 3 and Level 4 trainings to students.
- Considering the shortage of faculty for vocational education, the School Education Department can fund/create systems for Training Trainers for vocational modules In Schools, through ITIs and industry.

- Support for Entrepreneurship of trained candidates through tie-ups with Financial Institutions (Banks, NBFCs).

2. Develop the Gujarat Skill Development Mission in line with its charter, as a focal agency for skilling

- Define the strategic road-map for skill-development in the state for the next decade (2012-17, 2017-22), in close consultation with other key departments, and central skill development agencies such as the NSDC, considering the district level skill gap projections. Strategic roadmap would outline the skill development agenda for the state:
    - Vocational training capacity building (sector/district level)
    - Fund allocation plans
    - Proposed systems to monitor the effectiveness of various training initiatives
    - Schemes/ structures to garner private participation in the state
- Decentralize implementation and monitoring of skill development initiatives through dedicated SDM chapters at sector level (For focus sectors- Transportation & Logistics, IT/ITES, Auto-Auto components, Banking & Financial Services, Retail, Healthcare and Hospitality & Tourism) and district level. Suggested representations:
    - Anchor Institutes, SSCs, training institutes, industry bodies and key industries for sector level SDM chapters
    - Local industries, training institutes, representatives of Government departments for district level SDM chapters
- Leverage on SSC certificated courses and standards that are being developed centrally, especially in the high aspiration/ high potential focus sectors (mentioned above), and facilitate adoption in the state

3. Focus on Enhancing Skill Training Capacities in Districts With Low Penetration of Vocational Education

- Focus on districts with low penetration of vocational education(seat capacity per population) - Kutch, Vadodara, Patan, Jamnagar, Anand, Valsad, Banas Kantha, Rajkot, Ahmedabad, Narmada, Bhavnagar, Surat and Porbandar for capacity expansion through public investments/ special schemes to promote private participation through PPP
- Revalidate the existing PPP schemes considering the challenges in implementation of existing schemes under
    - Industries Department (CED)

    - Labour & Employment Department
    - Other Departments focused on specific industry sectors (Textile, IT-ITES etc.,)

- Fast-track the NSDC/SSC affiliated partners to setup training in these districts using subsidized government infrastructure (GIDC etc), by waiving off detailed due-diligence, as NSDC partners are pre-approved through rigorous due diligence

4. Setting up Anchor Institutes in more focus industries and broadening their scope

Considering the high potential / aspirational value for sectors of Transportation & Infrastructure, IT-ITES, Retail, Healthcare, Banking & Financial Services, Hospitality & Tourism, new anchor institutes can be setup for research and faculty training. They can champion adoption of SSC standards & curriculum, and localize it as required (language etc).

4. Engagement with sector skills councils

Given the high potential as well as aspirational value of the sectors of Transportation & Infrastructure, IT-ITES, Retail, Healthcare, Banking & Financial Services, Hospitality & Tourism, the state government can engage with the sector skills councils set up, or in the process of being set up, in these sectors. NSDC has been creating capacity in sector skills councils, and the state government can have an engagement with them

6.9.2. Recommendations for Industry

1. Aligning CSR Goals (especially mandatory 2% CSR requirement) towards skilling, and play an active role in PPP initiatives. Share annual plan of recruitment with government and industry nodal agencies for skilling
2. Support training institutes in development/delivery of programs
    a. Excess production capacity/equipments can be shared with institutes during lean production hours/shifts
    b. Support Training of Trainers (TOT) allowing skilled employees to be trainers for fixed no. of hours, for ITI faculty, school faculty etc involved in vocational training
    c. Policy to encourage apprenticeships and internships of vocational & ITI students
    d. Provide used infrastructure at subsidized costs to academic institutions
    e. Support in providing level 3 and level 4 training for students with level 1 and level 2 certifications at schools (Refer to recommendations on vocational programs in schools)
    f. Participation in development of curriculum for specific trades not available in ITIs/VTPs right now
3. Align recruitment policies to ensure hiring certified manpower from Govt/SSC accredited training institutions
4. Invest in up-skilling of existing manpower and formulate formal HR policies and mechanisms to encourage employees to train in institutions

6.9.3. Recommendations for NSDC

1. Developing Curriculum and Standards for Focus Sectors/ Vocational Courses in Schools

- SSCs can facilitate development of standardized curriculum that can be designed into four levels (as per practice in some developed countries), where the first two levels are adopted at 9th-12th levels of school education, and the next two levels are provided in industry. The districts of Gujarat where the Higher Education transition is low (Anand, Bhavnagar, Kutch, Porbandar, Banas Kantha and Narmada), are of particular focus for implementation of the first two levels of courses within schools

- SSCs can develop certification standards for high growth/aspirational value sectors of the state - Transportation & Infrastructure, Auto & Auto Components, IT-ITES, Retail, Healthcare, Banking & Financial Services, Hospitality and Tourism.

2. Promoting Private Sector Participation in Focus Sectors & Supply Clusters

NSDC Encouraging NSDC Partners to enhance training capacities in the state by focusing on

- High growth sectors of the state - Transportation & Logistics, Auto & Auto Components, IT-ITES, Banking & Financial Services, Tourism & Hospitality, Healthcare and Retail

- Districts with lower penetration of training infrastructure coupled with high industry growth - Kutch, Vadodara, Rajkot, Ahmedabad, Bhavnagar, Surat

6.9.4. Recommendations for Training Organizations

1. Focus on high growth/ aspirational value sectors where student acquisition is easier -Transportation & Logistics, IT-ITES, Banking & Financial Services, Healthcare, Auto & Auto Components, Tourism & Hospitality and Retail
2. Create capacities in districts with lower penetration of training infrastructure - Kutch, Vadodara, Patan, Jamnagar, Anand, Valsad, Banas Kantha, Rajkot, Ahmedabad, Narmada, Bhavnagar, Surat & Porbandar. Districts where low penetration of training infra is coupled with high industry growth, are high potential for future growth of skilling
3. Explore scheme-based training potential to address the skilling needs of under privileges/BPL population - key schemes with high training potential are SJSRY, MES, SGSY, Textile Department and Construction Cess
4. Emphasize offering accredited programs (SSC certifications) to ensure industry acceptance for certifications
5. Leverage existing infrastructure to build optimal delivery models (ITI premises, GIDC space where offered, industrial space during lean production hours etc)
6. Build industry linkages in areas of development and delivery of training programs- placements, curriculum formulation, apprenticeships, faculty training
7. Engage credible local networks (SHGs, NGOs, student groups such as UDISHA groups) for student acquisition

PART- III

6.10. District Level Skill Gap Studies

6.10.1. Skill Gap Study of District of Ahmedabad

6.10.1.1. Socioeconomic Profile

6.10.1.1.1. Administrative Profile

Ahmedabad, located in the central part of Gujarat is a key district. It encompasses Ahmedabad city which is a capital and seventh largest urban agglomeration in India. It shares border with Mehsana, Gandhinagar, Bhavnagar, Kheda, Surendranagar districts on three sides and Gulf of Cambay in the south. As per 2011 census estimates, Ahmedabad has a geographical spread of 8087 sq.km. Administratively the district is divided into 11 talukas and 649 villages[100]. Talukas in Ahmedabad district are Ahmedabad City, Dascroi, Dholka, Bavla, Dhandhuka Ranpur, Barwala, Sanand, Viamgam, Mandal and Detroj-Rampura.

6.10.1.1.2. Demographic Profile

Ahmedabad district forms heart of economic development of Gujarat with significantly high human resource potential. As per 2011 census estimates, it has a population of around 72.08 lakhs[101]contributing to 11.9 percent[102] of overall state population. It is among the most densely populated regions in the state with a population density of 890 persons per sq.km[103] in comparison to the state average of 308 persons per sq.km[104]. Influx of migrants into industrial clusters of Ahmedabad from within and outside Gujarat is a key reason for growth of population that has lead to higher population density. It is predominantly urban with an 84.05 percent[105] share of urban population in the overall district population. Further, district population is unevenly distributed across the talukas leading to higher human resource potential in some talukas compared to others. Analysis of Taluka wise population distribution as per 2001 Census indicate that Ahmedabad City and Daskroi regions alone have potential to contribute to over 80 percent[106] of human resource potential of the district. Taluka wise population distribution details are presented in the table.

[100] *Census 2011 Statistics*
[101] *Census 2011 Statistics*
[102] *Census 2011 Statistics*
[103] *Census 2011 Statistics*
[104] *Census 2011 Statistics*
[105] *Census 2011 Statistics*
[106] *Census 2001Statistics, KPMG Analysis*

Regional Distribution of Population in the District[107]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Ahmadabad City	72.6%	13875
Daskroi	7.9%	700
Dholka	3.7%	211
Sanand	3.3%	246
Viramgam	3.0%	195
Bavla	2.3%	174
Dhandhuka	2.3%	76
Detroj-Rampura	1.3%	220
Ranpur	1.3%	177
Barwala	1.2%	138
Mandal	1.1%	138

Ahmedabad District has a relatively lower composition of female population with a gender ratio of 903 females per 1000 males[108] in comparison to state average of 918 females per 1000 females[109]. Gender biased migration of workforce is a key reason for the biased population composition. Contribution of scheduled categories to the overall population is not significant indicating that the inclusive growth in Ahmedabad could be achieved through higher focus on female centric initiatives.

Overall literacy rate in the district standing at 86.65 percent (as per 2011 census) [110] is better than the state average of 79.31 percent[111]. With a literacy rate gap of 16.73 percent[112] between urban and rural areas as against overall state average of 14.58 percent[113], district is facing with issues of continuing regional variations in literacy that needs to be addressed through specific focus on rural areas. However, male-female literacy gap of 12.15 percent[114] in the district is significantly lower than the than the gap of 16.5 percent[115] for Gujarat indicating the higher levels of gender inclusion in education attainment.

6.10.1.1.3. Economic Profile

Ahmedabad is an industrially developed district in Gujarat. Improvements in industrial and social infrastructure coupled with conducive industrial policies by the state government have boosted the growth of economic activity in the district. Currently there are 12 Industrial Estates, 12 Special Economic Zones, and 10 Industrial Parks operating in the district, witnessing significant investments over the years. Textiles, chemicals, industrial machinery, metal products, pharmaceutical, engineering goods, plastics, electrical appliances & electronics, auto & auto components

107 *Census 2001Statistics, KPMG Analysis*
108 *Census 2011 Statistics*
109 *Census 2011 Statistics*
110 *Census 2011 Statistics*
111 *Census 2011 Statistics*
112 *Census 2011 Statistics*
113 *Census 2011 Statistics*
114 *Census 2011 Statistics*
115 *Census 2011 Statistics*

are key industrial segments within the district. Several business conglomerates such as Adani Group, Reliance Industries, Nirma Group of Industries, Arvind Mills, Claris Life Sciences, Cadilla Pharmaceuticals, Shell, Vadilal Industries Ltd., Rasna, Bosch, Rexroth (Germany), Stork and Rollepaal (Netherland) are present in the district.

Considering the infrastructure and location advantage, district has emerged as one of the key destinations for large scale investments in Gujarat. As per the IEM, LIO, LOP investment details, the district has a total of 563 commissioned[116] large scale industrial units attracting an investment of INR 9473 Cr[117] along with 336 units[118] under implementation with an investment of INR 6,328 Cr[119]. Ahmedabad District has identified locations for the development of industrial, logistics hubs along the stretch of DMIC (Delhi Mumbai Industrial Corridor) between Ahmedabad and Dholera. Proposed Dholera Port City has significant investment opportunities in industrial and port logistics sectors spurring the industrial development in nearby region.

Analysis of regional distribution of investments in Ahmedabad district indicates that industrial development is concentrated around Sanand, Ahmedabad City, Bavla, Dholka and Daskaroi Talukas while other regions including Viramgam, Ranpur, Mandal, Dhanduka, Barwala, and Detroj- Rampura still remain backward in terms of industrial development. Over the recent years the State Government has initiated measures to enhance industrial growth in backward talukas across the state through suitable incentives leading to an increased investment potential of these regions over the next decade. New GIDC estates were proposed to be set up in Sanand, Mandal and Daskroi talukas. Details of region wise large scale investments in Ahmedabad district till 2012 is presented in the table.

Large Scale Investment Scenario In Ahmedabad[120]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Sanand	185	3703	104	7336
Ahmedabad City	237	3591	147	4585
Bavla	23	321	23	2169
Dholka	43	915	20	1145
Daskaroi	47	212	22	543
Viramgam	19	673	6	57
Ranpur	3	5	3	63

116 *IEM, MSME Part-II Data till 2012-13*
117 *IEM, MSME Part-II Data till 2012-13*
118 *IEM, MSME Part-II Data till 2012-13*
119 *IEM, MSME Part-II Data till 2012-13*
120 *IEM, MSME Part-II Data till 2012-13*

Mandal	--	--	1	31
Dhandhuka	3	5	--	--
Barwala	--	--	--	--
Detroj-Rampura	--	--	--	--
Not Classified	2	48	10	6419
District Total	**562**	**9473**	**336**	**6328**

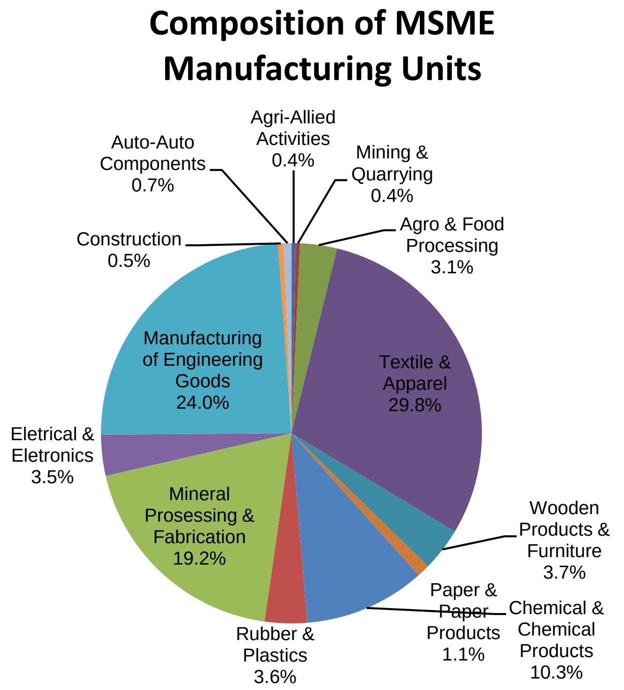
Rapid growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. Ancillary Industries in Mechanical sectors such as auto parts, spares, rubber parts, plastics components and parts for auto industries are prominent in the district. As per the MSME investment Part–II statistics, overall there are 38,917 units[121] operating in the district attracting an investment of INR 1657827 lakhs[122] in 2012. MSME segment in Ahmedabad is dominated by manufacturing industries in terms of both volume and investments with limited number of registered service enterprises indicating the high level of unorganized activity in services segment. Investment outlook in MSME segment of Ahmedabad district is presented in the table.

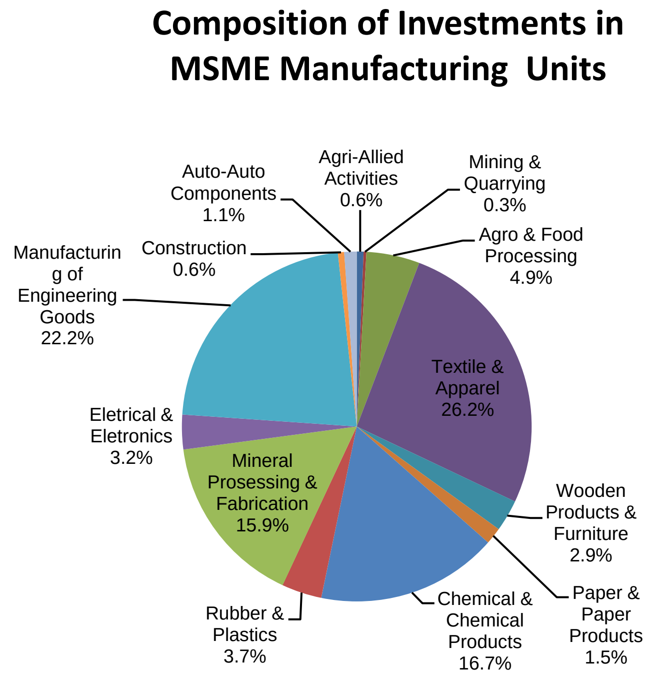
MSME Investment Scenario in Ahmedabad[123]		
Category of Industries	**Number of Units**	**Investment In Lakhs**
Micro	35113	866569.4
Small	3660	639162.5
Medium	144	152095.5
Total	**38917**	**1657827**
Manufacturing Sector Units	32782	1422989
Service Enterprises	6135	234837

Among the manufacturing based MSME units, textile, manufacturing of engineering goods, mineral processing, fabrication, chemical and chemical products, agro and food processing are prominent categories in terms of number of units and investment volume. Composition of MSME manufacturing units and investments are presented in the chart.

[121] *IEM, MSME Part-II Data till 2012-13*
[122] *IEM, MSME Part-II Data till 2012-13*
[123] *IEM, MSME Part-II Data till 2012-13*

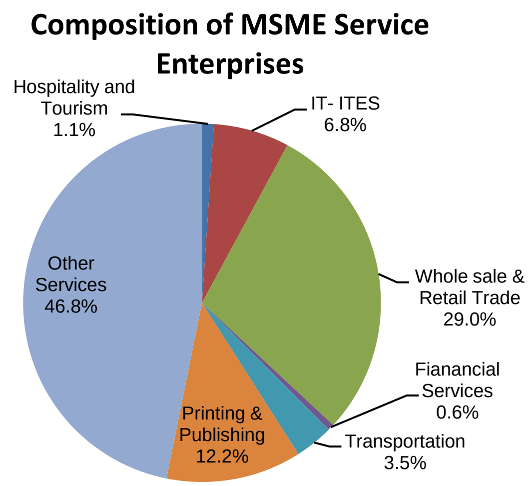
MSME Manufacturing Sector Scenario in the District[124]

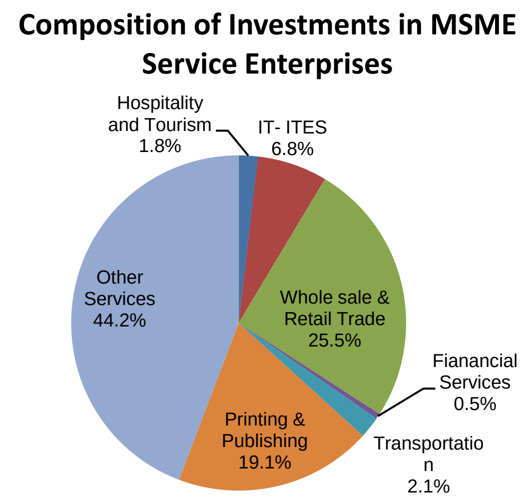




While the level of organized investments in services enterprises are low as evident from the MSME Part-II statistics, sectors of whole sale and retail trade, Printing and Publishing, IT-ITES, Transportation & Logistics and Hospitality have seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

MSME Services Sector Scenario in the District[125]





124 *IEM, MSME Part-II Data till 2012-13*

125 *IEM, MSME Part-II Data till 2012-13*

Ahmedabad District has a well developed infrastructure conductive for the growth of the services sector. Connectivity by road, rail and air transport system with rest of the country and other parts of the State has resulted in significant activity in transpiration and logistics sector. National Highway 8 connects Ahmadabad with prominent cities in state like Gandhinagar, Vadodara, Surat, Anand, Navsari and Mumbai. Ahmadabad – Vadodara expressway with a stretch of 95 km[126] has boosted the growth of road transportation between the two cities. Ahmedabad district is well connected through railway network with a total railway length of 355 km and as high as 60 railway stations. Sardar Vallabhbhai Patel International Airport, connecting Ahmedabad with major cities in India and international destinations like USA, Europe and Middle East, has supported the industrial and commercial growth in the region. Proposed Dholera port city with significant opportunities for port trade has further boosted the logistics sector in the district.

IT-ITES is a key growth sector in the district attracting large scale investments into Software Development, Business Process Outsourcing (BPO), Knowledge Process Outsourcing (KPO) segments. Currently district has four notified IT SEZs- Million Minds SEZ (Chharodi), City Gold Realties Pvt. Ltd.(Sanathal), Adani Township & Real Estates Co. Pvt. Ltd. (Dantali), 3rd Eye Voice SEZ(Oganaj) indicating a promising growth potential for IT/ITES sector of Ahmadabad.

Developing urban infrastructure and increase in disposable household income has supported the growth in organized retail sector. Ahmedabad city, especially, has witnessed significant growth in retail space in the recent years.

Penetration of financial services measured as access to bank branches is highest for Ahmedabad district compared to other districts in Gujarat. As of March 2012, with 874 scheduled and commercial bank branches, district has 8,247 people being served per bank branch. District accounts for highest share of deposits and credit among all districts with INR 86,903 Cr[127] deposits and INR 2, 13,447 Cr credit[128] as of March 2012[129]. While the growth in number of bank branches is moderate, deposits and credits have witnessed a growth of 22.5 percent and 23.6 percent CAGR respectively during 2007-12. High growth of banking business has resulted in proportional increase in financial intermediation activities. Considering the technological operations in banking sector, it would substantially reduce core banking operations. Future growth in the sector is expected to be driven by financial intermediation providing significant direct/indirect employment opportunities.

Business and tourism led hospitality growth has become a common phenomena across India. Ahmadabad being a commercial city, has been witnessing significant growth in hospitality industry across segments like lodging, fast-food, restaurants. Adding to the growth of hotel and restaurant industry from commercial and industrial activity, tourist attractions of Adalaj Vav (Stepwell), Calico museum (Textile museums), Science City and Nalsarovar Bird Sanctuary have boosted the growth of tourism based hospitality industry. Event based tourism strategy for festivals like Uttarayan (kite festival) and Navratri – Garba (folk dance) have helped the growth of the segment.

[126] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[127] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[128] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[129] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

Growth in social sectors like healthcare and education is predominantly driven by Government thrust. However, raising income levels, increasing accessibility & affordability of private healthcare have contributed to the growth of private participation. Ahmadabad, with specialty and multi-specialty hospitals like Krishna Heart Centre, Gujarat Cancer Society, Apollo Hospital & Sterling Hospital, is increasingly becoming a destination for healthcare tourism Growth in healthcare tourism would be largely limited to metropolitan cities with the rural areas still depending on public expenditure for healthcare. The district has 3646 allopathic medical institutions across categories- CHCs, PHCs, Dispensaries and Hospitals. Due to low levels of healthcare infrastructure and medical professionals in rural areas, the district would need significant expansion of healthcare facilities to achieve inclusive growth healthcare targets for 2022.

Ahmadabad has medium to low rainfall conditions with a mix of North Gujarat (Dehgam, Dascroi & Sanand talukas), Bhal & coastal Area (Dholka and Dhandhuka talukas) and North West Zone (Viramgam and Daskroi) agro climatic zones. Owning to the soil characteristics, majority of district geographical land is cultivable[130] (65.3 percent of total area). Cotton, Paddy, Bajra, Castor and Pulses are key crops grown in the district. Being a low rainfall witnessing region, district has limited spread of irrigation facilities with agricultural irrigation predominantly dependent on tube wells. Spices, Brinjal, Tomato and ber are some important horticulture crops grown in the district with Flowers grown over a small area in Dholka taluka.

Diary is a key agri-allied activity in the district. Ahmedabad has a population of 2,16, 941 cows[131] and 3, 43,699 buffalos[132] as per 2007 animal census. Goatery is another prominent animal husbandry in the district. Availability of large pasture lands indicates significant potential to promote animal husbandry in the district. Fishery has become prominent source for livelihood for people in Dhandhuka Taluka.

Ahmedabad district has 12480 hectares of Forest predominantly in Dhandhuka, Barwala, Dascroi and Viramgam talukas. Forestry based livelihood opportunities are prominent in these regions of the district.

6.10.1.2. Current State of Workforce Distribution in the District

Ahmedabad as an industrial and commercial hub has made significant progress towards reducing dependency on agriculture. The total worker participation rate is lower than state average due to low female participation. Employment in secondary and tertiary sectors is nearly three fourths of the overall economy. Low female participation is however a main concern for the district as is the case with most of the urban regions in India. Efforts towards higher levels of gender inclusion in education and employment are expected to improve the situation over the next decade. Comparison of workforce distribution scenario in Ahmedabad and Gujarat is presented in the table.

[130] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[131] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[132] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

Workforce Distribution in the District[133]					
Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Ahmedabad	51.84%	34.55%	26.59%	27.58%	45.83%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

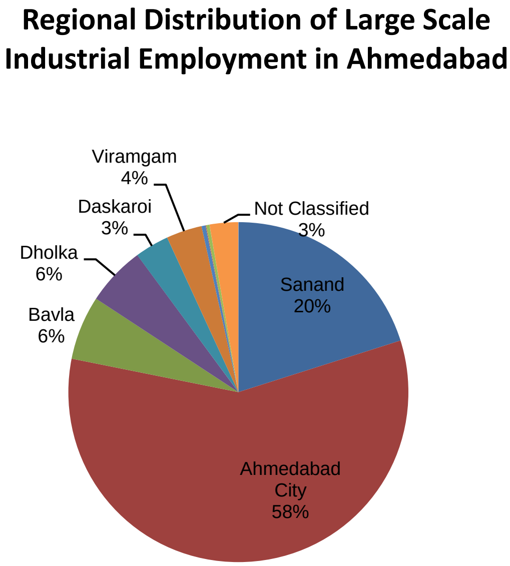
Organized industrial employment in registered factories and service enterprises has contributed to significant share of secondary sector employment in the district. MSME remained a major contributor in terms of employment generation over the years. MSME accounts for 3.39 lakhs[134] employment opportunities in the district while large scale industrial units accounted for 2.76 lakhs[135] in commissioned and under implementation categories. Details of category wise industrial employment as per 2012 statistics are presented in the table.

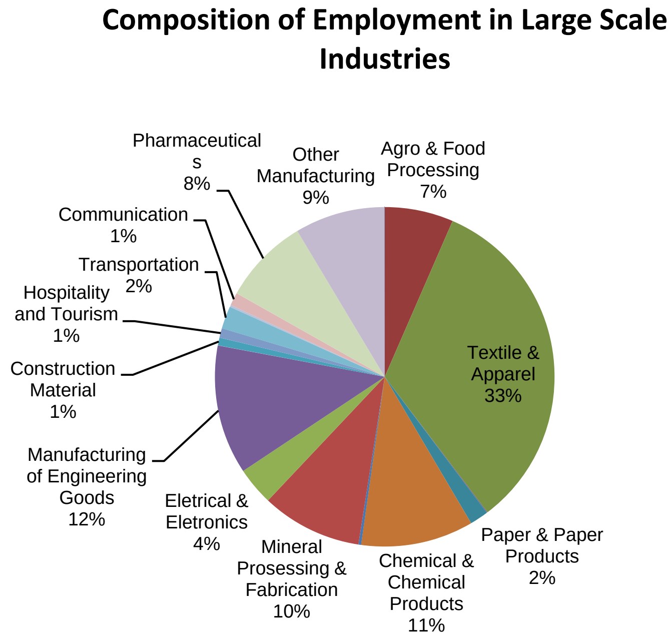
Organized Employment in Ahmedabad[136]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	276980
MSME Category	339623
Manufacturing Units	281253
Service Enterprises	58370
Total	**616603**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors within specific taluka regions. Ahmedabad and Sanand talukas account for a majority share of employment in this category. Textile, Chemicals, Mineral processing & fabrication, pharmaceuticals, Auto, engineering goods are major employment generating segments within the district. A regional and sectoral break up of large scale industrial employment is presented in the chart.

133 *KPMG Analysis*
134 *IEM, MSME Part-II Data till 2012-13*
135 *IEM, MSME Part-II Data till 2012-13*
136 *IEM, MSME Part-II Data till 2012-13*

Large Scale Industrial Employment Scenario in the District[137]

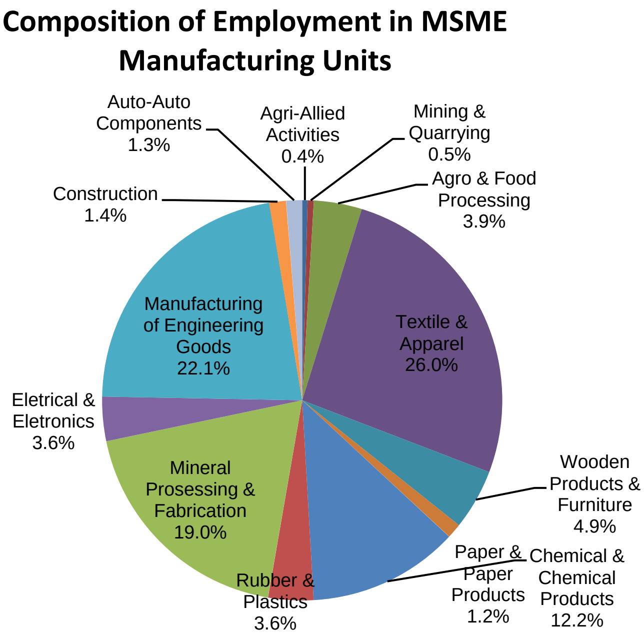


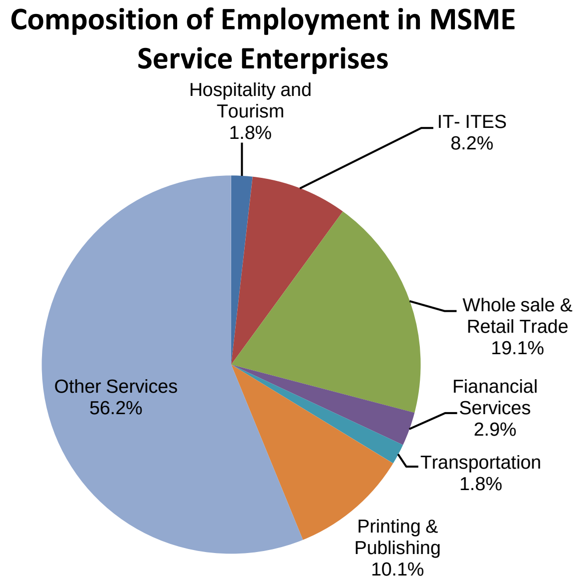


Among the manufacturing units in MSME segment textile, pharmaceutical, chemical product manufacturing units have accounted for a majority of the employment in all categories of industries. Basic metal working units, furniture making enterprises have contributed significantly to the micro industries category. Whole sale & retail trade, IT-ITES, publishing & printing, hospitality are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

137 *IEM, MSME Part-II Data till 2012-13*

MSME Employment Scenario in the District[138]





6.10.1.3. Human Resource Requirement Projections in Ahmedabad (2012-22)

Incremental manpower requirement in the Ahmedabad district has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Ahmedabad. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. A detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, the period between 2012 and 2022 would witness a net out flux of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on resource availability and migration constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities (farmers, agricultural labourers)

[138] *IEM, MSME Part-II Data till 2012-13*

- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in the secondary sector is driven by increase in investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22 (Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking. Other segments including hospitality and tourism, financial intermediation, communication, retail depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation& logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and resource availability, incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals

- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- IT-ITES
- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Ahmedabad are presented in the table[139].

Incremental Human Resource Requirements in the District 2012-22[140]

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	14146	14146	NA	NA	11846	11846
Agro & Food Processing	481	1924	2405	4811	430	1721	2151	4303
Textile & Apparel	2823	11293	14116	28232	2525	10101	12626	25251
Wooden Products & Furniture	299	1196	1496	2991	268	1070	1338	2675
Paper & Paper Products	139	558	697	1394	125	499	624	1247
Chemical & Chemical Products	1143	4570	5713	11425	1022	4088	5110	10219
Rubber & Plastics	231	926	1157	2314	207	828	1035	2070
Mineral Processing & Fabrication	387	1548	1935	3871	346	1385	1731	3462
Electrical & Electronics	353	1411	1763	3526	315	1262	1577	3154
Manufacturing of	1883	7531	9414	18827	1684	6736	8420	16840

[139] *KPMG Analysis*
[140] *KPMG Analysis*

Engineering Goods								
Manufacturing of Construction Material	28	110	138	275	25	99	123	246
Drugs and Pharmaceuticals	308	1231	1539	3077	275	1101	1376	2752
Misc. Manufacturing	321	1282	1603	3205	287	1147	1433	2867
Construction	1599	3197	27178	31974	1430	2860	24309	28598
Trade, Retail	2582	3873	19367	25822	2823	4234	21171	28227
Transportation & Logistics	3778	59991	71374	135143	3091	49084	58397	110572
IT-ITES	12000	30000	NA	42000	10000	24000	NA	34000
Hospitality & Tourism	3229	4844	24218	32290	2583	3875	19374	25832
Banking & Financial Services	3570	10710	NA	14280	2499	7497	NA	9996
Healthcare	942	4239	NA	5180	1255	6274	NA	7529
Education & Training	2390	16092	NA	18482	3586	9655	NA	13241

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[141].

Secondary Sector (Manufacturing, Construction & Energy):

- **Textile & Apparel:**

Category of Skills	Skills
Core Skills	Ring frame operator, weaver, processing operator (CDR, BDR, Stuntor), Bar-coding machine operator
Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions.

- **Auto & Auto Components**

Subsector	Skills
Auto Assembling and Component	**Core Skills:** Motor Mechanic, Diesel Mechanic, Fitter, Welder, Fabricators

141 *KPMG Analysis*

Manufacturing	**Allied Skills:** Electrician, Wireman **Acute Skill Deficits:** Specialized welders in Arc welding who can work in extreme conditions on advanced fabrication equipments
Auto/Industrial Manufacturing	**Core Skills:** Shop floor technical workers **Allied Skills:** Maintenance(Mechanical, Electrical, mechatronics, automobile electronics) **Acute Skill Deficits:** Painting, Body Building (spot welding), Sheet Metal Work, Machining & Casting.

- **Chemical & Chemical Products:**

Category of Skills	**Skills**
Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

Services:

- **Banking & Financial Services:**

Category of Skills	**Skills**
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	**Skills**
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management

Skills with acute shortage	Scheduling and logistics planning

- **Healthcare :**

Category of Skills	Skills
Core Skills	MBBS Doctors, MD/MS specialists, Physician Assistants/Compounders, Radiologists, Dialysis technician, Respiratory technician and OT Assistants & Perfusionist.
Allied Skills	Lab technicians, pharmacists
Skills with acute shortage	Physiotherapists, Biomedical Instrumentation technicians

- **Organized Retail:**

Category of Skills	Skills
Core Skills	Shop floor executives/supervisors, computer operator
Allied Skills	Transportation & logistics staff
Skills with acute shortage	Store management, stock planning

6.10.1.4. Human Resource Supply Scenario in the District

6.10.1.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated. Supply estimations for the district during 2012-17 and 2017-22 periods is provided in the following table.

Ahmedabad, being a commercial hub, would emerge as a key region from demographic growth perspective witnessing significant inward migration. The district is set to become the largest human resource base in Gujarat by

2022. High proportion of incremental supply indicates the extent of focus that the district would require for skill development initiatives. Details of human resource growth estimations during 2012-22 are presented in the table.

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	621,668	285,647	192,997
2017-22	599,899	273,742	149,849

6.10.1.4.2. Education and Training Potential in the District

The district has around 2376 K12 schools with a 41.41 percent share of private schools[142]. Amongst all districts, Ahmedabad district has the highest percent share of private schools out of the total number of schools. However, the net enrolment ratios at both primary level and upper primary level are lesser than the state averages.

Total Enrollments in 209-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Ahmadabad	571,571	207,119	262,964	96,665

Comparison between the district's enrolment statistics and respective state averages indicate that net enrolment ratio at both primary and upper primary level need significant improvement. [143].

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Ahmadabad	75.0	41.1
Gujarat	85.4	50.7

In the vocation education segment, the district lags significantly in terms of vocational training capacity and marginally in terms of private participation in comparison to state average[144]..

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Ahmedabad	61	12,141	1.68	24%
Gujarat	711	138,106	2.29	26%

The capacity expansion in vocational education needs to be focused on the tehsils of Barwala, Ranpur, Dhanduka, Ahmedabad City, Detroj- Rampura, Dholka and Viramagam to bring them on par with the rest of the district tehsils[145].

[142] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[143] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[144] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[145] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Mandal	300	3.68	52%
Daskaroi	1936	3.4	0%
Bavla	549	3.28	79%
Sanand	682	2.85	60%
Barwala	128	1.53	0%
Ranpur	144	1.53	0%
Dhandhuka	248	1.49	0%
Ahmedabad City	7445	1.42	24%
Detroj-Rampura	128	1.33	0%
Dholka	340	1.28	46%
Viramagam	241	1.13	10%
District Total	**12141**	**1.68**	**24%**

In the higher education segment, the district has leading institutions such as Indian Institute of Management, Ahmedabad (IIMA), National Institute of Design, Nirma Education and Research Foundation, National Institute of Fashion Technology, Indian Institute of Packaging, Mudra Institute of Communications, Ahmedabad, Centre for Environment Planning & Technology, Gujarat National Law University, Applications Centre of the Indian Space Research Organization (ISRO) and Apparel Export Promotion Council (AEPC) training centers. Besides these, the district in all has 74 colleges including engineering, medical, arts, science and law colleges.

6.10.1.4.3. Demand-Supply Gap Analysis for the District. 2012-22

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

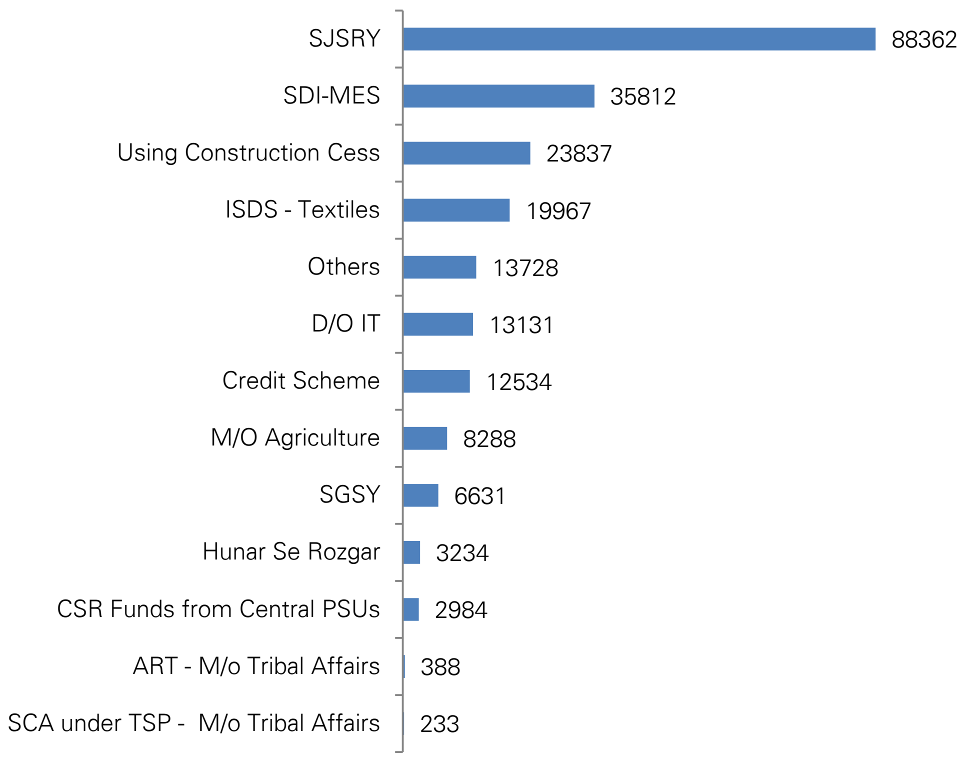
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	4,134	139,893	66,247	210,268	(2,250)	105,400	91,935	195,078

*(Indicates excess supply)

6.10.1.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes, over 2.29 lakh people in total can be trained incrementally during the five year period of 2012-17. Ministry of MSME, Ministry of Labour, Ministry of HUPA and Ministry of Communication & IT, are expected to contribute to a significant share of the training. Manpower training targets are focused on meeting the industrial and services sectors - with significant opportunity for private training providers to explore scheme based training. Also, being a predominantly urban district accounting for significant share of state urban population, livelihood enhancement targeting urban BPL families funded by Ministry of HUPA under SJSRY, is also an area of opportunity for private training providers.

Government Funded Incremental Training Capacity (2012-17) - Ahmedabad District[146]



6.10.1.5. District Specific Recommendations

Considering human resource potential and manpower requirements of the industry, the proposed action plan for stakeholders in skill development has been recommended:

Stakeholder	Action Points for Stakeholders

[146] *KPMG Analysis*

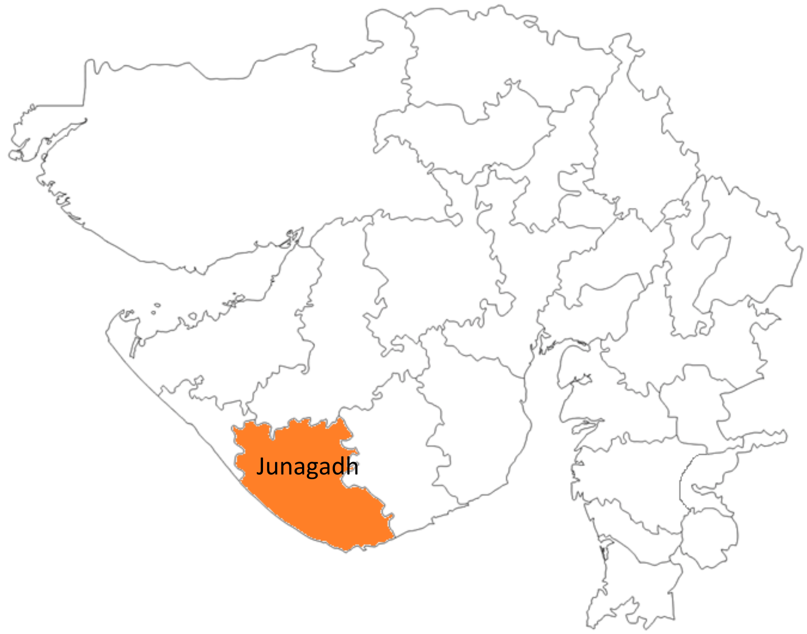
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following regions having high organized employment potential • Sanand, Ahmedabad City, Bavla, Dholka and Daskaroi Talukas Focus on sectors with high employment potential in the district • **Services:** Transportation & Logistics, Organized Retail, Banking & Financial Services, Hospitality & Tourism, Construction • **Manufacturing:** Textile, Auto- Auto Components, Chemical & Chemical Products
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes in sectors of • Animal Husbandry • Fisheries in Dhandhuka Taluka • Forestry based livelihood activities Dhandhuka, Barwala, Dascroi and Viramgam talukas Focus on improving industrial training infrastructure in the regions of • Barwala, Ranpur, Dhanduka, Ahmedabad City, Detroj- Rampura, Dholka and Viramagam
Private Skill Training Providers	Focus on placement driven training for youth from high human resource potential regions of Ahmedabad City and Daskroi Focus on sectors with high employment potential in the district • **Services:** Transportation & Logistics, Organized Retail, Banking & Financial Services, Hospitality & Tourism, Construction • **Manufacturing:** Textile, Auto- Auto Components, Chemical & Chemical Products
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • IT/ITES • Construction • Retail • Transportation & Logistics • Auto- Auto Components • Textile Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.2. Skill Gap Assessment of Junagadh District

6.10.2.1. Socioeconomic Profile

6.10.2.1.1. Administrative Profile

Junagadh District, located in the Saurashtra region of Gujarat is spread across 8848 sq.km[147]. It shares a border with Porbandar, Amreli and Rajkot districts. Administratively Jamnagar is divided into 14 talukas and 1029 villages[148] with Jamnagar city as the district capital. Junagadh, Una, Keshod, Talala, Bhesan, Malia, Mangrol, Manavadar, Mendarda, Visavadar, Veraval, Vanthali, Kodinar and Sutrapada are talukas in the district.



6.10.2.1.2. Dem ographic Profile

Junagadh district is a moderately high human resource potential region in Gujarat state. The district has a total population of 27.42 lakhs[149] (as per 2011 Census) accounting for 4.5 percent[150] of the overall state population. It has witnessed a subdued population growth over the last decade, accounting for a decadal growth rate of 12.01 percent[151] between 2001 and 2011 in comparison to state average of 19.17 percent[152] during the same period. A significant portion of district population lives in rural areas accounting for 65.95 percent[153] of the total population. Population spread in the district is low with a density of 310 persons per sq.km[154] as opposed to the state average of 308 persons per sq.km. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Junagadh, Una and Patan-Veraval with Patan-Veraval having highest concentration of population. Details of regional distribution of population in the district are presented in the table[155].

147 *Census 2011 Statistics*
148 *Census 2011 Statistics*
149 *Census 2011 Statistics*
150 *Census 2011 Statistics*
151 *Census 2011 Statistics*
152 *Census 2011 Statistics*
153 *Census 2011 Statistics*
154 *Census 2011 Statistics*
155 *Census 2001Statistics, KPMG Analysis*

Regional Distribution of Population in the District[156]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Junagadh	16%	554
Una	14%	210
Patan-Veraval	11%	777
Kodinar	8%	369
Mangrol	8%	304
Keshod	7%	316
Malia	6%	269
Visavadar	5%	147
Talala	5%	134
Manavadar	5%	216
Sutrapada	5%	375
Vanthali	4%	248
Bhesan	3%	168
Mendarda	3%	182

Gender composition of district population is better than the state average. As per 2011 census, the district has a gender ratio of 952 females per 1000 males[157] as against the state average ratio of 918 females per 1000 males[158]. Contribution of scheduled categories to the overall district population is lower than the state level proportion. As per census 2001 estimates, reserved categories account for 10.39 percent[159] of overall district population in comparison to the state average of state percentage of 21.85 percent[160].

Education attainment levels in the district are relatively lower than the state average. As per 2011 estimates, the district has registered an overall literacy rate of 76.88 percent[161] as against state average of 79.31 percent[162]. It has made significant progress towards regional inclusion through mass education programs while gender inclusion remains a major concern. Urban-rural literacy gap in Junagadh is estimated to be 9.36 percent[163] as against the 14.58 percent[164] for overall state. On the other hand, the district has a male-female literacy gap of 18.21 percent[165] as against 16.5 percent[166] for Gujarat state. Lower level of overall literacy and inadequate gender inclusion stresses the need for gender specific approach towards implementation of mass education initiatives. Increasing focus on literacy

156 *Census 2001Statistics, KPMG Analysis*
157 *Census 2011 Statistics*
158 *Census 2011 Statistics*
159 *Census 2001Statistics, KPMG Analysis*
160 *Census 2001Statistics, KPMG Analysis*
161 *Census 2011 Statistics*
162 *Census 2011 Statistics*
163 *Census 2011 Statistics*
164 *Census 2011 Statistics*
165 *Census 2011 Statistics*
166 *Census 2011 Statistics*

would create demand for education and training facilities within the district to support the economic growth of the region.

6.10.2.1.3. Economic Profile

Agriculture is the backbone of the Junagadh district economy where 70% of the population is engaged in primary sector, 22% in secondary sector and 8% in tertiary sector. The major of business Junagadh includes, mineral based industries such as, cement & soda ash, agriculture based industries like edible oil, groundnut units, solvent plants and oil cakes and marine based industries like fish processing units and frozen fish. Fish processing industry is one of the major contributors to economic development of the region. Processed fishes from Junagadh are exported to Singapore, China, Hong Kong, Japan, Dubai and other parts of the world. The industrial giant Hindustan Lever Ltd. has a frozen fish packing unit in Maliya taluka of the district. Presence of huge reserves of Limestone, makes the cement industry a thriving industry sector in the district. Major players such as Ambuja cement and Gujarat Siddhi cement have their presence in the district.

Analysis of regional distribution of investments in Junagadh district indicates that the industrial development is concentrated in Kodinar, Sutrapada and Veraval Talukas while other regions still remain backward in terms of industrial development. Over the recent years State Government has initiated some measures to enhance the industrial growth in backward talukas of Junagadh, Mangrol and Una through suitable incentives leading to an increased investment potential of these regions over the next decade. Details of region wise large scale investments in Junagadh district till 2012 is presented in the table[167].

Large Scale Investment Scenario In Junagadh[168]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Veraval	22	349	2	5
Junagadh	12	23	4	839
Kodinar	7	944	3	1558
Manavadar	5	11	1	30
Bhesan	2	12		
Keshod	2	54	2	9
Mangrol	2	2	4	2655
Sutrapada	2	923	4	10830
Malia	1	4		
Vanthali	1	2		
Mendara			1	123
Una			4	7734
Not Classified			2	48
District Total	**56**	**2324**	**27**	**23831**

[167] *IEM, MSME Part-II Data till 2012-13*
[168] *IEM, MSME Part-II Data till 2012-13*

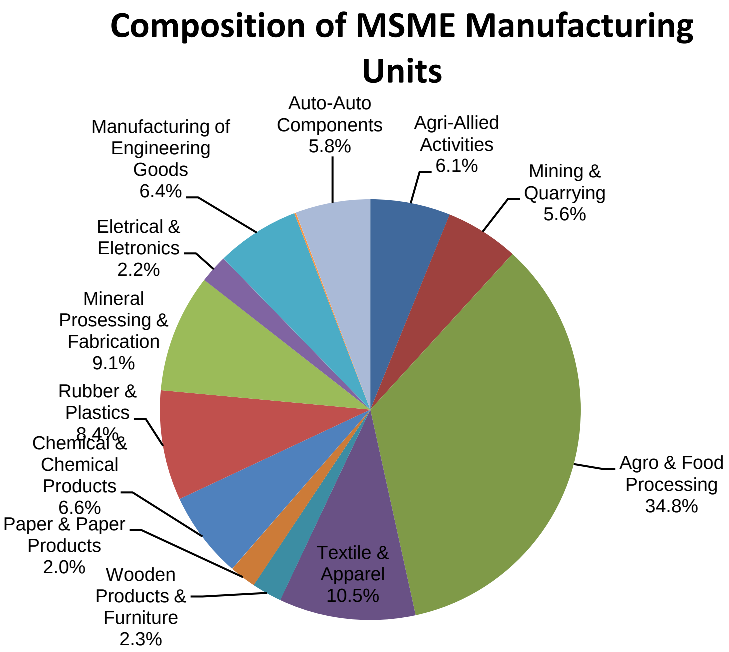
Moderate growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 899 units[169] operating in the district attracting an investment of INR 47,462 lakhs[170] in 2012. Investment outlook in MSME segment of Junagadh district is presented in the table.

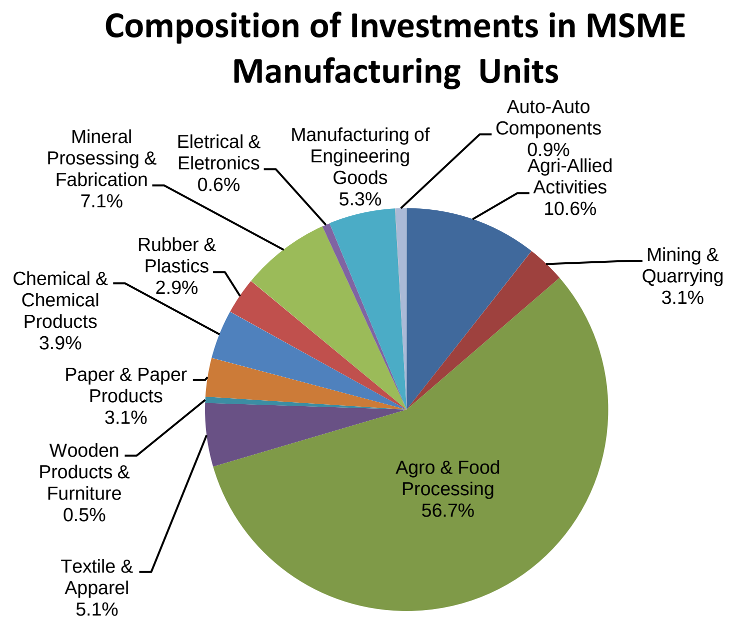
MSME Investment Scenario in Junagadh[171]

Category of Industries	Number of Units	Investment In Lakhs
Micro	718	13304
Small	177	29901
Medium	4	4257
Total	**899**	**47462**
Manufacturing Sector Units	782	44581
Service Enterprises	117	2882

Among the manufacturing based MSME units, textile & apparel, manufacturing of engineering goods, mineral processing & fabrication, chemical and chemical products are prominent categories in terms of number of units and investment volume. Composition of MSME manufacturing units and investments are presented in the chart.

MSME Manufacturing Sector Scenario in the District[172]

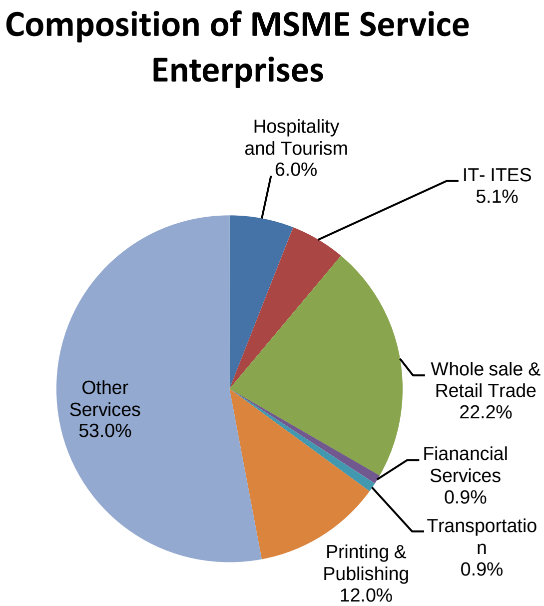


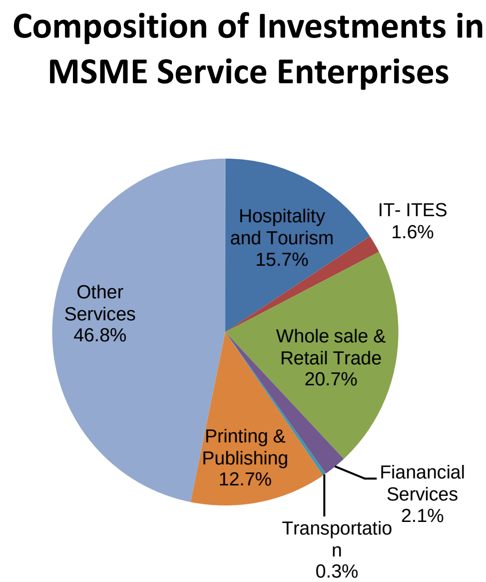


169 *IEM, MSME Part-II Data till 2012-13*
170 *IEM, MSME Part-II Data till 2012-13*
171 *IEM, MSME Part-II Data till 2012-13*
172 *IEM, MSME Part-II Data till 2012-13*

While the level of organized investments in services enterprises are low as evident from the MSME Part-II statistics, sectors of whole sale and retail trade, Printing and Publishing, IT-ITES and Hospitality have seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

MSME Services Sector Scenario in the District[173]





Junagadh is home to a vibrant tourist culture. The major tourism destinations in Junagadh include Gir National Park, Mount Girnar, Kankai shrine, Talala and Kutiyana pilgrimage site for Muslims.

Complementing its robust agricultural base, Junagadh has several agricultural educational institutes relevant to the space like the Junagadh Agricultural University, Central Institute of Fisheries Technology (CIFT) and National Research Centre for groundnut.

The district has a medium penetration of medical institutions, with around 30,470 people per institution. It has 57 primary healthcare centers, 16 community healthcare centers and 11 dispensaries. Apart from the above, Junagadh has K.J. Vyas General Hospital and also an Ayurvedic Regional Research Centre[174].

Junagadh district is well connected to all parts of Gujarat. The major road infrastructure includes a National Highway 8D connecting Junagadh with Rajkot and a National Highway 8E connecting it with Bhavnagar and Amreli. Junagadh is also connected to cities like Ahmedabad, Rajkot and Somnath by rail. The city has a domestic airport connecting the city with Porbandar and Mumbai. The district also has the Veraval port which has good road and rail connectivity.

[173] *IEM, MSME Part-II Data till 2012-13*

[174] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

Junagadh has 201 bank offices with a total bank credit amount of INR 2,529 Cr[175] and a total deposit amount of INR 6,606 Cr[176] as of Mar 2012[177]. While the number of banks has increased at a CAGR of 6.0 percent[178] from 2007 to 2012, the amount of deposit and credit have increased at a CAGR of 19.2 percent and 17.3 percent respectively from 2007-2012 there by indicating the increasing presence of organized financial services.

Owing to the soil characteristics, majority of district geographical land is cultivable (61 percent of total area) with few regions like Manavadar, Bhesan and Vanthali talukas even having about 80 percent[179] of their geographic area under cultivation.

Being a low rainfall witnessing region, the district has limited spread of irrigation facilities with only 33 percent of net cultivable area under irrigation. Some talukas have even lower irrigation facilities like Bhesan taluka with only 12 percent of cultivable land under irrigation. It presents significant opportunities for stakeholders for improving the irrigation penetration in the region. Even within the irrigated area, dependence on open wells is high commanding up to a 94 percent share of net irrigated area. Thus, it provides high potential for mechanizing open wells with pump. Further there is an increasing need to promote micro irrigation and water management programs in the district.

Groundnut, Bajra, Pulses (Green Gram and Black Gram), Castor and Cotton are the five main Kharif Crops while Wheat, Garlic, Cumin, Bajra and Gram are five key Rabi crops grown in the district. The ratio of area under Rabi and Kharif is 0.62 indicating significant potential for improvement in multiple cropping patterns. The Main horticulture crops include spices, fruits (mainly mangoes) and vegetables. Cow and buffalos are the main cattle varieties in Junagadh with 481049 cows[180] and 371787 buffalos[181]and a significant population of sheep and goat as well. Availability of large pasture lands holds immense potential to promote animal husbandry in the district. Along with strengthening animal husbandry activities among small and marginal farmers through advanced rearing training, there is a need for integrating the animal husbandry with promotion of organic farming as well.

6.10.2.2. Workforce Distribution in the district

Junagadh is predominantly dependant on agricultural activities for livelihood generation with nearly 70 percent of total workforce engaged in this sector. Considering the low level penetration of manufacturing sector at 8.7 percent employment generation as against the state average of 15.86 percent, the district has potential to become a sourcing hub for trained manpower. High manpower requirements in agrarian activities due to low output efficiency would

[175] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[176] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[177] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[178] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[179] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[180] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[181] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

indicate significant under employment in this category. Comparison of workforce distribution scenario in Junagadh and Gujarat is presented in the table[182].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Junagadh	56.78%	40.88%	67.43%	8.7%	23.87%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

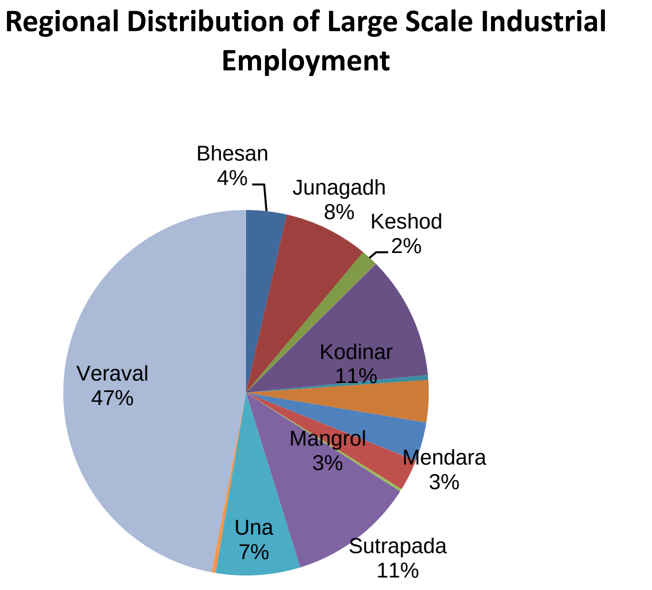
Registered factories and service enterprises have contributed to a little over 30 thousand[183] employment opportunities within the district. While level of penetration of manufacturing activities is low, high proportion of unorganized units is another key reason for low organized employment prospects in the district. Large scale units contribute to over half of the overall manufacturing employment with Chemical, Food Processing, Textile, Cement and Gypsum units as key segments.

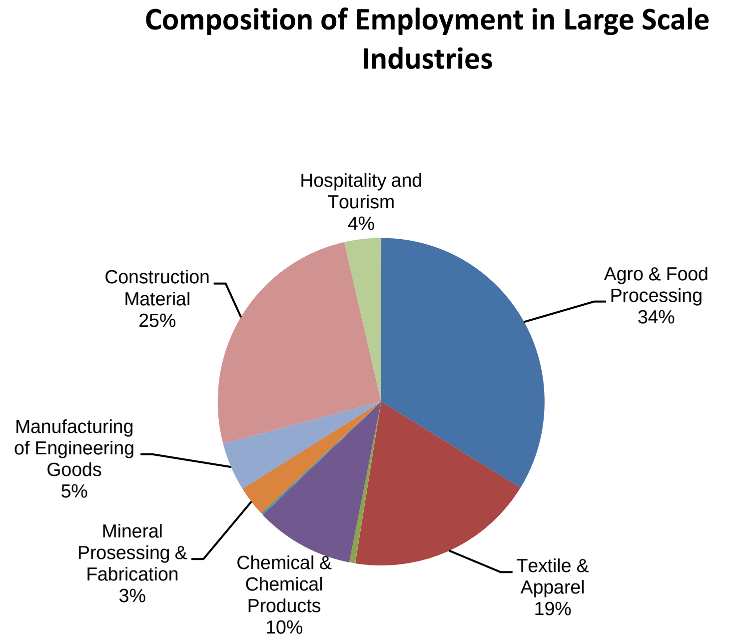
Organized Employment in Junagadh[184]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	24,491
MSME Category	17,022
Manufacturing Units	16,218
Service Enterprises	804
Total	**41,513**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors within specific taluka regions. Veraval, sutrapada and kodnar talukas account for a majority share of employment in this category. Agro food processing, textile, construction material are major employment generating segments within the district. Regional, sectoral break up of large scale industrial employment is presented in the chart.

182 *KPMG Analysis*
183 *IEM, MSME Part-II Data till 2012-13*
184 *IEM, MSME Part-II Data till 2012-13*

Large Scale Industrial Employment in the District[185]

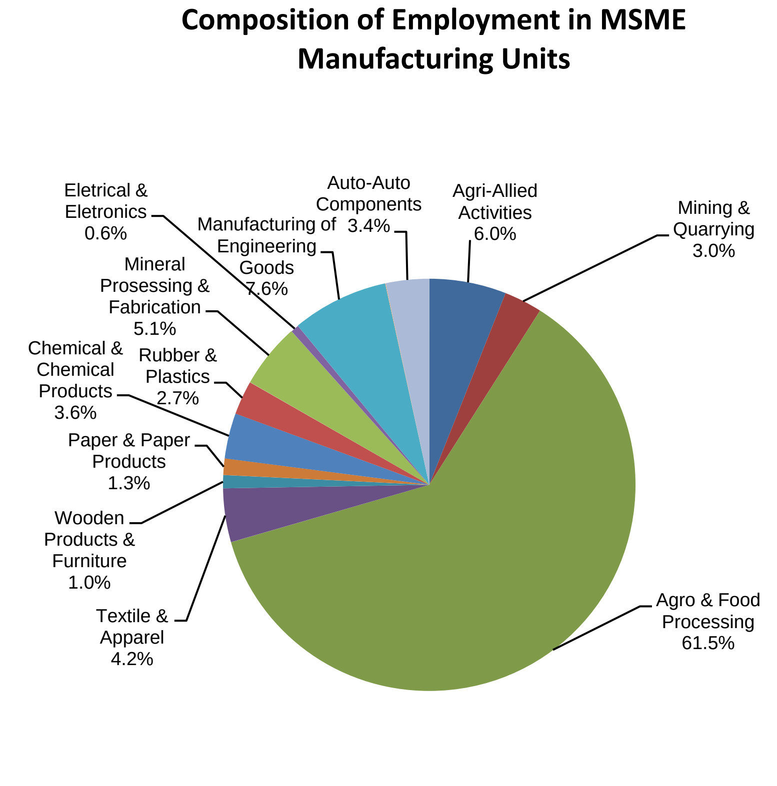


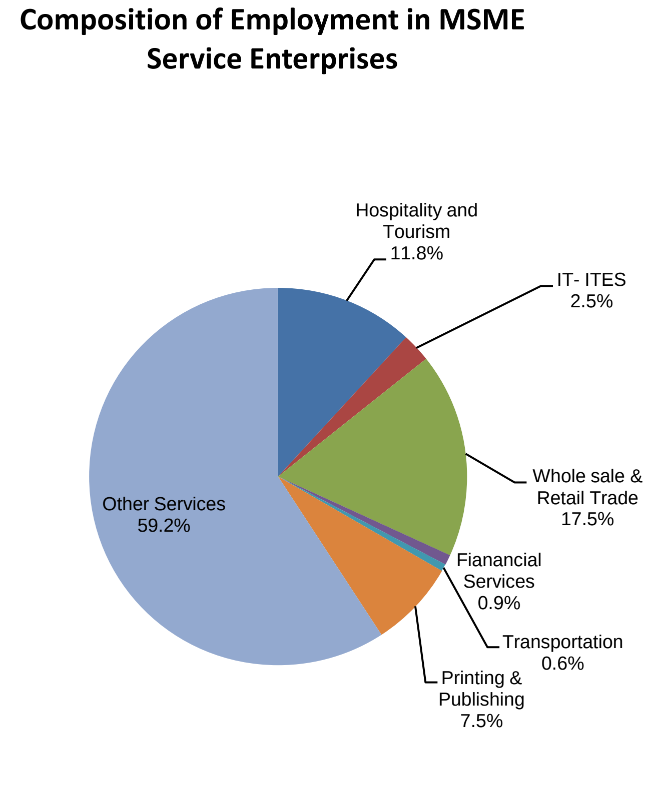


Among the manufacturing units in MSME, agro & food processing units have accounted for majority share of the employment in all the categories of industries. Whole sale & retail trade, Publishing & printing, hospitality are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

185 *IEM, MSME Part-II Data till 2012-13*

MSME Employment Scenario in the District[186]





6.10.2.3. Human Resource Requirement Projections in Junagadh (2012-22)

Incremental manpower requirement in the district of Junagadh has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Junagadh. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net out flux of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-

[186] *IEM, MSME Part-II Data till 2012-13*

allied activities depending on resource availability and migration constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22 (Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation& logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub-segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel

- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Agro & Food Processing
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Infrastructure(Construction)

Tertiary Sector

- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Junagadh district are presented in the table[187].

Incremental Human Resource Requirements in the District 2012-22[188]

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	22595	22595	NA	NA	18923	18923
Agro & Food Processing	373	1493	1867	3733	334	1336	1670	3339
Textile & Apparel	90	361	451	902	81	323	403	807
Chemical & Chemical Products	52	207	258	517	46	185	231	462
Mineral Processing & Fabrication	40	162	202	404	36	145	181	362
Manufacturing of Engineering Goods	58	231	289	578	52	207	259	517
Manufacturing of Construction Material	103	410	513	1026	92	367	459	918
Construction	608	1216	10339	12164	544	1088	9248	10880
Trade, Retail	982	1474	7368	9824	1074	1611	8054	10739
Transportation & Logistics	566	8984	10689	20239	463	7351	8746	16560

[187] *KPMG Analysis*
[188] *KPMG Analysis*

Hospitality & Tourism	881	1322	6608	8810	705	1057	5286	7048
Banking & Financial Services	2158	6474	NA	8632	1511	4532	NA	6042
Healthcare	843	3792	NA	4635	1123	5613	NA	6736
Education & Training	1058	7125	NA	8183	1588	4275	NA	5862

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand detailed manpower needs. Sector level skill interventions are indicated in the section below[189].

Secondary Sector (Manufacturing, Construction & Energy):

- **Food Processing:**

Category of Skills	Skills
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists
Skills with acute shortage	PPO is required in industries having in house packing development.

- **Chemical & Chemical Products:**

Category of Skills	Skills
Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons

[189] *KPMG Analysis*

N·S·D·C National Skill Development Corporation

Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services:**

Category of Skills	**Skills**
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	**Skills**
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Healthcare :**

Category of Skills	**Skills**
Core Skills	MBBS Doctors, MD/MS specialists, Physician Assistants/Compounders, Radiologists, Dialysis technician, Respiratory technician and OT Assistants & Perfusionist.
Allied Skills	Lab technicians, pharmacists
Skills with acute shortage	Physiotherapists, Biomedical Instrumentation technicians

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.2.4. Human Resource Supply Scenario in the District

6.10.2.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated. Supply estimations for the district during 2012-17 and 2017-22 periods is provided in the following table.

Junagadh would experience a proportionally higher human resource growth during 2012-22. However, limited employment opportunities within the district to absorb the incremental labour force would drive significant outward migration especially in the skilled category. Details of human resource growth estimations during 2012-22 are presented in the table.

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	289,452	175,045	96,115
2017-22	243,561	150,229	74,627

6.10.2.4.2. Education and Training Potential in the District

Junagadh district has around 2075 K12 schools with a 65.45 percent share of Government schools. The district has a net enrolment ratio of 88.8 at primary level and 56.1 at upper primary level which is higher than the ratios for the state[190].

Total Enrollments in 209-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Junagadh	278,225	112,561	120,062	57,894

Comparing the district's enrolment statistics with state average indicates that the district is an average performer in the primary education category[191]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Junagadh	88.8	56.1
Gujarat	85.4	50.7

In the vocational education segment, the district is ahead in the provision of vocational training in comparison to state average. Private interest in the sector in this district is high indicating that the state must take proactive measures in further increasing private support to improve vocational training infrastructure[192].

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Junagadh	63	8,051	2.94	50%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Junagadh district needs to be focused on the tehsils of Sutrapada, Veraval, Manavadar, Mendarda, Bhesan, Mangrol, Visavadar and Una to bring them on par with the district average in vocational education capacity[193].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Kodinar	1016	4.58	84%
Junagadh	1820	4.27	17%
Talala	554	3.87	55%
Maliya-Hatina	620	3.82	74%
Vanthali	348	3.19	62%
Keshod	625	3.17	7%
Sutrapada	380	2.77	66%

[190] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[191] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[192] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[193] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Veraval	812	2.58	84%
Manavadar	368	2.58	63%
Mendarda	160	2.16	25%
Bhesan	156	1.89	23%
Mangrol (J)	396	1.87	71%
Visavadar	248	1.67	53%
Una	548	1.48	39%
District Total	**8051**	**2.94**	**50%**

In the higher education segment, the district has 1 management institute, 2 pharmacy colleges and 21 colleges offering Arts, Commerce, Science, B. Ed & Law programs. Junagadh Agricultural University offers education in agriculture, agriculture engineering and fisheries. It conducts fruit, oilseed, and sugarcane and wheat research, testing and training centers. The research center of Central Institute of Fisheries Technology (CIFT) is located at Veraval taluka which is involved in research related to fishing and fish processing. The National Research Centre for groundnut is located in the district. Technical colleges offering courses in chemical, civil, electrical, electronics and communication, information technology, production and mechanical engineering are also present in the district. Junagadh also has a pisciculture college located in Veraval taluka.

6.10.2.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below.

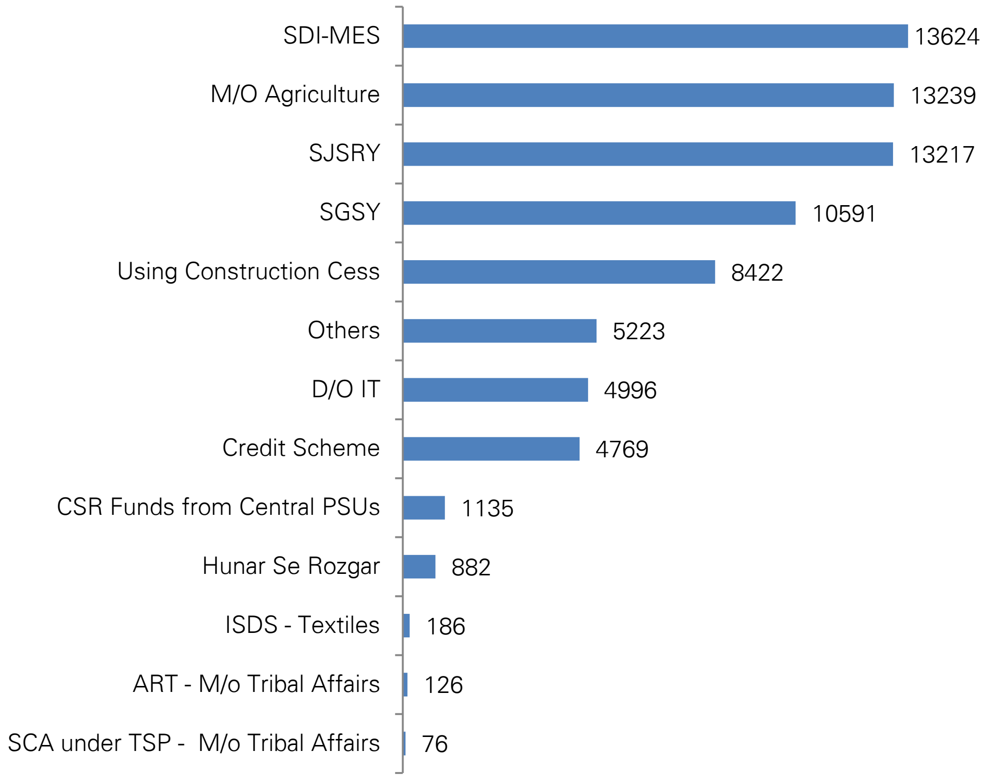
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				**2017-22**			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	(5,777)	22,715	(10,811)	6,127	(8,707)	(11,297)	9,375	14,568

*(Indicates excess supply)

6.10.2.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 76 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Junagadh District[194]



6.10.2.5. District Specific Recommendations

Considering these factors, the proposed action plan for stakeholders in skill development in Junagadh district would indicate the following priority areas:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following sectors, where there is good scope for the fee-paying model • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes • Construction Sector • Retail Sector

194 *KPMG Analysis*

	• Agri Allied Activities such as animal husbandry and fisheries • Chemical and Chemical Products • Mineral Processing and Fabrication • Manufacturing of Construction Material
Private Skill Training Providers	Provide skill training in the sectors of • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
Corporate	Provide training for skills in those sectors where the requirement for absorption within the corporate sector is higher such as • IT/ITES • Construction • Retail • Transportation and Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.3. Skill Gap Assessment of Kutch District

6.10.3.1. Socioeconomic Profile

6.10.3.1.1. Administrative Profile

Kutch district is located in the Saurashtra region of Gujarat is the largest district in India with a geographical spread of 45652 sq.km[195]. District shares border with Banas Kantha, Patan and Sindh region in Pakistan. Administratively Kutch is divided into 10 talukas and 924 villages[196] with Bhuj town as the district capital. Mandvi, Mundra, Abdasa, Bhachau, Lakhpat, Anjar, Rapar and Gandhidham along with Bhuj are taluka regions in the district. Gandhidham is another key town in the district along with Bhuj.

6.10.3.1.2. Demographic Profile

Kutch is a key district in Gujarat witnessing rapid strides in industrial growth leading to inward migration. District has registered a significant human resource growth over the past decade due to immigration led by industrial activities in Kandla and Mundra regions. During 2001-11 period district has witnessed a staggering rise in population from 15.8 lakhs to 20.9 lakhs[197] with a growth rate of 32.03 percent[198] in comparison to state average of 19.17 percent. Kutch is predominantly rural with these regions accounting for 65.28 percent[199] of the total population. Population spread in the district is state is significantly low with a density of 46 persons per sq.km[200] as against state average of 308 persons per sq.km. Low population density is attributed to the fact that nearly fifty percent of the total area of the district is uninhabitable (Rann of Kutch region). Taluka wise distribution of population indicates that Bhuj is the most populous and Lakhpat is the least populous in the district while Gandhidham has been fastest growing taluka. Details of regional distribution of population in the district are presented in the table[201].

[195] *Census 2011 Statistics*
[196] *Census 2011 Statistics*
[197] *Census 2011 Statistics*
[198] *Census 2011 Statistics*
[199] *Census 2011 Statistics*
[200] *Census 2011 Statistics*
[201] *Census 2001Statistics, KPMG Analysis*

Regional Distribution of Population in the District[202]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Bhuj	22%	77
Gandhidham	13%	1156
Rapar	13%	65
Mandvi	11%	121
Anjar	10%	137
Bhachau	9%	74
Nakhatrana	8%	65
Abdasa	6%	41
Mundra	5%	93
Lakhpat	3%	26

Gender composition of district population is marginally lower than the state average. As per 2011 census district has a gender ration of 907 females per 100 males[203] as against the state average ratio of 918 females per 1000 males[204]. Declining proportion of female population from 942 female per thousand males in 2001 to 907 in 2011 is a key concern for the district. Male migration into industrial clusters of Gandhidham, Mundra is a key reason for increasing biased gender composition of population. Contribution of scheduled categories to the overall district population is comparable to the state level proportion. As per census 2001 estimates, reserved categories account for 19.96 percent[205] of overall district population in comparison to the state average of state percentage of 21.85 percent[206]. Proportion of scheduled castes is higher than the tribes within reserved categories population.

Education attainment levels in the district are lower than the state average. As per 2011 estimates, district has registered an overall literacy rate of 71.58 percent[207] as against state average of 79.31 percent[208]. Continuing gender and regional disparities in literacy rates is a concern within the district. Urban-rural literacy gap in Kutch is estimated to be 15.69 per cent[209] as against the 14.58 percent[210] for overall state. Similarly, district has a male-female literacy gap of 18.98 percent[211] as against 16.5 percent[212] for Gujarat state. Within the district as per 2001 census Mandvi taluka has the highest literacy rate (69.93%)[213], while Rapar has the least (39.7%)[214] indicating considerable variations among talukas of Kutch. Lower level of overall literacy, inadequate gender and regional inclusion stresses

202 *Census 2001Statistics, KPMG Analysis*
203 *Census 2011 Statistics*
204 *Census 2011 Statistics*
205 *Census 2001Statistics, KPMG Analysis*
206 *Census 2001Statistics, KPMG Analysis*
207 *Census 2011 Statistics*
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213 *Census 2011 Statistics*
214 *Census 2011 Statistics*

the need for gender specific approach towards implementation of mass education initiatives. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth.

6.10.3.1.3. Economic Profile

Kutch has re-emerged from the ruins of one of the most disastrous earthquakes in the history that took place in January 2001 and today has become a major industrial hub. It contributes to significant share of salt production in the country. With large reserves of limestone, bauxite, lignite and bentonite, Kutch district is one of the preferred destinations for most of the mineral based industries.

It boasts of being the world's largest manufacturer of Submerged Arc Welded (SAW) pipes. A good number of medium /large scale industries are supported by a sizeable number of small scale industries.
Due to presence of two important ports, Kandla and Mundra, Kutch district accounts for a very high cargo movement. Analysis of regional distribution of investments in Kutch district indicates that industrial development is concentrated in Anjar, Gandhidham, Mundra, Bhachau and Lakhpat Talukas while other regions like Mandvi and Nakhtarana still remain backward. Over the recent years the state Government has initiated some measures to enhance the industrial growth in backward talukas of Mandvai and Abdasa through suitable incentives leading to an increased investment potential of these regions over the next decade.

Details of region wise large scale investments in Kutch district till 2012 is presented in the table[215].

Large Scale Investment Scenario In Kutch[216]

Region	Commissioned		Under Implementation	
	No. of Units	Investment (INR Cr)	No. of Units	Investment (INR Cr)
Anjar	88	6,178	89	13,642
Bhuj	86	1,708	123	40,753
Bhachau	80	2,100	94	7,525
Gandhidham	80	3,618	153	9,766
Mundra	25	3,761	48	80,945
Abdasa	5	193	28	29,630
Lakhpat	4	1,687	26	222,546
Rapar	1	50	3	511
Mandvi			7	64,906
Nakhatrana			5	1,862
Not Classified	2	1,385	32	32,029
District Total	**371**	**20,680**	**608**	**504,115**

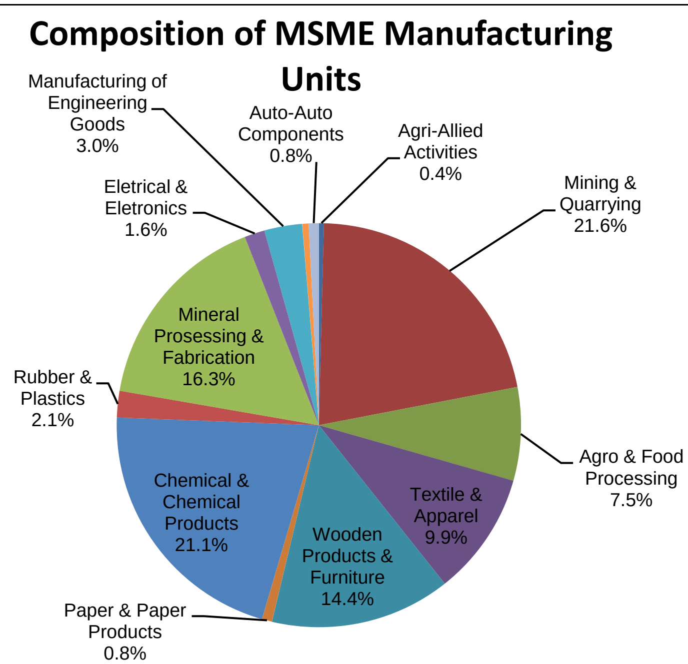
215 *IEM, MSME Part-II Data till 2012-13*
216 *IEM, MSME Part-II Data till 2012-13*

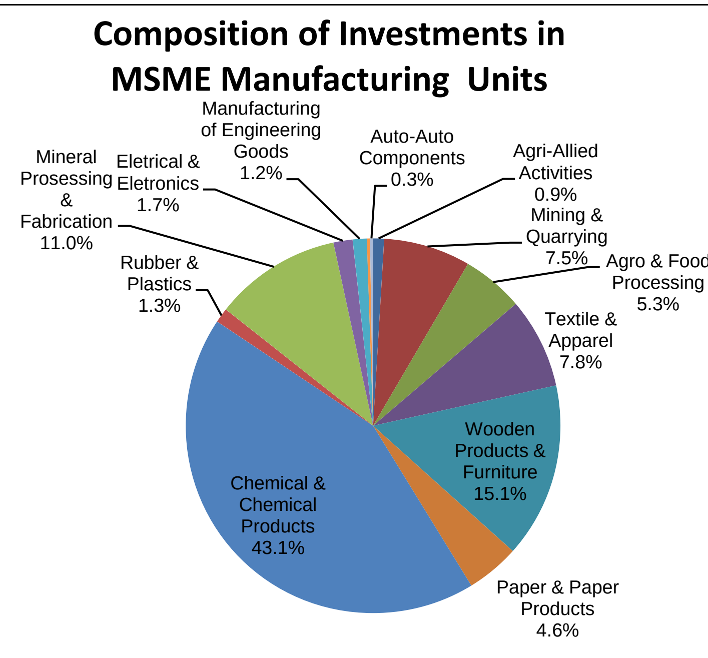
Rapid growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 1150 units[217] operating in the district attracting an investment of INR 97,350 lakhs[218] in 2012.

MSME Investment Scenario in Kutch[219]		
Category of Industries	**Number of Units**	**Investment In Rs. Lakhs**
Micro	830	15,291
Small	290	54,659
Medium	30	27,400
Total	**1150**	**97,350**
Manufacturing Sector Units	992	76,211
Service Enterprises	158	21,139

Among the manufacturing based MSME units, Chemical and Chemical Products, Mining and Quarrying, Wooden Products and Furniture and Mineral Processing and Fabrication are the most prominent industries both in terms of units and investment in MSME manufacturing units.

MSME Manufacturing Scenario in the District[220]

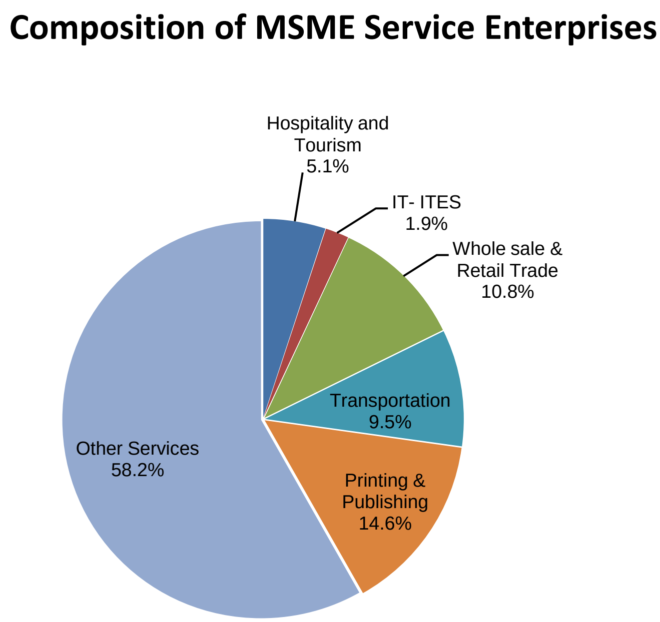


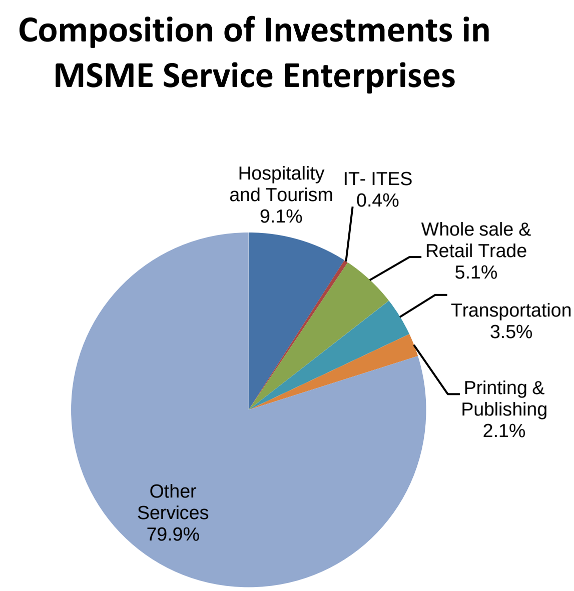


While the level of organized investments in services enterprises are low as evident from the MSME Part-II statistics, sectors of whole sale and retail trade, Printing and Publishing, transportation and Hospitality have seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

217 *IEM, MSME Part-II Data till 2012-13*
218 *IEM, MSME Part-II Data till 2012-13*
219 *IEM, MSME Part-II Data till 2012-13*
220 *IEM, MSME Part-II Data till 2012-13*

MSME Services Scenario in the District[221]





Amongst the service sub-sectors, the tourism sector has been major driver of Kutch's economy. It is emerging strongly with the experiences of palaces, wildlife, fairs and festivals. The district accounted for 2.39 % of total tourist inflow in Gujarat during 2006-07. The key tourist attractions include Aina Mahal (Old Palace), Prag Mahal (New Palace), Indus Valley Civilization site, Swaminarayan Temple, Lakhpat, Wildlife Sanctuary, Chinkara Sanctuary and Mandvi Beach. Apart from the above, there are several festivals like the Kutch Desert Festival and the Navratri Fair.

There are several opportunities for investment in the tourism sector in the form of deluxe and budget hotels, golf club, beach resorts and heritage & archeological site development.

Amongst the higher education firms, the relevant ones are Shyamji Krishna Verma Kutch University, Veerayatan Institute of Pharmacy and Vivekananda Research and Training Institute at Mandvi.

Kutch has medium penetration in terms of medical institutions, with over around 31,671 people per institution. The district has 37 primary healthcare centers, 13 community healthcare centers and 5 hospitals. Apart from the above, Kutch has G.K. General Hospital and Bidada Hospital[222].

The road infrastructure of Kutch consists of National Highway 8A connecting Kutch with Ahmadabad, Vadodara, Rajkot and Surat. The district is connected to Mumbai via 5 broad gauge stations and is also connected to the DMIC

221 *IEM, MSME Part-II Data till 2012-13*

222 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

via broad gauge. Kutch has an operational airport in Bhuj and Kandla, Mandvi Mundra airstrips are under development. Kutch has Mundra port, Kandla and Mandvi.

Kutch has 266 bank offices[223] with a total bank credit amount of 4,561 Cr INR and a total deposit amount of 16,447 Cr INR as of Mar 2012. Ahmadabad has a low penetration of banking and financial services with a density of 7,858 people per bank as of March 2012. While the number of banks has increased at a CAGR of 7.5 percent from 2007 to 2012, the amount of deposit and credit have increased at a CAGR of 15.5 percent[224] and 20.6 percent respectively from 2007-2012.

Owning to the soil characteristics, only a very small percentage of district geographical land is cultivable (23 percent of total area) with intra district variations. Talukas like Bhachau, Mandvi, Anjar and Gandhidham talukas have about 35 percent of their geographical area under cultivation while Lakhpat taluka has only 3.9 percent[225] land under cultivation.

Kutch lies in North West agro climatic zone and has low rainfall conditions. Being a low rainfall witnessing region, the district has limited spread of irrigation facilities with only 40 percent of net cultivable area under irrigation. The lack of rainfall and irrigation facilities has resulted in poor agriculture in the district.

Poor nitrogen content in Kutch soils has resulted in large scale usage of nitrogen rich fertilizers. Awareness levels on organic farming and vermin-compost methods are low in the region indicating immediate need to improve the same by promoting holistic sustainable agricultural practices.

Bajra, Greengram, Groundnut, Cotton and Castor are the key Kharif crops while Wheat, Mustard, Isabgul are the main Rabi crops grown in the district. The ratio of area under Rabi to Kharif crop is 0.2 indicating lack of multiple cropping majorly due to poor irrigation and lack of rainfall. Main horticulture crops include Fruits (Datepalm, Mango), Spices (Isabgul, Cumin, and Coriander) and vegetables (Tomato, Cucurbits and Brinjal). Currently usage of hybrid crop varieties is low with a need to promote this practice across crop categories. There is a need for Taluka Seed Farms in the district to improve the availability of quality seeds.

Sheep and goats are main cattle varieties in Kutch with 4, 95,253 sheep population[226] and 4, 59,442 goats[227]. Other prominent domestic animals under animal husbandry activities are cows and buffaloes. The high number of sheep and goats indicate potential for wool and meat yielding animal husbandry.

6.10.3.2. Workforce Distribution in the district

[223] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[224] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[225] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[226] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[227] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

Kutch has witnessed tremendous growth in industrial activities leading to employment generation in the secondary sector after 2001. While historically dependency on agriculture is high, trend over the recent years has been promising with the district making progressive steps towards reducing the dependency on agrarian activities. Comparison of workforce distribution scenario in Kutch and Gujarat is presented in the table.

Workforce Distribution in the District[228]					
Region	**Labour Force Participation**	**Workforce Participation**	**Percentage of Employment**		
			Primary Sector	**Secondary Sector**	**Tertiary Sector**
Kutch	59.74%	38.25%	57.68%	10.06%	32.26%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

Organized industrial employment in registered factories and service enterprises has contributed to significant share of secondary sector employment in the district. Registered and commissioned industrial units have generated an employment base of 1.15 lakhs[229].

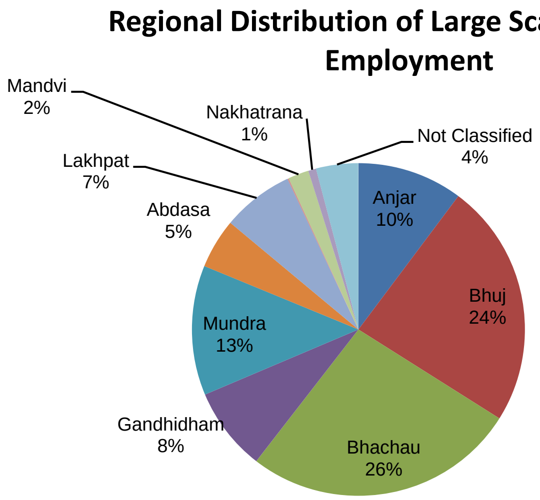
Large scale enterprises accounted for major share of the employment with Industrial Instruments, Electrical Equipments, Ceramics, Electronics and Rubber & Plastics as key segments. Details of category wise industrial employment as per 2012 statistics are presented in the table.

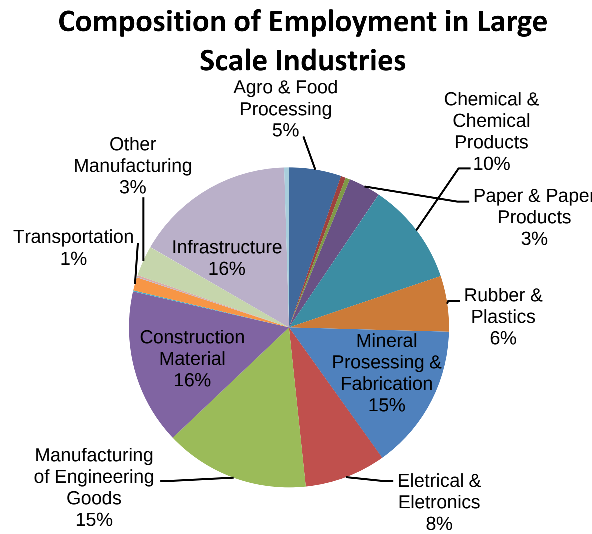
Organized Employment in Kutch[230]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	2,47,358
MSME Category	18,500
Manufacturing Units	16,296
Service Enterprises	2,204
Total	**2,65,858**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors within specific taluka regions. Bhuj and Bhachau talukas account for a majority share of employment in this category. Infrastructure, construction material, manufacturing of engineering goods, mineral processing & fabrication are major employment generating segments within the district. Regional, sectoral break up of large scale industrial employment is presented in the chart.

[228] *KPMG Analysis*
[229] *IEM, MSME Part-II Data till 2012-13*
[230] *IEM, MSME Part-II Data till 2012-13*

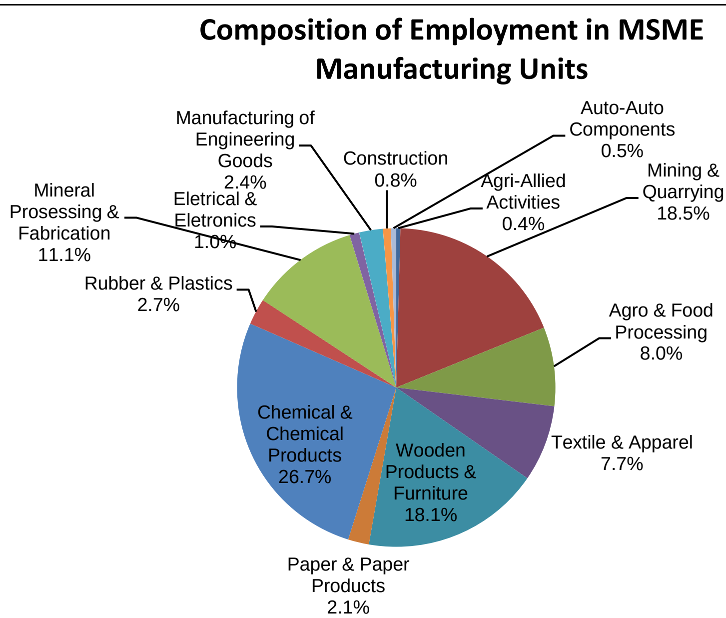
Large Scale Industrial Employment Scenario in the District[231]

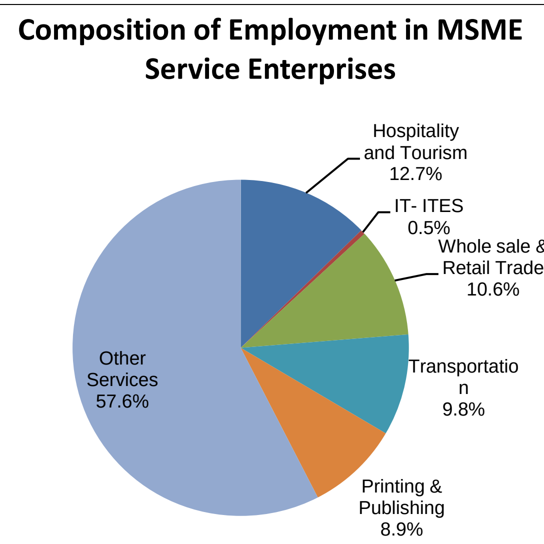




Among the manufacturing units in MSME, Mining, chemical & chemical products, wooden products & furniture, mineral processing & fabrication, agri & food processing units have accounted for majority share of the employment in all the categories of industries. Whole sale & retail trade, transportation, Publishing & printing, hospitality are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

MSME Employment Scenario in the District[232]





231 *IEM, MSME Part-II Data till 2012-13*
232 *IEM, MSME Part-II Data till 2012-13*

6.10.3.3. Human Resource Requirement Projections in Kutch (2012-22)

Incremental manpower requirement in the district of Kutch has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Kutch. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net out flux of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the resource availability and migration constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation & logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub-segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Kutch district are presented in the table[233].

[233] *KPMG Analysis*

N·S·D·C National Skill Development Corporation

Incremental Manpower Requirements in the District 2012-22[234]								
Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	16792	16792	NA	NA	14062	14062
Agro & Food Processing	330	1318	1648	3295	295	1179	1474	2947
Textile & Apparel	55	221	277	553	49	198	247	495
Wooden Products & Furniture	89	358	447	894	80	320	400	800
Paper & Paper Products	193	772	965	1930	173	691	863	1727
Chemical & Chemical Products	686	2745	3432	6864	614	2456	3069	6139
Rubber & Plastics	331	1325	1656	3312	296	1185	1481	2962
Mineral Processing & Fabrication	905	3618	4523	9045	809	3236	4045	8090
Electrical & Electronics	473	1892	2365	4731	423	1692	2116	4231
Manufacturing of Engineering Goods	844	3374	4218	8436	755	3018	3773	7545
Manufacturing of Construction Material	898	3590	4488	8976	803	3211	4014	8028
Drugs and Pharmaceuticals	10	40	50	99	9	36	44	89
Misc. Manufacturing	203	812	1015	2030	182	726	908	1816
Construction	464	927	7881	9272	415	829	7049	8293
Trade, Retail	749	1123	5616	7488	819	1228	6139	8186
Transportation & Logistics	662	10520	12516	23698	542	8607	10240	19389
Hospitality & Tourism	2159	3239	16193	21590	1727	2591	12954	17272
Banking & Financial Services	3747	11240	NA	14987	2623	7868	NA	10491
Healthcare	459	2067	NA	2526	612	3059	NA	3671
Education & Training	1036	6972	NA	8007	1553	4183	NA	5736

[234] *KPMG Analysis*

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[235].

Secondary Sector (Manufacturing, Construction & Energy):

- **Port Based Logistics:**

Category of Skills	Skills
Core Skills	Electrical Technician(Distribution, Cabling, Instrumentation, Maintenance, Automation, PLC, HMI Equipments), Mechanical Technician(Lubrication, Hydraulic Systems, Pneumatic Systems, Gear Systems), Crane Operators, Conveyor Belt Operators, Earthmoving Equipment Operator, Locomotive Engine Operator, LMB Driver, HMB Driver, Machine Operators(MVU, Baking, Stacker Reclaimer)
Allied Skills	Skilled Fireman, Radio Officer, Under water divers**,** Minimally skilled Marine Crew, Project Management Workforce (Surveyor, Draftsman Civil, Construction Workers, Auto CAD Engineers)
Skills with acute shortage	Marine Engineers, Instrumentation, Advanced Equipment Technicians, Crane& Machine Operators, Radio Officer , Skilled Fireman

- **Auto & Auto Components**

Subsector	Skills
Auto Assembling and Component Manufacturing	**Core Skills:** Motor Mechanic, Diesel Mechanic, Fitter, Welder, Fabricators **Allied Skills:** Electrician, Wireman **Acute Skill Deficits:** Specialized welders in Arc welding who can work in extreme conditions on advanced fabrication equipments

- **Textile & Apparel:**

Category of Skills	Skills
Core Skills	Ring frame operator, weaver, processing operator (CDR,BDR,Stuntor), Bar-coding machine operator
Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions.

- **Food Processing:**

Category of Skills	Skills
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician

[235] *KPMG Analysis*

Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists
Skills with acute shortage	PPO is required in industries having in house packing development.

- **Chemical & Chemical Products:**

Category of Skills	**Skills**
Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Electrical & Electronics:**

Category of Skills	**Skills**
Core Skills	Electronics, PPO, Electrical, Instrumentation
Allied Skills	Fitter
Skills with acute shortage	PPO trade is a key deficit in all industries involving plastic processing Electronics and Instrumentation

- **Metal & Mineral Processing:**

Category of Skills	**Skills**
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Thermal Power:**

Category of Skills	Skills
Core Skills	Mechanical, Electrical, Instrumentation& Control, Master Chemists, Civil Engineers
Allied Skills	Fitter, Electrician ITI trades
Skills with acute shortage	Instrumentation, Chemists

- **Pipe Industry:**

Category of Skills	Skills
Core Skills	Welder, Fitter, Electrician, Wireman, Machinist,
Allied Skills	PPO, CNC Operators, GasCutter, Turner
Skills with acute shortage	ID & OD Welding, CNC Machinist, Crane Operators, PPO, Gas Cutter trades

- **Wind Farm Equipment:**

Category of Skills	Skills
Core Skills	Fitter, Welder, Plastic Polymer Operator(PPO)
Allied Skills	Electrician, Wireman
Skills with acute shortage	PPO, Advanced Welding(TIG, MIG) trade candidates are not available in the district

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

- **Salt Production:**

Category of Skills	Skills

Core Skills	Earth moving equipment operators, tractor drivers
Allied Skills	Minimally skilled workers
Skills with acute shortage	Chemists

Services:

- **Banking & Financial Services:**

Category of Skills	Skills
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.3.4. Human Resource Supply Scenario in the District

6.10.3.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Kutch would experience a moderate human resource growth during 2012-22. .Increasing employment opportunities in organized and unorganized sector could potentially absorb the incremental labour force if matched with adequate skilling. Details of human resource growth estimations during 2012-22 are presented in the table[236].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	200,506	95,295	58,158
2017-22	219,075	101,138	45,156

6.10.3.4.2. Education and Training Potential in the District

The district has around 1978 K12 schools with 88.78 percent share of Government schools. Kutch district boasts a perfect net enrolment ratio of 100 percent at the primary level but the net enrolment ratio at upper primary level stands at low 53.6 percent. There is a need to prop up the education standards at the upper primary level[237].

[236] *KPMG Analysis*
[237] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Total Enrollments in 209-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Kutch	238,859	67,351	57,808	13,447

Comparing the district's enrolment statistics with state average indicates that the district is a strong performer in the primary education category[238].

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Kutch	100.0	53.6
Gujarat	85.4	50.7

In the vocation education segment, the district is average in the provision of vocational training in comparison to state average. Private interest in the sector in this district is very low indicating that the state must take proactive measures in increasing private support to augment vocational training infrastructure[239].

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Kutch	19	4,712	2.25	14%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Kutch district needs to be focused on the tehsils of Mandvi, Anjar, Rapar, Nakhatrana, Abdasa and Bhachau to bring them on par with the district average in vocational education capacity[240].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Mundra	476	4.34	0%
Lakhpat	268	4.05	0%
Gandhidham	740	2.78	0%
Bhuj	1264	2.77	21%
Mandvi	496	2.20	0%
Anjar	400	1.89	46%
Rapar	440	1.68	0%
Nakhatrana	280	1.64	61%
Abdasa	176	1.37	9%
Bhachau	172	0.88	19%
District Total	**4712**	**2.25**	**14%**

238 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
239 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
240 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

In the higher education segment, the district has 1 management institute, 3 pharmacy colleges and 6 colleges offering Arts, Commerce, Science, B.Ed & Law programs. Government Engineering College at Bhuj offers engineering degree in three branches; mechanical, electrical and mining, with the intake capacity of 60 in each discipline. The Shyamji Krishna Verma Kutch University (Bhuj) offers courses in environmental science, ecology, physics, mathematics, chemistry, medicine and business administration. Veerayatan Institute of Pharmacy in Kutch offers Bachelor of Pharmacy with a total intake capacity of 60. Vivekananda Research & Training Institute at Mandvi provides training to farmers in various farming skills.

6.10.3.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below.

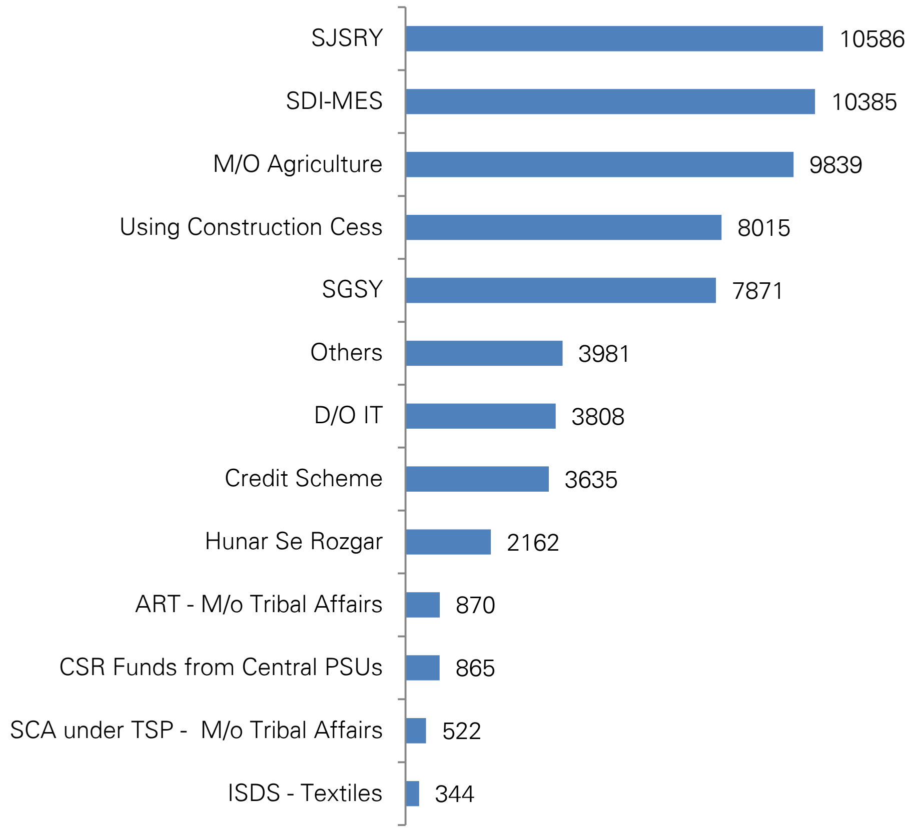
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				**2017-22**			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	1,326	46,100	48,944	(42,733)	159	35,366	51,289	86,813

*(Indicates excess supply)

6.10.3.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 63 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Kutch District[241]



6.10.3.5. District Specific Recommendations

Considering these factors, the proposed action plan for stakeholders in skill development in the district would indicate the following priority areas:

Stakeholder	Action Points for Stakeholders
NSDC	• Focus on increasing participation from national/regional private skill training providers with focus on the following sectors where there is scope for the candidate fee-paying model o Silk Production and Processing
District Administration Indore	• Provide skill training in conjunction with private skill training providers using government endowment training schemes o Pisciculture o Animal husbandry o Silk Production and Processing

[241] *KPMG Analysis*

	o Sital Pati, Jute Products
Private Skill Training Providers	• Focus on placement driven training for youth in high growth sectors of state o Iron & Steel o Engineering/Auto o IT/ITES o Construction o Retail
Corporate	• Develop into a manpower sourcing hub • Initiate and support modular employability skill training in collaboration with private players/Government • To create placement linkage opportunities in training institutions

6.10.4. Skill Gap Assessment of Kheda District

6.10.4.1. Socioeconomic Profile

6.10.4.1.1. Administrative Profile

Kheda District is located in the central part of Gujarat with a geographical spread of 3959 sq.km[242]. It shares border with Ahmedabad, Panchmahal, Sabarkantha and Vadodara. Administratively Kheda is divided into 10 talukas and 618 villages[243] with Nadiad as the district capital. Nadiad, Balasinor, Kapadvanj, Kathlal, Kheda, Mahudha, Matar, Mehmadavad, Thasara and Virpur are taluka regions in the district.

6.10.4.1.2. Demographic Profile

Kheda district is a moderate human resource potential region in Gujarat state. District has a total population of 22.98 lakhs[244] as per 2011 Census district accounting for 3.8 percent[245] of the overall state population. District has witnessed a subdued population growth over the last decade. Gandhinagar population has witnessed a decadal growth rate of 12.81 percent[246] between 2001 and 2011 in comparison to state average of 19.17 percent[247] during the same period. Significant portion of district population lives in rural areas with these regions accounting for 77.24 percent[248] of the total population. Population spread in the district is higher than the state average with a density of 541 persons per sq.km[249] as against state average of 308 persons per sq.km[250]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Nadiad, Thasra, Kapadvanj and Mehmedabad with Nadiad having highest concentration of population. Details of regional distribution of population in the district are presented in the table[251].

[242] *Census 2011 Statistics*
[243] *Census 2011 Statistics*
[244] *Census 2011 Statistics*
[245] *Census 2011 Statistics*
[246] *Census 2011 Statistics*
[247] *Census 2011 Statistics*
[248] *Census 2011 Statistics*
[249] *Census 2011 Statistics*
[250] *Census 2011 Statistics*
[251] *Census 2001Statistics, KPMG Analysis*

Regional Distribution of Population in the District[252]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Nadiad	24%	1198
Thasra	15%	463
Kapadvanj	11%	368
Mehmedabad	11%	560
Kathlal	9%	525
Matar	7%	381
Balasinor	6%	433
Kheda	6%	394
Mahudha	6%	463
Virpur	4%	346

Gender composition of the district population is better than the state average. As per 2011 census, the district has a gender ration of 937 females per 100 males[253] as against the state average ratio of 918 females per 1000 males[254]. Gender ratio of the district has witnessed an improvement from 923 females per 1000 males[255] in 2001 to 937 females per 1000 males[256] by 2011. Contribution of scheduled categories to the overall district population is significantly low.

Education attainment levels in the district are better than the state average. As per 2011 estimates, the district has registered an overall literacy rate of 84.31 percent[257] as against state average of 79.31 percent[258]. District has made significant progress towards regional inclusion in the reach of mass education programs while the gender inclusion still remains a concern. Urban-rural literacy gap in Kheda is estimated to be 5.07 per cent[259] as against the 14.58 percent[260] for overall state. On the other hand, district still has a male-female literacy gap of 18.73 percent[261] as against 16.5 percent[262] for Gujarat state. Lower level of overall literacy and inadequate gender inclusion stresses the need for gender specific approach towards implementation of mass education initiatives. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth of the region.

6.10.4.1.3. Economic Profile

252 *Census 2001Statistics, KPMG Analysis*
253 *Census 2011 Statistics*
254 *Census 2011 Statistics*
255 *Census 2011 Statistics*
256 *Census 2011 Statistics*
257 *Census 2011 Statistics*
258 *Census 2011 Statistics*
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261 *Census 2011 Statistics*
262 *Census 2011 Statistics*

Kheda district is also known by the name golden leaf since it is the major producer of tobacco in the state. Additionally the district has a strong base of cotton cultivation specifically in Nadiad taluka. Nadiad taluka is the industrial center in the district, with major concentration of industries in sectors like Textiles, Paper, Electrical equipments and Food processing. One of the largest manufacturers of corrugated boxes in the Country, the Core Emballage Ltd., is present in the district

The upcoming industrial sectors in the district include Ceramics, Plastic and its products, Cement and Gypsum. There are huge natural gas reserves in Matar taluka of the district. Oil and gas company Shell India Ltd. has its bottling plant and filling facilities in the district.

One of the oldest textile industries - New Shorock Mills (Division of Mafatlal Industries) has its operations at Nadiad is a moderate economy among the districts of Gujarat.

Analysis of regional distribution of investments in Kheda district indicates that the industrial development is concentrated in Matar, Kheda and Nadiad Talukas while other regions like Mandvi and Nakhtarana still remain backward in terms of industrial development. Over the recent years State Government has initiated some measures to enhance the industrial growth further in Kheda talukas through suitable incentives leading to an increased investment potential of these regions over the next decade. Details of region wise large scale investments in Kheda district till 2012 is presented in the table.

Large Scale Investment Scenario In Kheda[263]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Matar	28	400	7	83
Nadiad	25	103	2	57
Kheda	10	419	10	1245
Balasinor	1	1	1	17
Kapadwnj	1	1	--	--
Kathlal	1	27	1	3
Mehmadabad	1	2	1	5
Not Classified	2	242	3	157
District Total	**69**	**1195**	**25**	**1567**

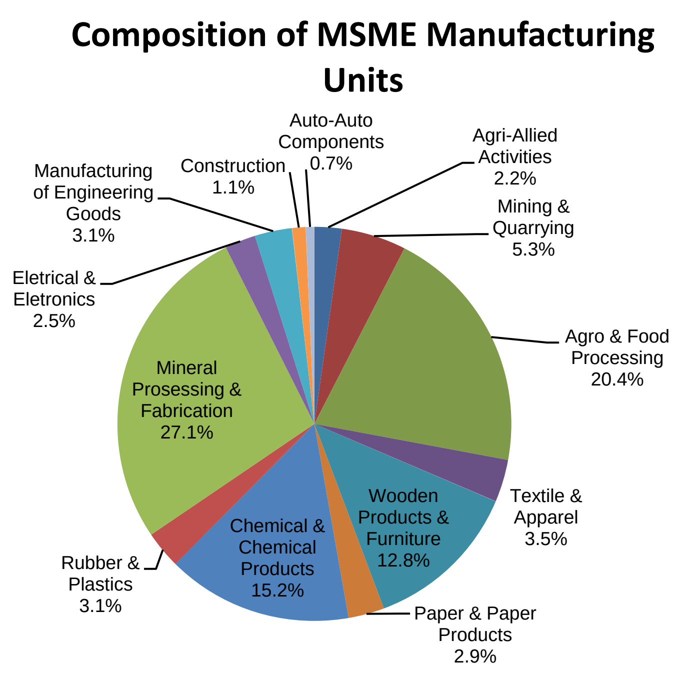
[263] *IEM, MSME Part-II Data till 2012-13*

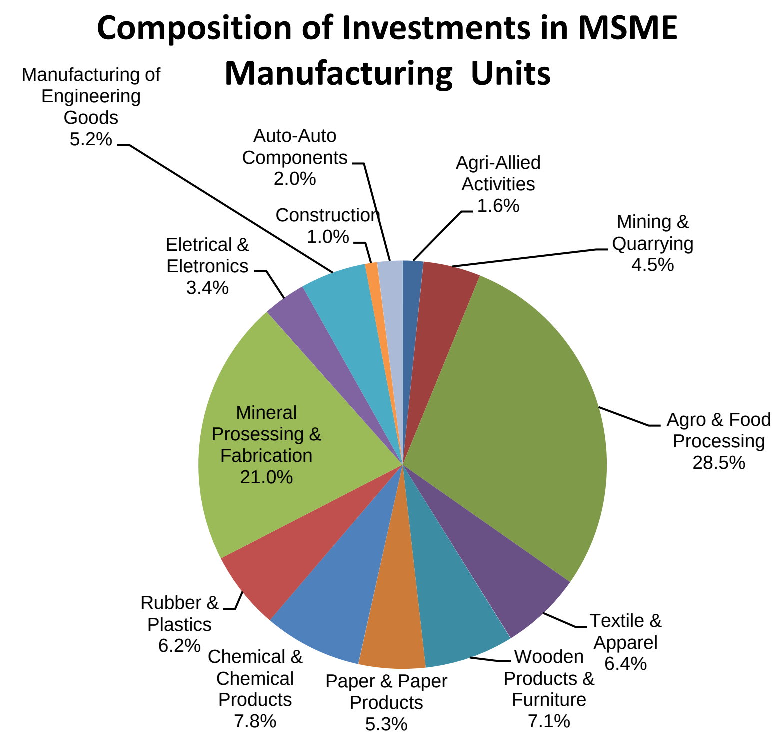
Moderate growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 773 units[264] operating in the district attracting an investment of INR 66,147 lakhs[265] in 2012. Investment outlook in MSME segment of Kheda district is presented in the table.

MSME Investment Scenario in Kheda[266]		
Category of Industries	**Number of Units**	**Investment In Rs. Lakhs**
Micro	556	13,066
Small	205	42,714
Medium	12	10,368
Total	**773**	**66,147**
Manufacturing Sector Units	716	63521
Service Enterprises	57	2626

Among the manufacturing based MSME units, Agriculture and Food Processing and Mineral Processing and Fabrication, wooden products & furniture, chemical & chemical products are the most prominent industries both in terms of units and investment in MSME manufacturing units.

MSME Manufacturing Sector Scenario in the District[267]

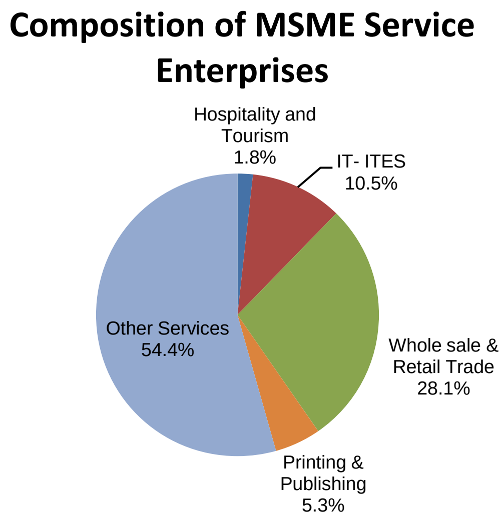


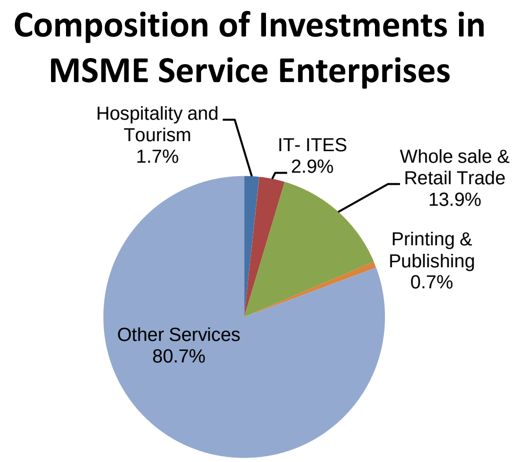


264 *IEM, MSME Part-II Data till 2012-13*
265 *IEM, MSME Part-II Data till 2012-13*
266 *IEM, MSME Part-II Data till 2012-13*
267 *IEM, MSME Part-II Data till 2012-13*

While the level of organized investments in services enterprises are low as evident from the MSME Part-II statistics, sectors of whole sale and retail trade, Printing and Publishing, IT-ITES have seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

MSME Services Sector Scenario in the District[268]





For promotion of village tourism, the Tourism Corporation of Gujarat Limited (TCGL) has identified Navagam village in Kheda district to be developed as a rural tourist hub. There are several tourism attractions in Kheda district like Dakor – a religious place, Dinosaur and Fossil Park, Santaram Temple and Water Structures.

Kheda has a medium penetration of medical institutions with 28,856 people per institution. The district has 50 primary healthcare centers, 12 community healthcare centers and 5 dispensaries. Apart from the above, Kheda also boasts of Muljibhai Patel Urological Hospital – a multi-specialty hospital, D.D.M.M. Institute of Cardiac Surgery and an Ayurvedic Hospital[269]

The road infrastructure of Kheda has the National Highway 8 which connects it with Ahmadabad, Surat and Vadodara. The rail infrastructure connects Kheda with other major cities and a broad gauge rail route connects the district with Mumbai and Ahmadabad. The nearest airport is at Vadodara and the nearest ports are at Hazira & Dahej.

There is a presence of 173 bank offices in Kheda with a total deposit amount of 6,880 Cr INR and a total credit amount of 1,666 Cr INR as of Mar 2012[270] Ahmadabad has an average penetration of banking and financial services with a density of 13,289 people per bank as of March 2012. While the number of banks has increased at a low CAGR

[268] *IEM, MSME Part-II Data till 2012-13*

[269] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[270] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

of 4.0 percent from 2007 to 2012, the amount of deposit and credit have increased at a CAGR of 18.5 percent[271] and 18.4 percent[272] respectively from 2007-2012.

Kheda has medium to low rainfall conditions with North Gujarat agro climatic zones. Owning to the soil characteristics, majority of district geographical land is cultivable (82 percent of total area) with Kathlal, Balasinor, Kapdvanj and Nadiad talukas having about 85% of their geographic area under cultivation.

The district has good irrigation facilities with nearly 60 percent of the net sown area under irrigation which is majorly due to the presence of Vatrak and Shedhi rivers in the district. Canal irrigation accounts for around 60 percent of the net irrigated area with the Nadiad, Mahudha, Matar and Kheda talukas having more than 75 percent of irrigated land.

Poor nitrogen content in Kheda soils has resulted in large scale usage of nitrogen rich fertilizers. Awareness levels on organic farming and vermin-compost methods are low indicating a need to improve the same in order to promote sustainable agricultural practices.

Paddy, Bajara and Cotton are the key Kharif crops while wheat and mustard are the major Rabi crops grown in the district. The ratio of area under Rabi to Kharif crops is 0.7 which indicates significant potential for improvement in multiple cropping systems. Main horticulture crops in Kheda district are Aonla, Lemon, Papaya, Mango (Fruits), Potato, Brinjal, Tomato, Okra (Vegetables), Rose, Marigold, Spider lily (Flowers) and Cumin, Funnel (Spices). Currently usage of hybrid crop varieties is low with a need to promote this practice across crop categories. Taluka Seed Farms in the district are targeted to improve the availability of quality seeds with the district having 4 of them as of now and requiring 6 more.

Cow and buffalos are main cattle varieties in Kheda with 4,88,435 cows[273] and 1,54,837 buffalos[274]. Other prominent domestic animals under animal husbandry activities are goats and sheep. The district needs large pasture lands to utilize the potential to promote animal husbandry in the district. Along with strengthening animal husbandry activities among small and marginal farmers through advanced rearing training, there is a need for integrating the animal husbandry with promotion of organic farming as well.

Educating farmer communities/ groups on marketing and processing would be crucial to enhance the revenue benefits to marginal communities by limiting the role of middlemen. Government initiative to set up agricultural collection centers towards achieving this objective has to be supplemented by relevant training programs also.

6.10.4.2. Workforce Distribution in the district

Kheda is predominantly dependant on agricultural activities for livelihood generation with over 70 percent of total workforce engaged in this sector. Considering the low level penetration of manufacturing sector at 9.19 percent employment generation as against the state average of 15.86 percent, district has potential to become a sourcing hub

[271] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[272] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[273] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[274] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

for trained manpower. While the total worker participation rate is marginally better than the state average, high manpower requirements in agrarian activities due to low output efficiency indicates the level of under employment in this category. Comparison of workforce distribution scenario in Kheda and Gujarat is presented in the table[275].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Kheda	57.01%	44.87%	70.43%	9.19%	20.37%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

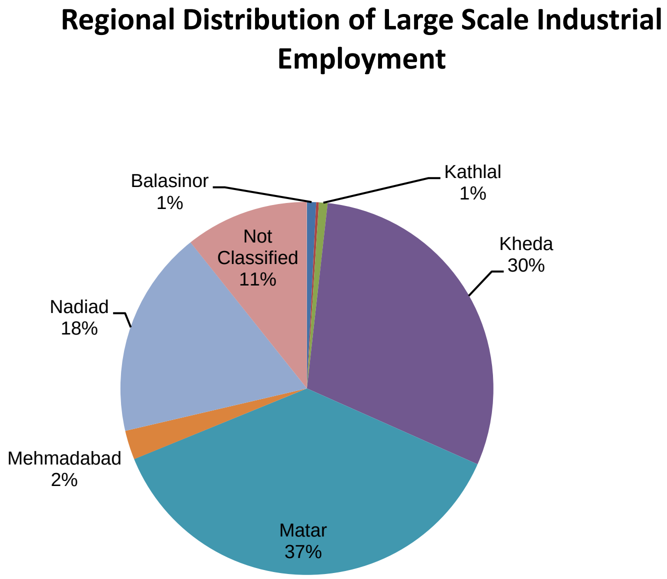
Registered factories and service enterprises have created 16 thousand[276] employment opportunities in the district. While the overall manufacturing base is low, high level of unorganized activity has further reduced organized job prospects in manufacturing sector within the district. MSME category dominated by food processing, non metallic processing units account for majority share of overall employment in the sector. Category wise industrial employment details as per 2012 statistics are presented in the table.

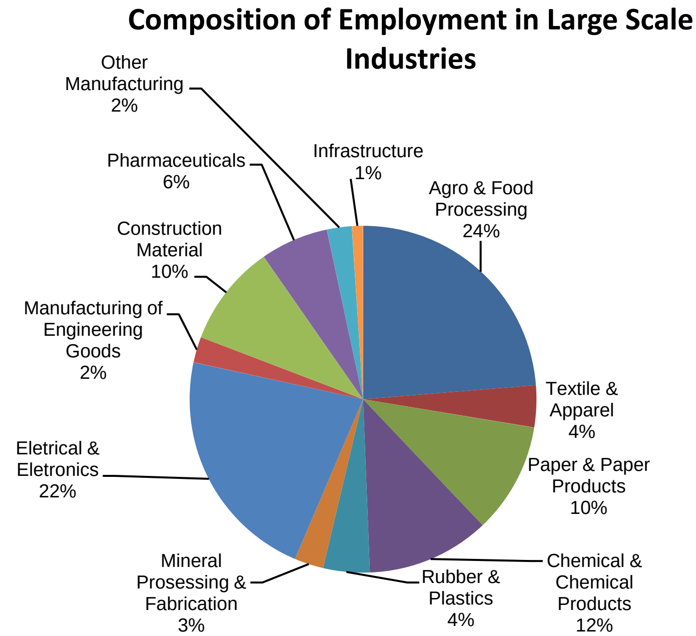
Organized Employment in Kheda[277]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	7806
MSME Category	12340
Manufacturing Units	11754
Service Enterprises	586
Total	**20,416**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors within specific taluka regions. Matar, Kheda and Nadad talukas account for a majority share of employment in this category. Agro & food processing, electrical & electronics, chemical, construction material, paper & paper products are major employment generating segments within the district. Regional, sectoral break up of large scale industrial employment is presented in the chart.

275 *KPMG Analysis*
276 *IEM, MSME Part-II Data till 2012-13*
277 *IEM, MSME Part-II Data till 2012-13*

Large Scale Industrial Employment in the District[278]

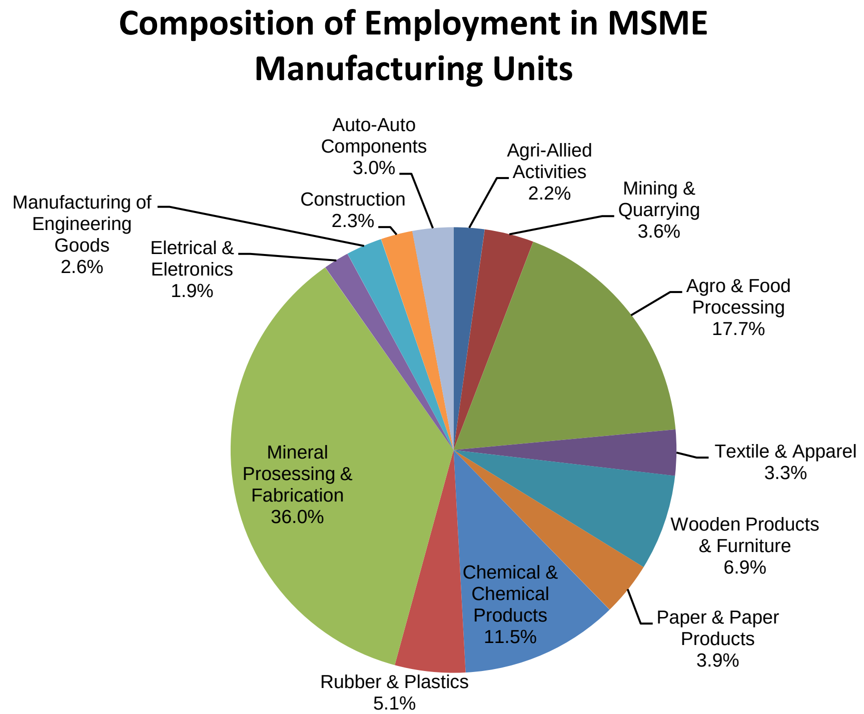


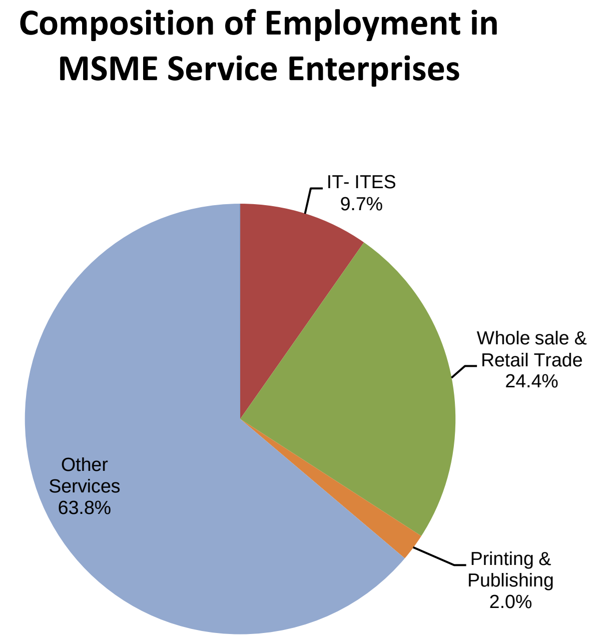


Among the manufacturing units in MSME, agro & food processing, mineral processing, chemical & chemical products units have accounted for majority share of the employment in all the categories of industries. Whole sale & retail trade, IT-ITES are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

278 *IEM, MSME Part-II Data till 2012-13*

MSME Employment Overview in the District[279]





6.10.4.3. Human Resource Requirement Projections in Kheda (2012-22)

Incremental manpower requirement in the district of Kheda has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Kheda. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net out flux of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-

[279] *IEM, MSME Part-II Data till 2012-13*

allied activities depending on the resource availability and migration constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district
-

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication and retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation & logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub-segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- IT-ITES
- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Kheda district are presented in the table.

Incremental Manpower Requirements in the District[280]								
Sector	**2012-17**				**2017-22**			
	Skilled	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Agriculture & Allied Activities	NA	NA	21853	21853	NA	NA	21853	18301
Agro & Food Processing	91	364	454	909	81	325	406	813
Textile & Apparel	15	60	76	151	14	54	68	135
Wooden Products & Furniture	18	71	88	177	16	63	79	158
Paper & Paper Products	27	109	137	273	24	98	122	244
Chemical & Chemical Products	49	194	243	485	43	174	217	434
Rubber & Plastics	20	81	102	204	18	73	91	182
Mineral Processing &	105	422	527	1054	94	377	471	943

[280] *KPMG Analysis*

Fabrication								
Electrical & Electronics	42	168	210	419	38	150	188	375
Manufacturing of Engineering Goods	18	73	91	182	16	65	82	163
Manufacturing of Construction Material	16	64	80	161	14	57	72	144
Drugs and Pharmaceuticals	11	43	54	107	10	38	48	96
Misc. Manufacturing	4	16	19	39	3	14	17	35
Construction	510	1020	8668	10197	456	912	7753	9121
Trade, Retail	824	1235	6177	8236	900	1350	6752	9003
Transportation & Logistics	1130	17941	21345	40415	924	14679	17464	33067
Hospitality & Tourism	668	1002	5010	6680	534	802	4008	5344
Banking & Financial Services	2215	6646	NA	8862	1551	4653	NA	6203
Healthcare	425	1914	NA	2339	567	2833	NA	3400
Education & Training	864	5819	NA	6683	1297	3491	NA	4788

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[281].

Secondary Sector (Manufacturing, Construction & Energy):

- **Food Processing:**

Category of Skills	**Skills**
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists
Skills with acute shortage	PPO is required in industries having in house packing development.

- **Chemical & Chemical Products:**

Category of Skills	**Skills**

[281] *KPMG Analysis*

Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Metal & Mineral Processing**:

Category of Skills	**Skills**
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	**Skills**
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Transportation :**

Category of Skills	**Skills**
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.4.4. Human Resource Supply Scenario in the District

6.10.4.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Kheda would experience a moderate human resource growth during 2012-22. Proximity to commercial and industrial areas like Ahmedabad and Gandhinagar would drive work based outward migration from the district considering the limited opportunities within the district to support the incremental labour force. Details of human resource growth estimations during 2012-22 are presented in the table[282].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	236,245	154,598	87,227

[282] *KPMG Analysis*

2017-22	214,336	142,759	67,726

6.10.4.4.2. Education and Training Potential in the District

District has around 2583 K12 schools with a 91.44 percent share of Government schools. The district's net enrolment ratio for primary levels and upper primary levels are higher than the ratios of the state[283].

Total Enrollments in 2009-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Kheda	229403	95482	97560	32987

Comparing the district's enrolment statistics with state average indicates that the district is a strong performer in the primary education category[284]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Kheda	89.2	60.5
Gujarat	85.4	50.7

In the vocation education segment, the district is ahead in the provision of vocational training in comparison to state average. Private interest in the sector in this district is high indicating that the state must take proactive measures in further increasing private support to improve vocational training infrastructure[285].

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Kheda	31	6,803	2.96	28%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Kheda district needs to be focused on the tehsils of Balasinor, Matar, Kapadvanj, Kathal, Thasara, Virpur, Mahudha, and Mehmedavad to bring them on par with the district average in vocational education capacity[286].

283 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
284 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
285 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
286 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Nadiad	3414	6.15	8%
Kheda	416	3.09	71%
Balasinor	392	2.65	10%
Matar	440	2.63	31%
Kapadvanj	544	2.09	47%
Kathlal	385	1.87	67%
Thasara	632	1.81	80%
Virpur	152	1.54	13%
Mahudha	192	1.47	33%
Mehmedavad	236	0.95	7%
District Total	**6803**	**2.96**	**28%**

In the higher education segment, Nadiad taluka of the district hosts Dharamsinh Desai Institute of Technology which offers courses in civil, mechanical, electrical, chemicals, instrumentation & control, computer and electronics and communication engineering as well as management and pharmacy courses. There is one more engineering college – Charotar Institute of Technology at Changa offering similar courses. There are two nursing colleges, one dental college, and one ayurvedic college present in the district. The regional Sugarcane Research Station is also located in Thasara taluka of the district.

6.10.4.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

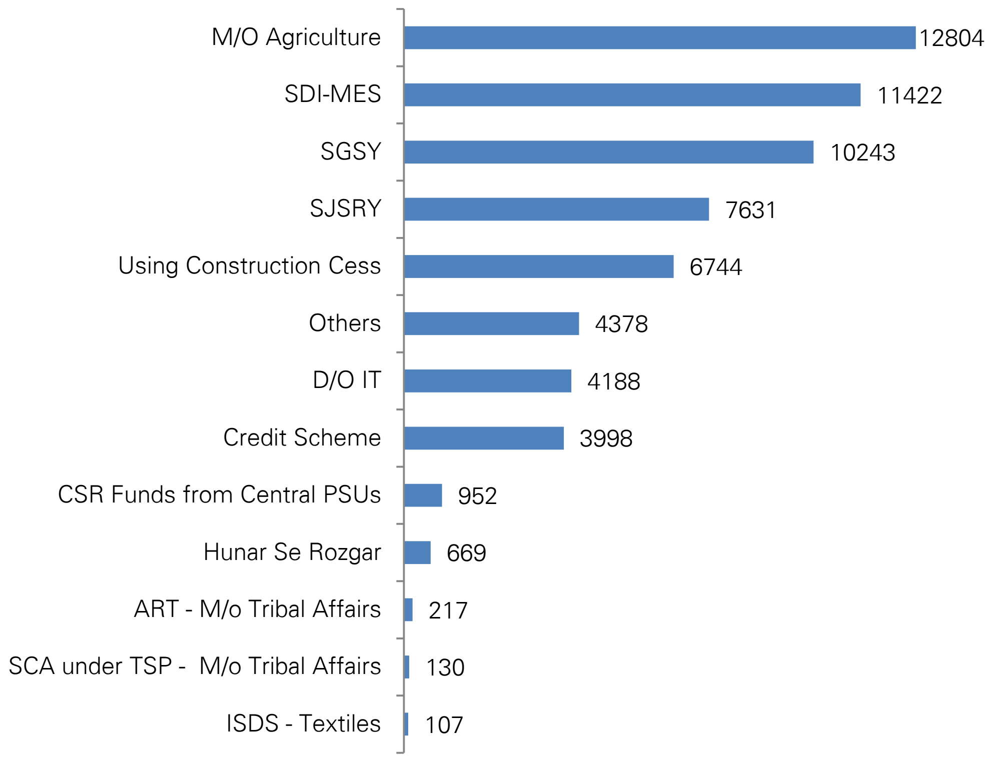
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				**2017-22**			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	(4,462)	28,316	(1,653)	22,199	(6,279)	19,037	16,015	25,223

*(Indicates excess supply)

6.10.4.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 63 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets focus on the primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Kheda District[287]



6.10.4.5. District Specific Recommendations

Considering these factors, the proposed action plan for stakeholders in skill development in the district would indicate the following priority areas:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following sectors • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services

287 *KPMG Analysis*

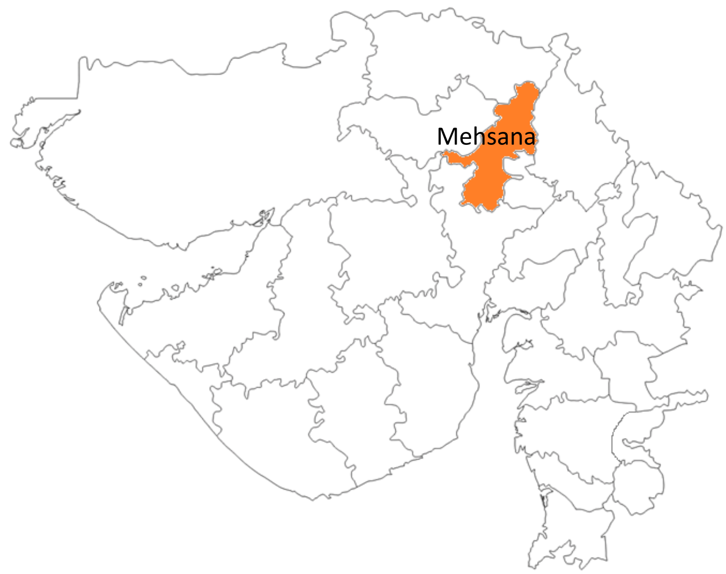
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes • Construction Sector • Agri Allied Activities • Mineral and Mineral Processing • Wood Based Products • Manufacture of Wooden Products
Private Skill Training Providers	Provide skill training in the sectors of • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • IT/ITES • Construction • Retail • Transportation and Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.5. Skill Gap Assessment of Mehsana District

6.10.5.1. Socioeconomic Profile

6.10.5.1.1. Administrative Profile

Mehsana district is located in the northern part of Gujarat with a geographical spread of 4394 sq.km[288]. It shares border with Banaskantha, Ahmedabad, Patan, Sabarkantha and Gandhinagar districts of Gujarat. Administratively Mehsana is divided into 9 talukas and 606 villages[289] with Mehsana town as the district capital. Mehsana, Bechraji, Kadi, Kheralu, Vijapur, Satlasna, Vadnagar, Visnagar and Unja are taluka regions in the district.



6.10.5.1.2. Demographic Profile

Mehsana district is a moderate human resource potential region in Gujarat state. The district has a total population of 20.28 lakhs[290] as per 2011 Census accounting for 3.4 percent[291] of the overall state population. The district has witnessed a lower population growth over the last decade. Gandhinagar population has witnessed a decadal growth rate of 9.01 percent[292] between 2001 and 2011 in comparison to state average of 19.17 percent[293] during the same period. Significant portion of district population lives in rural areas with these regions accounting for 74.65 percent[294] of the total population. Population spread in the district is higher than the state average with a density of 462 persons per sq.km[295] as against state average of 308 persons per sq.km[296]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Mehsana, Kadi, Visnagar and Vijapur with Mehsana, Unjhapur and Visnagar having highest concentration of population. Details of regional distribution of population in the district are presented in the table[297].

[288] *Census 2011 Statistics*
[289] *Census 2011 Statistics*
[290] *Census 2011 Statistics*
[291] *Census 2011 Statistics*
[292] *Census 2011 Statistics*
[293] *Census 2011 Statistics*
[294] *Census 2011 Statistics*
[295] *Census 2011 Statistics*
[296] *Census 2011 Statistics*
[297] *Census 2001Statistics, KPMG Analysis*

Regional Distribution of Population in the District[298]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Mahesana	25%	554
Kadi	16%	352
Visnagar	14%	519
Vijapur	13%	432
Unjha	9%	549
Vadnagar	7%	418
Kheralu	6%	343
Becharaji	5%	222
Satlasana	4%	246

Gender composition of district population is marginally (Word Missing) than the state average. As per 2011 census, the district has a gender ration of 925 females per 100 males[299] as against the state average ratio of 918 females per 1000 males[300]. Contribution of scheduled categories to the overall district population is not significant with a proportion of 8.58[301] in overall district population.

Education attainment levels in the district are better than the state average. As per 2011 estimates, district has registered an overall literacy rate of 84.26 percent[302] as against state average of 79.31 percent[303]. The district has made significant progress towards regional inclusion in the reach of mass education programs while the gender inclusion still remains a concern. Urban-rural literacy gap in Mehsana is estimated to be 7.11 percent[304] as against the 14.58 percent[305] for overall state. On the other hand, the district still has a male-female literacy gap of 15.76 percent[306] as against 16.5 percent[307] for Gujarat state. Lower level of overall literacy and inadequate gender inclusion stresses the need for gender specific approach towards implementation of mass education initiatives. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth of the region.

6.10.5.1.3. Economic Profile

Mehsana district has witnessed substantial industrial development over the past few years, primarily due to its strategic location. Economic growth for the district is driven by investments in Engineering Industry (mainly metallurgical industries) and Food & Agro processing. The district has presence of Chemical industry players like

[298] *Census 2001Statistics, KPMG Analysis*
[299] *Census 2011 Statistics*
[300] *Census 2011 Statistics*
[301] *Census 2001Statistics, KPMG Analysis*
[302] *Census 2011 Statistics*
[303] *Census 2011 Statistics*
[304] *Census 2011 Statistics*
[305] *Census 2011 Statistics*
[306] *Census 2011 Statistics*
[307] *Census 2011 Statistics*

Nirma Ltd. which has set up its manufacturing unit in the district producing a range of products like synthetic detergents, soap bars, sulphuric acid, shampoo and toothpaste etc.
Several petroleum companies are located in and around Mehsana. Oil and Natural Gas Corporation Limited (ONGC) has a huge establishment in Mehsana – ONGC asset. Oil division of Essar Group also has presence in the district. Mehsana district also hosts a Co-operative milk dairy - Dudhsagar, which is the second largest milk dairy in Asia.

Analysis of regional distribution of investments in Mehsana district indicates that the industrial development is concentrated in Kadi and Mehsana Taluka while other regions like Kheralu, Vadnagar and Satlasana still remain backward. Over the recent years State Government has initiated measures to enhance the industrial growth in backward talukas like Satlasana through suitable incentives leading to an increased investment potential of these regions over the next decade. Details of region wise large scale investments in Mehsana district till 2012 is presented in the table.

Large Scale Investment Scenario In Mehsana[308]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Kadi	164	1892	41	1349
Mehsana	59	558	28	1045
Vijpur	12	84	3	101
Visnagar	4	11	--	--
Becharaji	3	9	1	8
Kheralu	1	1	--	--
Vadnagar	1	130	1	--
Satlasana	--	--	2	334
Not Classified	1	420	3	72
District Total	**245**	**3105**	**79**	**2909**

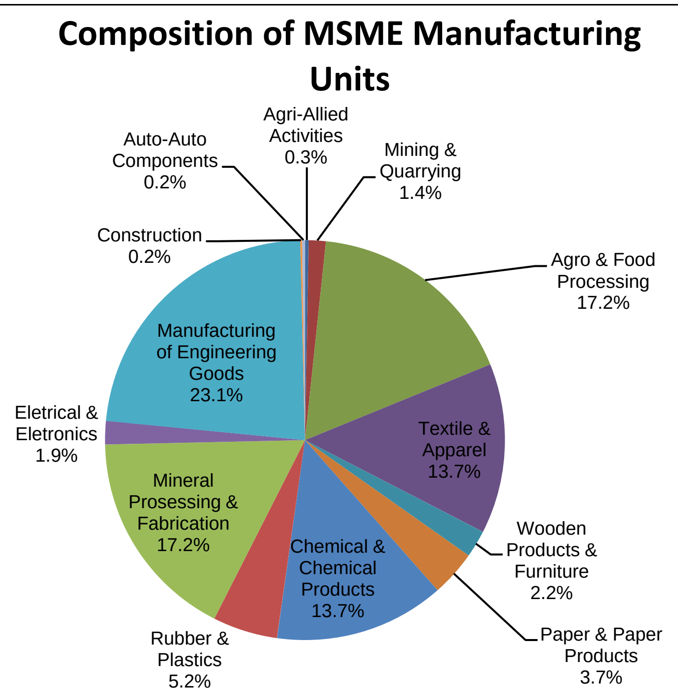
Rapid growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 1614 units[309] operating in the district attracting an investment of INR 1, 56,423 lakhs[310] in 2012. Investment outlook in MSME segment of Mehsana district is presented in the table.

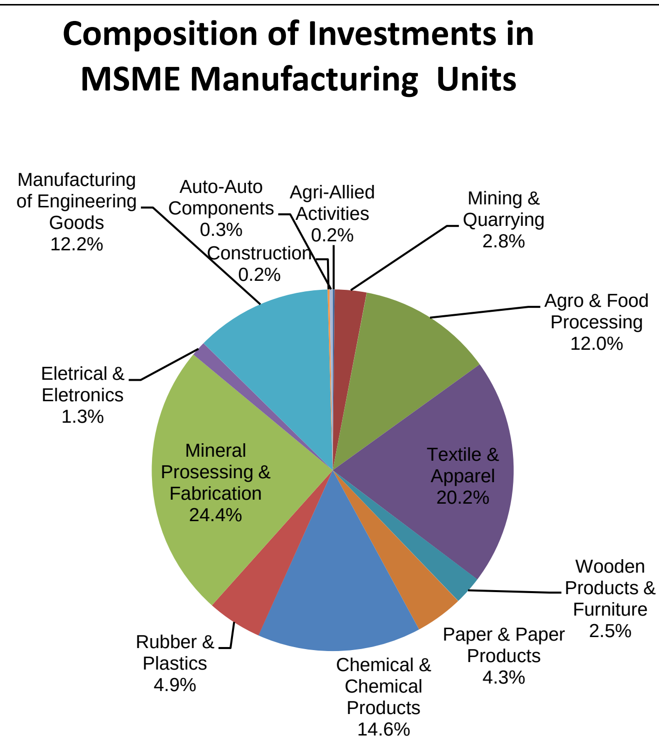
[308] *IEM, MSME Part-II Data till 2012-13*
[309] *IEM, MSME Part-II Data till 2012-13*
[310] *IEM, MSME Part-II Data till 2012-13*

MSME Investment Scenario in Mehsana[311]		
Category of Industries	**Number of Units**	**Investment In Rs. Lakhs**
Micro	1,092	25,985
Small	482	93,970
Medium	40	36,469
Total	**1,614**	**156,423**
Manufacturing Sector Units	1,317	132,166
Service Enterprises	297	24,257

MSME segment in Mehsana is dominated by manufacturing industries in terms of both volume and investments. Among the manufacturing based MSME units, textile and apparel, mineral processing and fabrication, agro and food processing and chemical and chemical products are prominent categories both in terms of number of units and magnitude of investments. Composition of MSME manufacturing units and investments are presented in the chart.

MSME Manufacturing Sector Scenario in the District[312]

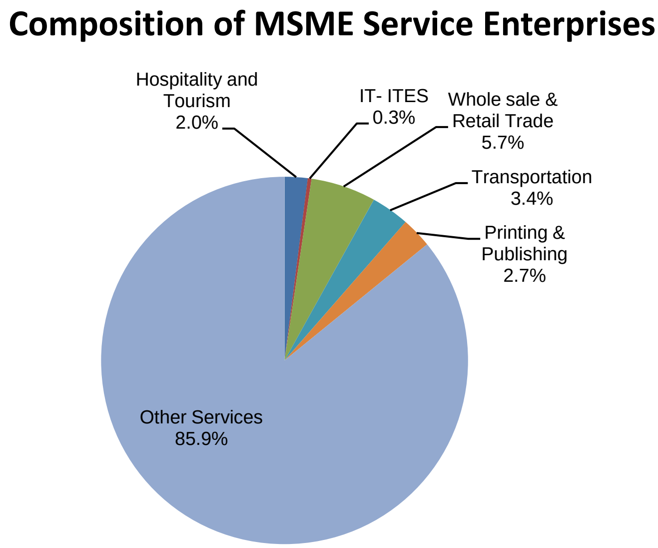


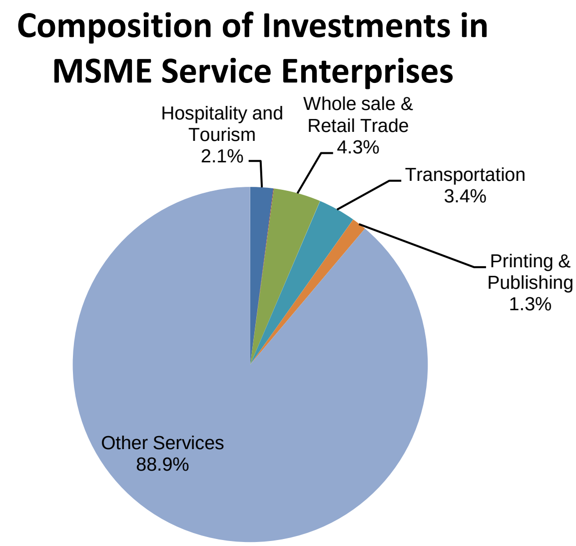


While the level of organized investments in services enterprises are low as evident from the MSME Part-II statistics, sectors of whole sale and retail trade, Printing and Publishing, transportation and Hospitality have seen considerable investments. Composition of MSME service enterprises and investments are presented in the chart.

[311] *IEM, MSME Part-II Data till 2012-13*
[312] *IEM, MSME Part-II Data till 2012-13*

MSME Services Sector Scenario in the District[313]





Tourism is one of the key sectors of growth in Mahesana. There are tourist destinations like the Sun Temple at Modhera, Rani Udaymati Vav monument, Taranga Hills and Shanku Water park.

On the higher education front, the district boasts of the Ganpat University and a military school for girls. There are also three agriculture research centers dedicated to spices, wheat and potatoes respectively.

The district has high penetration of medical institution with 25,033 people per institute. It has 50 primary healthcare centers, 15 community healthcare centers and 5 hospitals. There is also Sterling Hospital and an Ayurvedic Center of Dabur. Apart from the above, there are other places like Bahucharaji Temple, Vadnagar Gate and Tana and Riri Samadhi [314]

Mahesana has a 51 km four-lane toll road connecting it with Ahmadabad. The district is also connected with Patan, Porbandar, Kandla and Ahmadabad by rail. The nearest airport to the district is Ahmadabad airport and the nearest port is at Dholera.

[313] *IEM, MSME Part-II Data till 2012-13*
[314] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

Mahesana has a presence of 187 bank offices and the total bank deposit amounts to 5,787 Cr INR and the total credit amount of 3,937 Cr INR as of Mar 2012[315]. While the number of banks has increased at a moderate CAGR of 6.0 percent from 2007 to 2012, the amount of deposit and credit have increased at a CAGR of 20.6 percent[316] and 23.6 percent[317] respectively from 2007-2012.

Mehsana has medium to low rainfall conditions with a mix of North Gujarat and North West Zone (Sami, Harij and Chanasma talukas) agro climatic zones. Owning to the soil characteristics, majority of district geographical land is cultivable (80 percent of total area).

Although Mehasana is a low rainfall witnessing region, the district has limited spread of irrigation facilities with only 63 percent of net cultivable area under irrigation with Bachraji and Kadi Talukas having as low as 30 percent of net cultivable area under irrigation, indicating significant opportunities for improvement of irrigation penetration in these regions. Agricultural irrigation in Mehasana is predominantly dependent on tube wells with 80 percent share of net irrigated area.

Bajara, Castor, Cotton, Green Gram, Funnel and Paddy are the key Kharif crops while Wheat, Mustard and Cumin are the major Rabi crops grown in the district. The ratio of area under Rabi to Kharif crops is 0.7 which indicates significant potential for improvement in multiple cropping systems. Main horticulture crops include Lemon, Potato, Fennel and Cumin. Currently usage of hybrid crop varieties is low with a need to promote across crop categories. The district has 2 Taluka Seed Farms in the district which are targeted to improve the availability of quality seeds.

Cow and buffalos are main cattle varieties in Mehasana with 2,16,243 cows[318] and 5,67,605 buffalos[319]. Other prominent domestic animals under animal husbandry activities are goats and sheep. Availability of large pasture lands indicates significant potential to promote animal husbandry in the district. Along with strengthening animal husbandry activities among small and marginal farmers through advanced rearing training, there is a need for integrating the animal husbandry with promotion of organic farming as well.

6.10.5.2. Workforce Distribution in the district

Workforce in Mehsana is predominantly dependant on agrarian activities for livelihood generation. Nearly two thirds of the employment in the district is contributed by primary sector. While the contribution of individual sectors towards overall employment indicates a lower proportion of workforce depending on secondary activities, recent years have been witnessing significant investments leading to higher organized employment generation in this sector. Higher manpower requirements in agrarian activities due to low output efficiency indicates under

[315] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[316] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[317] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[318] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[319] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

employment in this category. Comparison of workforce distribution scenario in Mehsana and Gujarat is presented in the table[320].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Mehsana	58.26%	45.08%	65.24%	11.7%	23.05%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

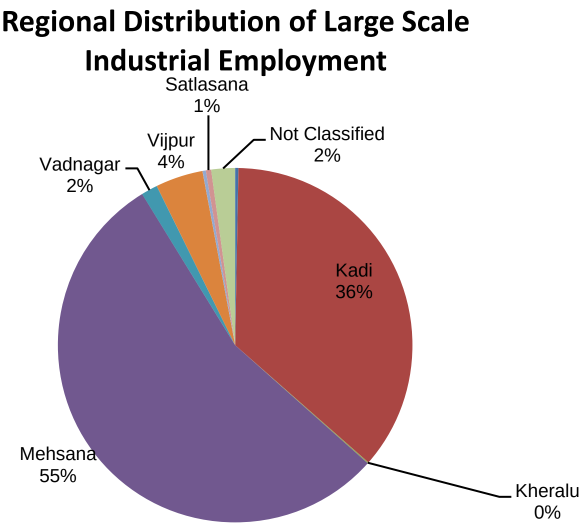
Registered factories and service enterprises have created 80 thousand[321] employment opportunities in the district. While the traditional manufacturing base is low, improved investment scenario especially in the large scale category driven by (missing text). Details of category wise industrial employment as per 2012 statistics are presented in the table.

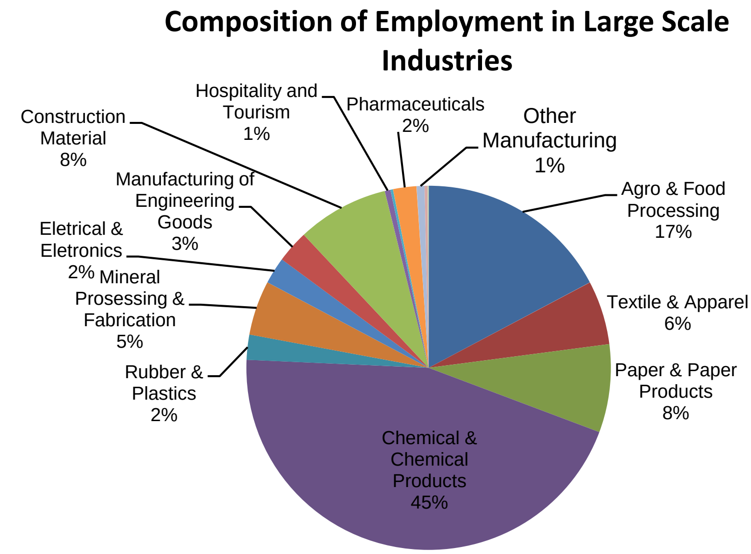
Organized Employment in Mehsana[322]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	66,995
MSME Category	27,673
Manufacturing Units	22,390
Service Enterprises	5,283
Total	**94,668**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors within specific taluka regions. Mehsana and Kadi talukas account for a majority share of employment in this category. Chemical & chemical products, agro & food processing are major employment generating segments within the district. Regional, sectoral break up of large scale industrial employment is presented in the chart.

Large Scale Industrial Employment Overview in the District[323]

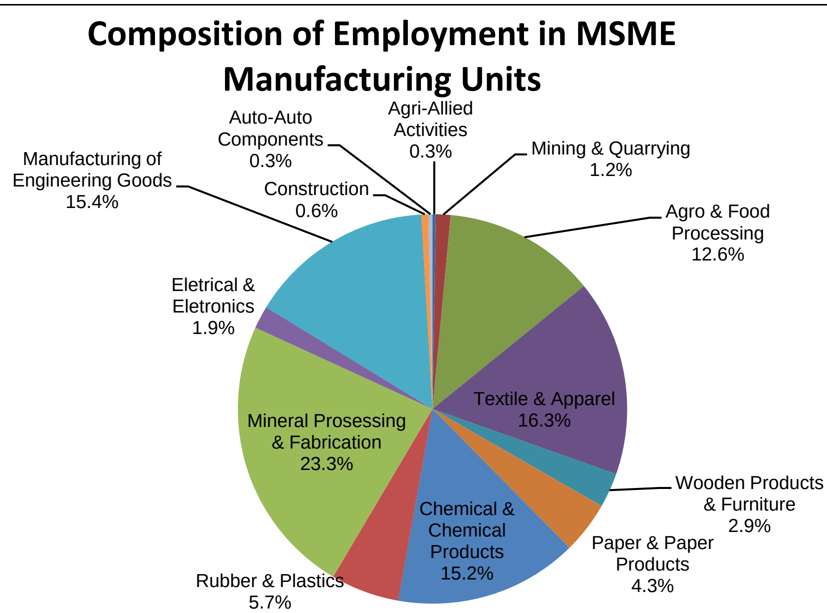
[320] *KPMG Analysis*
[321] *IEM, MSME Part-II Data till 2012-13*
[322] *IEM, MSME Part-II Data till 2012-13*
[323] *IEM, MSME Part-II Data till 2012-13*

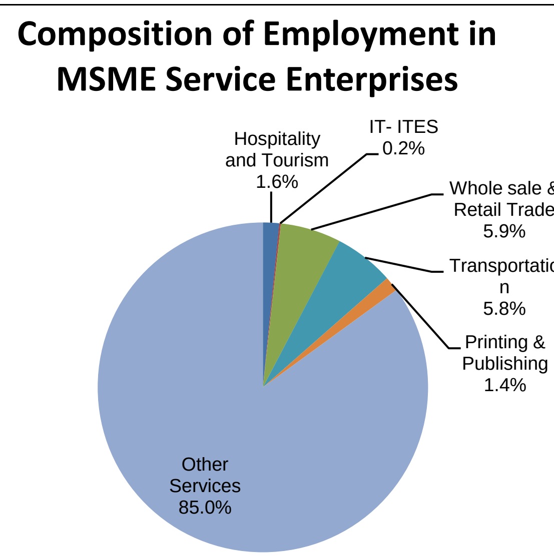




Among the manufacturing units in MSME, agro & food processing, textile & apparel, chemical & chemical products, mineral processing & fabrication, manufacturing of engineering goods units have accounted for majority share of the employment in all the categories of industries. Whole sale & retail trade, Transportation are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

MSME Employment Overview in the District[324]





324 *IEM, MSME Part-II Data till 2012-13*

6.10.5.3. Human Resource Requirement Projections in Mehsana (2012-22)

Incremental manpower requirement in the district of Kheda has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Amreli.

Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories.

Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the resource availability and migration constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions

- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation& logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub-segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- IT-ITES
- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare

- Education & Training

Incremental manpower requirements for the priority sectors in Amreli district are presented in the table[325].

Sector	2012-17				2017-22			
	Skilled	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Agriculture & Allied Activities	NA	NA	18628	18628	NA	NA	18628	15600
Agro & Food Processing	313	1252	1565	3130	280	1120	1400	2799
Textile & Apparel	161	645	806	1612	144	577	721	1442
Wooden Products & Furniture	14	56	70	140	12	50	62	125
Paper & Paper Products	134	538	672	1344	120	481	601	1202
Chemical & Chemical Products	727	2906	3633	7266	650	2599	3249	6499
Rubber & Plastics	60	239	299	599	54	214	268	535
Mineral Processing & Fabrication	189	758	947	1894	169	678	847	1694
Electrical & Electronics	43	174	217	434	39	155	194	388
Manufacturing of Engineering Goods	118	471	589	1178	105	422	527	1054
Manufacturing of Construction Material	118	472	590	1180	106	422	528	1055
Drugs and Pharmaceuticals	30	121	151	302	27	108	135	271
Misc. Manufacturing	11	46	57	114	10	41	51	102
Construction	450	899	7645	8994	402	804	6838	8045
Trade, Retail	726	1090	5448	7264	794	1191	5955	7941
Transportation & Logistics	732	11629	13835	26196	599	9514	11320	21433
Hospitality & Tourism	797	1196	5978	7970	638	956	4782	6376
Banking & Financial Services	2715	8146	NA	10861	1901	5702	NA	7603
Healthcare	387	1743	NA	2131	516	2581	NA	3097
Education & Training	884	5952	NA	6837	1326	3571	NA	4898

[325] *KPMG Analysis*

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[326].

Secondary Sector (Manufacturing, Construction & Energy):

- **Textile & Apparel:**

Category of Skills	Skills
Core Skills	Ring frame operator, weaver, processing operator (CDR,BDR,Stuntor), Bar-coding machine operator
Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions.

- **Food Processing:**

Category of Skills	Skills
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists
Skills with acute shortage	PPO is required in industries having in house packing development.

- **Chemical & Chemical Products:**

Category of Skills	Skills
Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Electrical & Metal & Mineral Processing:**

Category of Skills	Skills

[326] *KPMG Analysis*

Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	**Skills**
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Transportation :**

Category of Skills	**Skills**
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Healthcare :**

Category of Skills	**Skills**
Core Skills	MBBS Doctors, MD/MS specialists, Physician Assistants/Compounders, Radiologists, Dialysis technician, Respiratory technician and OT Assistants & Perfusionist.
Allied Skills	Lab technicians, pharmacists
Skills with acute shortage	Physiotherapists, Biomedical Instrumentation technicians

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.5.4. Human Resource Supply Scenario in the District

6.10.5.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Mehsana is among the districts with moderate human resource growth potential during 2012-22. Proximity to commercial and industrial areas like Ahmedabad and Gandhinagar would drive work based outward migration from the district considering the limited opportunities within the district to support the incremental labour force. Details of human resource growth estimations during 2012-22 are presented in the table[327].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	204,983	138,966	79,569
2017-22	179,565	124,973	61,780

[327] *KPMG Analysis*

6.10.5.4.2. Education and Training Potential in the District

District has around 1250 K12 schools with 81.36 percent share of Government schools. The district's net enrolment ratio for primary levels and upper primary levels are slightly higher than the ratios of the state[328].

Total Enrollments in 2009-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Mahesana	211,809	75,040	93,930	37,235

Comparing the district's enrolment statistics with state average indicates that the district is a strong performer in the primary education category[329]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Mahesana	88.1	52.1
Gujarat	85.4	50.7

In the vocation education segment, the district is ahead in the provision of vocational training in comparison to state average. Private interest in the sector in this district is high indicating that the state must take proactive measures in further increasing private support to improve vocational training infrastructure[330].

Region	Number of it is	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Mehsana	37	6,377	3.14	35%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Mahesana district needs to be focused on the tehsils of Vijapur, Becharaji, Mehsana, Kheralu, Unzha and Kadi to bring them on par with the district average in vocational education capacity[331].

[328] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[329] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[330] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[331] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Visnagar	2212	7.92	11%
Vadnagar	704	4.89	23%
Satlasana	280	3.34	43%
Vijapur	724	2.75	54%
Becharaji	276	2.72	54%
Mehsana	1104	2.17	44%
Kheralu	240	1.90	50%
Unzha	320	1.66	55%
Kadi	517	1.58	77%
District Total	**6377**	**3.14**	**35%**

In the higher education segment, the district has 4 engineering colleges, 8 pharmacy colleges, 3 medical colleges, 8 management colleges and 18 colleges offering Arts, Commerce, Science, B.Ed and Law programs. Ganpat University is a deemed university with key disciplines such as engineering, pharmacy, management, and computers. The university boasts of a Military school for girls – one of its kind in Gujarat. There are four Engineering colleges in the district offering courses in various streams such as IT, Electrical, Mechanical, Electronics & Communications, Computers and Aeronautical Engineering. There are two government aided Homeopathic Colleges and one Government Nursing College. There are three agriculture research centers located at Jagudan (for Spices), Vijapur (for Wheat) and Ladol (for Potatoes) set up by Gujarat Agriculture University.

6.10.5.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

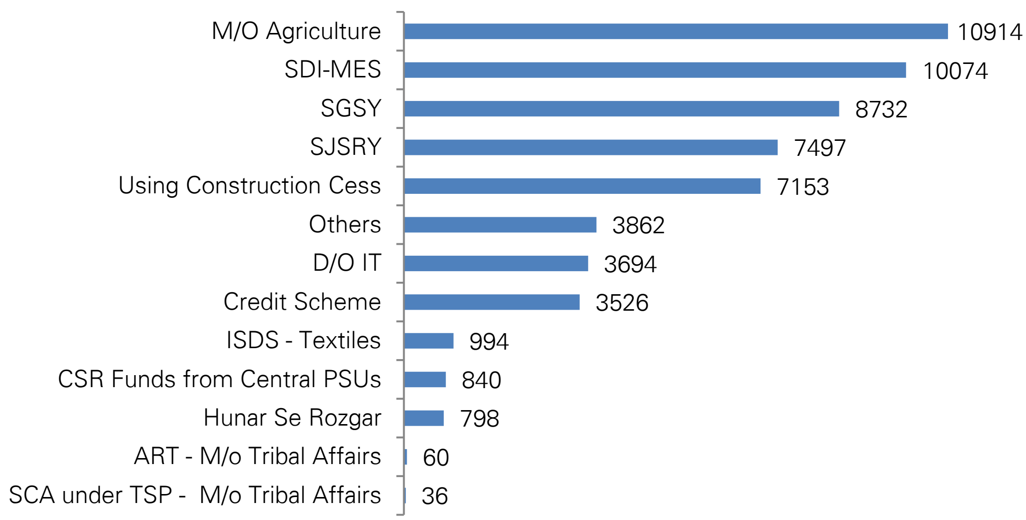
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	(2,179)	29,969	713	28,505	(4,499)	20,438	17,465	30,379

*(Indicates excess supply)

6.10.5.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 58 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Mahesana District[332]



6.10.5.5. District Specific Recommendations

Considering these factors, the proposed action plan for stakeholders in skill development in the district would indicate the following priority areas:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following sectors with a good scope for the candidate fee-paying model • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes • Agri allied activities such as animal husbandry, horticulture • Agro and Food Processing • Chemical and Chemical Products • Mineral Processing and Fabrication
Private Skill	Provide skill training in the sectors of

[332] *KPMG Analysis*

N·S·D·C National Skill Development Corporation

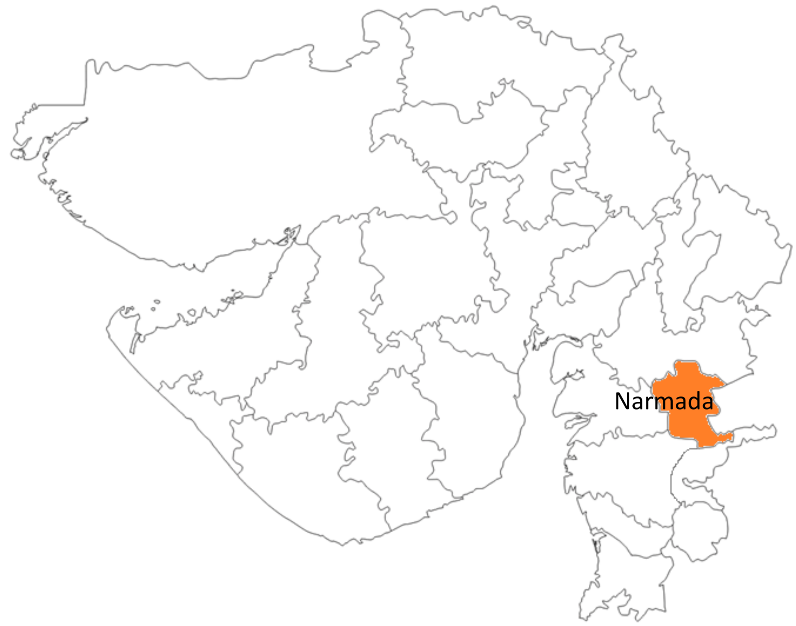
Training Providers	• Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services • Textiles and Apparel • Manufacturing of engineering goods
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • Construction • Retail • Transportation and Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.6. Skill Gap Assessment of Narmada District

6.10.6.1. Socioeconomic Profile

6.10.6.1.1. Administrative Profile

Narmada district is located in the southern part of Gujarat with a geographical spread of 2755 sq.km[333]. It shares a border with Surat, Vadodara, Bharuch, Tapi district of Gujarat and Maharashtra state. Administratively Narmada district is divided into 4 talukas and 609 villages[334] with Rajpimpla town as the district capital. Nandod, Sagbara, Tilakwada and Dediapada are taluka regions in the district.



6.10.6.1.2. Demographic Profile

Narmada district is a low human resource potential region in Gujarat state. District has a total population of 5.90 lakhs[335] as per 2011 Census district accounting for only 1 percent[336] of the overall state population. Narmada population has witnessed a decadal growth rate of 14.77 percent[337] between 2001 and 2011 in comparison to state average of 19.17 percent[338] during the same period. Significant portion of district population lives in rural areas accounting for 89.56 percent [339]of the total population. Population spread in the district is lower than the state average with a density of 214 persons per sq.km[340] as against state average of 308 persons per sq.km[341]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Nandod and Dediapada with Nandod accounting for nearly half of the district population. Details of regional distribution of population in the district are presented in the table[342].

[333] *Census 2011 Statistics*
[334] *Census 2011 Statistics*
[335] *Census 2011 Statistics*
[336] *Census 2011 Statistics*
[337] *Census 2011 Statistics*
[338] *Census 2011 Statistics*
[339] *Census 2011 Statistics*
[340] *Census 2011 Statistics*
[341] *Census 2011 Statistics*
[342] *Census 2001Statistics, KPMG Analysis*

Regional Distribution of Population in the District[343]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Nandod	45%	206
Dediapada	28%	140
Sagbara	16%	228
Tilakwada	11%	229

Gender composition of district population is better than the state average. As per 2011 census district has a gender ration of 960 females per 1000 males[344] as against the state average ratio of 918 females per 1000 males[345]. Further, district has witnessed an improving trend in female composition with the gender ratio of district has increasing from 949 females per 1000 males[346] in 2001 to 960 females per 1000 males[347] by 2011. District is a key tribal zone in the state of Gujarat with the scheduled tribes accounting for 78.80 percentage[348] of overall district population.

Education attainment levels in the district are relatively lower than the state average. As per 2011 estimates, district has registered an overall literacy rate of 73.29 percent[349] as against state average of 79.31 percent[350]. Gender and Regional variations in literacy levels still remains a key concern for the district. Urban-rural literacy gap in Narmada is estimated to be 16.83 percent[351] as against the 14.58 percent[352] for overall state. Similarly, district still has a male-female literacy gap of 18.93 percent[353] as against 16.5 percent for Gujarat state. Lower level of overall literacy and inadequate inclusion stresses the need for gender and region specific approach towards implementation of mass education initiatives. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth of the region.

6.10.6.1.3. Economic Profile

A major stratum of population in Narmada district is dependent on Agriculture for livelihood. Industries such as textiles, sugar, and chemicals observed major investments and substantial growth during the past two decades. The district has number of small scale industries engaged in repair & services, wood products, paper, and food products are present in the district of which almost half are present in Nandod taluka.

343 *Census 2001Statistics, KPMG Analysis*
344 *Census 2011 Statistics*
345 *Census 2011 Statistics*
346 *Census 2011 Statistics*
347 *Census 2011 Statistics*
348 *Census 2001Statistics, KPMG Analysis*
349 *Census 2011 Statistics*
350 *Census 2011 Statistics*
351 *Census 2011 Statistics*
352 *Census 2011 Statistics*
353 *Census 2011 Statistics*

Analysis of regional distribution of investments in Narmada district indicates that industrial development is concentrated in Nandod Taluka. Over the recent years State Government has initiated some measures to enhance the industrial growth in other talukas through suitable incentives leading to an increased investment potential of these regions over the next decade. Details of region wise large scale investments in Narmada district till 2012 is presented in the table.

Large Scale Investment Scenario In Narmada[354]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Nadod	1	39	2	301
Not Classified	--	--	2	39
District Total	**1**	**39**	**4**	**340**

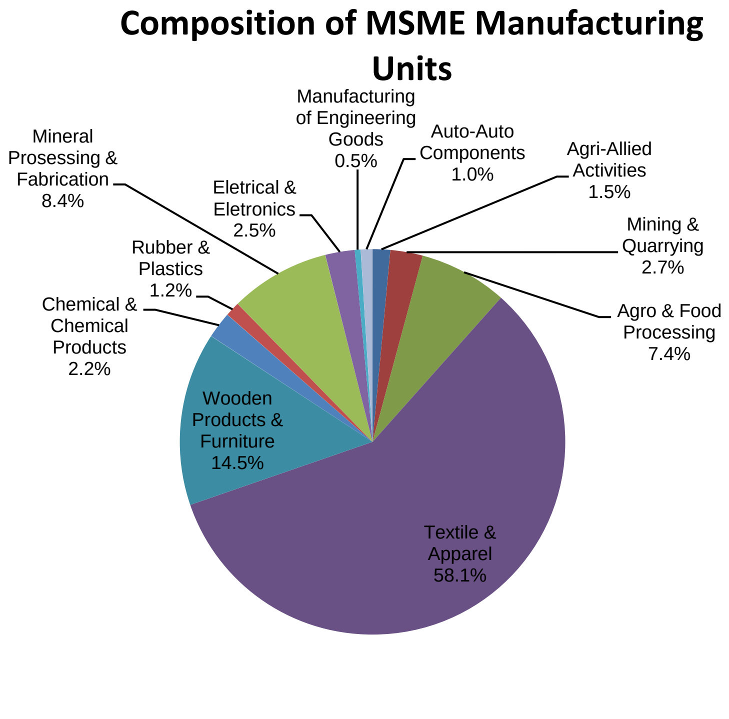
Moderate growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 515 units[355] operating in the district attracting an investment of INR 4,541 lakhs[356] in 2012. Investment outlook in MSME segment of Narmada district is presented in the table.

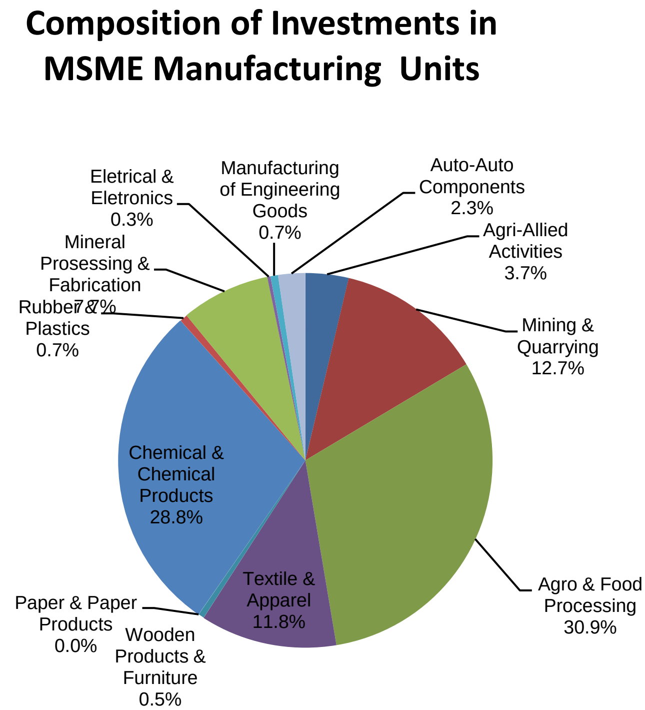
MSME Investment Scenario in Narmada[357]		
Category of Industries	**Number of Units**	**Investment In Rs. Lakhs**
Micro	502	1301
Small	12	1889
Medium	1	1351
Total	**515**	**4541**
Manufacturing Sector Units	406	3056
Service Enterprises	109	1486

MSME segment in Narmada is dominated by manufacturing industries in terms of both volume and investments. Among the manufacturing based MSME units, textile and apparel, wooden products & furniture and mineral processing are prominent categories in terms of number of units. However, agro and food processing, chemical and chemical products and textile and apparel are prominent industries from the point of view of investments. Composition of MSME manufacturing units and investments are presented in the chart.

[354] *IEM, MSME Part-II Data till 2012-13*
[355] *IEM, MSME Part-II Data till 2012-13*
[356] *IEM, MSME Part-II Data till 2012-13*
[357] *IEM, MSME Part-II Data till 2012-13*

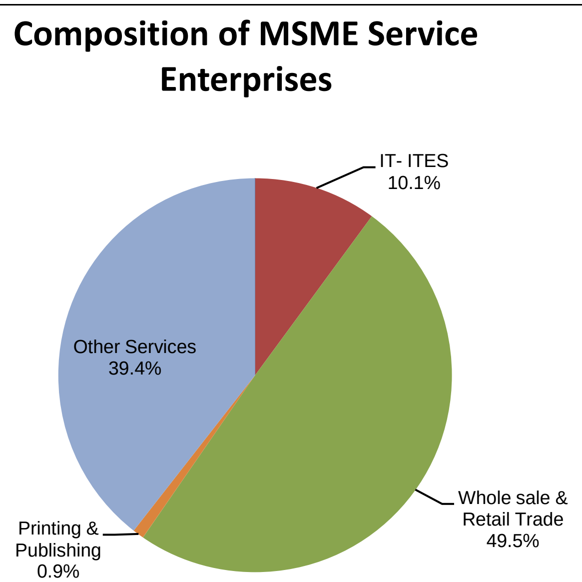
MSME Manufacturing Sector Scenario in the District[358]

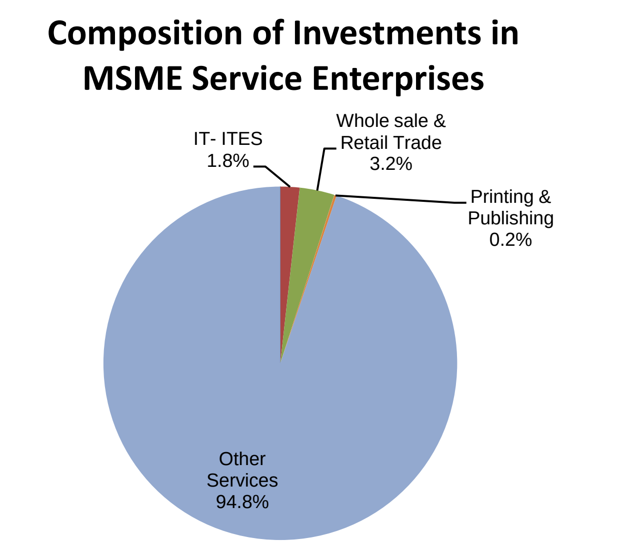




While the level of organized investments in services enterprises is low as evident from the MSME Part-II statistics, sectors of whole sale and retail trade and IT-ITES have seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

MSME Services Sector Scenario in the District[359]





[358] *IEM, MSME Part-II Data till 2012-13*
[359] *IEM, MSME Part-II Data till 2012-13*

The district boasts many places of touristic importance like Rajwant Palace, Shoolpaneshwar Wildlife Sanctuary and Sardar Sarovar Dam. The presence of Vadia Palace, Dashavatar Ranchhodrai Mandir, and Nizamshah Dargahattracts tourists. There are opportunities for investment in tourism in the sub-sectors of eco-tourism, hotels and medical value travel.

Narmada district has a high penetration of medical institution, with 22,706 people per institute. The district has 21 primary healthcare centers and 4 community healthcare centers. Apart from the above, Narmada also boasts of hospitals like Rajpipla hospital and Netra Seva Trust Hospital [360].

The road infrastructure of Narmada connects it with the key industrial cities like Ahmadabad, Rajkot, Ankleshwar, Surat and Gandhinagar. There are four railway stations in the district. The nearest airport to the districts is in Surat and Vadodara.

Narmada has a presence of 38 bank offices and the total bank deposit amounts to 687 Cr INR and the total credit amount of 310 Cr INR as of Mar 2012[361]. Narmada has a relatively lower penetration of banking and financial services with a density of 15,536 people per bank as of March 2012. While the CAGR of the number of banks in Narmada is the highest amongst all districts at 9.6 percent from 2007 to 2012, the amount of deposit and credit have increased at a CAGR of 23.1 percent and 19.7 percent[362] respectively from 2007-2012.

Narmada has high rainfall conditions and mostly constitutes the South Gujarat agro climatic zone. Owning to the soil characteristics, a good portion of district geographical land is cultivable (40 percent of total area). The location of the district near the river and the high rainfall has resulted in good forest coverage (44 percent of total geographical area).

The district has good spread of irrigation facilities with 69 percent[363] of net cultivable area under irrigation. Agricultural irrigation in Narmada is predominantly dependent on canals followed by open wells with a 38 percent and 29 percent share of net irrigated area respectively. Large scope for the operation and maintenance of pumps and tube wells would mandate requirement of skilled manpower with knowledge on repair and maintenance. Further there is an increasing need to promote micro irrigation and water management programs in the district.

Poor nitrogen content in Narmada soils has resulted in large scale usage of nitrogen rich fertilizers. Awareness levels on organic farming and vermi compost methods are low indicating a need to improve the same in order to promote sustainable agricultural practices.

Cotton is the major Kharif crop while Sorghum, Gram and Wheat are the key Rabi crops grown in the district. Main horticulture crops include Banana, Mango, Brinjal, Cowpea and Okra. The ratio of Rabi to Kharif in the district is around 0.1 indicating a very poor multiple cropping practice in the district. Currently usage of hybrid crop varieties is

[360] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[361] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[362] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[363] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

low with a need to promote this practice across crop categories. Taluka Seed Farms in the district are targeted to improve the availability of quality seeds.

Cows and buffalos are main cattle varieties in Narmada with 1,40,863 cows[364] and 58,951 buffalos[365]. Other prominent domestic animal under animal husbandry activities is goat. Availability of large pasture lands indicates significant potential to promote animal husbandry in the district. Along with strengthening animal husbandry activities among small and marginal farmers through advanced rearing training, there is a need for integrating the animal husbandry with promotion of organic farming as well.

6.10.6.2. Workforce Distribution in the district

Narmada is predominantly dependant on agricultural activities for livelihood generation with 68.7 percent of total workforce engaged in this sector. Considering the low level penetration of manufacturing sector at 10.5 percent employment generation as against the state average of 15.86 percent coupled with high level of unorganized activity, the district has potential to become a sourcing hub for trained manpower. While the total worker participation rate is higher than the state average, high manpower requirements in agrarian activities due to low output efficiency indicates a level of under employment in this category. Comparison of workforce distribution scenario in Narmada and Gujarat is presented in the table[366].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Narmada	63.05%	50.37%	68.74%	10.5%	20.77%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

Registered factories and service enterprises have created only 3,400 employment opportunities in the district. While the overall manufacturing base is low, high level of unorganized activity has further reduced organized job prospects in manufacturing sector within the district.

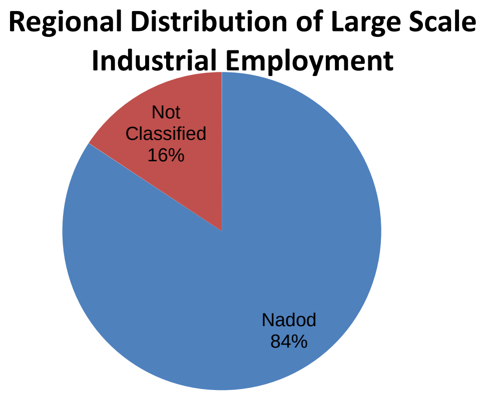
MSME category dominated by quarrying and apparel units accounted for a major share of overall employment in the sector. Category wise industrial employment details as per 2012 statistics are presented in the table.

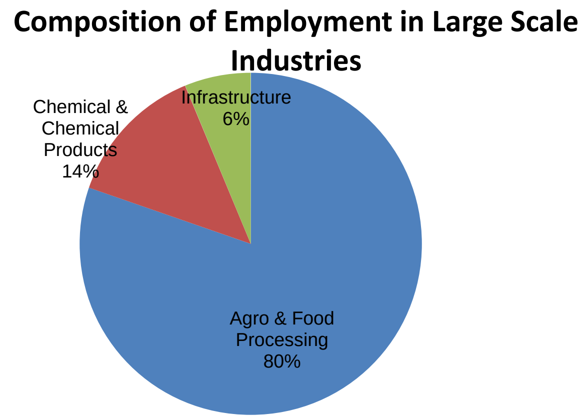
Organized Employment in Narmada[367]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	994
MSME Category	2872
Manufacturing Units	2544
Service Enterprises	328
Total	**3866**

[364] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[365] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[366] *KPMG Analysis*
[367] *IEM, MSME Part-II Data till 2012-13*

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors within specific taluka regions. Nadod taluka accounts for a majority share of employment in this category. Agro & food processing, chemical & chemical products are major employment generating segments within the district. Regional, sectoral break up of large scale industrial employment is presented in the chart.

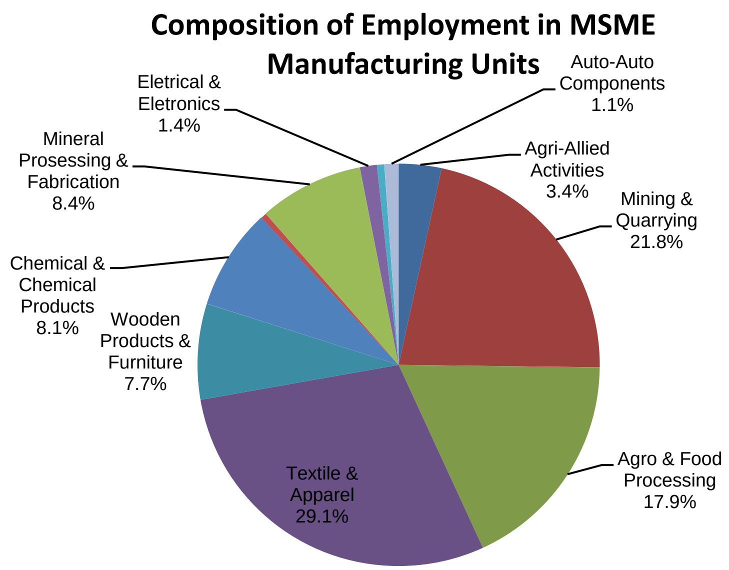
Large Scale Industrial Employment Overview in the District[368]





Among the manufacturing units in MSME, agro & food processing, mining, textile & apparel units have accounted for majority share of the employment in all the categories of industries. Whole sale & retail trade, IT-ITES are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

MSME Employment Overview in the District[369]



[368] *IEM, MSME Part-II Data till 2012-13*
[369] *IEM, MSME Part-II Data till 2012-13*

6.10.6.3. Human Resource Requirement Projections in Narmada (2012-22)

Incremental manpower requirement in the district of Amreli has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Amreli. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net out flux of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the resource availability and migration constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation& logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub-segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Chemical & Chemical Products(Including Petro Chemicals)
- Agro & Food Processing
- Mineral Processing & Fabrication
- Infrastructure(Construction)

Tertiary Sector

- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Amreli district are presented in the table[370].

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	6507	6507	NA	NA	5450	5450
Agro & Food Processing	27	109	137	273	24	98	122	244
Textile & Apparel	16	64	80	160	14	57	72	143

[370] *KPMG Analysis*

Wooden Products & Furniture	4	17	21	42	4	15	19	38
Chemical & Chemical Products	7	28	35	71	6	25	32	63
Mineral Processing & Fabrication	17	66	83	166	15	59	74	149
Construction	131	262	2226	2619	117	234	1991	2342
Trade, Retail	211	317	1586	2115	231	347	1734	2312
Transportation & Logistics	36	569	677	1281	29	465	554	1048
Hospitality & Tourism	270	405	2025	2700	216	324	1620	2160
Banking & Financial Services	1895	5685	NA	7580	1327	3980	NA	5306
Healthcare	183	825	NA	1008	244	1221	NA	1465
Education & Training	231	1557	NA	1789	347	934	NA	1282

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[371].

Secondary Sector (Manufacturing, Construction & Energy):

- **Food Processing:**

Category of Skills	Skills
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists
Skills with acute shortage	PPO is required in industries having in house packing development.

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons

[371] *KPMG Analysis*

Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Education:**

Category of Skills	Skills
Core Skills	School teachers, higher education faculty
Allied Skills	Knowledge on advanced teaching tools
Skills with acute shortage	Technical education trainers

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.6.4. Human Resource Supply Scenario in the District

6.10.6.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Narmada is among the districts with low human resource growth potential during 2012-22.. High incidence of outward migration over the last decade into industrial clusters of Vadodara and Surat has resulted in limited declining population growth in this region. Details of human resource growth estimations during 2012-22 are presented in the table[372].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	63,600	46,179	24,884
2017-22	57,987	42,601	19,321

6.10.6.4.2. Education and Training Potential in the District

The district has around 769 K12 schools with a 95.84 percent share of Government schools. The net enrolment ratios at both primary level and upper primary levels for the district are higher than that of the state[373].

[372] *KPMG Analysis*
[373] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Total Enrollments in 2009-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Narmada	58,202	23,096	21,710	6,078

Comparing the district's enrolment statistics with state average indicates that the district is a strong performer in the primary education category[374]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Narmada	88.3	59.8
Gujarat	85.4	50.7

In the vocation education segment, the district lags behind in the provision of vocational training in comparison to state average. Private interest in the sector in this district is nil indicating that the state must take proactive measures in seeking private support to augment vocational training infrastructure[375].

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Narmada	6	932	1.58	0%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Narmada district needs to be focused on the tehsils of Vijapur, Becharaji, Mehsana, Kheralu, Unzha and Kadi to bring them on par with the district average in vocational education capacity[376].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Tilakwada	132	2.05	0%
Sagbara	188	1.96	0%
Nandod	424	1.60	0%
Dediyapada	188	1.14	0%
District total	**932**	**1.58**	**0%**

The district has 1 pharmacy college and 7 colleges offering Arts, Commerce, Science, B. Ed and Law programs. Some of the colleges present in the district are M.R. Arts & Science College and Ratnasinhji Mahida Commerce College.

6.10.6.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

374 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
375 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
376 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

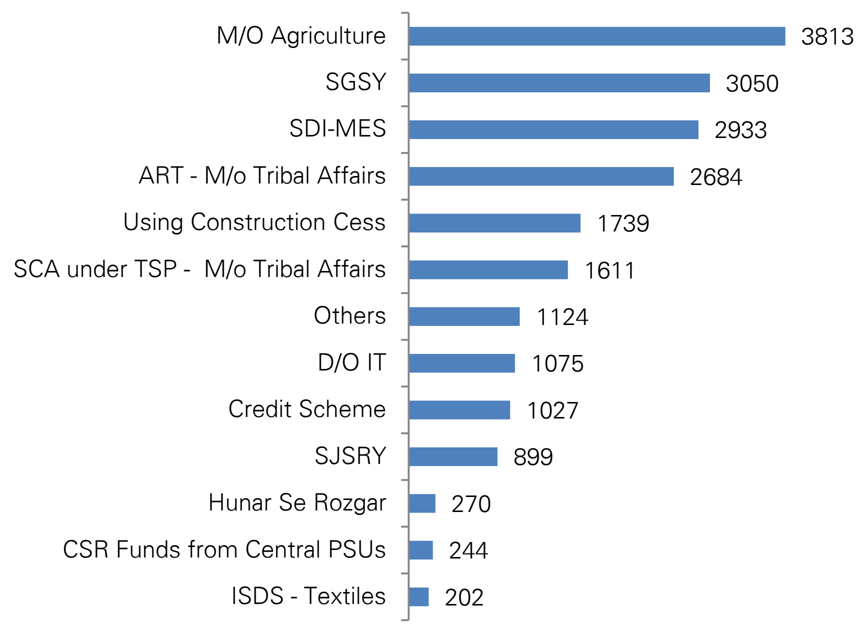
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Demand-Supply Gap	238	7,741	(6,554)	1,427	(550)	5,050	(1,819)	2,681

*(Indicates excess supply)

6.10.6.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 20 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Narmada District[377]



6.10.6.5. District Specific Recommendations

Considering these factors, the proposed action plan for stakeholders in skill development in Narmada district would indicate the following priority areas:

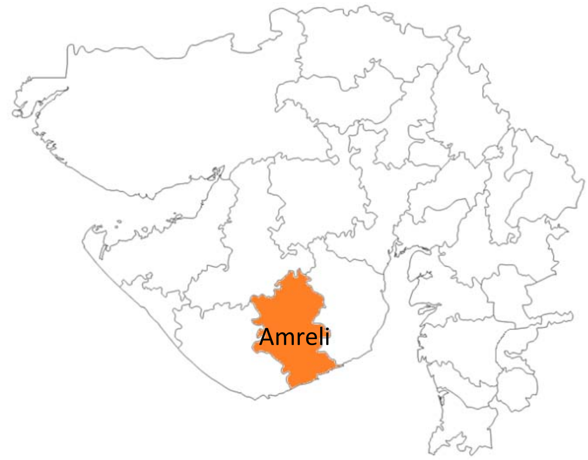
[377] *KPMG Analysis*

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following sectors with a good scope for the candidate fee-paying model • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes • Agri allied activities such as animal husbandry, horticulture crops such as Banana, Mango, Brinjal, Cowpea and Okra • Textile and Apparel • Mineral and Mineral Processing • Agro and Food Processing
Private Skill Training Providers	Provide skill training in the sectors of • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services • Textiles and Apparel
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • Construction • Retail • Transportation and Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.7. Skill Gap Assessment of Amreli District

6.10.7.1. Socioeconomic Profile

6.10.7.1.1. Administrative Profile



Amreli district is situated in the Saurashtra region of Gujarat shares its border with Bhavnagar, Rajkot and Junagadh districts on three sides and Arabian Sea in the south. Administratively, the district is divided into 11 talukas and 616 villages[378]. Amreli, Vadiya, Bagsara, Liliya, Khambha, Rajula, Jafrabad, Babra, Dhari, Savarkundala and Lathi are the subdivisions/talukas in the district. The district has 9 statutory towns[379] with Amreli town as the capital.

6.10.7.1.2. Demographic Profile

Amreli has a population of 15.13 lakhs[380] as per 2011 estimates which accounts for 2.5 percent[381] of the overall state population. The district is predominantly rural with a 75 percent [382]rural population composition. The human resource potential in the district is lower than the state average considering its population density of 205 persons per sq.km as against the state average of 308 persons per sq.km[383]. Further, population is the district is unevenly distributed across the talukas leading to higher human resource potential in some talukas compared to others. An analysis of taluka - wise population distribution as per 2001 Census indicate that Savar and Amreli regions account for significantly high human resource potential of the district while Lila and Bhaghsara have low human resource base. The taluka-wise population distribution details are presented in the table[384].

Regional Distribution of Population in the District[385]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Savar	16.4%	207
Amreli	15.6%	244
Rajula	10.4%	221
Dhari	9.8%	132

[378] *Census 2011 Statistics*
[379] *Census 2011 Statistics*
[380] *Census 2011 Statistics*
[381] *Census 2011 Statistics*
[382] *Census 2011 Statistics*
[383] *Census 2011 Statistics*
[384] *Census 2001Statistics, KPMG Analysis*
[385] *Census 2001Statistics, KPMG Analysis*

Lathi	9.5%	209
Babra	8.8%	155
Kunkavav	6.9%	176
Jafrabad	6.5%	255
Khambha	6.1%	142
Bagasara	5.6%	223
Lilia	4.4%	154

The decreasing female composition in the overall population is a key concern for the district indicating the need to enhance gender-centric development programs. The adult gender ratio of the district has decreased from 987 females per 1000 males[386] in 2001 to 964 females per 1000 males[387] in 2011. This indicates that inclusive growth in Amreli could be achieved through higher focus on female centric initiatives. The representation of scheduled categories to the overall population is also not significant.

The education attainment levels in the district are lower than the state average as evident from the literacy rate of 74.49 percent[388] in comparison to the state average of 79.31 percent[389]. However, the district has witnessed higher levels of inclusion in literacy with the district registering lower urban-rural and male-female literacy rate gaps than the state average.. Considering the low levels of literacy rates it is imperative to improve literacy across all segments of population to develop quality workforce in the district.

6.10.7.1.3. Economic Profile

Amreli district is traditionally an agrarian district with limited industrial growth. However, over the recent years there has been an upsurge in industrial development in the region owing largely to port-based industries around Pipav. It's proximity to Ahmedabad has further helped in boosting the economic activity within Amreli. Industrial development in the region is largely dependent on MSME segment. The district has 6 GIDC industrial estates and one industrial center which have helped in garnering industrial investments in this region. As per the IEM, LIO, LOP investment details, the district has a total of 22 commissioned[390] large scale industrial units attracting an investment of INR 2247 Cr[391] along with 26 units under implementation[392] with an investment of INR 23,184 Cr[393]. Construction-based material industries like cement, chemical and chemical products, electrical and electronics, textile, mineral processing and logistics are key industrial segments within the district. Some of the leading industries in the district are UltraTech Cement Co. Ltd, Narmada Cement Co. Ltd, Metadist Co.Ltd, Dharamshi Morarji Chemicals Ltd., and GHC Ltd.

An analysis of regional distribution of investments in Amreli district indicates that the industrial development is concentrated around Rajula, Amreli and Dhari Talukas while Jafrabad, Bagsara are emerging destination for

[386] *Census 2011 Statistics*
[387] *Census 2011 Statistics*
[388] *Census 2011 Statistics*
[389] *Census 2011 Statistics*
[390] *IEM, MSME Part-II Data till 2012-13*
[391] *IEM, MSME Part-II Data till 2012-13*
[392] *IEM, MSME Part-II Data till 2012-13*
[393] *IEM, MSME Part-II Data till 2012-13*

investment with significant investments under implementation. Other regions including Lathi, Khambha, Vadiya, Liliya and Savarkundala still remain backward in terms of industrial development. Over the recent years the state government has initiated measures to enhance industrial growth in backward talukas across the state over the next decade. Details of region-wise large scale investments in Amreli district till 2012 is presented in the table.

Large Scale Investment Scenario In Amreli[394]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Rajula	10	2171	9	13776
Amreli	2	6	6	5381
Dhari	3	12	1	301
Jafrabad			3	236
Bagasara			1	193
Lathi			1	49
Khambha	1	38		
Babra	3	18	2	4
Vadiya				
Liliya				
Savarkundala				
Not Classified	1	2	3	3244
District Total	**20**	**2247**	**26**	**23184**

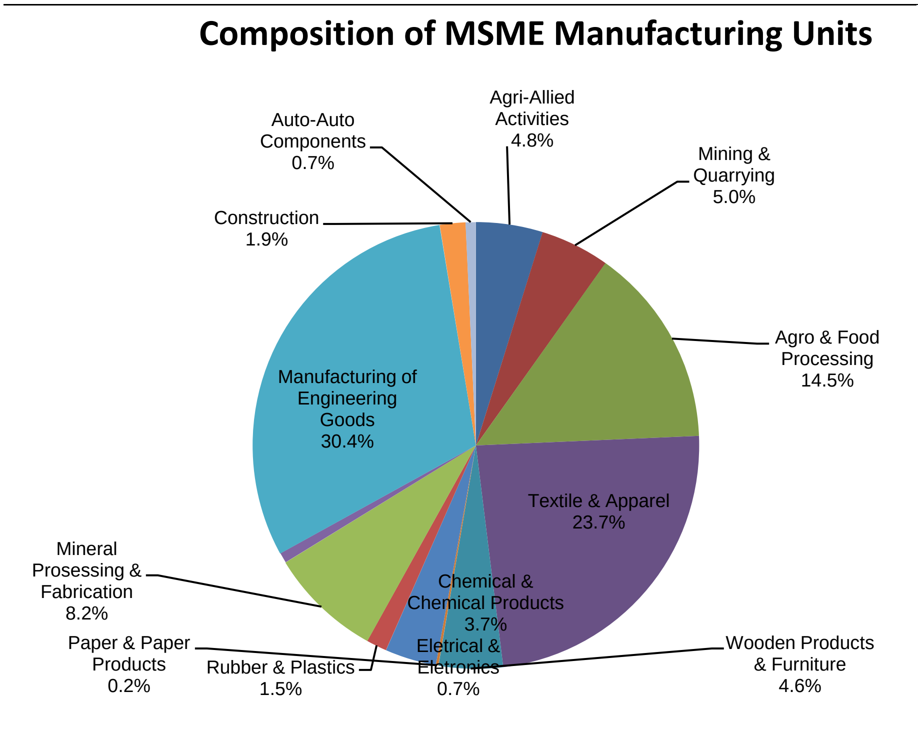
The growth of logistics industry in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 630 units[395] operating in the district attracting an investment of INR 26,895 lakhs[396] in 2012. The MSME segment in Amreli is dominated by manufacturing industries in terms of both volume and investments with limited number of registered service enterprises indicating high level of unorganized activity in services segment. The investment outlook in MSME segment of Amreli district is presented in the table.

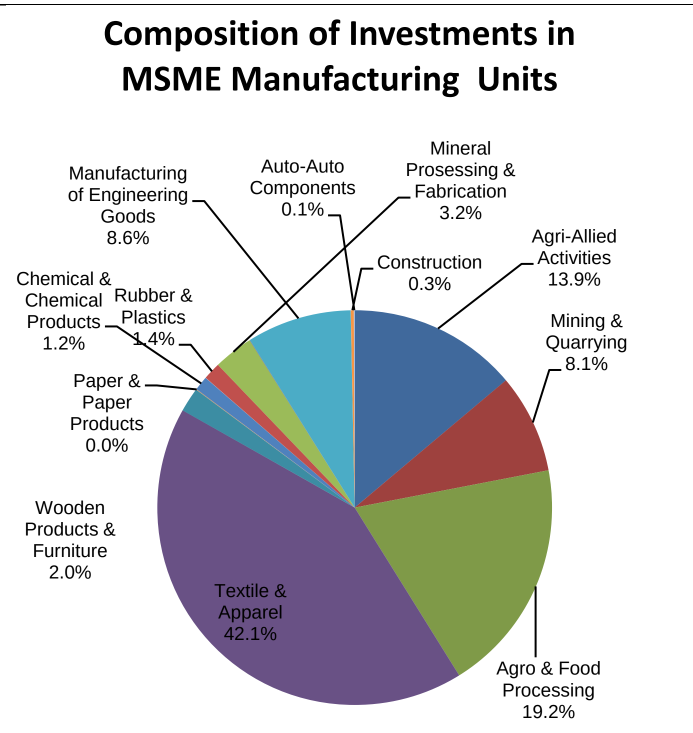
[394] *IEM, MSME Part-II Data till 2012-13*
[395] *IEM, MSME Part-II Data till 2012-13*
[396] *IEM, MSME Part-II Data till 2012-13*

MSME Investment Scenario in Amreli[397]		
Category of Industries	**Number of Units**	**Investment In Rs. Lakhs**
Micro	523	7,866
Small	104	17,205
Medium	3	1,823
Total	**630**	**26,895**
Manufacturing Sector Units	539	24,310
Service Enterprises	91	2,584

Among the manufacturing-based MSME units, textile, food processing, manufacturing of engineering goods, mineral processing, agri-allied activities, are prominent categories in terms of number of units and investment volume. Diamond processing is an industrial activity specific to the district. Further, distribution of MSME units has regional variations with gem cutting and polishing industries concentrated in Bagasara, weighing materials and machines in Saver Kundla taluka, fisheries in Rajula and Jafrabad talukas. The composition of MSME manufacturing units and investments are presented in the chart.

MSME Manufacturing Sector Scenario in the District[398]



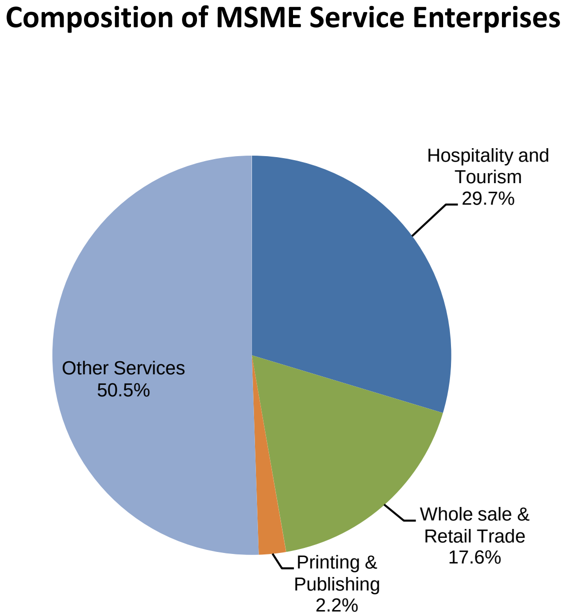


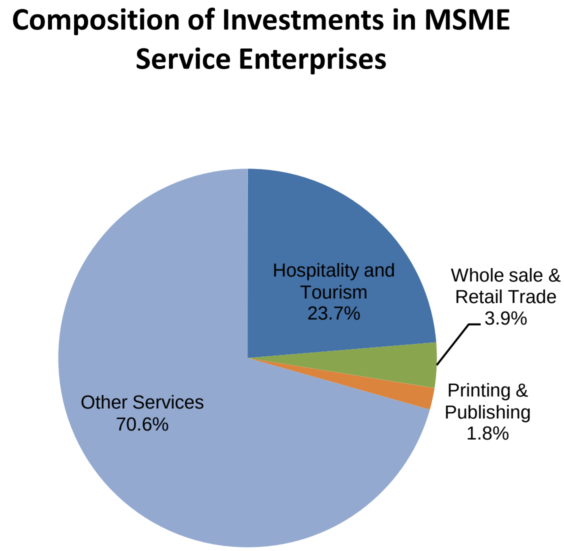
Pipavav, Jafrabad and Victor ports are located in the district. The quantum of investments in services enterprises is low as evident from the MSME Part-II statistics, sectors of wholesale and retail trade, hospitality and tourism,

397 *IEM, MSME Part-II Data till 2012-13*
398 *IEM, MSME Part-II Data till 2012-13*

printing and publishing have seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

MSME Services Sector Scenario in the District[399]





Tourism is a key economic activity of the services sector in the district. The district has more than 30,000 hectares of forest land with a rich variety of animal and plant species. It also has the renowned Gir Lion Sanctuary, Shri Girdharbhai Sangrahalaya children's museum, Paniya wildlife sanctuary and Mityala wildlife sanctuary. Other places of tourist attractions are Bhurakhiya Hanuman Mandir and Khodiyar Mandir.

Infrastructure and connectivity is not very well developed in Amreli. The district doesn't have any airport of its own but airports are situated in nearby districts of Rajkot, Vadodara and Bhavnagar. National Highway 8E passes through the district connecting it with Junagadh and Bhavnagar. There is also a four-lane expressway connecting Pipavav port with National Highway 8E. However, the district has a strong rail infrastructure comprising seven railway stations and a total rail length of 271 km[400].

The infrastructure is expected to improve significantly as Amreli is part of the proposed Delhi-Mumbai industrial corridor which connects Delhi, Mumbai, Ahmedabad and Chennai.

In terms of social infrastructure, both education and medical facilities can be rated low to medium in the district and need to be strengthened. Amreli has only one female pharmacy and one MBA institute in the district. The medical institutions have medium penetration in the district with one institution for every 26,096 people in the district. The district has 39 primary healthcare centers, 14 community healthcare centers and 3 hospitals.

[399] *IEM, MSME Part-II Data till 2012-13*

[400] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

Amreli has a relatively higher than average penetration of banking and financial services with a density of 11,296 people per bank as of March 2012. The number of banks in Amreli stands at 134 with total deposits amounting to 2,771 Cr INR and total credit amounting to 1,401 Cr INR as of Mar 2012[401]. While the number of banks has increased at a high CAGR of 7.8 percent from 2007 to 2012, the amount of deposit and credit have increased at a high CAGR of 20.0 percent and 20.0 percent respectively from 2007-2012.

Amreli has an even distribution of climate with most of its region coming under the south Saurashtra and the north Saurashtra zone. The moderate rainfall and excellent soil conditions has led to 80 percent of the geographical being cultivable. However, since the region receives moderate rainfall, focus on irrigation facilities has been low, therefore only around 19 percent of net cultivable area is under irrigation[402]. Irrigation is predominantly dependent on open wells and it could be improved with better irrigation facilities like adaptation of tube wells and motor pumps. Also there is an increasing need to promote micro irrigation and water management programs in the district.

Groundnut, bajra, pulses, seasamum and cotton are key kharif crops grown in the district while wheat is the major rabi crop. The ratio of net sown area between kharif crop and rabi crop is 7.65 indicating inadequate multiple cropping. There is also a low usage of hybrid crop varieties and it needs to be promoted across crop categories.

There is a significant population of cattle in Amreli - 2, 60, 515 cows[403] and 2, 00,609 buffalos[404]. However, there is a poor presence of integrated animal husbandry in the district. Animal husbandry could be encouraged among small and marginal farmers through advanced rearing training.

6.10.7.2. Workforce Distribution in the district

Amreli is among the districts which is highly dependent on agriculture. Nearly two thirds of the total workforce is dependent on the primary sector for livelihood opportunities. The high labour participation rate is attributed to greater participation of rural women in agricultural activities. While the workforce participation is marginally higher than the state average, seasonal nature of agriculture means significant under employment for the agrarian workforce during lean agricultural periods. A comparison of workforce distribution scenario in Amreli and Gujarat is presented in the table[405].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Amreli	61.51%	43.1%	67.2%	16.79%	16.01%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

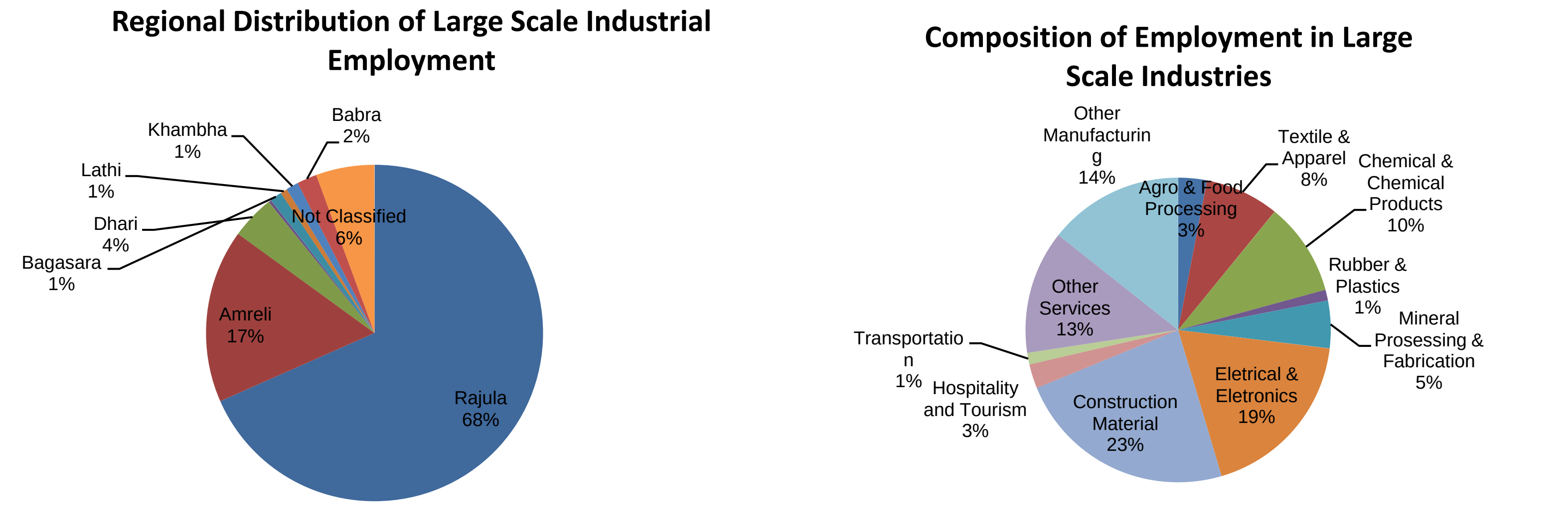
[401] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[402] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[403] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[404] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[405] *KPMG Analysis*

An organized industrial employment in registered factories and service enterprises has contributed a little over 16 thousand job opportunities[406] in the district. Large scale industries is a major employment generation segment accounting for nearly 9 thousand employment opportunities in the district, in commissioned and under-implementation units. Details of category-wise industrial employment as per 2012 statistics are presented in the table.

Organized Employment in Amreli[407]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	9690
MSME Category	6448
Manufacturing Units	5516
Service Enterprises	932
Total	**16138**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors within key taluka regions. Rajula and Amreli talukas account for a majority share of employment in this category. Electrical and electronics, construction-based material, chemicals, textile and mineral processing and fabrication are major employment generating segments within the district. The regional and sectoral break up of large scale industrial employment is presented in the chart.

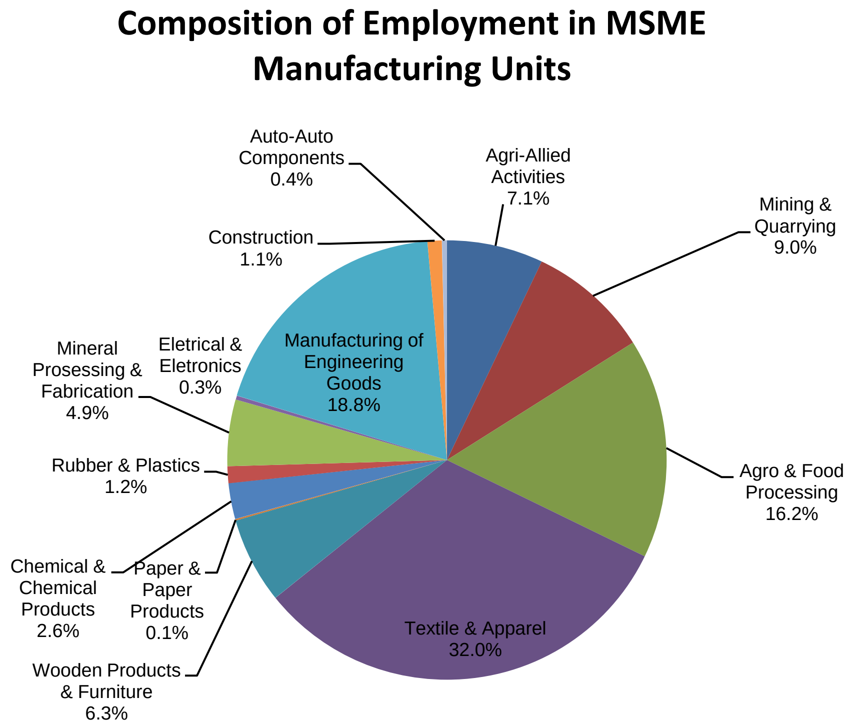
Large Scale Industrial Employment Overview in the District[408]

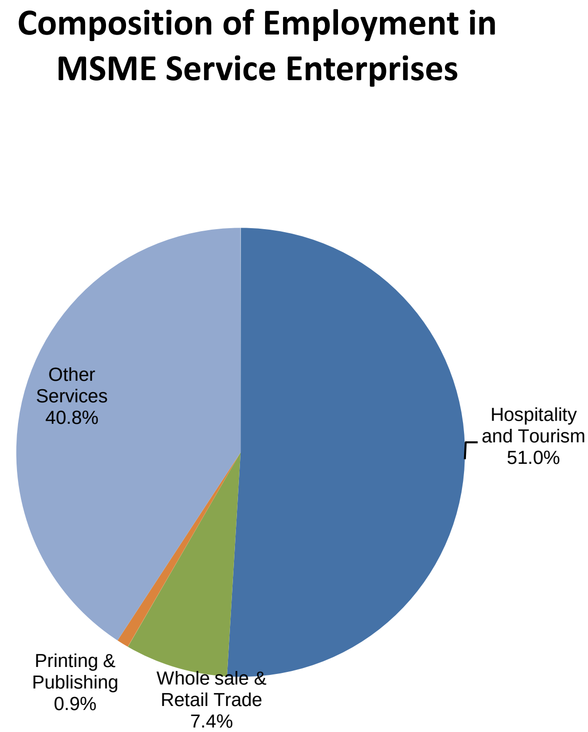


Among the manufacturing units in MSME segment, mining and quarrying, agro and food processing and textile units have created major share of employment opportunities. Hospitality and wholesale and retail trade, are key employment generating sectors within tertiary enterprises. The details of sector-wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

406 *IEM, MSME Part-II Data till 2012-13*
407 *IEM, MSME Part-II Data till 2012-13*
408 *IEM, MSME Part-II Data till 2012-13*

MSME Employment Overview in the District[409]





6.10.7.3. Human Resource Requirement Projections in Amreli (2012-22)

The incremental manpower requirement in the district of Amreli has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market-based insights from discussions with industries in Amreli. Based on an analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, the manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors. An analysis of expected developments in the industry that would lead to significant realignment of the categories and specific factors for estimation is presented below along with a detailed approach for manpower estimations in the appendix. ..

Primary Sector:

Considering the increasing level of farm mechanization and shared agricultural land usage, the period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migration constraints.

[409] *IEM, MSME Part-II Data till 2012-13*

Incremental manpower requirement for the agri- allied activities has been estimated bases on the following parameters:

- Current level of employment in agricultural activities (farmers and agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district have been estimated considering the following parameters:

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22 (increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base and primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by the government through budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments such as hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation and logistics are driven by investments into infrastructure and manpower. Hence, human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. A detailed methodology for estimation of manpower in services sub segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability of resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel

- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Infrastructure(Construction)

Tertiary Sector

- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Amreli district are presented in the table[410].

Sector	2012-17				2017-22			
	Skilled	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Agriculture & Allied Activities	NA	NA	13879	13879	NA	NA	11623	11623
Agro & Food Processing	34	137	171	342	31	122	153	306
Textile & Apparel	55	219	274	548	49	196	245	490
Wooden Products & Furniture	8	30	38	76	7	27	34	68
Chemical & Chemical Products	24	96	120	240	21	86	107	215
Rubber & Plastics	4	16	19	39	3	14	17	35

410 *KPMG Analysis*

Mineral Processing & Fabrication	27	109	136	272	24	97	122	243
Electrical & Electronics	39	157	197	393	35	141	176	352
Manufacturing of Engineering Goods	23	92	115	229	21	82	103	205
Manufacturing of Construction Material	49	198	247	494	44	177	221	442
Misc. Manufacturing	30	121	151	302	27	108	135	270
Construction	336	671	5707	6714	300	601	5104	6005
Trade, Retail	542	813	4067	5422	593	889	4446	5927
Transportation & Logistics	190	3014	3586	6789	155	2466	2934	5555
Hospitality & Tourism	349	524	2618	3490	279	419	2094	2792
Banking & Financial Services	2606	7819	NA	10425	1824	5473	NA	7298
Healthcare	443	1995	NA	2439	591	2953	NA	3544
Education & Training	591	3979	NA	4570	887	2387	NA	3274

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[411].

Secondary Sector (Manufacturing, Construction & Energy):

- **Food Processing:**

[411] *KPMG Analysis*

Category of Skills	Skills
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists
Skills with acute shortage	PPO is required in industries having in house packing development.

- **Chemical & Chemical Products:**

Category of Skills	Skills
Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services:**

Category of Skills	Skills
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.7.4. Human Resource Development Scenario in the District

6.10.7.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022.

Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Amreli would experience a moderately low growth in human resource base during 2012-22. Current levels of low population base and limited organized employment opportunities to attract migrants from outside the district are key reasons for the controlled growth in labour force. Details of human resource growth estimations during 2012-22 are presented in the table[412].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	153,029	100,860	57,697
2017-22	133,421	90,641	44,798

6.10.7.4.2. Education and Training Potential in the District

The district has around 1011 secondary and senior secondary (nursery to 12) schools with a 79.43 percent share of government schools[413]. While the net enrolment ratio of the district for primary level is lower than the state figures, the net enrolment ratio of the district for upper primary level is higher than the state average[414].

Total Enrollments in 209-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Amreli	148,865	57,157	57,264	51,858

Comparing the district's enrolment statistics with state average indicates that net enrolment ratio at upper primary level needs improvement. [415]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Amreli	81.0	50.9
Gujarat	85.4	50.7

In the vocation education segment, the district is ahead in terms of vocational training capacity in comparison to state average. However, government must focus on increasing private play in imparting vocational education[416].

412 *KPMG Analysis*
413 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
414 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
415 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
416 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Amreli	18	3,940	2.6	11%
Gujarat	711	138,106	2.29	26%

Capacity expansion in vocational education in Amreli needs to be focused on the tehsils of Jafrabad, Babra, Dhari, Savarkundla and Lathi to bring them at par with the district average in vocational education capacity[417].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Amreli	1460	6.18	0%
Vadiya	392	3.77	0%
Bagasara	264	3.10	0%
Liliya	192	2.91	38%
Khambha	240	2.61	43%
Rajula	376	2.38	0%
Jafrabad	168	1.71	0%
Babra	208	1.56	31%
Dhari	216	1.46	37%
Savarkundala	300	1.21	37%
Lathi	124	0.86	0%
District Total	**3940**	**2.60**	**11%**

In the higher education segment, Shri Leuva Patel Mahila Pharmacy College and Shri Leuva Patel Trust MBA Mahila College are the pharmacy and management colleges present in Amreli with an intake capacity of 60 persons respectively. Besides these, there are 8 other colleges offering Arts, Commerce, Science, B.Ed and Law programs in the district.

6.10.7.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school

[417] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

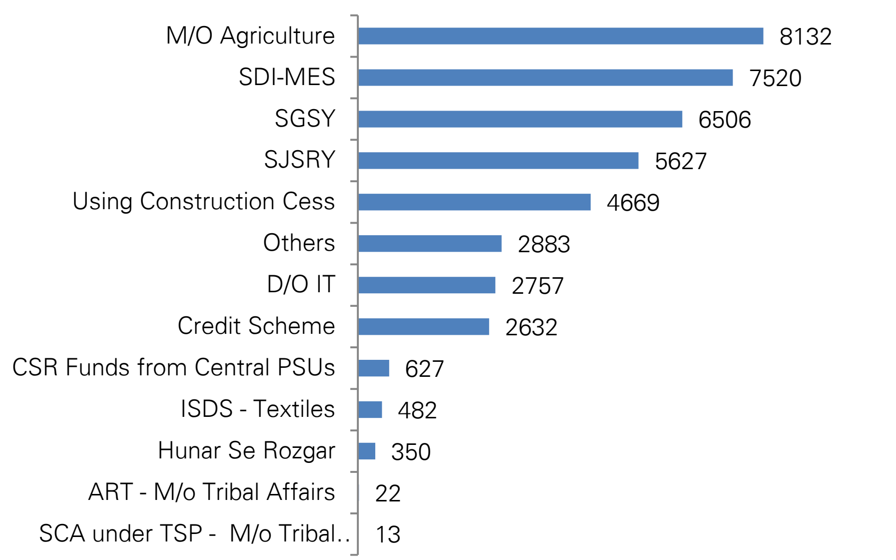
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	(2,225)	14,117	(12,924)	(1,034)	(3,816)	8,686	(1,025)	3,846

*(Indicates excess supply)

6.10.7.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes, around 42 thousand people in total can be trained incrementally during the five year period of 2012-17. The Ministry of Agriculture and Ministry of Labour are expected to contribute significantly to training. Manpower training targets are more focused on improving livelihood and farming techniques in the district, with limited opportunities for private training providers.

Government Funded Incremental Training Capacity (2012-17) - Amreli District[418]



6.10.7.5. District Specific Recommendations

418 *KPMG Analysis*

Considering human resource potential and manpower requirements of the industry, the proposed action plan for stakeholders in skill development has been recommended:

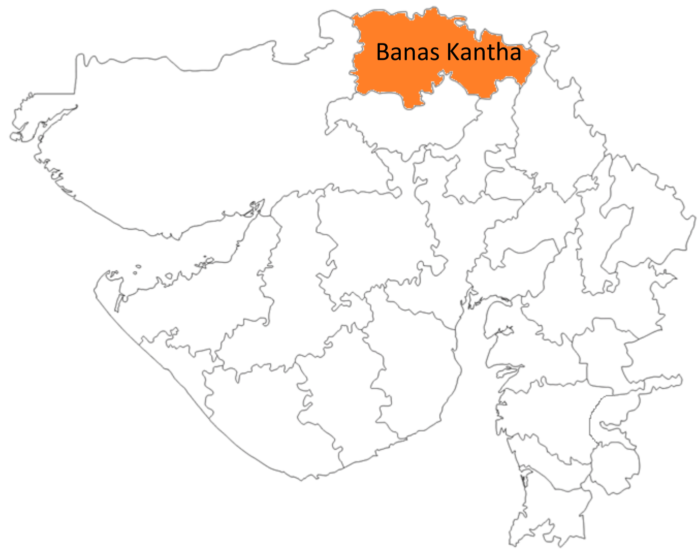
Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following regions with high human resource potential • Savar and Amreli Focus on sectors with high employment potential in Gujarat • **Services:** Transportation & Logistics, Organized Retail, IT-ITES, Banking & Financial Services, Hospitality & Tourism, Construction • **Manufacturing:** Textile, Auto- Auto Components, Engineering Goods, Chemical & Chemical Products
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes in sectors of • Animal Husbandry • Horticulture Focus on improving industrial training infrastructure in the regions of • Jafrabad, Babra, Dhari, Savarkundla and Lathi
Private Skill Training Providers	Focus on placement driven training for youth from high human resource potential regions of Savar and Amreli Focus on sectors with high employment potential in Gujarat • **Services:** Transportation & Logistics, Organized Retail, IT-ITES, Banking & Financial Services, Hospitality & Tourism, Construction • **Manufacturing:** Textile, Auto- Auto Components, Engineering Goods, Chemical & Chemical Products
Corporate	Provide support for training/placement for youth from the district for placements in industrial belts Initiate and support modular employability skill training in collaboration with private players/government Create placement linkage opportunities in training institutions

6.10.8. Skill Gap Assessment of Banaskantha District

6.10.8.1. Socio-economic Profile

6.10.8.1.1. Administrative Profile

Banaskantha is situated in the north port of Gujarat and is spread across a geographical area of 12,70,300 ha[419]. The district is surrounded by Rajasthan in east-north, Mehsana in south and Patan and Kutch districts in west. Administratively, the district is divided into 12 talukas[420] — Amirgadh, Bhabhar, Dantiwada, Danta, Deesa, Deodar, Dhanera, Palanpur, Sihori (Kankrej), Tharad, Vadgam and Vav. Palanpur is the administrative capital of the district. It is also the largest town. Deesa, Tharad, Dhanera, Ambaji, Danta and Deodar are other major towns in the district.



6.10.8.1.2. Demographic Profile

The district has a population of 31.16 lakhs[421] as per the 2011 census. It accounts for 5.2 percent[422] of the total state population. The district has witnessed a higher decadal growth rate of 24.43 percent[423] during 2001–11, in comparison to the state average of 19.17 percent[424]. The rural areas account for 86.73 percent[425] of the total district population. However, the district's urban population has registered a steep growth of 50.05 percent[426] over the census decade. It has a moderate population density of 290 persons per sq km[427], in comparison to the state average of 308 persons per sq km[428]. An analysis of population distribution in the district as per the 2001 census indicates higher human resource potential in the talukas of Deesa, Palanpur, Tharad and Kankrej. Palanpur taluka has the highest concentration of population owing to industrial and commercial development in the district. The details of regional distribution of population in the district are presented in the table[429].

419 *Census 2011 Statistics*
420 *Census 2011 Statistics*
421 *Census 2011 Statistics*
422 *Census 2011 Statistics*
423 *Census 2011 Statistics*
424 *Census 2011 Statistics*
425 *Census 2011 Statistics*
426 *Census 2011 Statistics*
427 *Census 2011 Statistics*
428 *Census 2011 Statistics*
429 *Census 2001Statistics, KPMG Analysis*

Regional Distribution of Population in the District[430]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per sq km — 2001)**
Deesa	18%	314
Palanpur	15%	481
Tharad	10%	186
Kankrej	9%	284
Vadgam	8%	364
Vav	8%	114
Dhanera	7%	215
Danta	7%	201
Deodar	6%	251
Amirgadh	4%	166
Bhabhar	4%	227
Dantiwada	3%	211

The composition of female population in the district is comparable to that of the state average. As per the 2001 census, the district has a gender ratio of 936 females per 1,000 males[431], as compared to the state average ratio of 940 females per 1,000 males[432]. Banaskantha has a moderate concentration of scheduled castes and scheduled tribes in comparison to the state average.

Education levels in the district are poor as compared to state level targets. The district has registered an overall literacy rate of 66.39 percent[433] as against the state average of 79.31 percent[434]. Significant gender and regional variations in the literacy rates are observed within the district. The male-female literacy gap of 26.87 percent[435] indicates an uneven penetration of mass education schemes in Banaskantha. A focused approach toward improving female literacy rate from the current level of 52.58 percent[436] is required in order to achieve an inclusive human resource growth in the district.

6.10.8.1.3. Economic Profile

Banaskantha is primarily an agrarian economy with limited industrial growth. Low penetration of industrial infrastructure with only six industrial estates in 12,73,000 ha big district is a key reason for subdued industrial growth within the district. Limited connectivity with major cities within the state is another key factor hampering the growth of industries in the region. As per the IEM, LIO, LOP investment details, the district has 24 commissioned[437] large-

[430] *Census 2001Statistics, KPMG Analysis*
[431] *Census 2001Statistics, KPMG Analysis*
[432] *Census 2001Statistics, KPMG Analysis*
[433] *Census 2001Statistics, KPMG Analysis*
[434] *Census 2001Statistics, KPMG Analysis*
[435] *Census 2001Statistics, KPMG Analysis*
[436] *Census 2001Statistics, KPMG Analysis*
[437] *IEM, MSME Part-II Data till 2012-13*

scale industrial units, which attract an investment of INR250 crore[438] along with 23 units[439] under implementation with an investment of INR26,476 crore[440]. The key industrial segments in the district include chemicals, metal fabrication, mineral processing, rubber and plastics.

The analysis of regional distribution of investments in Banaskantha district indicates that industrial development is concentrated around Palanpur taluka while other regions such as Tharad, Kankrej, Bhabhar, Vav and Dhanera are emerging as investment destinations. This is evident from significant investments in the under-implementation stage. Over the recent years, the state government has initiated measures to enhance the industrial growth in backward talukas across the state through suitable incentives. This would increase the investment potential of these regions over the next decade. The details of region-wise large-scale investments in the Banaskantha district until 2012 is presented in the table.

Large Scale Investment Scenario In Banaskantha[441]

Region	Commissioned		Under Implementation	
	No of Units	Investment (INR Cr)	No of Units	Investment (INR Cr)
Tharad	1	1	1	23,137
Palanpur	14	226	6	620
Kankrej			3	582
Bhabhar			1	400
Vav			1	385
Dhanera			2	352
Danta	5	13	1	31
Vadgam	1	3	3	33
Deesa	2	4		
Amirgadh	1	3	1	0
Dantiwada				
Deodar				
Not Specified			4	936
District Total	24	250	23	26,476

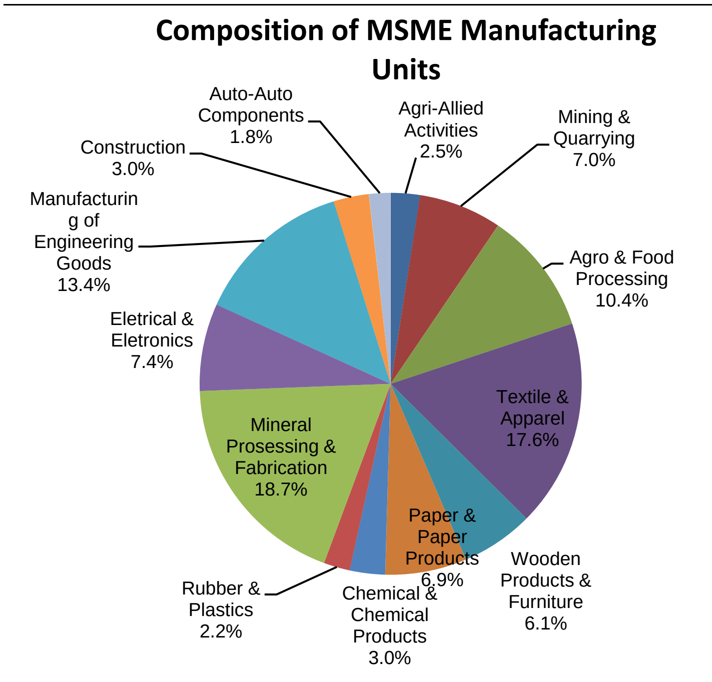
438 *IEM, MSME Part-II Data till 2012-13*
439 *IEM, MSME Part-II Data till 2012-13*
440 *IEM, MSME Part-II Data till 2012-13*
441 *IEM, MSME Part-II Data till 2012-13*

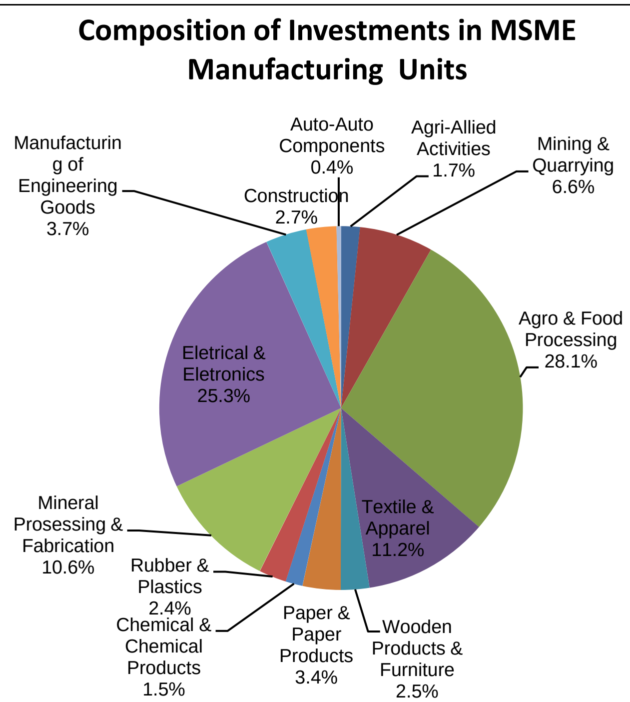
As per the MSME investment Part–II statistics, there are overall 961 units [442]operating in the district, which attracted an investment of INR43, 732 lakhs[443] in 2012. The MSME segment in Banaskantha is dominated by manufacturing industries in terms of both volume and investments with limited number of registered service enterprises, indicating high level of unorganized activity in services segment. The investment outlook in the MSME segment of Banaskantha district is presented in the table.

MSME Investment Scenario in Banaskantha[444]		
Category of Industries	**Number of Units**	**Investment In Rs. Lakhs**
Micro	779	7,308
Small	181	35,453
Medium	1	970
Total	**961**	**43,732**
Manufacturing Sector Units	769	33,243
Service Enterprises	192	10,489

Among the manufacturing-based MSME units, mineral processing and fabrication, electrical and electronics, textile and apparel, agro and food processing, manufacturing of engineering goods and mining and quarrying are prominent categories in terms of number of units and investment volume. The composition of MSME manufacturing units and investments are presented in the chart.

MSME Manufacturing Sector Scenario in the District[445]

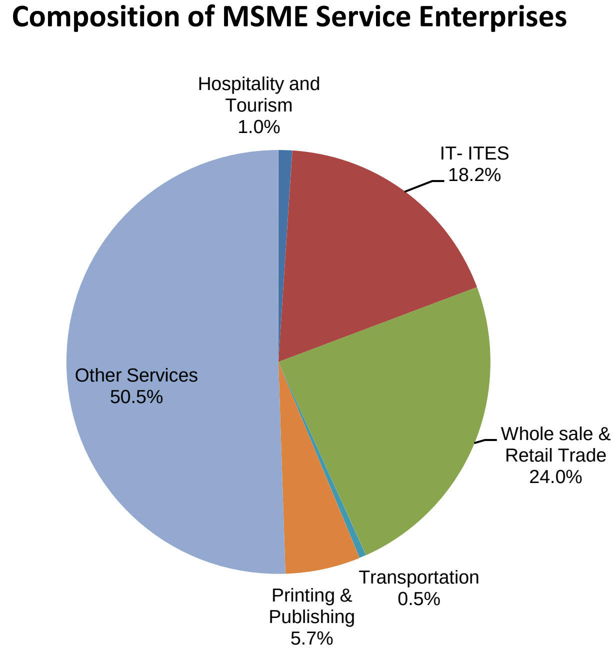


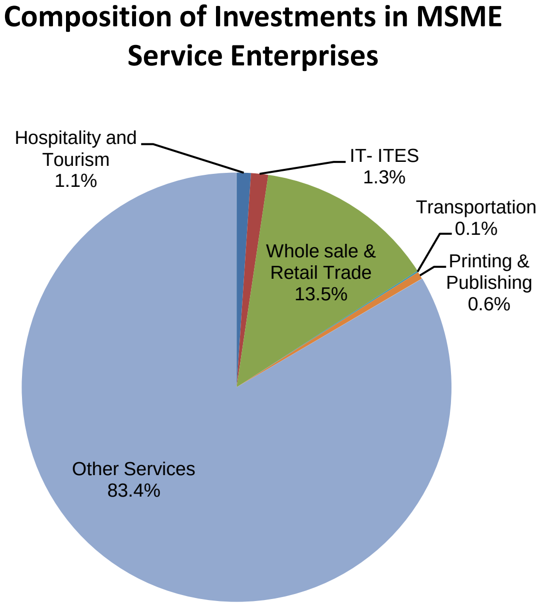


442 *IEM, MSME Part-II Data till 2012-13*
443 *IEM, MSME Part-II Data till 2012-13*
444 *IEM, MSME Part-II Data till 2012-13*
445 *IEM, MSME Part-II Data till 2012-13*

While the level of organized investments in services enterprises is low, as evident from the MSME Part-II statistics, sectors such as wholesale and retail trade and IT-ITES have seen considerable investments in the district. The composition of MSME service enterprises and investments are presented in the chart.

MSME Services Sector Scenario in the District[446]





Tourism remains one of the largest services sector in Banaskantha. The district has immense tourism potential because of the presence of holy places like Ambaji and Kumbharia. Over 40% of tourist inflow in Gujarat is for religious purposes and Ambaji has emerged as the second most popular tourist destination in Gujarat. Apart from Ambaji, Banaskantha has other popular places like Kumbharia, a religious place for the Jain community, Balram-Ambaji Sanctuary, Balram Palace Resort at Balrampur, Jessore Sloth Bear Sanctuary and Kedarnath Mahadev Temple in Jessore (32 km from Palanpur). The tourism industry is expected to create multiple opportunities across sub-sectors like highway restaurants, motels, heritage resorts, budget hotels and amusement parks.

The growth in the tourism industry has been facilitated by the fact that Banaskantha is well connected to major cities in the country (New Delhi and Jaipur through highways — NH 16 and NH 8, respectively) and has good interstate connectivity (with cities like Ahmadabad, Patan and Deesa through State Highway 7) [447]. The district is connected to Mumbai, Ahmadabad and Delhi through a broad gauge with a major railway station at Palanpur. The nearest port is Dholera and the nearest commercial airport is Ahmadabad.

[446] *IEM, MSME Part-II Data till 2012-13*

[447] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

The financial services remain largely unexplored in Banaskantha. The district has the second lowest penetration of banking and financial services with a density of 26,186 people per bank[448]. The number of banks has increased at a moderate CAGR of 6.2 percent from 2007–12. However, the CAGR of the deposit amount and the credit amount of banks in the district from 2007–12 has been highest among all districts at 25.9 percent and 29.9 percent respectively[449].

Banaskantha contributes significantly to the state's agricultural production. It produced maximum vegetables in 2007, contributing nearly 17% of the total vegetable production in the state . The district is also one of the largest producers of potatoes in India. Traditionally, it has been known for its food processing industry, specifically vegetable oils and vanaspathi.

In spite of medium to low rainfall in the region, agricultural activities flourish in the district due to favourable soil conditions. About 73 percent of the district's total geographical land is cultivable. The district has limited irrigation facilities, with only 48 percent of the net cultivable area getting regular irrigation. Vav taluka has as low as 8 percent of the net cultivable area under irrigation, indicating significant opportunities for improvement in these regions. Agricultural irrigation in Banaskantha is predominantly dependent on tube wells, which supply water to 61.14 percent of the net irrigated area. Poor nitrogen and moderate potash content in Banaskantha soils has resulted in large scale use of nitrogen-rich fertilisers. There is little awareness about organic farming and vermicompost methods of farming, indicating the need to promote sustainable agricultural practices.

Bajra, greengram, sesamum, castor and cotton are key kharif crops grown in the district. They cover around 64 percent of the net cultivable area. Main horticulture crops include spices, fruits (mainly citrus) and vegetables. Potato and mustard are the two major rabi crops. Currently, use of hybrid crop varieties is low.

Cow and buffalo are main cattle varieties in Banaskantha with 6,44,467 cows[450] and 9,45,346 buffaloes[451]. Other prominent domestic animals under animal husbandry activities include goats and sheep. The availability of large pasture lands indicates significant potential to promote animal husbandry in the district.

6.10.8.2. Workforce distribution in the district

Banaskantha depends primarily on agricultural activities for livelihood generation. Over three-fourths of the total workforce is engaged in this sector. Considering the low level penetration of the manufacturing sector, which generates 7.23 percent employment as against the state average of 15.86 percent, the district has the potential to become a sourcing hub for trained manpower. While the district's total worker participation rate is marginally better than the state average, high manpower requirements in agrarian activities due to low output efficiency has resulted in significant under-employment in this category. A comparison of workforce distribution in Banaskantha and Gujarat is presented in the table[452].

448 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
449 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
450 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
451 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
452 *KPMG Analysis*

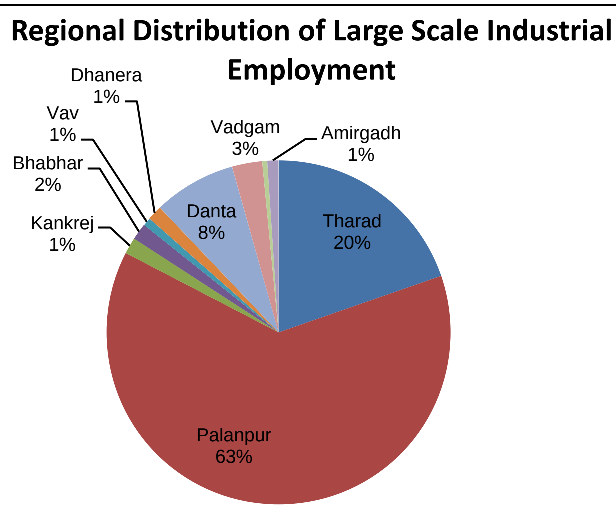
Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Banas Kantha	60.3%	43.61%	77.59%	7.23%	15.18%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

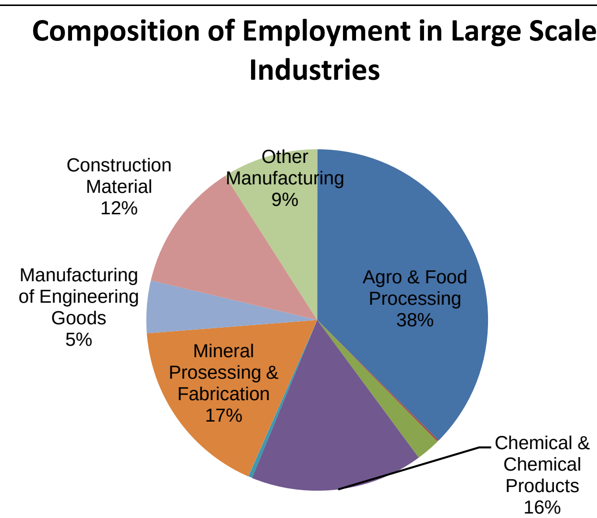
Organized industrial employment in registered factories and service enterprises has created over 14,000 job opportunities within the district. Large-scale industries generated maximum employment and accounted for more than half of the overall employment in commissioned and under-implementation units. Details of category-wise industrial employment as per 2012 statistics are presented in the table.

Organized Employment in Banas Kantha[453]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	7,723
MSME Category	6,943
Manufacturing Units	6,012
Service Enterprises	931
Total	**14,666**

Regional and sectoral analyses of large-scale industrial employment indicate a clear concentration of employment in key sectors within key taluka regions. Palanpur and Tharad talukas account for the majority of employment in this category. Agro and food processing, chemicals, mineral processing and fabrication and construction-based material (cement) are the major employment generating segments in the district. Regional and sectoral break ups of large-scale industrial employment are presented in the charts.

Large Scale Industrial Employment Overview in the District[454]

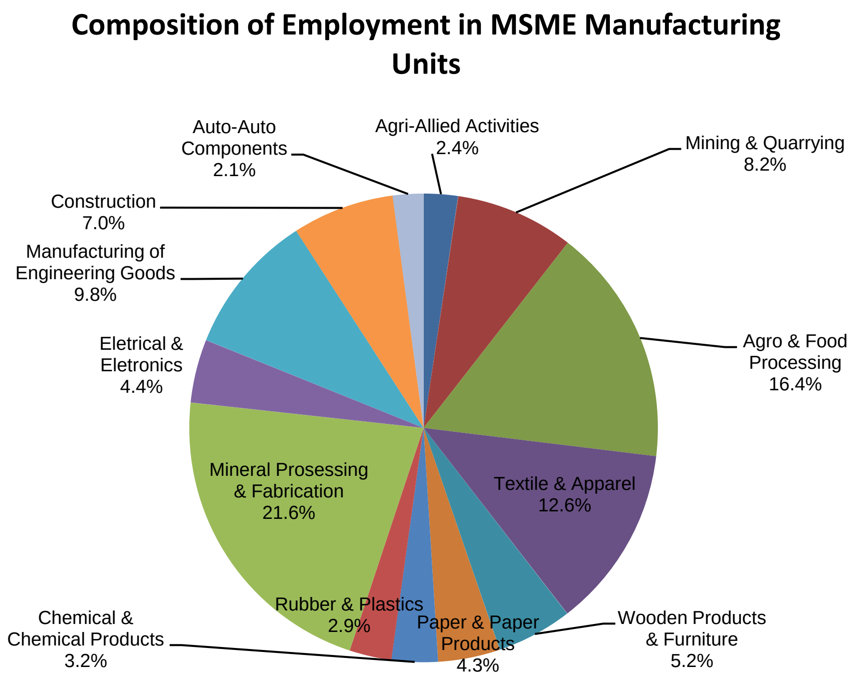


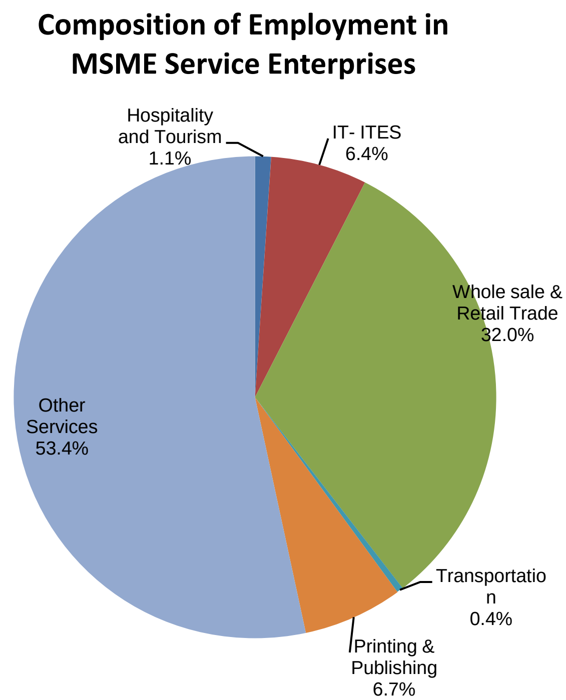


453 *IEM, MSME Part-II Data till 2012-13*
454 *IEM, MSME Part-II Data till 2012-13*

Among the manufacturing units in MSME segment, mineral processing and fabrication, agro and food processing and textile and apparel units account for the majority of employment in all the categories of industries. In the services segment, wholesale and retail trade is a major employment generating sector. The details of sector-wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

MSME Employment Overview in the District[455]





6.10.8.3. Human Resource Requirement Projections in Banas Kantha (2012-22)

The incremental manpower requirement in Banaskantha has been estimated on the basis of several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national-level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market-based insights from discussions with industries in the district. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors, incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012–17 and 2017–22. Further, manpower requirement is classified into skilled, semi-skilled and minimally skilled categories, considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to a significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

[455] *IEM, MSME Part-II Data till 2012-13*

Primary Sector:

Considering that the level of farm mechanization and the sharing of agricultural land is on the rise, the period between 2012 and 2022 would witness a net outflow of workforce from agricultural activities. This is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agro-allied activities, depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for agro- allied activities is estimated after considering the following parameters:

- Current level of employment in agricultural activities (farmers and agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012–17 and 2017–22 and the analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agro-allied activities in the district, considering the level of involvement in various activities and regional conditions

Manufacturing Sector:

Manpower requirement in the secondary sector is driven by investments and output growth. Various factors, including analysis of manufacturing, sub-sector policies, investment trends and availability of resources are considered to estimate incremental manpower in different sub-sectors of manufacturing in the district. Human resource requirement projections for manufacturing sub-sectors in the district are estimated after considering the following parameters:

- Manufacturing growth targets for Gujarat for 2012–17 and 2017–22 (increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub-segments within the district based on the study of existing industrial base and primary interactions
- Estimation of growth targets for the district based on the analysis of investment trends in the district and their comparison to the state's, available infrastructure and policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking. Other segments, including hospitality and tourism, financial intermediation, communication and retail depend on the level of economic activity in the region, resulting in high or low spending capacity of population. Also, segments like IT-ITES and transportation and logistics are driven by investments into infrastructure and manpower. Hence, human resource requirement projections for services sub-sectors would have specific approaches, depending on growth drivers for segments in the district. A detailed methodology for estimation of manpower in the services sub-segments is presented in the appendix.

Based on the analysis of socio-economic conditions, investment scenario and availability of resources, incremental manpower requirement has been estimated for the following sectors:

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- IT-ITES
- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for priority sectors in Banaskantha district are presented in the table[456].

Sector	2012-17				2017-22			
	Skilled	Semi-skilled	Minimally skilled	Total	Skilled	Semi-skilled	Minimally skilled	Total
Agriculture and allied activities	NA	NA	33260	33260	NA	NA	27854	27854
Agro and food processing	87	349	437	873	78	312	390	781
Textile and apparel	17	67	83	167	15	60	75	149
Wooden products and furniture	7	27	34	68	6	24	30	61
Paper and paper products	9	38	47	94	8	34	42	84
Chemical and chemical	32	126	158	316	28	113	141	282

456 *KPMG Analysis*

products								
Rubber and plastics	4	18	22	44	4	16	20	40
Mineral processing and fabrication	68	271	338	676	60	242	302	605
Electrical and electronics	6	23	28	57	5	20	25	51
Manufacturing of engineering goods	24	95	119	238	21	85	106	213
Manufacturing of construction material	21	82	103	206	18	74	92	184
Misc. manufacturing	15	61	76	152	14	54	68	136
Construction	691	1382	11749	13822	618	1236	10508	12363
Trade, retail	1116	1674	8372	11163	1220	1830	9152	12202
Transportation and logistics	274	4350	5175	9799	224	3559	4234	8018
Hospitality and tourism	1085	1628	8138	10850	868	1302	6510	8680
Banking and financial services	1124	3373	NA	4497	787	2361	NA	3148
Healthcare	436	1962	NA	2398	581	2905	NA	3486
Education and training	1886	12696	NA	14582	2829	7618	NA	10447

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[457].

Secondary Sector (Manufacturing, Construction & Energy):

- **Food Processing:**

Category of Skills	Skills
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists

[457] *KPMG Analysis*

Skills with acute shortage	PPO is required in industries having in house packing development.

- **Chemical & Chemical Products:**

Category of Skills	Skills
Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Metal & Mineral Processing:**

Category of Skills	Skills
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Trade, Retail:**

Category of Skills	Skills
Core Skills	Shop floor executives/supervisors, computer operator
Allied Skills	Transportation & logistics staff
Skills with acute shortage	Store management, stock planning

- **Education:**

Category of Skills	Skills
Core Skills	School teachers, higher education faculty
Allied Skills	Knowledge on advanced teaching tools
Skills with acute shortage	Technical education trainers

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques

Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.8.4. Human Resource Supply Scenario in the District

6.10.8.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Banaskantha is among the leading human resource bases in Gujarat. However, limited employment opportunities for the increasing labour force would drive outward migration. The details of human resource growth estimations in 2012–22 are presented in the table[458].

Period	**Gross Addition to Working Age Population**	**Gross Addition to Labour Force**	**Net Addition to Labour Force-Supply**
2012-17	371,356	214,245	104,882
2017-22	368,150	209,703	81,434

6.10.8.4.2. Education and Training Potential in the District

The district has about 2,594 K12 schools, out of which 91.13 percent are government schools. The district has a perfect score of 100 percent in net enrolment ratio at primary level. However, the net enrolment ratio of upper primary level is substantially lower than that at primary level[459].

Total Enrollments in 209–10	**Primary Level (Std I–V)**	**Upper Primary Level (Std VI–VIII)**	**Secondary Level (Std IX–X)**	**Higher Secondary Level (Std XI–XII)**
Banas Kantha	4,19,256	1,16,532	97,535	26,477

Comparing the district's enrolment statistics with the state average indicates that the former is a strong performer in the primary education category. [460]

[458] *KPMG Analysis*
[459] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[460] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Banas Kantha	100.0	59.7
Gujarat	85.4	50.7

In the vocation education segment, the district lags behind the state in providing vocational training. Despite low vocational education capacity, the private sector has shown interest in the sector in this district. This indicates that the state must take proactive measures to seek private support to improve vocational training infrastructure.

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Banas Kantha	32	5,676	1.82	33%
Gujarat	711	138,106	2.29	26%

There is a need to focus on expanding capacity in vocational education in Banaskantha, especially in the tehsils of Deodar, Danta, Kankrej, Deesa, Tharad, Vadgam, Dhanera and Vav, to bring them on par with the district average of vocational education capacity[461].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Palanpur	2,591	5.47	24%
Dantiwada	372	3.42	67%
Bhabhar	394	3.24	68%
Amirgadh	372	2.96	45%
Deodar	233	1.28	50%
Danta	244	1.13	16%
Kankrej	257	0.92	44%
Deesa	505	0.89	27%
Tharad	260	0.83	54%
Vadgam	176	0.69	23%
Dhanera	136	0.60	15%
Vav	136	0.57	0%
District Total	**5,676**	**1.82**	**33%**

Some important higher education institutions in the district include Shri Ambaji Arts College, Gurukul Mahila Arts and Commerce College, SMJ Arts Commerce College, Hemchandracharya North Gujarat University, Sheth Motilal Nyalchand Science College, P K Kotwala Arts College, Saifee Jubilee Arts Commerce College, Trikambjibhai Chatwani Arts and JU Gokal Trust Commerce College

6.10.8.4.3. Demand-Supply Gap Analysis for the District

[461] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

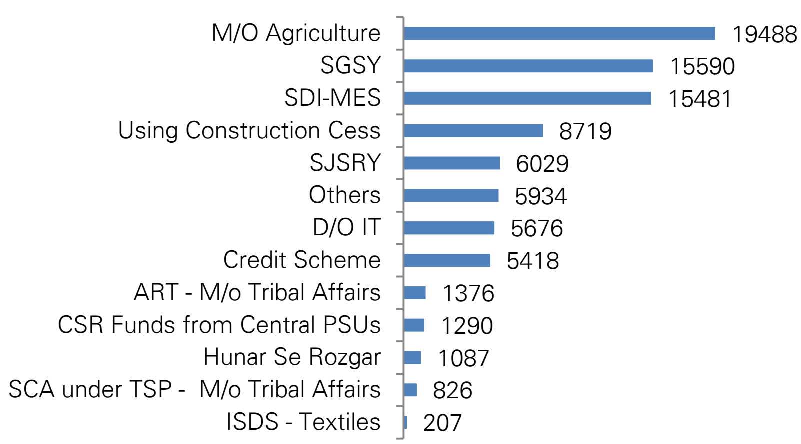
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	(11,355)	14,068	(4,332)	(1,620)	(11,883)	5,133	14,094	7,350

*(Indicates excess supply)

6.10.8.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes, about 87 thousand people can be trained incrementally in 2012–17. The Ministry of MSME, Ministry of Labour, Other Industrial Department and Ministry of Agriculture Schemes are expected to significantly contribute toward training. For manpower training targets, there is an equal focus on primary and manufacturing sectors. Considering the large share of MSME units in the district, private training providers have significant upskilling opportunities for MSME manpower in the district along with training on farming.

Government Funded Incremental Training Capacity (2012-17) - Banas Kantha District[462]



6.10.8.5. District Specific Recommendations

[462] *KPMG Analysis*

Considering the human resource potential and manpower requirements of the industry, the proposed action plan for stakeholders in skill development has been recommended:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following regions, which have high human resource potential: • Deesa, Palanpur, Tharad and Kankrej. Palanpur Focus on sectors with high employment potential in Gujarat • **Services:** Transportation and logistics, organized retail, IT-ITES, banking and financial services, hospitality and tourism and construction • **Manufacturing:** Textile, auto and auto components, engineering goods and chemical and chemical products
District Administration	Provide skill training along with private skill training providers using government endowment training schemes in the following sectors: • Animal husbandry • Horticulture Focus on improving industrial training infrastructure in the following regions: • Deodar, Danta, Kankrej, Deesa, Tharad, Vadgam, Dhanera and Vav
Private Skill Training Providers	Focus on placement-driven training for youth from high human resource potential regions of Deesa, Palanpur, Tharad and Kankrej. Palanpur Focus on sectors with high employment potential in Gujarat • **Services:** Transportation and logistics, organized retail, IT-ITES, banking and financial services, hospitality and tourism and construction • **Manufacturing:** Textile, auto and auto components, engineering goods and chemical and chemical products
Corporate	Provide support for training to youth from the district for placements in industrial belts Initiate and support modular employability skill training in collaboration with private players/government Create placement linkage opportunities in training institutions

6.10.9. Skill Gap Assessment of Bharuch District

6.10.9.1. Socioeconomic Profile

6.10.9.1.1. Administrative Profile

Bharuch district is located in the southern part of Gujarat and is spread across an area of 5,253 sq km[463]. The district shares its border with Baroda and Anand District in the north, Narmada district in the east, Surat district in the south and Gulf of Khambhat in west. Administratively, the district is divided into eight talukas and 653 villages[464]. Bharuch, Ankleshwar, Hansot, Jambusar, Jhagadia, Amod, Valia and Vagra are the talukas in the district with Bharuch city as the district's capital.

6.10.9.1.2. Demographic Profile

Bharuch has a population of 15.5 lakhs[465] as per the 2011 census district. It accounts for 2.6 percent[466] of the total state population. The district population has witnessed a low decadal growth rate of 13.14 percent[467] between 2001 and 2011, in comparison to the state average of 19.17 percent[468] during the same period. A significant portion of the district population lives in urban areas, with these regions accounting for nearly 34 percent[469] of the total population. While the overall district population has witnessed nominal growth, urban population increased steeply by 49.88 percent[470] over the census decade, indicating increasing urbanization within the district. The population spread in the district is low with a density of 210 persons per sq km[471], in comparison to the state average of 308 persons per sq km[472]. The analysis of population distribution in the district as per the 2001 census indicates higher human resource potential in the talukas of Hanskot, Amod, and Valia, while Ankleswar and Bharuch have higher population concentration owing to industrial and commercial growth. The details of regional distribution of population in the district are presented in the table[473].

463 *Census 2001Statistics, KPMG Analysis*
464 *Census 2001Statistics, KPMG Analysis*
465 *Census 2001Statistics, KPMG Analysis*
466 *Census 2001Statistics, KPMG Analysis*
467 *Census 2001Statistics, KPMG Analysis*
468 *Census 2001Statistics, KPMG Analysis*
469 *Census 2001Statistics, KPMG Analysis*
470 *Census 2001Statistics, KPMG Analysis*
471 *Census 2001Statistics, KPMG Analysis*
472 *Census 2001Statistics, KPMG Analysis*
473 *Census 2001Statistics, KPMG Analysis*

Regional Distribution of Population in the District[474]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Hansot	28%	173
Amod	19%	199
Valia	13%	254
Vagra	13%	94
Jambusar	10%	161
Ankleswar	7%	603
Jhagadia	6%	213
Bharuch	5%	596

The composition of female population in the district is moderate, as compared to that of the state average. As per the 2011 census, the district has a gender ratio of 924 females per 1,000 males[475], as against the state average ratio of 940 females per 1,000 males[476]. The district has a higher composition of scheduled castes and scheduled tribes in comparison to the state average. As per census 2001 estimates, reserved categories account for 36.89 percent[477] of the overall district population.

The education attainment levels in the district are marginally higher than the state average. As per 2011 estimates, the district has registered an overall literacy rate of 83.03 percent[478], as against the state average of 79.31 percent[479]. Gender and regional inclusion in the reach of mass education programmes has increased in the district. It has a male-female literacy gap of 12.01 percent[480], which is lesser than that of the state at 16.5 percent[481]. Higher level of gender inclusion is primarily attributed to an improved female literacy rate within the district, which stood at 76.79 percent[482] by 2011. Further, the urban-rural literacy gap in Bharuch is estimated to be 9.05 percent[483], as against the 14.58 percent[484] for the state. Higher literacy levels would demand improved higher education and training capacities to create a knowledge economy.

6.10.9.1.3. Economic Profile

Bharuch is an emerging industrial zone in the state with good infrastructure connectivity, including port connectivity (Port of Dahej). The growth of the logistics industry based on the Dahej port has helped establish several key industries in and around the area, including Indo-Gulf, Gujarat Chemical Port Terminal Company Ltd. (GCPTCL) and Petronet LNG Ltd. Considering the advantages of the location of the port with respect to the opportunities it offers for exports to Middle East, Africa, Europe and North America, the government has identified the region as a thrust area

474 *Census 2001Statistics, KPMG Analysis*
475 *Census 2011 Statistics*
476 *Census 2011 Statistics*
477 *Census 2001Statistics, KPMG Analysis*
478 *Census 2011 Statistics*
479 *Census 2011 Statistics*
480 *Census 2011 Statistics*
481 *Census 2011 Statistics*
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483 *Census 2011 Statistics*
484 *Census 2011 Statistics*

for development. The district has witnessed significant growth of industrial centres and SEZs in the region in recent years. The emergence of PCPIR (Petroleum, Chemicals & Petrochemicals Investment Region), Dahej SEZ and the clearance of DMIC are expected to fuel industrial and economic growth of the district. Chemicals and petrochemicals, textiles, drugs and pharmaceuticals, port-based logistics and ship building are some key industrial segments in Bharuch. Guardian Corporation, Videocon, Badische Anilin and Soda Fabric (BASF), Reliance, Tatas, Aditya Birla Group, Aventis, Wockhardt, Rallis, Pfizer, Larson & Toubro, Bayer, Glenmark, Lupin, Welspun-Stahl Rohrren and Gujarat Fluor chemicals Ltd are some of the leading industries in the district.

An analysis of regional distribution of investments in Ahmedabad district indicates that industrial development is concentrated around Ankleswar and Bharuch talukas while other regions like Amod and Hansot remain backward. Over the recent years, the state government has initiated measures to enhance the industrial growth in backward talukas across the state through suitable incentives. This is expected to increase the investment potential of these regions over the next decade. The details of region-wise large-scale investments in Bharuch district until 2012 are presented in the table.

Large Scale Investment Scenario In Bharuch[485]

Region	Commissioned		Under Implementation	
	No. of Units	Investment (INR Cr)	No. of Units	Investment (INR Cr)
Vagara	41	17406	94	42202
Valiya	24	919	9	52096
Bharuch	94	7878	100	23779
Zagadiya	57	6261	61	5600
Ankleshwar	464	5306	148	6193
Amod	8	258	5	4507
Jambusar	34	830	18	1772
Hansot	12	1315	8	150
Not Specified	6	542	18	1595
District Total	740	40715	461	137894

Rapid industrialization in the district has widened the scope for the establishment of ancillary units in MSME segment. Ancillary industries in chemical and chemical products, rubber and plastics and fabrication have witnessed

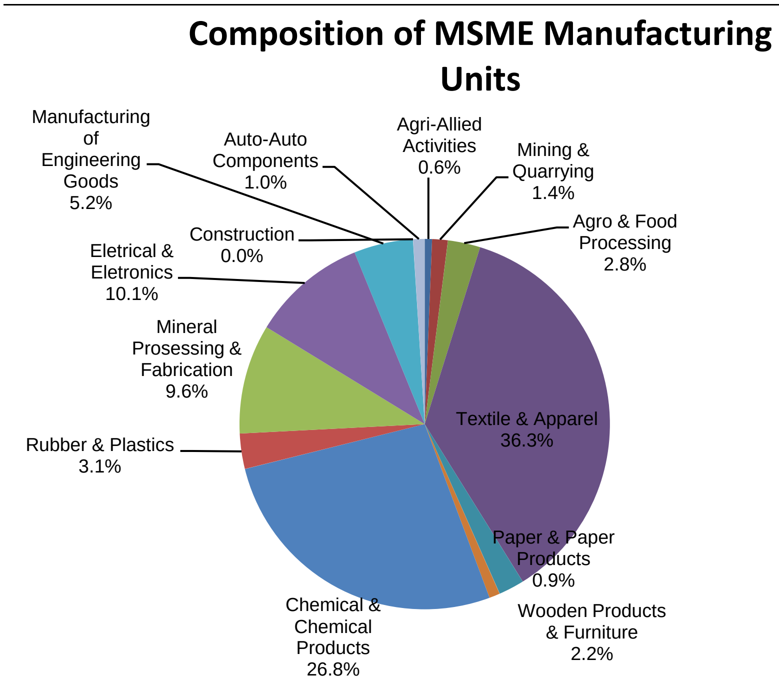
[485] *IEM, MSME Part-II Data till 2012-13*

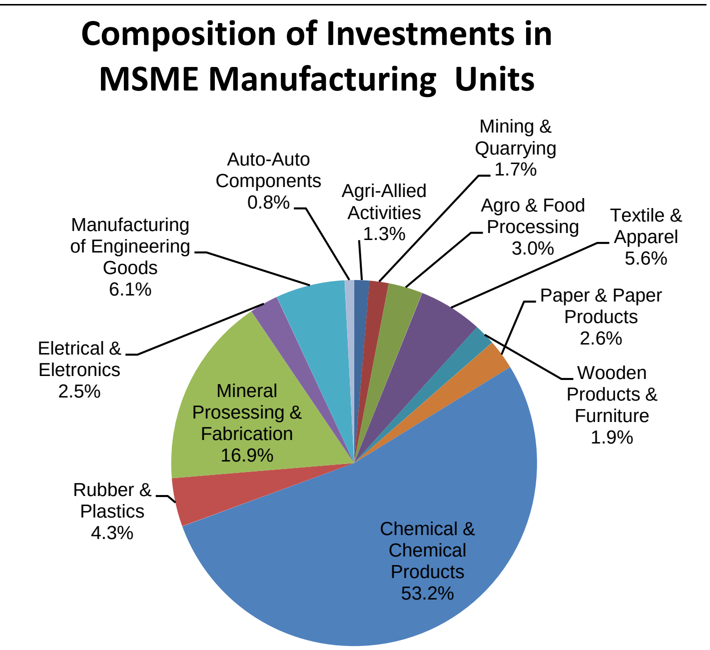
significant growth over the years. As per the MSME investment Part–II statistics, there are total 3,268 units[486] operating in the district. They attracted an investment of INR1,75,371 lakhs[487] in 2012. The MSME segment in Bharuch is dominated by manufacturing industries in terms of volume and investments with limited number of registered service enterprises, indicating the high level of unorganized activity in the services segment. Investment outlook in MSME segment of Bharuch district is presented in the table.

MSME Investment Scenario in Bharuch[488]		
Category of Industries	**Number of Units**	**Investment In Lakhs**
Micro	2653	38498
Small	580	96792
Medium	35	40081
Total	**3268**	**175371**
Manufacturing Sector Units	2983	169233
Service Enterprises	285	3870

Among the manufacturing-based MSME units, textile, manufacturing of engineering goods, chemical and chemical products, mineral processing and fabrication are prominent categories in terms of number of units and investment volume. The composition of the MSME manufacturing units and investments are presented in the chart.

MSME Manufacturing Sector Scenario in the District[489]

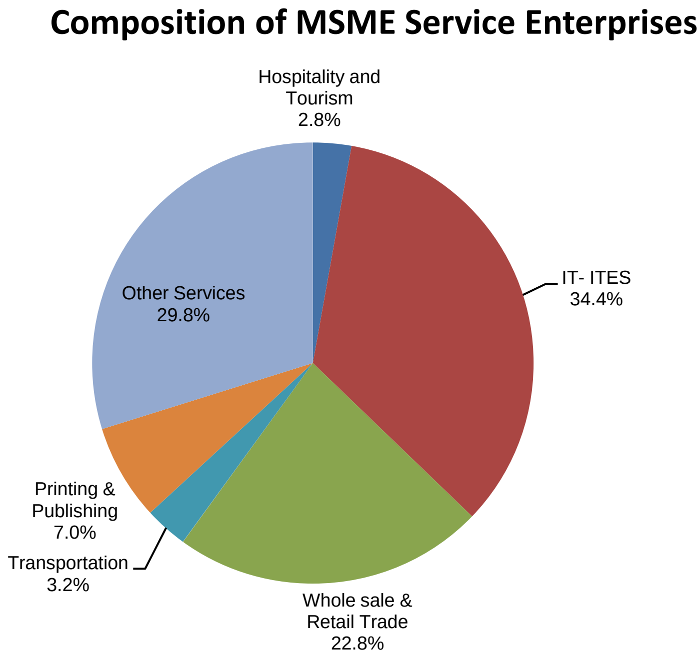


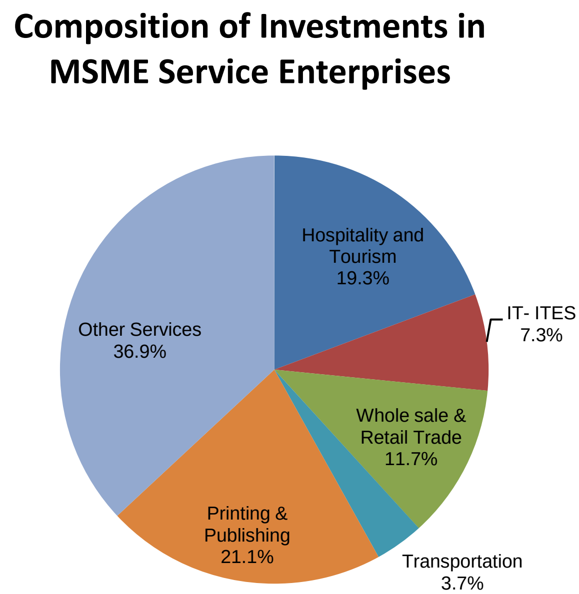


486 *IEM, MSME Part-II Data till 2012-13*
487 *IEM, MSME Part-II Data till 2012-13*
488 *IEM, MSME Part-II Data till 2012-13*
489 *IEM, MSME Part-II Data till 2012-13*

While the level of organized investments in services enterprises is low, as it is evident from the MSME Part-II statistics, sectors of wholesale and retail trade and IT-ITES have seen considerable investments in the district. The composition of MSME service enterprises and investments is presented in the chart.

MSME Services Sector Scenario in the District[490]





Among the services sector, tourism promises strong growth for the district. The region has multiple renowned ancient monuments such as the Swaminarayan Temple, the Narmadamata Temple and the Vaishnav Haveli. The district also has the famous Raichand Deepchand Library, which has a collection of over 200,000 books and has rare manuscripts. Other tourist attractions include the Shoolpaneshwar wildlife sanctuary, Kabirvad, Kadiadungar, Jama Masjid and the Golden Bridge.

There is medium penetration of medical institutions with almost 27,000 people per institute. The district has a number of private specialized hospitals like Bharuch Hospital, Shaikh Orthopedics Hospital and Narayan Eye Hospital[491].

National Highway 8 passes through the district, connecting it to Ahmedabad and Mumbai. Almost all talukas of Bharuch have rail connectivity. The rail infrastructure in Bharuch comprises 50 km of broad gauge line and 33 railway lines. The nearest airport to Bharuch is Vadodara, which is 69 km away. Bharuch has a well-established power network with nearby districts such as Surat, Vadodara, Anand and Ahmedabad. A power station present in Bharuch

490 *IEM, MSME Part-II Data till 2012-13*

491 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

district is connected to Vadodara and Kakarapar in Surat. Bharuch has a high penetration of banking and financial services with a density of 8,811 people per bank as of March 2012[492].

However, medium to high rainfall conditions, coupled with favourable soil conditions, have given thrust to moderate agricultural and allied activities in the district. Sixty-five percent of the total land in Bharuch is cultivable. Since the region receives high rainfall, the land is largely rain-fed, with only around 22 percent[493] of net cultivable area under irrigation. Agricultural irrigation in Bharuch primarily depends on canals and open wells. Hence, there is a big scope of adoption of tube wells.

Major horticulture crops being produced in the district include banana, mango, cucurbits, papaya and brinjal. However, banana alone accounts for over 90% of the district's total produce.

The cattle population in the district is low, with cows and buffalos accounting for 1, 44, 755 and 1, 34, 176 of the total cattle population[494]. Other prominent domestic animals under animal husbandry activities are goats. Each taluka of the district has a permanent pasture, though they are small in size. There are significant opportunities to develop husbandry activities in the district.

6.10.9.2. Workforce Distribution in the district

Being an emerging industrial hub, Bharuch is witnessing significant growth in the secondary sector in overall employment. Traditionally, the dependency on agriculture has been high, as indicated by nearly 70 percent share of the primary sector. But recent years have witnessed significant progress toward reducing the dependency on agrarian activities. A comparison of workforce distribution scenario in Bharuch and Gujarat is presented in the table[495].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Bharuch	63.04%	41.64%	68.74%	10.5%	20.77%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

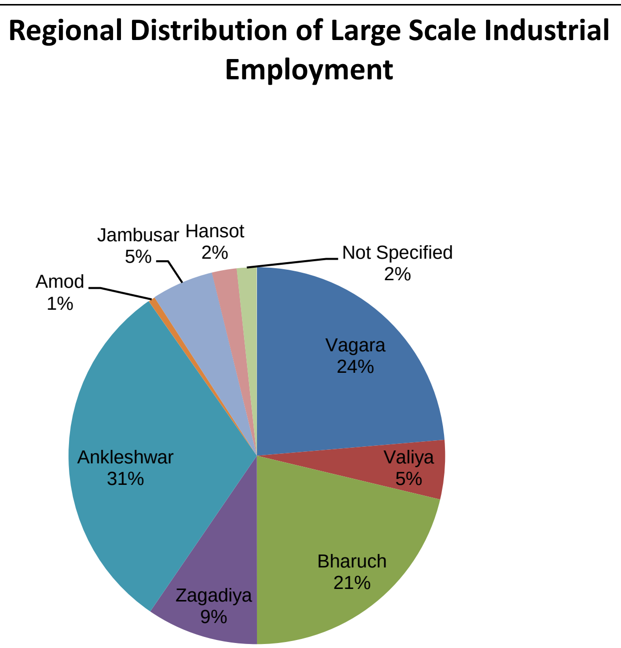
Organized industrial employment in registered factories and service enterprises has created several employment opportunities in the district. Large-scale industries lead in employment generation. Over the years, this segment has accounted for 2.11 lakhs[496] of the total 2.56 lakhs[497] organized industrial employment across commissioned and under-implementation units. Among the MSME units, services enterprises account for a low share of employment owing to the unorganized nature of commercial activities within the district. The details of category-wise industrial employment as per 2012 statistics is presented in the table.

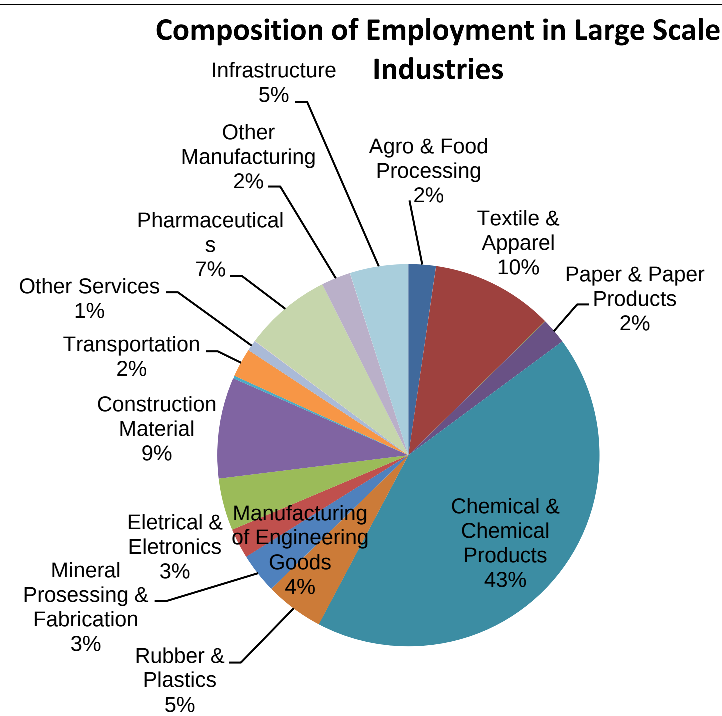
492 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
493 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
494 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
495 *KPMG Analysis*
496 *IEM, MSME Part-II Data till 2012-13*
497 *IEM, MSME Part-II Data till 2012-13*

Organized Employment in Bharuch[498]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	211430
MSME Category	44952
Manufacturing Units	41204
Service Enterprises	3748
Total	**256382**

Regional and sectoral analyses of large-scale industrial employment indicate a clear concentration of employment in key sectors and within key taluka regions. Ankleswar, Vagara and Bharuch talukas account for maximum employment in this category. Chemical and chemical products, construction-based materials, textile and apparels and pharmaceuticals are major employment generating segments within the district. The regional and sectoral break up of large-scale industrial employment is presented in the charts.

Large Scale Industrial Employment Overview in the District[499]



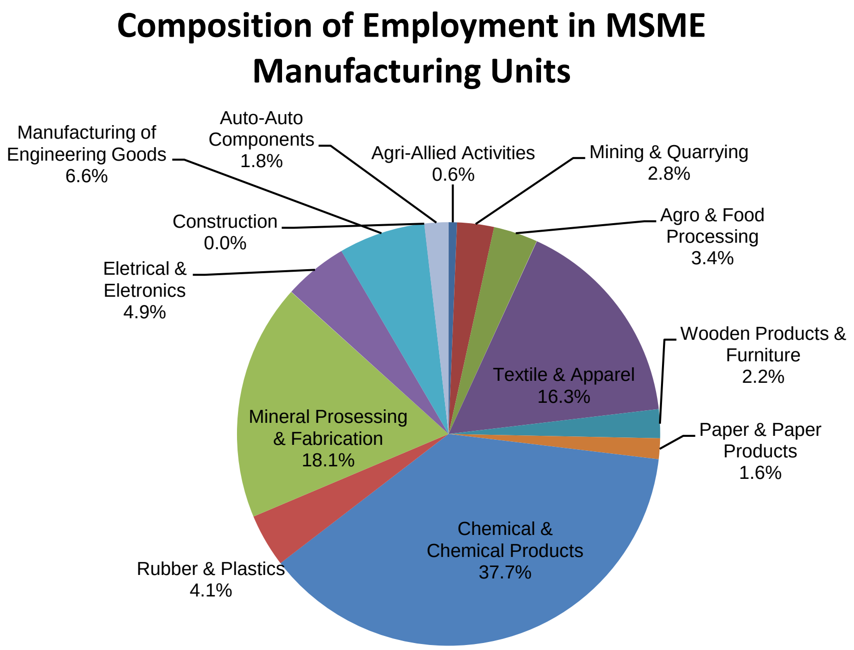


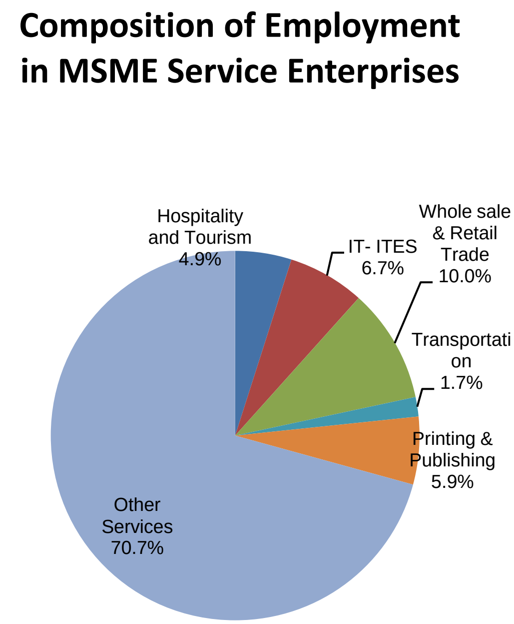
Among the manufacturing units in the MSME segment, chemical and chemical products, mineral processing and fabrication, textile and apparel and manufacturing of engineering goods have accounted for the maximum share of employment in all the categories of industries. Wholesale and retail trade, IT-ITES, publishing and printing, hospitality and tourism are major employment-generating sectors within tertiary enterprises. The details of sector-

498 *IEM, MSME Part-II Data till 2012-13*
499 *IEM, MSME Part-II Data till 2012-13*

wise industrial employment in manufacturing and services MSME units, as per MSME part-II statistics until 2012, are presented in the charts.

MSME Employment Overview in the District[500]





6.10.9.3. Human Resource Requirement Projections in Bharuch (2012-22)

Incremental manpower requirement in Bharuch has been estimated on the basis on several parameters such as investments trends, national-level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national-level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market-based insights from discussions with industries in Bharuch. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors, incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012–17 and 2017–22. Further, manpower requirement is classified into skilled, semi-skilled and minimally skilled categories, considering the present level of employment in these categories for respective sectors and on the basis of the analysis of expected developments in the industry, which would lead to a significant realignment of the categories. The detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increase in farm mechanization and sharing of agricultural land, the period between 2012 and 2022 would witness a net outflow of workforce from agricultural activities. Agricultural workforce displacement is

[500] *IEM, MSME Part-II Data till 2012-13*

expected to be significant in marginal workers category. A significant portion of workforce would engage in agro-allied activities, depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for agro- allied activities is estimated on the basis of the following parameters

- Current level of employment in agricultural activities (farmers and agricultural labourers)
- Estimated displacement factors for agricultural workforce are based on Planning Commission Projections for 2012–17 and 2017–22 periods and analyses of level of mechanization and allied factors in Gujarat
- Employment potential in agro-allied activities in the district, considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors, including the analyses of manufacturing, sub-sector policies, investment trends and availability of resources, are considered for incremental manpower estimation in different sub-sectors of manufacturing in the district. Human resource requirement projections for manufacturing sub-sectors in the district are estimated on the basis of the following parameters:

- Manufacturing growth targets for Gujarat for 2012–17 and 2017–22 (increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub-segments within the district, based on the study of existing industrial base and primary interactions
- Estimation of growth targets for the district, based on the analysis of investment trends in the district as compared to those in the state, available infrastructure and policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by the government through budgetary allocations to achieve inclusion targets in education, healthcare and banking. Other segments such as hospitality and tourism, financial intermediation, communication and retail depend on the level of economic activity in the region, which determine the spending capacity of the population. Also, segments like IT-ITES and transportation and logistics are driven by investments in infrastructure and manpower. Hence, human resource requirement projections for services sub-sectors would have specific approaches, depending on the growth drivers for these segments in the district. A detailed methodology for the estimation of manpower in services sub-segments is presented in the appendix.

Based on the analysis of socio-economic conditions, investment scenario and availability of resources, incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- IT-ITES
- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Bharuch district are presented in the table[501].

Sector	2012–17				2017–22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	12582	12582	NA	NA	12582	10537
Agro & Food Processing	142	568	710	1420	127	508	635	1270
Textile & Apparel	619	2478	3097	6194	554	2216	2770	5540
Wooden Products & Furniture	21	85	106	213	19	76	95	190
Paper & Paper Products	114	455	569	1138	102	407	509	1018
Chemical & Chemical Products	2304	9215	11519	23039	2061	8243	10303	20607
Rubber & Plastics	263	1053	1316	2631	235	941	1177	2354
Mineral	342	1370	1712	3424	306	1225	1531	3063

[501] *KPMG Analysis*

Processing & Fabrication								
Electrical & Electronics	159	638	797	1595	143	571	713	1427
Manufacturing of Engineering Goods	277	1109	1386	2771	248	992	1239	2479
Manufacturing of Construction Material	392	1569	1961	3922	351	1403	1754	3508
Drugs and Pharmaceuticals	338	1353	1691	3383	303	1210	1513	3026
Misc. Manufacturing	114	456	570	1141	102	408	510	1020
Construction	344	688	5847	6879	308	615	5230	6153
Trade, Retail	556	833	4167	5556	607	911	4555	6073
Transportation & Logistics	526	8359	9945	18830	431	6839	8137	15407
Hospitality & Tourism	843	1265	6323	8430	674	1012	5058	6744
Banking & Financial Services	3341	10024	NA	13366	2339	7017	NA	9356
Healthcare	349	1569	NA	1917	464	2322	NA	2786
Education & Training	575	3869	NA	4443	862	2321	NA	3183

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[502].

Secondary Sector (Manufacturing, Construction & Energy):

- **Auto & Auto Components**

Subsector	Skills
Auto Assembling and Component Manufacturing	**Core Skills:** Motor Mechanic, Diesel Mechanic, Fitter, Welder, Fabricators **Allied Skills:** Electrician, Wireman **Acute Skill Deficits:** Specialized welders in Arc welding who can work in extreme conditions on advanced fabrication equipments

- **Textile & Apparel:**

Category of Skills	Skills

[502] *KPMG Analysis*

N·S·D·C National Skill Development Corporation

Core Skills	Ring frame operator, weaver, processing operator (CDR,BDR,Stuntor), Bar-coding machine operator
Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions.

- **Food Processing:**

Category of Skills	**Skills**
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists
Skills with acute shortage	PPO is required in industries having in house packing development.

- **Chemical & Chemical Products:**

Category of Skills	**Skills**
Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Metal & Mineral Processing:**

Category of Skills	**Skills**
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Drugs & Pharmaceuticals:**

Category of Skills	Skills
Core Skills	Process Operator, Packaging Operator, Process Technicians, Lab QC Technicians -Lab Technicians (Analytical), R&D Technicians
Allied Skills	Electrician, Instrumentation
Skills with acute shortage	Bio-instrumentation

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services:**

Category of Skills	Skills
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Trade, Retail:**

Category of Skills	Skills
Core Skills	Shop floor executives/supervisors, computer operator
Allied Skills	Transportation & logistics staff
Skills with acute shortage	Store management, stock planning

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.9.4. Human Resource Supply Scenario in the District

6.10.9.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Bharuch would experience a moderate growth in human resource base in 2012–22. Increasing industrial activity in the district would increase population in the district in the next decade. The details of human resource growth estimations during 2012–22 are presented in the table[503].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	154,681	94,267	54,812
2017-22	134,876	83,558	42,558

6.10.9.4.2. Education and Training Potential in the District

The district has about 1,181 K12 schools with government schools comprising 80.27 percent. The district's net enrolment ratios at primary and upper-primary levels are higher than the state average[504].

Total Enrolments in 209-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Bharuch	151347	57999	64896	18617

A comparison between the district's enrolment statistics with the state average indicates that the former has performed better in the primary education category[505]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Bharuch	87.1	54.3
Gujarat	85.4	50.7

In the vocational education segment, the district has performed better than the state. Despite high vocational education capacity, private sector has not shown much interest in the sector. This indicates that the state needs to take proactive measures in seeking private support to improve the quality of vocational training[506].

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Bharuch	21	6,256	4.03	22%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, it is important to increase capacity in vocational education in Bharuch district by focusing on the tehsils of Hansot, Bharuch, Amod, Jambusar and Zagadiya to bring them on par with the district average[507].

503 *KPMG Analysis*
504 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
505 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
506 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
507 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Ankleshwar	3060	10.29	8%
Valiya	684	4.63	0%
Vagara	384	4.11	33%
Hansot	212	2.72	40%
Bharuch	1084	2.50	61%
Amod	208	1.98	38%
Jambusar	328	1.64	56%
Zagadiya	296	1.52	0%
District Total	**6256**	**4.03**	**22%**

The district has three engineering colleges, one management institute and ten colleges offering courses in arts, commerce, science, BEd and law. Shri Sadvidya Mandal Institute of Technology and a government engineering college in the district have an intake capacity of 315 and 180 respectively. Narmada College of Management in Bharuch offers MBA courses and has an intake capacity of 60.

6.10.9.4.3. Demand-Supply Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below.

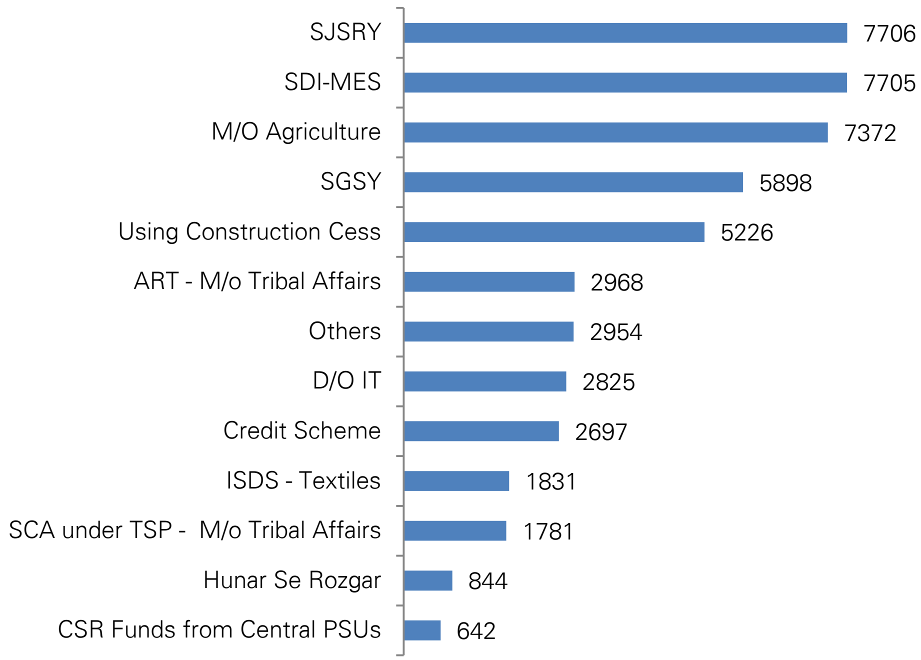
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				**2017-22**			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	3,791	40,887	23,383	68,062	1,114	31,324	32,788	63,183

*(Indicates excess supply)

6.10.9.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes, about 50 thousand people can be trained incrementally in the five year period of 2012–17. The Ministry of Agriculture and the Ministry of Labour Schemes are expected to contribute \significantly toward training. Manpower training targets are primarily focused on the primary sector due to less industrial development in the district. Private training providers have opportunities in livelihood training programmes.

Government Funded Incremental Training Capacity (2012-17) - Bharuch District[508]



6.10.9.5. District Specific Recommendations

Considering human resource potential and manpower requirements of the industry, the following proposed action plan for stakeholders in skill development has been recommended:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following regions, which have high organized employment potential: • Ankleswar and Bharuch Focus on the following sectors, which have high employment potential in the district: • **Services:** Transportation and logistics, banking and financial services and construction • **Manufacturing:** Chemical and chemical products, mineral processing, textile and cement industries
District Administration	Provide skill training along with private skill training using government endowment training schemes in the following sectors: • Animal husbandry • Horticulture Focus on improving industrial training infrastructure in the following regions:

508 *KPMG Analysis*

	• Hansot, Bharuch, Amod, Jambusar and Zagadiya
Private Skill Training Providers	Focus on placement-driven training for youth from high human resource potential regions of Hanskot, Amod, Valia while Ankleswar and Bharuch Focus on the following sectors which have high employment potential in the district: • **Services:** Transportation and logistics, banking and financial services and construction • **Manufacturing:** Chemical and chemical products, mineral processing, textile and cement industries
Corporate	Provide skill training in sectors where the requirement for absorption within the corporate is higher. These include: • Textile • Chemical and chemical products • Transportation and logistics Initiate and support modular employability skill training in collaboration with private players/government Create placement linkage opportunities in training institutions

6.10.10. Skill Gap Assessment of Bhavnagar District

6.10.10.1. Socioeconomic Profile

6.10.10.1.1. Administrative Profile

Bhavnagar district located in the Saurashtra region of Gujarat is witnessing significant industrial growth over the years. Spread across a geographical area of 8334 sq.km[509] district shares borders with Ahmedabad, Amreli, Rajkot and the Gulf of Cambay. Administratively district is divided into 11 talukas and 793 villages[510]. Bhavnagar city is the district capital and a key urban region along with nine other towns in the district. Bhavnagar, Mahuva, Talaja, Botad,Palitana, Sihor, Gadhadha, Gariadhar, Umrala, Ghogha, Vallabhipur are taluka regions in Bhavnagar district. Proximity to the commercial city of Ahmedabad is a key advantage boosting the economic growth of the region.

6.10.10.1.2. Demographic Profile

Bhavnagar district has a total population of 28.78 lakhs[511] as per 2011 Census district accounting for 4.8 percent[512] of the overall state population. District population has witnessed a marginally lower decadal growth rate of 16.53 percent between 2001 and 2011 in comparison with the state average of 19.17 percent[513] during the same period. Significant portion of district population lives in urban areas with these regions accounting for nearly 42 percent[514] of the total population. Population spread in the district is marginally low with a density of 247 persons per sq.km[515] in comparison to the state average of 308 persons per sq.km[516]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Bhavnagar, Mahuva, Talaja while Bhavnagar has higher population concentration owing to industrial and commercial growth in this region. Details of regional distribution of population in the district are presented in the table[517].

509 *Census 2011 Statistics*
510 *Census 2011 Statistics*
511 *Census 2011 Statistics*
512 *Census 2011 Statistics*
513 *Census 2011 Statistics*
514 *Census 2011 Statistics*
515 *Census 2011 Statistics*
516 *Census 2011 Statistics*
517 *Census 2001Statistics, KPMG Analysis*

Regional Distribution of Population in the District[518]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Bhavnagar	27%	637
Mahuva	15%	299
Talaja	11%	310
Botad	9%	305
Palitana	8%	271
Sihor	8%	267
Gadhada	7%	196
Gariadhar	5%	238
Umrala	4%	218
Ghogha	3%	196
Vallabhipur	3%	126

Composition of female population in the district is moderately biased compared to the state average. As per 2001 census district has a gender ratio of 931 females per 1000 males[519] as against the state average ratio of 940 females per 1000 males[520]. However, decreasing proportion of female population is a concern for the district. Adult gender ratio has decreased from 937 females per 1000 males[521] in 2001 to 931 females per 1000 males[522] in 2011. District has a lower composition of scheduled castes and scheduled tribes. As per census 2001 estimates, reserved categories population account for only 5.79 percent[523] of overall district population.

Education attainment levels in the district are marginally lower than the state average. As per 2011 estimates, district has registered an overall literacy rate of 76.84 percent[524] as against state average of 79.31 percent[525]. District has achieved greater progress towards regional inclusion in the reach of mass education programs while there is significant need for better gender inclusion. District has a male-female literacy gap of 19.23 percent[526] as against 16.5 percent[527] for Gujarat state. Lower level of gender inclusion stresses the need for gender specific approach towards implementation of various mass education initiatives. On the other hand urban-rural literacy gap in Bhavnagar is estimated to be 11.15 per cent[528] as against the 14.58 percent[529] for overall state. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth of the region.

518 *Census 2001Statistics, KPMG Analysis*
519 *Census 2011 Statistics*
520 *Census 2011 Statistics*
521 *Census 2011 Statistics*
522 *Census 2011 Statistics*
523 *Census 2001Statistics, KPMG Analysis*
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527 *Census 2011 Statistics*
528 *Census 2011 Statistics*
529 *Census 2011 Statistics*

6.10.10.1.3. Economic Profile

The proximity of Bhavnagar with commercial districts of Ahmedabad, Rajkot, Surendranagar, and Amreli has made the district an important industrial location. The industrial development in Bhavnagar district could be attributed to the presence of a large number of diamond cutting and polishing units, salt and marine chemicals, plastics, ship building, and breaking industries. Bhavnagar stands second in diamond cutting & polishing industry after Surat in India. It is the largest producer of salt and at Alang, Bhavnagar houses the largest ship breaking yard in the world. Further, small scale industry sectors such as repairing & servicing, textiles, chemicals, glass & ceramics and wood products are the supporting pillars of the economy of Bhavnagar district providing numerous employment opportunities

Analysis of regional distribution of investments in Bhavnagar district indicates that the industrial development is concentrated in Bhavnagar Taluka while other regions like Talaja and Ghogha still remain backward in terms of industrial development. Over the recent years the State Government has initiated measures to enhance the industrial growth in backward talukas across the state through suitable incentives leading to an increased investment potential of these regions over the next decade. Details of region wise large scale investments in Bhavnagar district till 2012 is presented in the table.

Large Scale Investment Scenario In Bhavnagar[530]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Bhavnagar	51	1647	17	2039
Sihor	20	41	10	227
Talaja	13	17	1	30
Ghogha	10	70	2	1399
Mahuva	8	73	9	4448
Botad	1	1		
Palitana	1	1		
Gadhada			2	72
Not Classified	2	90	4	91
Overall District	**106**	**1940**	**153**	**10336**

Rapid growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 2599 units[531] operating in the district

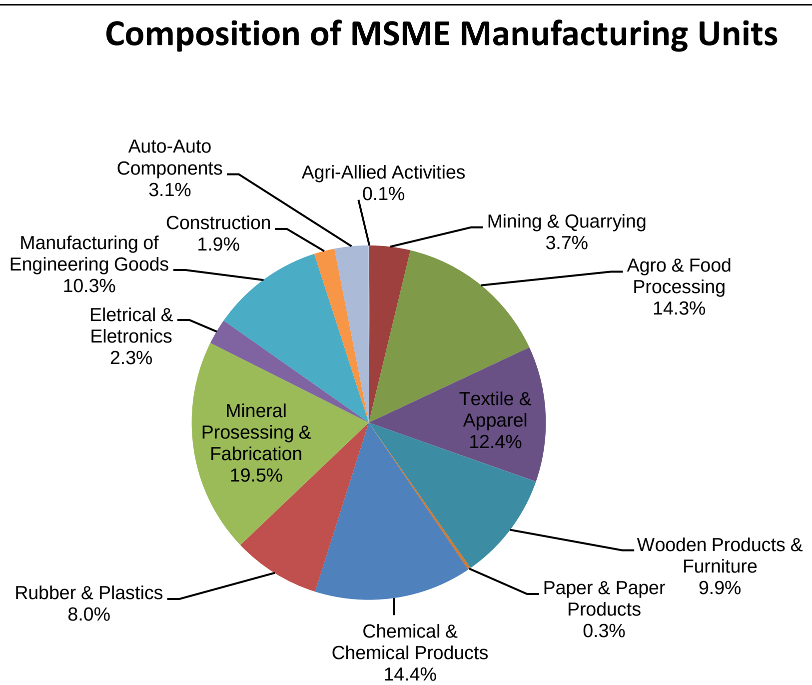
[530] *IEM, MSME Part-II Data till 2012-13*
[531] *IEM, MSME Part-II Data till 2012-13*

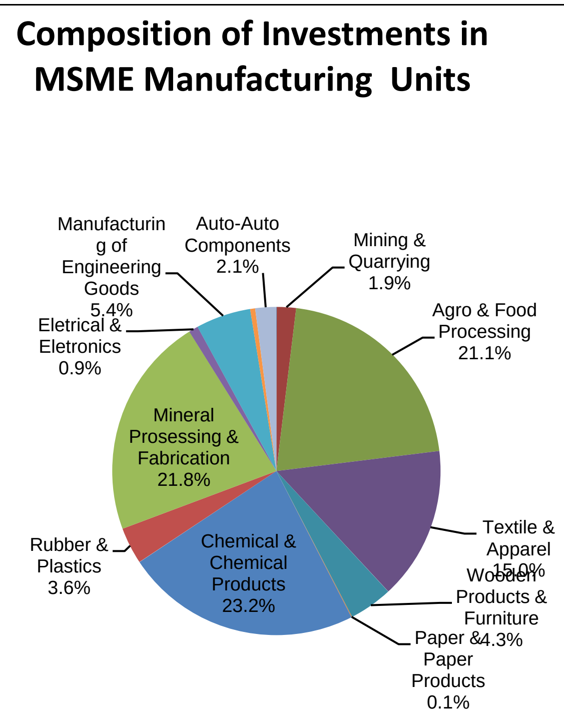
attracting an investment of INR 1, 22,234 lakhs[532] in 2012. Investment outlook in MSME segment of Bhavnagar district is presented in the table.

MSME Investment Scenario in Bhavnagar		
Category of Industries	**Number of Units**	**Investment In Lakhs**
Micro	2,151	36,927
Small	432	73,494
Medium	16	11,812
Total	**2,599**	**122,234**
Manufacturing Sector Units	1,803	101,705
Service Enterprises	796	20,529

MSME segment in Bhavnagar is dominated by manufacturing industries in terms of both volume and investments. Among the manufacturing based MSME units, mineral processing, chemical and chemical products, agro and food processing, textile and apparel and wooden products and furniture are prominent categories in terms of number of units. Meanwhile, chemicals and chemical products, agro processing and mineral processing and fabrication are the key products in terms of investments.

MSME Manufacturing Sector Scenario in the District[533]

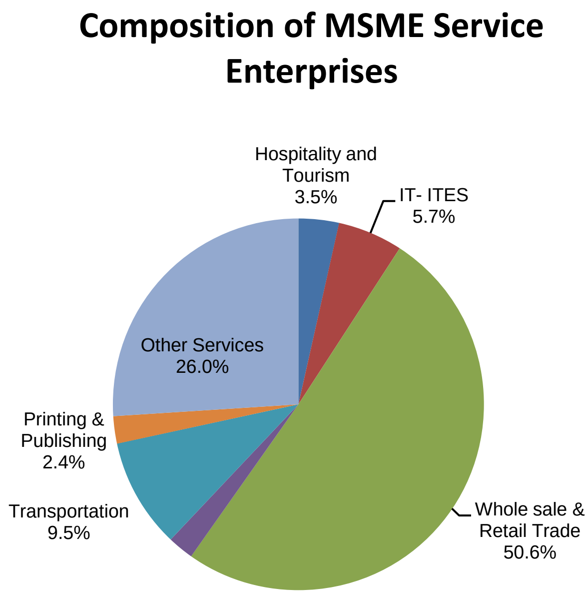


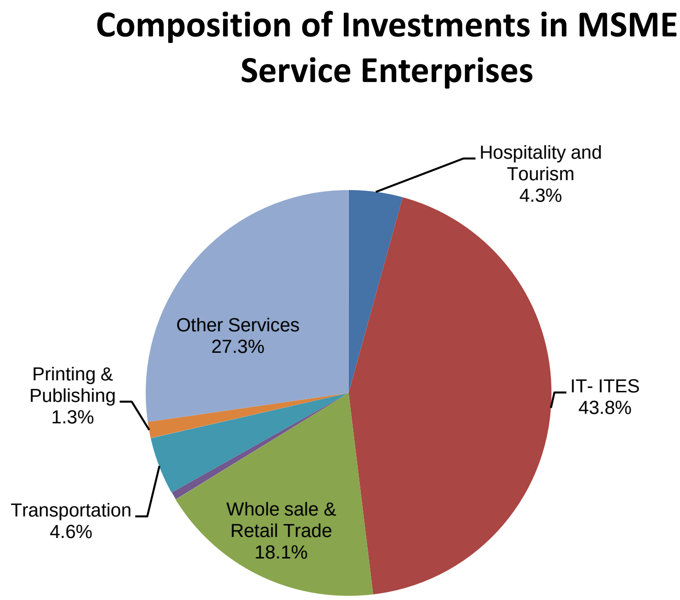


[532] *IEM, MSME Part-II Data till 2012-13*
[533] *IEM, MSME Part-II Data till 2012-13*

Composition and employment in MSME service enterprises is given in the charts. It can be observed that wholesale and retail constitutes the bulk (50.6%) of MSME service enterprises. In terms of investment volume, the IT and ITES, wholesale and retail sectors are attracting the maximum interest.

MSME Services Sector Scenario in the District[534]





Amongst the service sector in Bhavnagar, the tourism sector promises the strongest growth. The famous tourist destinations in Bhavnagar include Gandhi Smriti, Takhteshwar Temple, Gaurishanker Lake and Sardar Vallabhai Patel Garden. Apart from the above, there are other destinations which attract tourists include Velavadar National Park – a sanctuary for blackbuck, wolf, pelicans, flamingoes and sarus cranes, Talaja town located on Sterunji river and Shihor Darbargadh palace. Bhavnagar city provides royal accommodation facilities for tourists. The district has many hotels such as Nilambagh Palace Hotel, Hotel Bluehill, Hotel Sunshine, and Hotel Apollo.

While the education and transport infrastructure is strong in Bhavnagar, medical and banking infrastructure needs to be strengthened in order to support services sector.

Bhavnagar has the National Highway 8E passing through the district and connects it with Junagadh and Amreli. Bhavnagar is connected with the major cities of Gujarat like Ahmadabad, Vadodara & Surat and major cities of India like Delhi, Mumbai and Ahmedabad. Bhavnagar was one of the first cities in Gujarat to have an airport with air services between Bhavnagar and Mumbai.

[534] *IEM, MSME Part-II Data till 2012-13*

The medical penetration however, remains low in the district, with about 35,975 people per institution[535]. The district has 47 primary healthcare centers, 15 community healthcare centers and 11 dispensaries. Though Bhavnagar has Sir Takhtsinhji Hospital – a multi-specialty hospital, Tuberculosis and Research Centre, more hospitals needs to be established in the district.

Bhavnagar has an average penetration of banking and financial services with a density of 14,177 people per bank as of March 2012[536].The total number of bank offices in Bhavnagar stands at 203 with the deposits amounting 9,698 Cr INR and bank credit amounting to 3,880 Cr INR as of March 2012[537].

Agriculture and allied sector contributes significantly to the economy of the Bhavnagar district. In 2006-07, Bhavnagar had the highest production of onion and guava in the State, accounting for 4, 99,112 and 52,061 Metric Tonnes (MT) respectively. The district was the third highest producer of chiku with a production of 31,886 MT (2006-07). Total production of cotton for the year 2006-07, in Bhavnagar was 12, 73,500 bales, the second highest in the State after Rajkot[538].

Though the district has medium to low rainfall conditions, favorable soil characteristics allows majority of district geographical land to be cultivable (72 percent of total geographical area[539]). Being a low rainfall witnessing region, the district has a limited spread of irrigation facilities with only 34 percent of net cultivable area under irrigation. Mahuva Taluka has a 12 percent of net cultivable area under irrigation.

Cotton, Groundnut, Bajara, Tal and Sorghum are the major Kharif Crops while Wheat, Cumin and Onion are the important Rabi crops grown in the district. The ratio of land under Rabi crops to Kharif crops is around 0.11 indicating low multiple cropping in the district.

The population of cows and buffalos is high in the district, with 3, 40,063 cows[540] and 3, 34,140 buffalos[541]. Other prominent domestic animals under animal husbandry activities are goats and sheep. There is a small coverage of pasture land in the district but a lot of waste land is available which can be utilized for husbandry activities.

6.10.10.2. Workforce Distribution in the district

Bhavnagar is among the districts with significant industrial growth reducing dependency on agriculture in workforce distribution. Large gaps in labour force and worker participation rates suggest high level of unemployment in the district. Limited employment opportunities for women in an increasingly urbanizing district explain the reason for the

535 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

536 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

537 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

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540 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

541 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

high unemployment rate. Efforts towards higher levels of gender inclusion in education and employment are expected to improve the situation over the next decade. Comparison of workforce distribution scenario in Bhavnagar and Gujarat is presented in the table[542].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Bhavnagar	65.07%	38.25%	55.97%	23.85%	20.18%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

Registered factories and service enterprises have contributed to over fifty thousand employment opportunities in the district. Unorganized sector still dominates the overall employment market in the sector. Employment opportunities are uniformly distributed across the industry categories with micro scale units accounting for a marginally higher share. Food processing, Furniture and Chemical units have accounted for majority share of the employment in micro category.

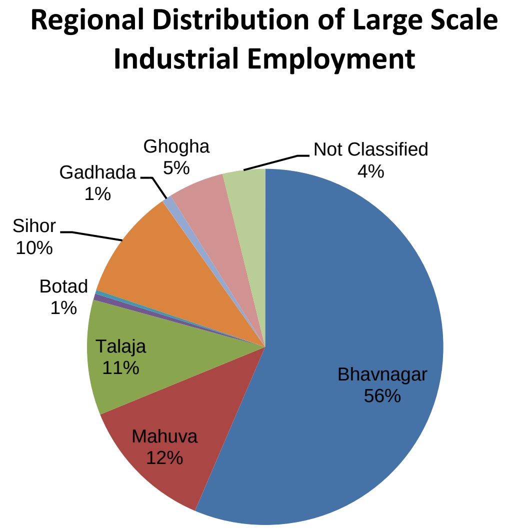
Organized Employment in Bhavnagar[543]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	24637
MSME Category	36306
Manufacturing Units	31425
Service Enterprises	4881
Total	**60,943**

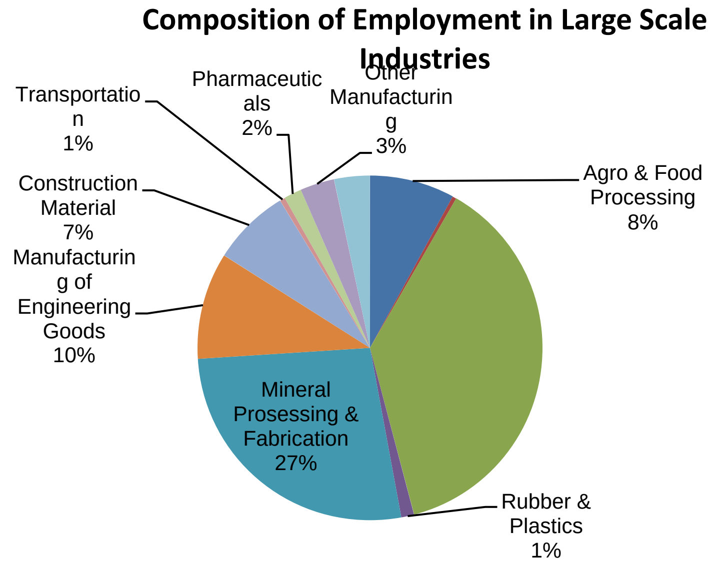
In case of large scale employment opportunities, Bhavnagar attracts the maximum employment. Wholesale and retail provides the maximum employment opportunities in the large scale industries.

542 *KPMG Analysis*

543 *IEM, MSME Part-II Data till 2012-13*

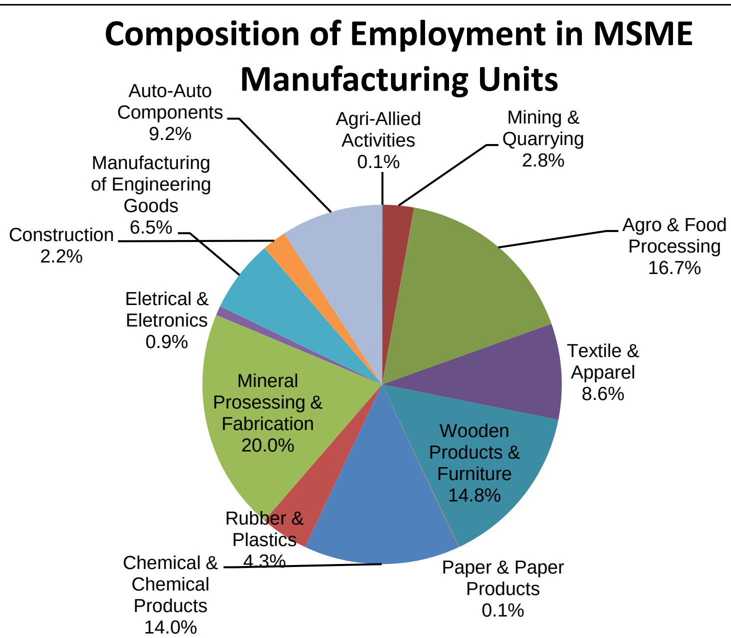
Large Scale Industrial Employment Overview in the District[544]

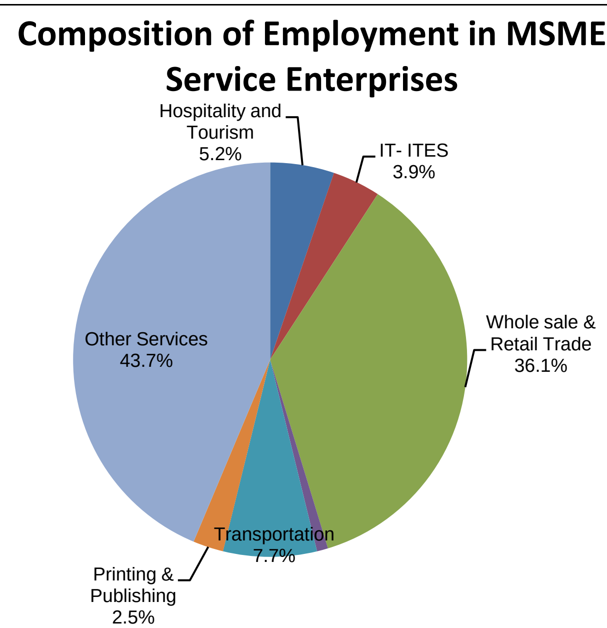




Agro and food processing industries constitutes the maximum employment opportunities in the MSME manufacturing units. Mineral processing and fabrication, chemicals and chemical products, wooden products and furniture also attract a significant number of workers. Wholesale and retail attracts the maximum number of employees in the MSME services enterprises.

MSME Employment Overview in the District[545]





[544] *IEM, MSME Part-II Data till 2012-13*
[545] *IEM, MSME Part-II Data till 2012-13*

N·S·D·C National Skill Development Corporation

6.10.10.3. Human Resource Requirement Projections in Bhavnagar (2012-22)

Incremental manpower requirement in the district of Bhavnagar has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Bhavnagar. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agricultural allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22 (Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation& logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability of resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- IT-ITES
- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Bhavnagar district are presented in the table[546].

[546] *KPMG Analysis*

Sector	2012-17				2017-22			
	Skilled	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Agriculture & Allied Activities	NA	NA	20894	20894	NA	NA	17498	17498
Agro & Food Processing	156	625	782	1563	140	559	699	1398
Textile & Apparel	61	243	304	607	54	217	271	543
Wooden Products & Furniture	101	403	504	1008	90	361	451	901
Chemical & Chemical Products	296	1184	1480	2960	265	1059	1324	2648
Rubber & Plastics	36	143	179	357	32	128	160	319
Mineral Processing & Fabrication	299	1194	1493	2985	267	1068	1335	2670
Electrical & Electronics	6	24	29	59	5	21	26	53
Manufacturing of Engineering Goods	160	640	800	1601	143	573	716	1432
Manufacturing of Construction Material	39	156	195	389	35	139	174	348
Drugs and Pharmaceuticals	9	36	44	89	8	32	40	79
Misc. Manufacturing	17	69	86	172	15	61	77	153
Construction	638	1277	10851	12766	571	1142	9705	11418
Trade, Retail	1031	1546	7732	10310	1127	1691	8453	11270
Transportation & Logistics	714	11344	13497	25556	585	9282	11043	20909
IT-ITES	6600	16500	NA	23100	5500	13200		18700
Hospitality & Tourism	908	1362	6810	9080	726	1090	5448	7264
Banking & Financial Services	2077	6230	NA	8307	1454	4361	NA	5815
Healthcare	360	1622	NA	1983	480	2401	NA	2882
Education & Training	1306	8789	NA	10095	1958	5274	NA	7232

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[547].

[547] *KPMG Analysis*

Secondary Sector (Manufacturing, Construction & Energy):

- **Chemical & Chemical Products:**

Category of Skills	Skills
Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Ship Building:**

Subsector	Skills
Core Skills	Hull Construction(Heavy metal fabrication with latest technology), QC, Painting, Piping, Electricals/ Electronics, A/C and Refrigerator(pertaining to marine industry), Riggers
Allied Skills	Basic computer knowledge, Accounting, Store Management
Skills with acute shortage	Fire fighting, Safety systems knowledge

- **Metal & Mineral Processing:**

Category of Skills	Skills
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Education:**

Category of Skills	Skills
Core Skills	School teachers, higher education faculty
Allied Skills	Knowledge on advanced teaching tools
Skills with acute shortage	Technical education trainers

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques

Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.10.4. Human Resource Supply Scenario in the District

6.10.10.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Bhavnagar is among the districts with high human resource growth potential in Gujarat. Increasing industrial activity in the district would drive a higher population growth in the district over the next decade. Details of human resource growth estimations during 2012-22 are presented in the table[548].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	317,500	172,242	90,720
2017-22	286,459	156,483	70,438

6.10.10.4.2. Education and Training Potential in the District

The district has 1588 K12 schools with 81.07 percent of schools being government schools. While the district has a 100 percent net enrolment ratio at primary level, the net enrolment ratio at upper primary level is significantly higher than the state average[549].

Total Enrollments in 209-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Bhavnagar	323,269	112,873	123,506	27,635

Comparing the district's enrolment statistics with the state average, it is found that the district is a strong performer in the primary education category[550].

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)

548 *KPMG Analysis*
549 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
550 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Bhavnagar	100.0	60.8
Gujarat	85.4	50.7

In the vocation education segment, the district lags behind in the provision of vocational training in comparison to state average. Private interest in the sector in this district is also lower indicating that the state must take proactive measures in seeking private support to augment vocational training infrastructure[551].

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Bhavnagar	28	4,346	1.51	17%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Bhavnagar district needs to be focused on the tehsils of Umrala, Vallabhipur, Sihor, Mahuva, Botad, Gariadhar, Gadhada and Palitana to bring them on par with the district average in vocational education capacity[552].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Bhavnagar	2338	3.03	19%
Ghogha	152	1.52	0%
Umrala	156	1.50	13%
Vallabhipur	128	1.47	0%
Sihor	264	1.18	52%
Mahuva	468	1.07	0%
Botad	244	0.92	31%
Gariadhar	120	0.89	0%
Gadhada	168	0.82	24%
Palitana	164	0.71	12%
Talaja	144	0.46	0%
District Total	4346	1.51	17%

In the higher education segment, Bhavnagar has a university of its own offering courses in professional disciplines such as management, computer applications, etc apart from the conventional courses. Bhavnagar hosts a number of Engineering, Medical, Nursing, Ayurvedic, and physiotherapy Colleges. Engineering colleges offering courses in chemical, civil, electrical, electronics and communication, information technology, production and mechanical engineering are present in the district. The Government Medical College and Swami Vivekananda Homeopathic Medical College affiliated with Bhavnagar University in Bhavnagar city offer MBBS and BHMS degrees respectively.

6.10.10.4.3. Demand-Supply Gap Analysis for the District

551 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
552 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below.

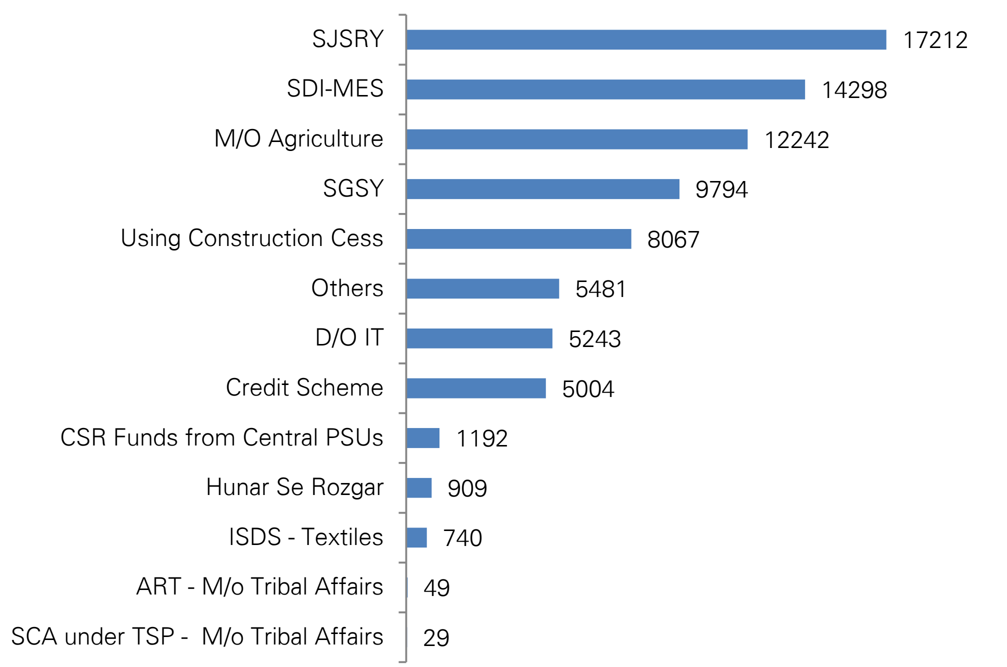
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	(332)	41,645	1,848	43,161	(3,765)	27,723	19,139	43,094

*(Indicates excess supply)

6.10.10.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 80 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Bhavnagar District[553]



[553] *KPMG Analysis*

6.10.10.5. District Specific Recommendations

Considering human resource potential and manpower requirements of the industry, the proposed action plan for stakeholders in skill development has been recommended:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following regions having high organized employment potential • Bhavnagar, Mahuva, Talaja Focus on sectors with high employment potential in the district • **Services:** Transportation & Logistics, Construction, IT-ITES • **Manufacturing:** Chemical & Chemical Products, Mineral Processing, Engineering Goods (Ship Building)
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes in sectors of • Animal Husbandry • Horticulture Focus on improving industrial training infrastructure in the regions of • Umrala, Vallabhipur, Sihor, Mahuva, Botad, Gariadhar, Gadhada and Palitana
Private Skill Training Providers	Focus on placement driven training for youth from high human resource potential regions of Bhavnagar, Mahuva, Ghogha Focus on sectors with high employment potential in the district • **Services:** Transportation & Logistics, Construction, IT-ITES • **Manufacturing:** Chemical & Chemical Products, Mineral Processing, Engineering Goods(Ship Building)
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • Chemical & Chemical Products, • Engineering Goods(Ship Building) • Transportation & Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.11. Skill Gap Assessment of The Dangs District

6.10.11.1. Socioeconomic Profile

6.10.11.1.1. Administrative Profile

The Dangs district is located in the southern part of Gujarat sharing borders with Tapi, Surat, Navsari and Maharashtra state. The district is spread across an area of 1764 sq.km[554] with Ahwa as the district head quarters. Administratively district is under one taluka with 308 villages[555]. The Dangs is one of the less developed regions in Gujarat accounting for one of the six backward districts in Gujarat receiving developmental funds from Backward Regions Grant Fund Programme (BRGF).

6.10.11.1.2. Demographic Profile

The Dangs district is a low human resource potential region in Gujarat state. District has a total population of 2.27 lakhs[556] as per 2011 Census accounting for only 0.4 percent[557] of the overall state population. However, the district has been witnessing significant population growth over the years. The Dangs population has witnessed a decadal growth rate of 21.44 percent[558] between 2001 and 2011 in comparison to state average of 19.17 percent[559] during the same period. Significant portion of district population lives in rural areas with these regions accounting for nearly 89.11 percent[560] of the total population. Population spread in the district is significantly low with a density of 129 persons per sq.km[561] in comparison to the state average of 308 persons per sq.km[562].

554 *Census 2011 Statistics*
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561 *Census 2011 Statistics*
562 *Census 2011 Statistics*

The district is among the regions with higher proportion of females than males. As per 2001 census district has a gender ratio of 964 females per 100 males[563] as against the state average ratio of 940 females per 1000 males[564]. However, decreasing proportion of female population is a concern for the district. Adult gender ratio has decreased from 1007 females per 1000 males[565] in 2001 to 964 females per 1000 males[566] in 2011. The district has a higher composition of scheduled categories population. As per census 2001 estimates, scheduled tribes account for 93.76 percent[567] of overall district population.

Education attainment levels in the district are marginally lower than the state average. As per 2011 estimates, the district has registered an overall literacy rate of 76.8 percent[568] as against state average of 79.31 percent[569]. The district has a long way to progress towards regional and gender inclusion in the reach of mass education programs. The district has a male-female literacy gap of 16.23 percent[570] as against 16.5 percent[571] for Gujarat state. Lower level of gender inclusion stresses the need for gender specific approach towards implementation of various mass education initiatives. Similarly, urban-rural literacy gap in The Dangs is estimated to be 14.31 percent[572] as against the 14.58 percent[573] for overall state. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth of the region.

6.10.11.1.3. Economic Profile

Dangs is a tribal district located in Southern Gujarat. The district shares its border with the State of Maharashtra and is covered with high hills and dense forests. The district is gradually emerging into an agro – processing and tourism hub.

Majority of the district's population is dependent on Agriculture for its livelihood. Animal husbandry and bamboo cutting are the other economic activities in the region.

There are a few (~100) small scale industries in Dangs. These include Farm based industries, Bamboo Furniture, Plantation and nursery development and Food based industries.

The district is emerging as a tourism hub in Gujarat. The presence of waterfalls, forests, landscapes and a tribal culture have attracted tourists from all over the world. The district has many tourist destinations like Saputara – a hill resort, Saputara Museum, Hatgarh Fort, Gira Falls and Girmal Falls. Apart from these, the district also has Purna Wildlife Sanctuary and Vansda National Park. There exists multiple opportunities for investment in sub-sectors within tourism such as eco-tourism, hotels, campsites and rural tourism.

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[563] *Census 2011 Statistics*
[564] *Census 2011 Statistics*
[565] *Census 2011 Statistics*
[566] *Census 2011 Statistics*
[567] *Census 2001Statistics, KPMG Analysis*
[568] *Census 2011 Statistics*
[569] *Census 2011 Statistics*
[570] *Census 2011 Statistics*
[571] *Census 2011 Statistics*
[572] *Census 2011 Statistics*
[573] *Census 2011 Statistics*

The district is well connected with Maharashtra by road. The nearest airport is Surat which is at a distance of 139 kms. The rail network is limited and the railway line connects Waghai and Navsari district.

Medical penetration is one of the highest in the state with 20,615 people per medical institution. The district has 9 primary healthcare centers, 1 community healthcare centre and 1 hospital. There is also the presence of Central Government Hospital, one Government Ayurvedic Hospital and nine Ayurvedic dispensaries[574]

However, Dangs has the lowest number of bank offices amongst all districts at 10. It also has the lowest deposits and highest credits amongst all districts at 282 Cr INR and 66 Cr INR as of Mar 2012[575]. Dangs has a low penetration of banking and financial services with a high density of 22,677 people per bank as of March 2012. While the number of banks has increased at a CAGR of 4.6 percent from 2007 to 2012, the amount of deposit and credit have increased at a CAGR of 19.7 percent and 13.6 percent respectively[576] from 2007-2012.

The district observes high rainfall conditions. The moderate soil characteristics and excessive rainfall in the district has resulted in a very small section of its geographical land under cultivation (33 percent of total area[577]). Being a heavy rainfall region, most of the land of the district is rain fed requiring very few irrigation facilities leading to as low as 18 percent of net cultivable area under irrigation. Agricultural irrigation in Dangs is predominantly dependent on ponds and tanks which in turn are dependent on rainfall.

Rice, ragi, kharsani, tuver, groundnut, mangoes, custard apple, and others are the major food crops produced in the district. Since 66% of the agricultural land in Dangs is situated on slopes, with uneven terrain, local traditional crops like ragi are best adapted for cultivation in Dangs as it can grow in rain-fed areas on sloppy land. The agricultural production pattern is slowly changing from traditional coarse grains like ragi, kharsani, and tuver to rice.

Animal husbandry and bamboo cutting are the other agri allied economic activities in the region.

Cows and buffalos are the main cattle varieties in Dangs with populations of 39,569 cows[578] and 21,907 buffalos[579] which is low as compared to other districts. The availability of large forest land (59 percent of total geographical area) indicates a lot of potential for forestry. The forest area has potential for contour farming and also fodder production which can support the agricultural activities of the district.

6.10.11.2. Workforce Distribution in the district

The district has a very low level of secondary and tertiary sectoral penetration resulting in high dependency on agriculture. About87.94 percent of the total workforce are engaged in primary sector. While the total worker

[574] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[575] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[576] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[577] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[578] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[579] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

participation rate is higher than the state average, high manpower requirements in agrarian activities due to low output efficiency would indicate significant under employment in this category. District can only explore opportunities for sourcing trained manpower considering the low levels of organized employment opportunities. Comparison of workforce distribution scenario in The Dangs and Gujarat is presented in the table[580].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
The Dangs	72.56%	49.8%	87.94%	2.49%	9.57%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

6.10.11.3. Human Resource Requirement Projections in The Dangs (2012-22)

Incremental manpower requirement in the district of Dangs has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in The Dangs. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. A detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the

[580] *KPMG Analysis*

incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation & logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability, resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities (Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Agro & Food Processing
- Construction Material(Cement, Ceramics)

Tertiary Sector

- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in The Dangs district are presented in the table[581].

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	2487	2487	NA	NA	2083	2083
Agro & Food Processing	80	320	400	800	75	300	375	750
Wooden Products & Furniture	100	200	1700	2000	150	250	1800	2200
Construction	50	101	855	1006	45	90	765	900
Trade, Retail	81	122	609	812	89	133	666	888
Transportation & Logistics	18	284	338	640	15	233	277	524
Hospitality & Tourism	165	248	1238	1650	132	198	990	1320
Banking & Financial Services	1298	3895	NA	5193	909	2726	NA	3635
Healthcare	186	837	NA	1024	248	1240	NA	1488
Education & Training	258	1739	NA	1997	387	1043	NA	1431

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[582].

Secondary Sector (Manufacturing, Construction & Energy):

- **Food Processing:**

Category of Skills	Skills
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists
Skills with acute shortage	PPO is required in industries having in house packing development.

Services:

[581] *KPMG Analysis*
[582] *KPMG Analysis*

- **Banking & Financial Services:**

Category of Skills	Skills
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Education:**

Category of Skills	Skills
Core Skills	School teachers, higher education faculty
Allied Skills	Knowledge on advanced teaching tools
Skills with acute shortage	Technical education trainers

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce

Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.11.4. Human Resource Supply Scenario in the District

6.10.11.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

The Dangs is among the districts with low human resource growth potential in Gujarat. Further, limited industrial opportunities within the district to absorb increasing labour force would be a key issue. Adequate skilling of youth for employment opportunities elsewhere in Gujarat could be potential solution to sustain higher work participation in the district. Details of human resource growth estimations during 2012-22 are presented in the table[583].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	163,983	110,855	8,931
2017-22	184,351	123,919	6,934

6.10.11.4.2. Education and Training Potential in the District

[583] *KPMG Analysis*

District has around 413 K12 schools with a 96.85 percent share of Government schools. It has the lowest number of K12 schools and private K12 schools amongst all districts in the state. While the Dangs has 100.0 percent enrolment ratio at the primary level, it has a low net enrolment ratio at upper primary level. However, both the ratios at primary and upper primary level are higher than the state[584].

Total Enrollments in 209-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
The Dangs	45532	9431	6701	2528

Comparing the district's enrolment statistics with state average indicates that the district is a strong performer in the primary education category[585]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
The Dangs	100.0	63.9
Gujarat	85.4	50.7

In the vocation education segment, the district is ahead in the provision of vocational training in comparison to state average. Private interest in the sector in this district is nil indicating that the state must take proactive measures in seeking private support to augment vocational training infrastructure.

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
The Dangs	1	600	2.65	0%
Gujarat	711	138,106	2.29	26%

In the higher education segment, A Government Arts & Commerce College is located at the district headquarter Ahwa.

6.10.11.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Demand-Supply								

584 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
585 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

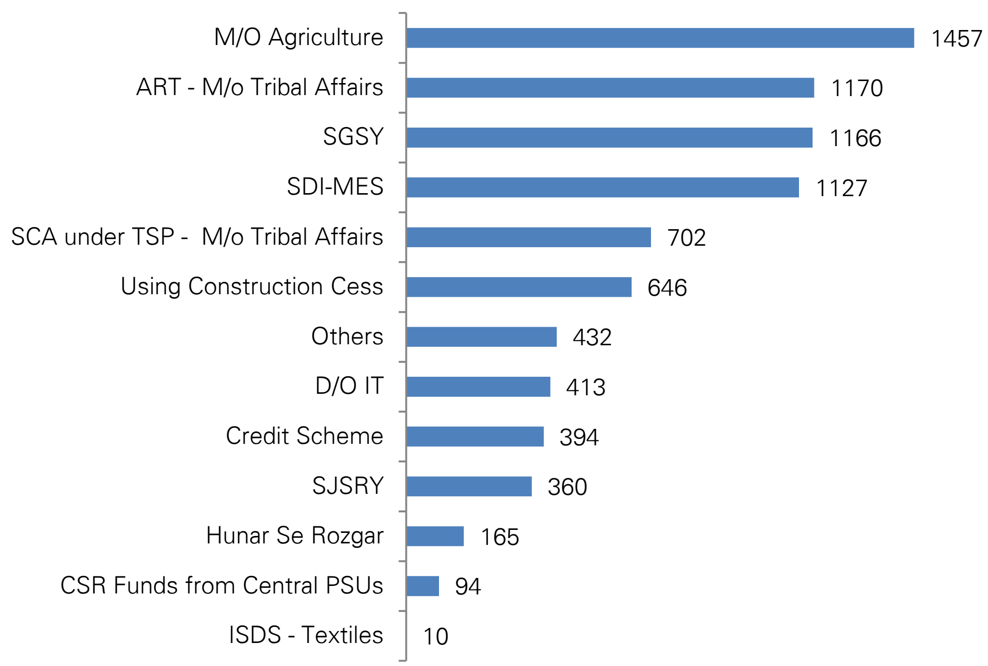
Gap	1,910	7,493	(724)	8,678	1,748	5,951	585	8,285

*(Indicates excess supply)

6.10.11.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 8 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - The Dangs District[586]



6.10.11.5. District Specific Recommendations

Considering human resource potential and manpower requirements of the industry, the proposed action plan for stakeholders in skill development has been recommended:

Stakeholder	Action Points for Stakeholders

[586] *KPMG Analysis*

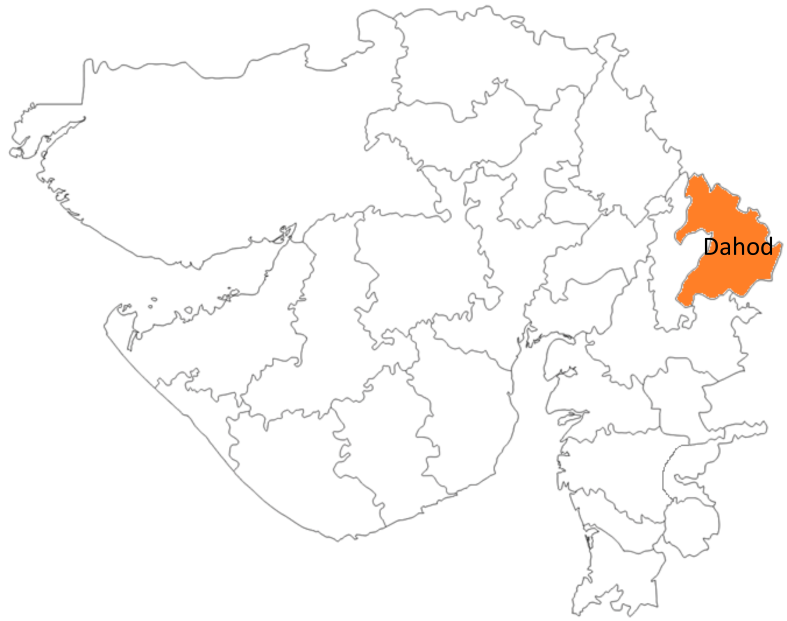
NSDC	Focus on facilitating national/regional private sector training providers, to participate in sectors with high employment potential in Gujarat • **Services:** Transportation & Logistics, Organized Retail, IT-ITES, Banking & Financial Services, Hospitality & Tourism, Construction • **Manufacturing:** Textile, Auto- Auto Components, Engineering Goods, Chemical & Chemical Products
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes in sectors of • Animal Husbandry • Horticulture • Furniture & Fittings Improve industrial training capacity in the district to bring it on par with overall state
Private Skill Training Providers	Focus on sectors with high employment potential in Gujarat • **Services:** Transportation & Logistics, Organized Retail, IT-ITES, Banking & Financial Services, Hospitality & Tourism, Construction • **Manufacturing:** Textile, Auto- Auto Components, Engineering Goods, Chemical & Chemical Products
Corporate	Provide support for training/placement for youth from the district for placements in industrial belts Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.12. Skill Gap Assessment of Dahod District

6.10.12.1. Socioeconomic Profile

6.10.12.1.1. Administrative Profile

Dahod district is located in the northern part of Gujarat spread across an area of 3943 sq.kms[587]. District shares border with Panchmahals, Vadodara and the states of Madhya Pradesh and Rajasthan. Administratively, the district is divided into 7 talukas and 692 villages[588]. It has three towns with Dahod town as the administrative headquarters. Dahod, Jhalod, Limkheda, Devgadbaria, Fatepura are taluka regions in Dahod district.



6.10.12.1.2. Demographic Profile

Dahod district is a moderate human resource potential region in Gujarat state. It has a total population of 21.26 lakhs[589] as per 2011 Census accounting for 3.5 percent[590] of the overall state population. The district has been witnessing significant population growth over the years, witnessing a decadal growth rate of 29.95 percent[591] between 2001 and 2011 in comparison to state average of 19.17 percent[592] during the same period. Significant portion of district population lives in rural areas with these regions accounting for 91.01 percent[593] of the total population. Population spread in the district is significantly high with a density of 582 persons per sq.km[594] in comparison to the state average of 308 persons per sq.km[595]. High population density is a key advantage with opportunities to develop skilled human resource capital. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Dahod, Jhalod, Limkheda while Dahod and Fatepura have higher population concentration. Details of regional distribution of population in the district are presented in the table[596].

[587] *Census 2011 Statistics*
[588] *Census 2011 Statistics*
[589] *Census 2011 Statistics*
[590] *Census 2011 Statistics*
[591] *Census 2011 Statistics*
[592] *Census 2011 Statistics*
[593] *Census 2011 Statistics*
[594] *Census 2011 Statistics*
[595] *Census 2011 Statistics*
[596] *Census 2001Statistics, KPMG Analysis*

Regional Distribution of Population in the District[597]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Dahod	23%	587
Jhalod	22%	457
Limkheda	15%	401
Devgadbaria	13%	356
Fatepura	11%	573
Garbada	9%	545
Dhanpur	8%	283

Dahod is among the regions with higher proportion of females than males. As per 2011 census, the district has a gender ratio of 986 females per 1000 males[598] as against the state average ratio of 940 females per 1000 males[599]. It has a higher composition of scheduled categories population. As per census 2001 estimates, scheduled tribes account for 72.26 percent[600] of overall district population with a higher concentration in Dahod, Garbada, Dhanpur, Devgadh Baria, Limkheda, Zalod and Fatepur regions.

Education attainment levels in the district are significantly lower than the state average. As per 2011 estimates, it has registered an overall literacy rate of 60.60 percent[601] as against state average of 79.31 percent[602]. The district has a long way to progress towards regional and gender inclusion in the reach of mass education programs. Urban-rural literacy gap in Dahod is estimated to be 25.27 percent[603] as against the 14.58 percent[604] for overall state. Similarly, District has a male-female literacy gap of 23.12 percent[605] as against 16.5 percent[606] for Gujarat state. Lower level of gender and regional inclusion stresses the need for gender specific approach towards implementation of various mass education initiatives. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth of the region.

6.10.12.1.3. Economic Profile

Dahod is predominantly an agricultural region and the prime share of revenue in the district comes from agriculture-based products. Agriculture has given a great impetus to home-based industries such as making jute ropes and weaving bamboos. The district also produces quartz which supports ceramic, glass and cement industry. The economy of Dahod also thrives on the grain & pulse mills, food processing machinery, and cement & gypsum industries.

[597] *Census 2001Statistics, KPMG Analysis*
[598] *Census 2011 Statistics*
[599] *Census 2011 Statistics*
[600] *Census 2001Statistics, KPMG Analysis*
[601] *Census 2011 Statistics*
[602] *Census 2011 Statistics*
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[606] *Census 2011 Statistics*

Analysis of regional distribution of investments in Dahod district indicates that the industrial development is limited across talukas. In terms of future investments, there are none under implementation so far. Details of region wise large scale investments in Dahod district till 2012 is presented in the table.

Large Scale Investment Scenario In Dahod[607]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Dahod	2	2	--	--
Ghoghamba	1	23	--	--
District Total	3	25	--	--

As per the MSME investment Part–II statistics, overall there are 277 units operating in the district attracting an investment of INR 8,801 lakhs in 2012.

As the district headquarters, Dahod taluka has the maximum number of industrial locations and a major section of the working population are employed in small scale industries. Investment outlook in MSME segment of Dahod district is presented in the table.

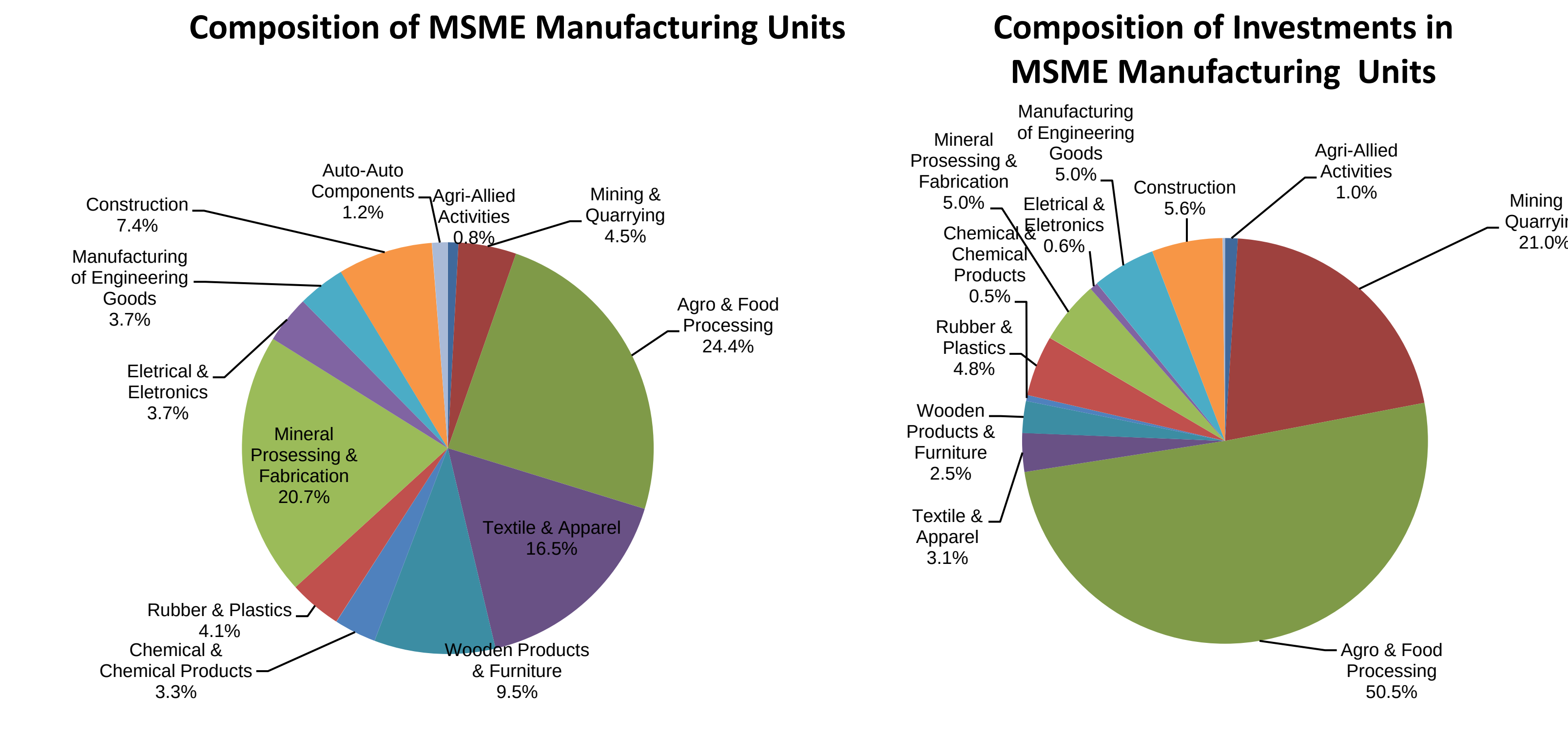
MSME Investment Scenario in Dahod[608]		
Category of Industries	**Number of Units**	**Investment In Rs. Lakhs**
Micro	241	2758
Small	33	4278
Medium	3	1766
Total	**277**	8801
Manufacturing Sector Units	242	8542
Service Enterprises	35	259

Among the manufacturing based MSME units, Agro and Food Processing contribute to highest in terms of units and investment volume. Textile and Apparel, Mineral Processing and Fabrication are the prominent categories in terms of number of manufacturing units. However, in terms of investments, mining and quarrying remains the second highest category.

Composition of MSME manufacturing units and investments are presented in the chart. Agro based industries and food processing industries constitute 34% of the MSME manufacturing units Mineral processing and fabrication comprises 20% of the units. In terms of investment, agro and food processing industries attracts the maximum investment. Mining and quarrying also is attracting a significant amount of investment

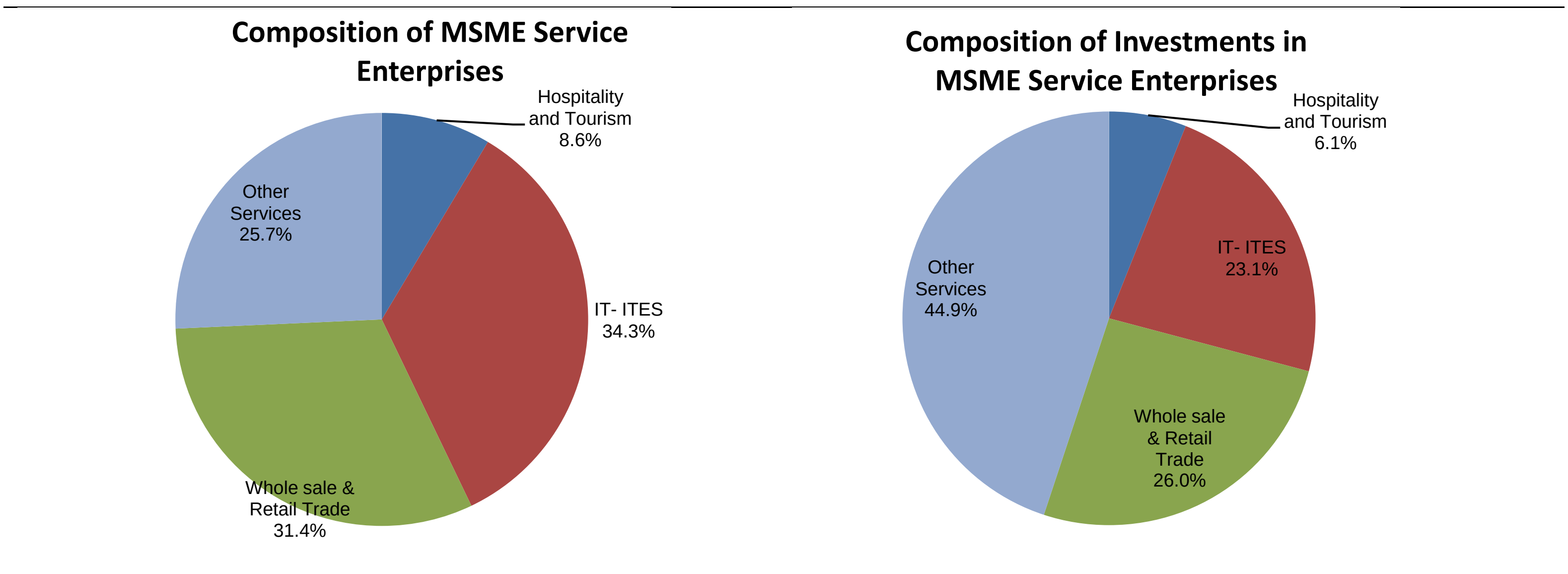
[607] *IEM, MSME Part-II Data till 2012-13*
[608] *IEM, MSME Part-II Data till 2012-13*

Composition of MSME manufacturing units and investments[609]



Composition of MSME service enterprises and investments are presented in the chart. Whole sale and retail , IT/ITES constitutes the maximum number of MSME service enterprises. In terms of investment in the MSME service enterprises wholesale and retail trade, IT/ITES is attracting the maximum investments.

Composition of MSME service enterprises[610]



[609] *IEM, MSME Part-II Data till 2012-13*
[610] *IEM, MSME Part-II Data till 2012-13*

Tourism is an upcoming service sector in the district. Tribal culture and the fascinating folklores of the district are a great attraction for the tourists. Dohad also boasts of tourist attractions like Aurangzeb Nokillo (Fort) and Ratanmahal Sanctuary, a sanctuary for jungle cats, foxes, porcupines, birds and reptiles. The district also has other places of tourist interest like Shiva Temple and Chhab Talav (Lake). Apart from the above, local initiatives like weekly fairs which held every Wednesday attract people from many areas who are interested in buying and selling items like handicrafts, plastic wares, household goods, herbs, fruits, and tribal jewellery.

However, the growth of other services sector remains low/moderate in the district. The medical institutions have medium penetration – 27,981 people per medical institute in the district. Overall, the district has 61 primary healthcare centers and 12 community healthcare centers. Apart from the above, Dohad also has five trust hospitals, a few specialized hospitals and the Banker's Heart Institute[611]

Dahod district has 75 bank offices, a total deposit amount of 1,941 Cr INR and a total credit amount of 661 Cr INR as of May 2012[612]. Dohad has the lowest penetration of banking and financial services amongst all districts with a low density of 28,354 people per bank as of March 2012. The CAGR of bank offices in Dohad district at 2.9 percent is the lowest amongst all districts. However, the deposits and credits have increased at a moderate CAGR of 19.8 percent and 18.8 percent respectively from 2007-12. Low growth of number of banks, credit and deposit has resulted in slow growth in overall financial intermediation industry in the district.

The transport and logistics sector are developed to a moderate extent. The road infrastructure of Dohad comprises of National Highway (NH8) 59 which connect Dohad with Ahmadabad, Godhra and Indore. There is also the National Highway extension 8E which connects Dahod, Zalod and Rajasthan border. The State Highways - SH2 and SH12 connects the district with Ahmadabad and Madhya Pradesh respectively. The rail infrastructure comprises of the broad gauge railway line which connects Dahod with Vadodara, Ahmadabad and Ratlam in Madhya Pradesh. There are also three railway lines in the district. The nearest port to Dohad district is Hazira port.

Dahod is predominantly an agricultural region and the prime share of revenue in the district comes from agriculture-based products. Wheat and maize are the major crops of the district. Further, agriculture has given a great impetus to home-based industries such as making jute ropes and weaving bamboo. This is supported by the fact that the district observes moderate to high rainfall. Further, being a moderate rainfall witnessing region, the district has a limited spread of irrigation facilities with only 33 percent of net cultivable area under irrigation. Dahod and Dav Baria taluka have less than 20 percent of cultivable land under irrigation, indicating significant opportunities for improvement in this region.

Maize, Paddy, Pulse (Tur and Adad) and Soyabean are the five main Kharif Crops while Wheat, Gram and Maize are five key Rabi crops grown in the district. The ratio of area under Rabi to Kharif is around 0.08 which indicates lack of multiple cropping majorly due to poor irrigation and lack of rainfall. Main horticulture crops include Banana, Citrus, Mango, Papaya, Aonla and Chiku.

[611] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[612] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

Dahod has a high population of cattle, and consists of 586210 cowhand 283765 buffalos[613]. Other prominent domestic animal under animal husbandry activities is goat. Availability of pasture lands indicates significant potential to promote animal husbandry in the district.

6.10.12.2. Workforce Distribution in the district

Dahod is predominantly dependant on agricultural activities for livelihood generation with 82 percentage of total workforce engaged in this sector. Considering the low level penetration of manufacturing sector at 4.18 percent employment generation as against the state average of 15.86 percent, the district has the potential to become a sourcing hub for trained manpower. While the total worker participation rate is better than the state average, high manpower requirements in agrarian activities due to low output efficiency indicates significant level of under employment in this category. Comparison of workforce distribution scenario in Dahod and Gujarat is presented in the table[614].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Dahod	62.1%	49.78%	82.01%	4.18%	13.8%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

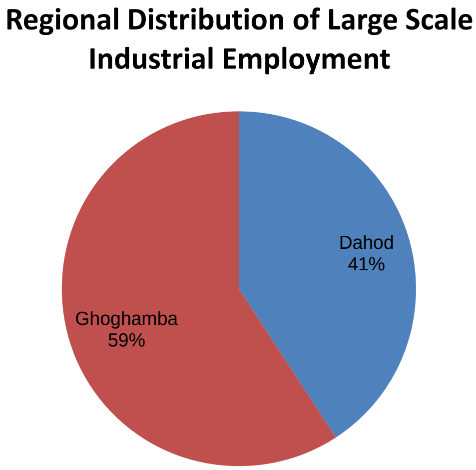
Registered factories and service enterprises have contributed to 2,700 employment opportunities indicating low level of secondary sector penetration. Unorganized manufacturing and services activities account for dominant share of employment in these sectors. Majority share of organized manufacturing employment is contributed by Micro scale industrial units.

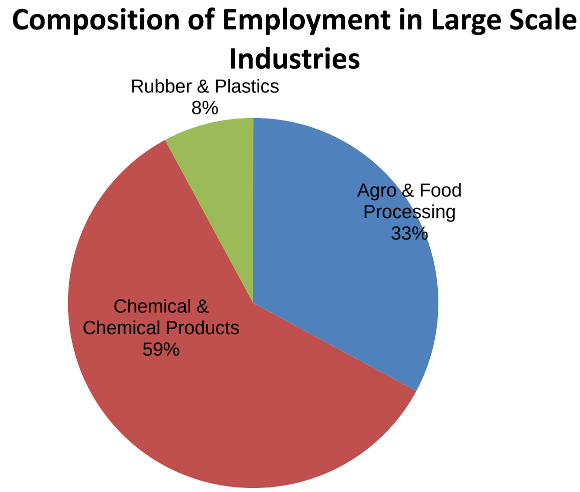
Organized Employment in Dahod[615]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	228
MSME Category	2617
Manufacturing Units	2477
Service Enterprises	140
Total	**2835**

Food processing units account for majority share of the employment in this category. Details of category wise industrial employment as per 2012 statistics are presented below. Ghoghamba attracts 59% of the employees in the large scale industries with Dahod constituting the remaining 41%. Chemicals and chemical products are the main employment provider within the large scale industry followed by the agro and food processing segment.

613 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
614 *KPMG Analysis*
615 *IEM, MSME Part-II Data till 2012-13*

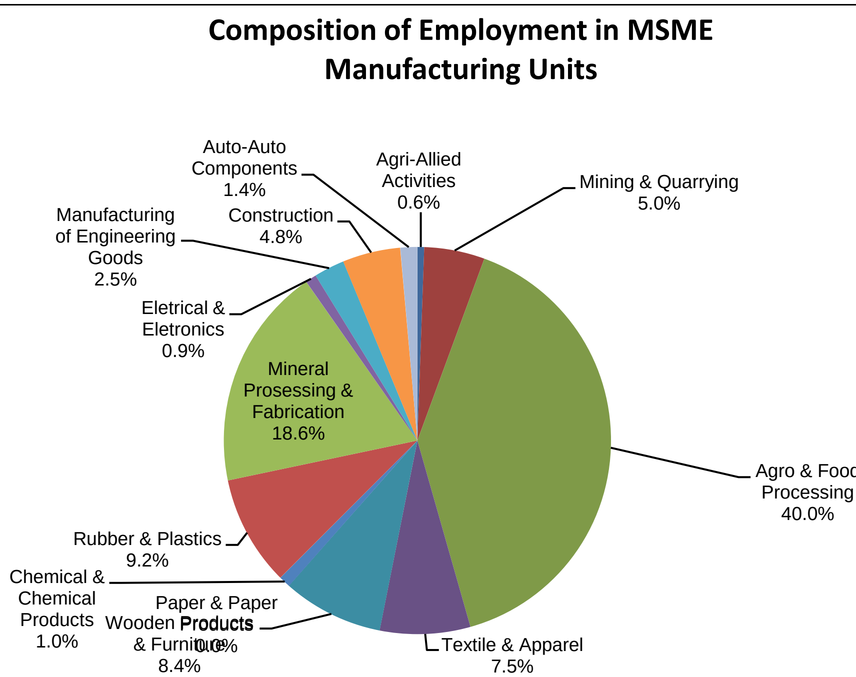
Distribution and Composition of Large Scale Industries[616]

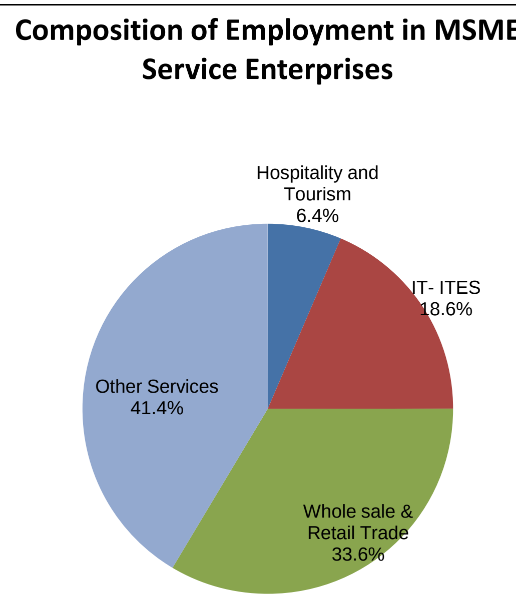




In the MSME manufacturing units, agro and food processing industries provide maximum employment opportunities. Mineral processing and fabrication is another major employment provider in the MSME manufacturing segment. Wholesale and retail, IT-ITES contribute the maximum employment opportunities in the MSME service enterprises.

Composition of MSME Units in the District[617]





[616] *IEM, MSME Part-II Data till 2012-13*
[617] *IEM, MSME Part-II Data till 2012-13*

6.10.12.3. Human Resource Requirement Projections in Dahod (2012-22)

Incremental manpower requirement in the district of Dahod has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Dahod. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors, incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, the period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation& logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Agro & Food Processing
- Mineral Processing & Fabrication
- Rubber & Plastics
- Textile & Apparel
- Infrastructure(Construction)

Tertiary Sector

- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Dahod district are presented in the table[618].

Sector	2012-17				2017-22			
	Skilled	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Agriculture & Allied Activities	NA	NA	23819	23819	NA	NA	19947	19947
Agro & Food Processing	22	87	109	218	19	78	97	195
Textile & Apparel	6	23	28	57	5	20	25	51

618 *KPMG Analysis*

Wooden Products & Furniture	5	18	23	45	4	16	20	40
Rubber & Plastics	8	31	39	79	7	28	35	70
Mineral Processing & Fabrication	13	52	65	131	12	47	58	117
Construction	472	943	8018	9433	422	844	7171	8437
Trade, Retail	762	1143	5714	7618	833	1249	6246	8328
Transportation & Logistics	142	2262	2691	5095	117	1850	2202	4169
Hospitality & Tourism	255	383	1913	2550	204	306	1530	2040
Banking & Financial Services	1038	3115	NA	4153	727	2181	NA	2907
Healthcare	399	1797	NA	2196	532	2660	NA	3192
Education & Training	1228	8266	NA	9494	1842	4960	NA	6802

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[619].

Secondary Sector (Manufacturing, Construction & Energy):

- **Food Processing:**

Category of Skills	Skills
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists
Skills with acute shortage	PPO is required in industries having in house packing development.

- **Metal & Mineral Processing:**

Category of Skills	Skills
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator

[619] *KPMG Analysis*

Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

- **Salt Production:**

Category of Skills	Skills
Core Skills	Earth moving equipment operators, tractor drivers
Allied Skills	Minimally skilled workers
Skills with acute shortage	Chemists

Services:

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Education:**

Category of Skills	Skills
Core Skills	School teachers, higher education faculty

Allied Skills	Knowledge on advanced teaching tools
Skills with acute shortage	Technical education trainers

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.12.4. Human Resource Supply Scenario in the District

6.10.12.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Dahod would experience a moderately higher human resource growth during 2012-22. However, limited industrial opportunities within the district to absorb increasing labour force would be a key issue. Adequate skilling of youth for employment opportunities elsewhere in Gujarat could be potential solution to sustain higher work participation in the district. Details of human resource growth estimations during 2012-22 are presented in the table[620].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	257,486	161,955	78,233
2017-22	283,596	174,005	60,743

6.10.12.4.2. Education and Training Potential in the District

The district has around 2215 K12 schools with a 96.57 percent share of Government schools. Out of all districts, it has the second highest share of government schools. The district has a perfect 100 percent score for net enrolment at primary level but the net enrolment ratio at upper primary level is 61.0 percent[621].

Total Enrollments in 209-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Dohad	280744	78269	72666	25635

Comparing the district's enrolment statistics with state average indicates that the district is a strong performer in the primary education category.[622]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Dohad	100.0	61.0
Gujarat	85.4	50.7

In the vocation education segment, the district is ahead in the provision of vocational training in comparison to state average. Private interest in the sector in this district is high indicating that the state must take proactive measures in further increasing private support to improve vocational training infrastructure[623].

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Dohad	38	5,770	2.71	39%
Gujarat	711	138,106	2.29	26%

620 *KPMG Analysis*

621 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

622 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

623 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Given the unequal distribution of seats, capacity expansion in vocational education in Dahod district needs to be focused on the tehsils of Limkheda, Devgadh Bariya, Garbada, Zalod, Dhanpur to bring them on par with the district average in vocational education capacity.

Taluka	**Seat Capacity**	**Vocational Training Capacity Density(Seats Per 1000 Population)**	**Private Sector Participation in Vocational Training**
Dahod	2210	4.62	10%
Fatepura	1012	4.20	87%
Limkheda	716	2.30	19%
Devgadh Bariya	560	2.07	56%
Garbada	312	1.69	59%
Zalod	780	1.66	55%
Dhanpur	180	1.05	29%
District Total	**5770**	**2.71**	**39%**

In the higher education segment, the district has 1 engineering college and 6 colleges offering Arts, Commerce, Science, B.Ed & Law programs. Government Engineering College at Dahod offer courses in chemical, civil, electrical, electronics and communication, information technology, production and mechanical engineering.

6.10.12.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

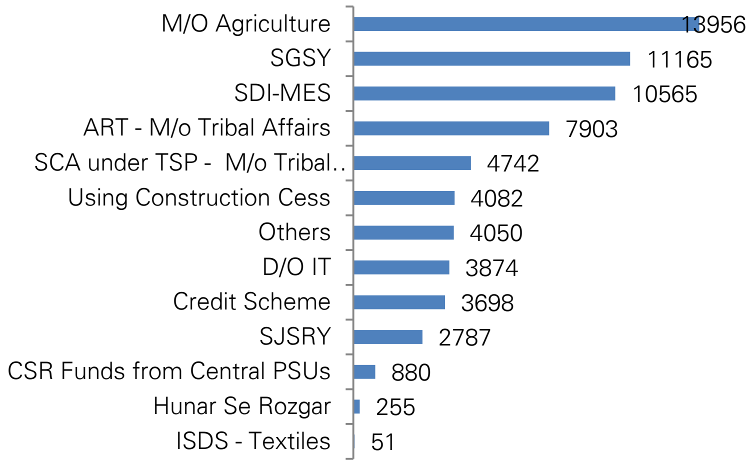
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				**2017-22**			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	(7,713)	8,767	(14,398)	(13,345)	(6,874)	4,179	(1,754)	(4,448)

*(Indicates excess supply)

6.10.12.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 68 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Dohad District[624]



6.10.12.5. District Specific Recommendations

Considering human resource potential and manpower requirements of the industry, the proposed action plan for stakeholders in skill development has been recommended:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following regions having high human resource potential • Dahod, Jhalod, Limkheda Focus on sectors with high employment potential in Gujarat • **Services:** Transportation & Logistics, Organized Retail, IT-ITES, Banking & Financial Services, Hospitality & Tourism, Construction • **Manufacturing:** Textile, Auto- Auto Components, Engineering Goods, Chemical & Chemical Products
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes in sectors of • Animal Husbandry • Horticulture Focus on improving industrial training infrastructure in the regions of • Limkheda, Devgadh Bariya, Garbada, Zalod, Dhanpur
Private Skill Training Providers	Focus on placement driven training for youth from high human resource potential regions of Dahod, Jhalod, Limkheda

624 *KPMG Analysis*

	Focus on sectors with high employment potential in Gujarat • **Services:** Transportation & Logistics, Organized Retail, IT-ITES, Banking & Financial Services, Hospitality & Tourism, Construction • **Manufacturing:** Textile, Auto- Auto Components, Engineering Goods, Chemical & Chemical Products
Corporate	Provide support for training/placement of youth from the district for placements in industrial belts Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.13. Skill Gap Assessment of Gandhinagar District

6.10.13.1. Socioeconomic Profile

6.10.13.1.1. Administrative Profile

Gandhinagar district is located in the central part of Gujarat with a geographical spread of 2163 sq.kms.[625] It shares its border with Ahmedabad, Mehsana, Kheda and Sabar Kantha. Administratively, the district is divided into 4 talukas and 252 villages[626]. Gandhinagar, Kalol, Mansa and Dehgam are taluka regions in the district. Gandhinagar city is the administrative capital for the district and is also the state capital for Gujarat. As the state capital, Gandhinagar has witnessed significant growth in commercial and services sectors with the proximity to Ahmedabad boosting the growth of industrial sector along the Ahmedabad- Gandhinagar corridor.

6.10.13.1.2. Demographic Profile

Gandhinagar district is a moderate human resource potential region in Gujarat state. The district has a total population of 13.87 lakhs[627] as per 2011 Census accounting for 2.3 percent[628] of the overall state population. It has witnessed a subdued population growth with a decadal growth rate of 12.15 percent[629] between 2001 and 2011 in comparison to state average of 19.17 percent[630] during the same period. Significant portion of district population lives in urban areas with these regions accounting for 43.32 percent[631] of the total population. Population spread in the district is significantly high with a density of 660 persons per sq.km[632] in comparison to the state average of 308 persons per sq.km[633]. High population density is a key advantage with opportunities to develop skilled human resource capital. Improving social infrastructure and transportation facilities is driving workforce displacement from Gandhinagar to semi urban regions in neighboring districts of Mehsana and Ahmedabad. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Gandhinagar and Kalol. Details of regional distribution of population in the district are presented in the table[634].

625 *Census 2011 Statistics*
626 *Census 2011 Statistics*
627 *Census 2011 Statistics*
628 *Census 2011 Statistics*
629 *Census 2011 Statistics*
630 *Census 2011 Statistics*
631 *Census 2011 Statistics*
632 *Census 2011 Statistics*
633 *Census 2011 Statistics*
634 *Census 2001Statistics, KPMG Analysis*

Regional Distribution of Population in the District[635]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Gandhinagar	43%	833
Kalol	23%	643
Dehgam	19%	404
Mansa	15%	537

Gender composition of district population is biased with a lower proportion of females than males. As per 2011 census the district has a gender ratio of 913 females per 100 males[636] as against the state average ratio of 940 females per 1000 males[637]. Contribution of scheduled categories to the overall district population is lower than the state level proportion. As per census 2001 estimates, reserved categories account for 11.67 percent[638] of overall district population in comparison to the state average of state percentage of 21.85 percent[639].

Education attainment levels in the district are better than the state average owing to migration of literate workforce to the urban regions of the district and increasing private participation in primary and higher levels of education in the district. As per 2011 estimates, district has registered an overall literacy rate of 85.78 percent[640] as against state average of 79.31 percent[641]. The district has made significant progress towards regional inclusion in the reach of mass education programs. However gender inclusion still remains a concern. Urban-rural literacy gap in Dahod is estimated to be 6.02 per cent[642] as against the 14.58 percent[643] for overall state. On the other hand, the district still has a male-female literacy gap of 16.22 percent[644] percent as against 16.5 percent[645] for Gujarat state. Lower level of gender inclusion stresses the need for gender specific approach towards implementation of mass education initiatives. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth of the region.

6.10.13.1.3. Economic Profile

Electronics and Textiles have been the main sectors of investment and employment in Gandhinagar district since the late 1980s. The Food Processing industry of the district is well developed because of the proximity to agricultural districts such as Mehsana, Sabarkantha, Ahmedabad, Kheda, Anand, etc.

[635] *Census 2001Statistics, KPMG Analysis*
[636] *Census 2011 Statistics*
[637] *Census 2011 Statistics*
[638] *Census 2001Statistics, KPMG Analysis*
[639] *Census 2001Statistics, KPMG Analysis*
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[644] *Census 2011 Statistics*
[645] *Census 2011 Statistics*

Analysis of regional distribution of investments in Gandhinagar district indicates that industrial development is concentrated in Kalol and Gandhinagar Talukas while other regions like Mansa and Dehgam still remain backward. Over the recent years the state Government has initiated measures to enhance industrial growth in backward talukas like Mansa through suitable incentives to increase the investment potential of these regions over the next decade.

Details of region wise large scale investments in Gandhinagar district till 2012 is presented in the table.

Large Scale Investment Scenario In Gandhinagar[646]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Kalol	224	3965	39	914
Gandhinagar	96	1022	15	342
Mansa	19	211	3	86
Dehgam	15	169	--	--
District Total	354	5367	57	1342

Rapid growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 2163 units[647] operating in the district attracting an investment of INR 3, 04,047 lakhs[648] in 2012.

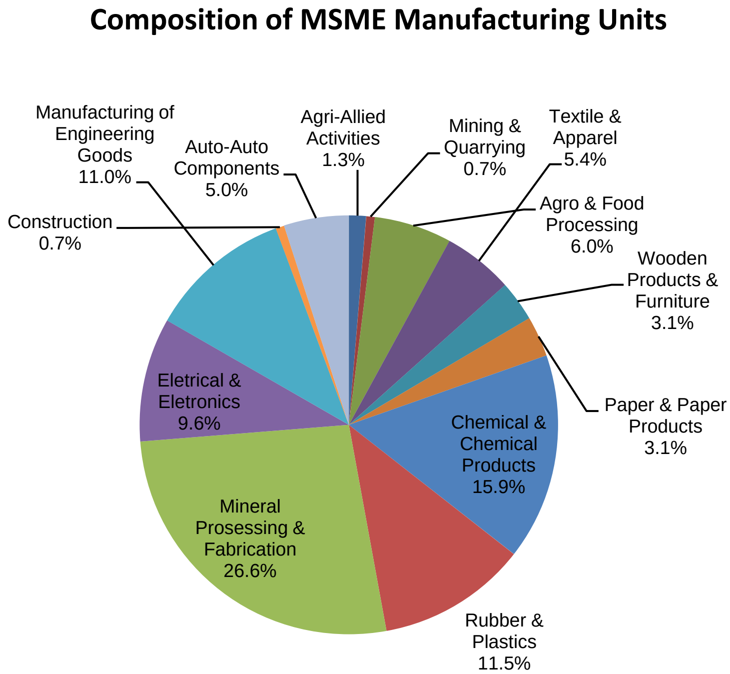
Investment outlook in MSME segment of Gandhinagar district is presented in the table.

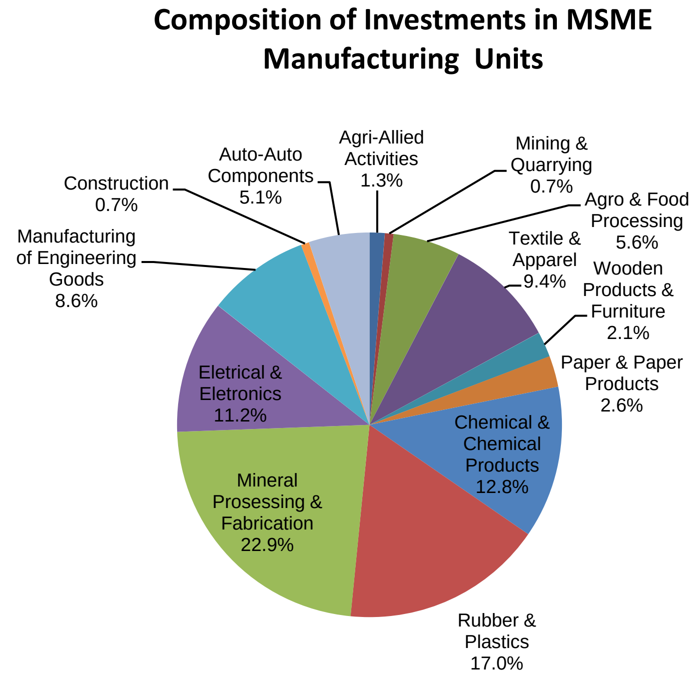
MSME Investment Scenario in Gandhinagar[649]		
Category of Industries	**Number of Units**	**Investment In Rs. Lakhs**
Micro	1423	119945.3
Small	694	141135.3
Medium	46	42966.33
Total	**2163**	**304047**
Manufacturing Sector Units	1957	278538.7
Service Enterprises	206	25508.26

Among the manufacturing based MSME units, Chemical and Chemical Products, Rubber & Plastics, Electrical and Electronics and Manufacturing of Engineering Goods are the prominent industries both in terms of units and investment in MSME manufacturing units.

646 *IEM, MSME Part-II Data till 2012-13*
647 *IEM, MSME Part-II Data till 2012-13*
648 *IEM, MSME Part-II Data till 2012-13*
649 *IEM, MSME Part-II Data till 2012-13*

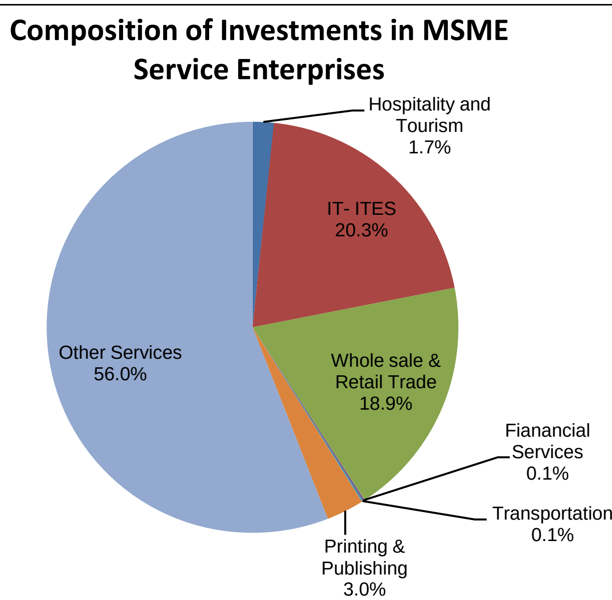
Composition and Investments of MSME Manufacturing Units in the District[650]





Wholesale and Retail constitutes about 38% of the MSME service enterprises in the district. The major investments are in the field of IT, ITES and wholesale retail totally constituting up to nearly 40%.

Composition of MSME Service Enterprises in the District[651]



650 *IEM, MSME Part-II Data till 2012-13*
651 *IEM, MSME Part-II Data till 2012-13*

The major focus in Gandhinagar district has been on the services in the public sector, Electrical and Electronics and IT/ITES with the latter seeing increasing visibility in recent years. The DMIC (Delhi/Mumbai Industrial Corridor) is expected to give a further fillip to this along with the already established concept of SEZs (Special Economic Zones).The major investment avenues in the IT/ITES sector are in Software Development Centers, Business Process Outsourcing (BPO), Knowledge Process Outsourcing (KPO) and Educational Training Centers.

Gandhinagar has several educational institutions of repute like Indian Institute of Information & Technology, Dhirubhai Ambani Institute of Information & Technology. Supplementing these institutes are core research oriented institutes like the Institute for Plasma Research and the Indian Institute for Advanced Research. Gandhinagar also has a rich eco-system of institutes in specializing in niche spaces like fashion and design (National Institute of Fashion Technology), Entrepreneurship (Entrepreneurship Development Institute) & Law (National Law University)

The district has 24 primary healthcare centers, 17 dispensaries and 8 community healthcare centers. Apart from these, Gandhinagar also has a robust network of private hospitals with the Gujarat Apollo Hospital, Kanoria Hospital and the Civil Hospital being the prominent ones with the Apollo Hospital being the largest corporate hospital in Gujarat[652].

As expected of an urban enterprising area, Gandhinagar has a high penetration of banking and financial services with a high density of 9.375 people per bank as of March 2012 with the district having around 148 bank offices with a total credit amount exceeding 7000 Cr INR and a total deposit amount of more than 13000 Cr INR as of Mar 2012[653]. While the number of banks has increased at a relatively higher CAGR of 7.9 percent from 2007 to 2012, the amount of deposit and credit have increased at high CAGRs of 25.6 percent and 23.6 percent respectively[654] from 2007-2012. Leveraging on the promising trends of increasing financial penetration, the Gujarat Government is planning to setup the Gujarat International Finance Tec-City (GIFT) as a “One Stop Shop” destination for the global financial service industry.

The road infrastructure of Gandhinagar comprises of the National Highways NH 8 and 8C which connect it with the other major cities of Gujarat. The nearest airport to Gandhinagar is Ahmadabad which is 22 km away with the nearby Ahmadabad railway station practically connecting to every nook and corner of the country either directly or indirectly.

Lastly, in spite of the buzzing business environment of the district, the place is also home to major tourist attractions like the famous Akshardham Swaminarayan Temple, Adalaj Step Wells and Indroda Dinosaur and Fossil Park with the Dinosaur Park is considered to be the second largest dinosaur park in the world.

Owning to the soil characteristics, a majority of the district geographical land of Gandhinagar is cultivable (76 percent of total area). Adding to the favorable soil characteristic is the fact that Gandhinagar has moderate to high rainfall conditions with the average rainfall in the last 10 years being 750 mm. The district also shows a remarkable spread

[652] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[653] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[654] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

of irrigation facilities with around 59 percent[655] of net cultivable area under irrigation. Castor, Cotton(Irrigated), Bajra, Pulse and Paddy are the five main Kharif Crops while Wheat, Mustard, Potato and fennel are five key Rabi crops grown in the district. Main horticulture crops grown include Vegetable (mainly Potato), fruits and spices. The district has Taluk level Seed Farms targeted at improving the availability of quality seeds. Currently, usage of hybrid crop varieties is low with a need to promote its usage across crop categories.

Cow and buffalos are main cattle varieties in Gandhinagar with 1, 48,430 cowhand 3, 64,040 buffalos [656] with significant population of goats as well. Availability of pasture lands holds immense potential to promote animal husbandry in the district. Along with strengthening animal husbandry activities among small and marginal farmers through advanced rearing training, there is a need for integrating the animal husbandry with promotion of organic farming as well.

Going forward, educating farmer communities/ groups on marketing and processing would be crucial to enhance the revenue benefits to marginal communities by limiting the role of middlemen. Government initiative to set up agricultural collection centers towards achieving this objective has to be supplemented by relevant training programs as well.

6.10.13.2. Workforce Distribution in the district

Being the state capital, growth in commercial activities has resulted in higher penetration of tertiary and secondary activities. Non agrarian sectors account for nearly 60 percent of overall workforce indicating the level of progress Gandhinagar has achieved in terms of reducing dependency on agriculture. Tertiary sector has been the dominant employment generating segment in the district economy. Low female participation is however a main concern for the district Efforts towards higher levels of gender inclusion in education and employment are expected to improve the situation over the next decade. Comparison of workforce distribution scenario in Ahmedabad and Gujarat is presented in the table[657].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Gandhinagar	49.7%	41.54%	42.54%	13.28%	44.18%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

Registered factories and service enterprises have contributed to over 70 thousand employment opportunities in the district. Large scale enterprises account for major share of the segmental employment with medium scale units contributing a significant share.

Organized Employment in Gandhinagar [658]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	52,252

[655] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[656] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

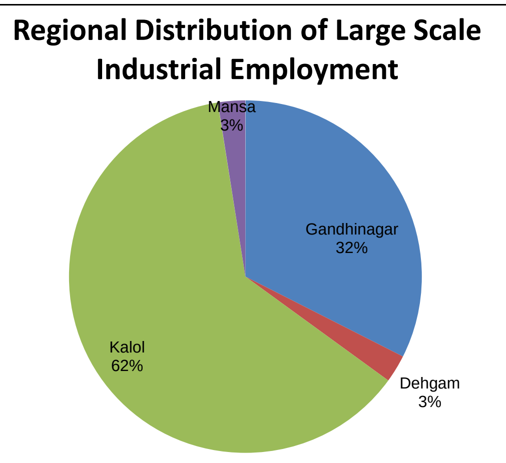
[657] *KPMG Analysis*

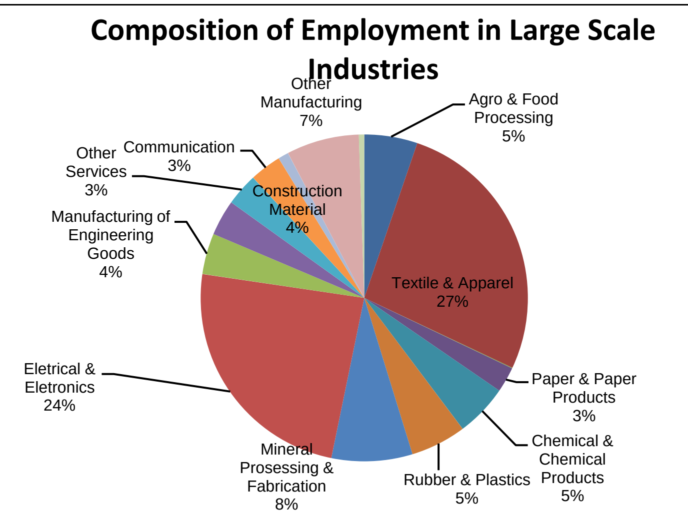
[658] *IEM, MSME Part-II Data till 2012-13*

MSME Category	42,690
Manufacturing Units	39,634
Service Enterprises	3,056
Total	**94,942**

Majority of the large scale industrial employment opportunities are concentrated in the Tehsils of Kalol and Gandhinagar. Textiles and Apparel and Mineral Processing constitute the major employment opportunities in the large scale industries.

Distribution and Composition of Large Scale Industries in the District[659]

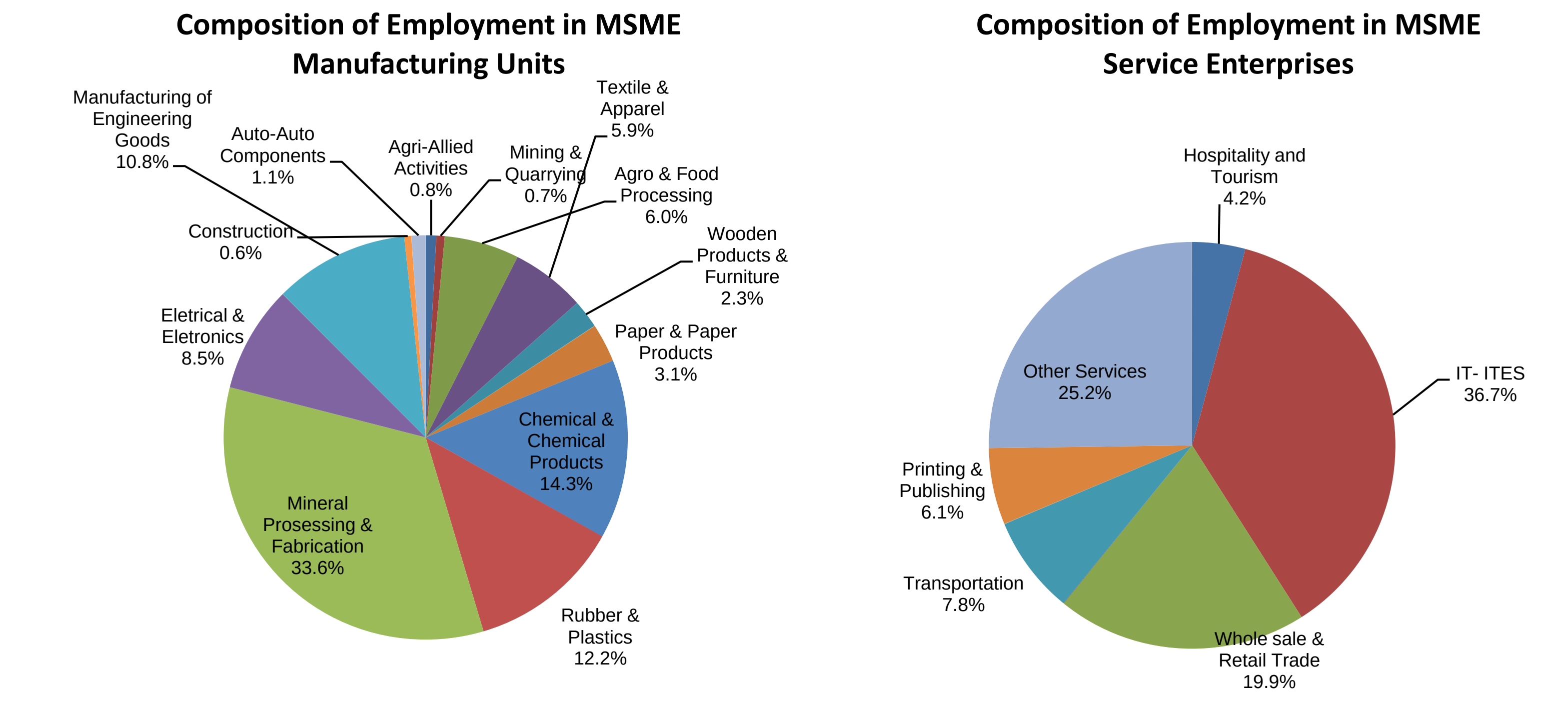




Mineral processing and fabrication, rubber and plastics, chemicals and chemical products constitute the majority of the MSME units. In terms of employment in the MSME service enterprises, IT ITES and wholesale and retail seems to attract the maximum number of employment.

[659] *IEM, MSME Part-II Data till 2012-13*

Sectoral Employment Composition in MSME Units in the District[660]



6.10.13.3. Human Resource Requirement Projections in Gandhinagar (2012-22)

Incremental manpower requirement in the district of Gandhinagar has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Gandhinagar. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in

[660] *IEM, MSME Part-II Data till 2012-13*

agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation& logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel

- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- IT-ITES
- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Gandhinagar district are presented in the table[661].

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	9697	9697	NA	NA	8121	8121
Agro & Food Processing	118	472	590	1179	105	422	527	1055
Textile & Apparel	353	1411	1764	3527	315	1262	1577	3155
Wooden Products & Furniture	20	81	101	201	18	72	90	180
Paper & Paper Products	55	220	275	549	49	196	246	491
Chemical & Chemical Products	181	725	907	1813	162	649	811	1622
Rubber & Plastics	167	668	834	1669	149	597	746	1493
Mineral Processing & Fabrication	385	1538	1923	3846	344	1376	1720	3440
Electrical &	345	1380	1724	3449	308	1234	1542	3085

661 *KPMG Analysis*

Electronics								
Manufacturing of Engineering Goods	148	592	740	1479	132	529	662	1323
Manufacturing of Construction Material	40	160	199	399	36	143	178	357
Drugs and Pharmaceuticals	12	47	59	117	11	42	53	105
Misc. Manufacturing	85	342	427	855	76	306	382	765
Construction	308	615	5231	6154	275	550	4679	5505
Trade, Retail	497	746	3728	4970	543	815	4075	5433
Transportation & Logistics	338	5374	6393	12105	277	4397	5231	9904
IT-ITES	12000	30000	NA	42000	10000	24000	NA	34000
Hospitality & Tourism	1291	1937	9683	12910	1033	1549	7746	10328
Banking & Financial Services	3140	9421	NA	12562	2198	6595	NA	8793
Healthcare	225	1010	NA	1235	299	1496	NA	1795
Education & Training	607	4089	NA	4696	911	2453	NA	3364

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[662].

Secondary Sector (Manufacturing, Construction & Energy):

- **Textile & Apparel**:

Category of Skills	**Skills**
Core Skills	Ring frame operator, weaver, processing operator (CDR,BDR,Stuntor), Bar-coding machine operator
Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions.

- **Electrical & Electronics**:

Category of Skills	**Skills**

[662] *KPMG Analysis*

Core Skills	Electronics, PPO, Electrical, Instrumentation
Allied Skills	Fitter
Skills with acute shortage	PPO trade is a key deficit in all industries involving plastic processing Electronics and Instrumentation

- **Metal & Mineral Processing**:

Category of Skills	Skills
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services:**

Category of Skills	Skills
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Education:**

Category of Skills	Skills
Core Skills	School teachers, higher education faculty
Allied Skills	Knowledge on advanced teaching tools
Skills with acute shortage	Technical education trainers

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques

Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.13.4. Human Resource Supply Scenario in the District

6.10.13.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Gandhinagar would experience a lower human resource growth during 2012-22. However, with improving transportation and infrastructure facilities, increasing manpower requirements in the district would be adequately met with the work based migration from neighboring districts like Ahmedabad, Mehsana and Sabar Kantha. Details of human resource growth estimations during 2012-22 are presented in the table[663].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	149,895	99,164	53,237
2017-22	127,768	85,902	41,334

6.10.13.4.2. Education and Training Potential in the District

Gandhinagar district has around 893 K12 schools out of which 72.45 percent of schools are Government schools. The net enrolment ratios of the district for the primary level and upper primary level are marginally higher than averages for the state[664].

Total Enrollments in 209-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Gandhinagar	148,675	54,510	78,623	44,199

Comparing the district's enrolment statistics with state average indicates that the district is an average performer in the primary education category[665]

663 *KPMG Analysis*
664 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Gandhinagar	84.1	51.1
Gujarat	85.4	50.7

In the vocation education segment, the district is ahead in the provision of vocational training in comparison to state average. Private interest in the sector in this district is high indicating that the state must take proactive measures in further increasing private support to improve vocational training infrastructure[666].

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Gandhinagar	29	4,666	3.36	30%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Gandhinagar district needs to be focused on the tehsils of Dehgam, Kalol and Mansa to bring them on par with the district average in vocational education capacity[667].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Gandhinagar	3374	5.68	33%
Dehgam	436	1.68	0%
Kalol	532	1.65	15%
Mansa	324	1.54	60%
District Total	**4666**	**3.36**	**30%**

In the higher education segment, the district has 6 engineering colleges, 10 pharmacy colleges, 5 MCA colleges, 2 Dental colleges, 7 management colleges and 9 Arts, Commerce, Science, B.Ed and Law Colleges. The district houses some prestigious research and educational institutes such as the Institute for Plasma Research, Indian Institute for Advanced Research and National Institute of Fashion Technology (NIFT). Indian Institute of Information Technology will be established in Gandhinagar. The Institute for Plasma Research in Gandhinagar is an autonomous plasma physics research centre that focuses on research in various aspects of plasma science for industrial applications. Indian Institute for Advanced Research located in Koba, Gandhinagar is concerned with biotechnology based advanced research set up by Puri Foundation & NIFT provides innovative courses on leather garment design and technology, textile design & development, garment manufacturing, apparel and advertising, etc. Other premier institutes in Gandhinagar include Dhirubai Ambani Institute of Information & Technology, Entrepreneurship Development Institute of India (EDI), National Law University, Dental College, Santej and Karnavati School of Dentistry.

6.10.13.4.3. Demand-Supply Gap Analysis for the District

[665] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[666] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[667] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

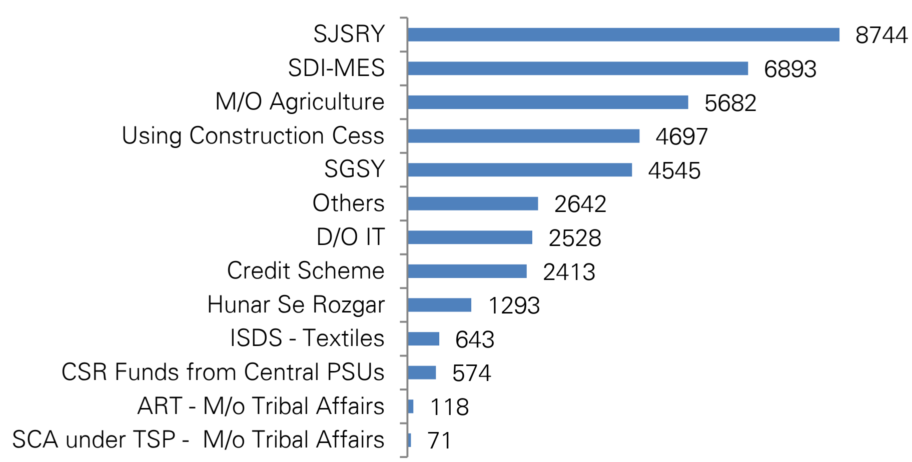
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	13,215	55,324	3,643	72,175	8,775	41,340	12,861	62,980

*(Indicates excess supply)

6.10.13.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 40 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Gandhinagar District[668]



6.10.13.5. District Specific Recommendations

[668] *KPMG Analysis*

Considering human resource potential and manpower requirements of the industry, the proposed action plan for stakeholders in skill development has been recommended:

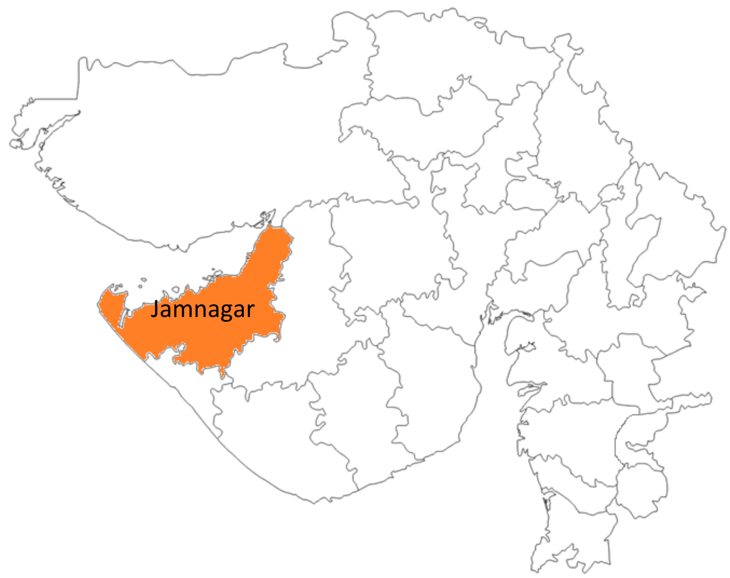
Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following regions having high organized employment potential • Kalol and Gandhinagar Focus on sectors with high employment potential in the district • **Services:** Transportation & Logistics, Construction, IT-ITES, Hospitality, Business Services • **Manufacturing:** Textile, Electrical & Electronics, Mineral Processing & Fabrication
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes in sectors of • Animal Husbandry • Horticulture Focus on improving industrial training infrastructure in the regions of • Dehgam, Kalol and Mansa
Private Skill Training Providers	Focus on placement driven training for youth from high human resource potential regions of Gandhinagar and Kalol Focus on sectors with high employment potential in the district • **Services:** Transportation & Logistics, Construction, IT-ITES, Hospitality, Business Services • **Manufacturing:** Textile, Electrical & Electronics, Mineral Processing & Fabrication
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • IT-ITES • Textile • Electrical & Electronics • Transportation & Logistics • Construction Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.14. Skill Gap Assessment of Jamnagar District

6.10.14.1. Socioeconomic Profile

6.10.14.1.1. Administrative Profile

Jamnagar district is located in the western part of Gujarat spread across a geographical area of 14,125 sq.km[669]. It shares its border with Rajkot, Junagadh, Kutch, Gulf of Kutch and Arabian Sea. Administratively Jamnagar is divided into 10 talukas and 714 villages[670] with Jamnagar city as the district capital. Jamnagar, Dhrol, Jamkalyanpur, Jodiya, Khambhalia, Kalavad, Okha Mandal, Lalpur, Bhanvad, Jamjodhpur are taluka regions in the district.



6.10.14.1.2. Demographic Profile

Jamnagar district is a moderate human resource potential region in Gujarat state. It has a total population of 21.59 lakhs[671] as per 2011 Census accounting for 3.6 percent[672] of the overall state population. It has witnessed a subdued population growth over the last decade with a decadal growth rate of 13.38 percent[673] between 2001 and 2011 in comparison to state average of 19.17 percent[674] during the same period. A significant portion of district population lives in urban areas with these regions accounting for nearly 45 percent[675] of the total population. Population spread in the district is significantly low with a density of 153 persons per sq.km[676] in comparison to the state average of 308 persons per sq.km[677]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Jamnagar and Khambhalia. Details of regional distribution of population in the district are presented in the table.

669 *Census 2011 Statistics*
670 *Census 2011 Statistics*
671 *Census 2011 Statistics*
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674 *Census 2011 Statistics*
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676 *Census 2011 Statistics*
677 *Census 2011 Statistics*

Regional Distribution of Population in the District[678]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Jamnagar	40%	649
Khambhalia	11%	174
Kalyanpur	8%	114
Okhamandal	8%	201
Kalavad	7%	109
Jamjodhpur	6%	108
Bhanvad	6%	150
Lalpur	5%	94
Jodiya	5%	103
Dhrol	4%	132

Gender composition of district population is better than the state average. As per 2011 census, the district has a gender ratio of 938 females per 1000 males[679] as against the state average ratio of 918 females per 1000 males[680]. Contribution of scheduled categories to the overall district population is lower than the state level proportion. As per census 2001 estimates, reserved categories account for 8.68 percent[681] of overall district population in comparison to the state average of state percentage of 21.85 percent[682].

Education attainment levels in the district are marginally lower than the state average. As per 2011 estimates, the district has registered an overall literacy rate of 74.4 percent[683] as against state average of 79.31 percent[684]. it has made significant progress towards regional inclusion in the reach of mass education programs while gender inclusion still remains a concern. Urban-rural literacy gap in Jamnagar is estimated to be 9.51 percent[685] as against the 14.58 percent[686] for overall state. On the other hand, district still has a male-female literacy gap of 26.38 percent[687] percent as against 16.5 percent[688] for Gujarat state. Lower level of overall literacy and inadequate gender inclusion stresses the need for gender specific approach towards implementation of mass education initiatives. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth of the region.

678 *Census 2001Statistics, KPMG Analysis*
679 *Census 2011 Statistics*
680 *Census 2011 Statistics*
681 *Census 2001Statistics, KPMG Analysis*
682 *Census 2001Statistics, KPMG Analysis*
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6.10.14.1.3. Economic Profile

Jamnagar district caters to over 70% of the country's requirement for brass parts supply. There are over 4,500 units involved in production of brass parts and Jamnagar district is the major supplier to the electric and electronics factories located in Delhi, Bangalore and Mumbai. Jamnagar is one of the principle inventers for production of tie-dyed fabric (Bandhani) in the State. Other major industry sectors of the district include engineering & machinery, plastics and oil mills.

Analysis of regional distribution of investments in Jamnagar district indicates that the industrial development is concentrated in Lalpur and Okha Mandal Talukas while other regions like Kalyapur, Dhrol, Bhanavad, Jamjodhpur and Jodiya still remain backward in terms of industrial development. Over the recent years the state government has initiated some measures to enhance the industrial growth in backward talukas of Jamjodhpur and Jodiya through suitable incentives leading to an increased investment potential of these regions over the next decade.

Details of region wise large scale investments in Jamnagar district till 2012 is presented in the table.

Large Scale Investment Scenario In Jamnagar[689]

Region	Commissioned		Under Implementation	
	No. of Units	Investment (INR Cr)	No. of Units	Investment (INR Cr)
Jamnagar	49	336	31	7125
Lalpur	18	36410	1	0
Okha Mandal	18	1987	10	1275
Khambhalia	8	60	--	--
Kalyanpur	5	47	3	4
Dhrol	4	3	1	0
Bhanavad	3	22	1	2
Jamjodhpur	1	11	2	86
Jodiya	1	6	7	8858
Not Classified	1	18	4	19527
District Total	108	38900	60	36877

Rapid growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 2898 units[690] operating in the district attracting an investment of INR 96,857 lakhs[691] in 2012.

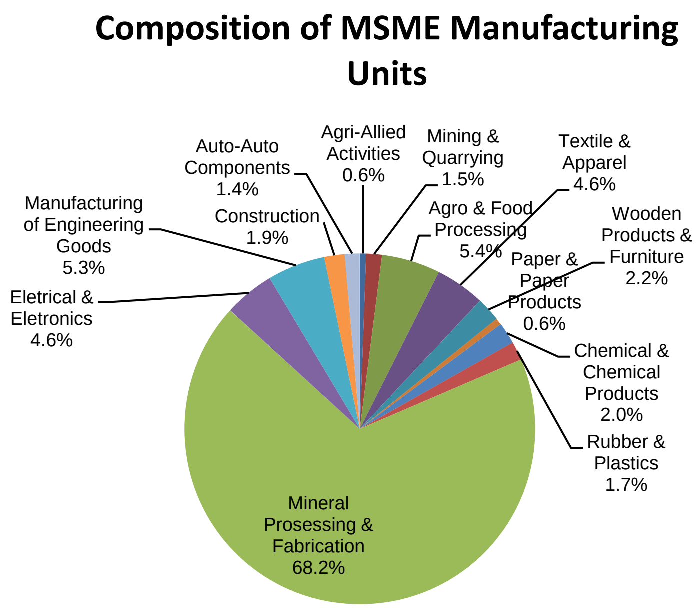
[689] *IEM, MSME Part-II Data till 2012-13*
[690] *IEM, MSME Part-II Data till 2012-13*
[691] *IEM, MSME Part-II Data till 2012-13*

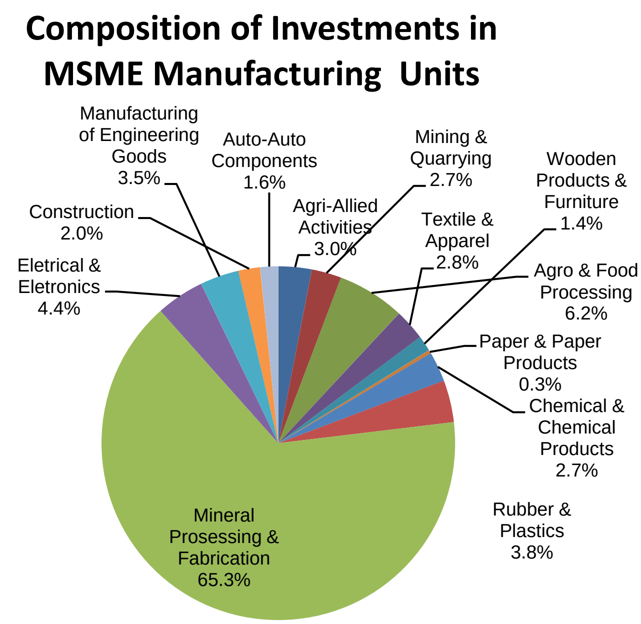
Investment outlook in MSME segment of Jamnagar district is presented in the table.

MSME Investment Scenario in Jamnagar[692]		
Category of Industries	**Number of Units**	**Investment In Rs. Lakhs**
Micro	2,599	41,229
Small	279	42,386
Medium	20	13,242
Total	**2,898**	**96,857**
Manufacturing Sector Units	2,610	73,339
Service Enterprises	288	23,518

Among the manufacturing based MSME units, Mineral Processing and Fabrication is the most prominent industries both in terms of units and investment in MSME manufacturing units.

Composition of MSME Manufacturing Units[693]

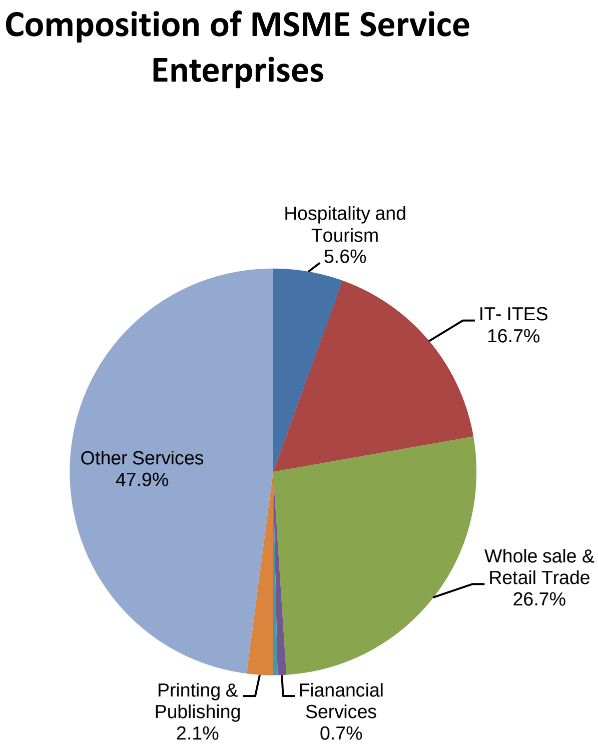


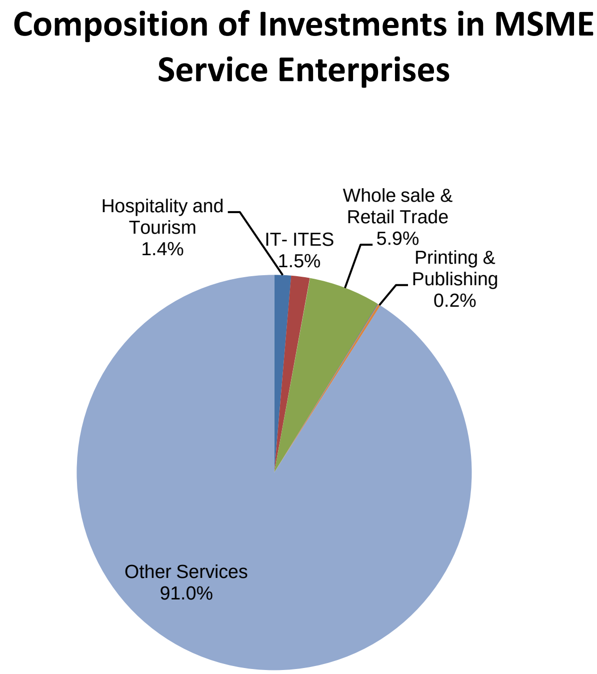


In terms of the composition of the MSME service enterprises, it can be observed that wholesale and retail is the largest segment. Also IT/ITES contributes to a significant number of enterprises in the MSME category.

692 *IEM, MSME Part-II Data till 2012-13*
693 *IEM, MSME Part-II Data till 2012-13*

Composition of MSME Service Industries[694]





Jamnagar attracts large number of tourists each year. It consists of several tourist destinations like Lakota lake, Lakota Museum, Khijada Mandir and Ratan Bai Mosque. Apart from the above, Jamnagar also has beautiful beaches like Balachadi, Marine National Park, Khijadia Birds Sanctuary and Gaga Wild Life Sanctuary.

In the supply of skilled manpower pool, the district offers higher education institutes in field of medicine and agriculture. Jamnagar is home to the country's only Ayurvedic University offering post graduate and diploma courses in Ayurvedic medicines and pharmaceutical science, yoga and naturopathy. In addition, Jamnagar also has Fisheries Aquatic Science Research Station for research in Pearl culture. The district boasts one medical college as well as dental, physiotherapy and ayurvedic colleges in the district.

The penetration of medical infrastructure is low in the district with one medical institution catering to 37,226 people. The district has 38 primary healthcare centers, 11 community healthcare centers and 5 hospitals. Jamnagar also has the Apollo Group of Hospitals and other specialty hospitals like Patel Surgical Hospital, Reparalia Neuro Hospital[695]

[694] *IEM, MSME Part-II Data till 2012-13*

[695] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

However, there is need to strengthen the medical institutes in the districts which is expected to give rise to direct employment opportunities like doctor, nurses and support staff etc and indirect opportunities in Pharmacy, diagnostic labs etc.

Jamnagar has a medium penetration of banking and financial services with a high density of 10,532 people per bank as of March 2012.There are 205 bank offices in Jamnagar with a total bank deposit of 8,716 Cr INR and a total credit amount of 2,503 Cr INR as of March 2012[696]. While the number of banks has increased at a CAGR of 5.5 percent from 2007 to 2012, the amount of deposit and credit have increased at a relatively lower CAGR of 16.7 percent and 13.5 percent respectively[697] from 2007-2012.

The road infrastructure of Jamnagar has the National Highway 8 Ext. which connects Ahmadabad which connects Ahmadabad with Somnath, Porbandar and Dwarka. The rail network connects Jamnagar with Gujarat cities like Rajkot, Surat & Ahmadabad and Indian cities like Mumbai, Delhi, Varanasi. There is also the Hapa Junction which is set on broad gauge and connects it with Okha and Porbandar.

There is a domestic airport in Jamnagar which connects the district with Mumbai and Bhuj. The district has a rich port infrastructure with 9 ports along a 355 km coastline. Out of the 9 ports, Bedi, Okha and Sikka are intermediate ports and Salaya, Jodiya, Pindhara and Bet (Dwarka) are minor ports.

Agriculture and agriculture allied sectors contribute to relatively smaller share of economy of Jamnagar. This can be attributed to the fact that the district observes medium to low rainfall. Further the soil is shallow to medium black due to which only 62% of total geographical area is cultivable. The district also has a limited spread of irrigation facilities with only 31.76 percent of net cultivable area under irrigation. Ranpur, Mandal, Barvala and Dhandhuka Talukas have as low as 15 percent of net cultivable area under irrigation, indicating significant opportunities for improvement in these regions. The irrigation is predominantly dependent on tube wells with a 49.8 percent share of net irrigated area. Large scope for the operation and maintenance of tube wells would mandate requirement of skilled manpower with knowledge on repair and maintenance.

Cotton, Paddy, Bajra, Castor and Pulses are key crops grown in the district. Main horticulture crops include spices, Brinjal, Tomato and ber. Flowers are grown over a small area in Dholka taluka of the district. While about 92% of the cultivable land is covered by Kharif crops, only 53% of the cultivable land is covered under Rabi indicating sizeable opportunities for multiple cropping in the district with adequate training.

Cow and buffalos are main cattle varieties in Jamnagar with 2, 16, 941 cows and 3, 43,699 buffalos[698]. Other prominent domestic animals under animal husbandry activities are goats and sheep. Availability of large pasture lands indicates significant potential to promote animal husbandry in the district. Fishery is a prominent activity in Dhandhuka Taluka.

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[696] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[697] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[698] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

Further, Jamnagar district is now witnessing a continuing decrease in the agricultural land and therefore decrease in related activities. Statistics available with the district Panchyat's agriculture section indicates that the total cultivable area, which stood at 7, 00,736 hectors in 1990 shrank to 6, 16,889 hectors[699] in 2010. Industrialization and urbanization are cited as the two key reasons for this shrinkage. A major chunk of farmland has been taken up by large refineries for its expansion.

6.10.14.2. Workforce Distribution in the district

Workforce dependency on primary sector is marginally higher than the secondary and tertiary sectors in Jamnagar. District has been witnessing significant growth in industrial activity over the recent years which could potentially increase the contribution of secondary sector to overall employment market. Comparison of workforce distribution scenario in Jamnagar and Gujarat is presented in the table[700].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Jamnagar	58.15%	38.56%	57.58%	13.67%	28.75%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

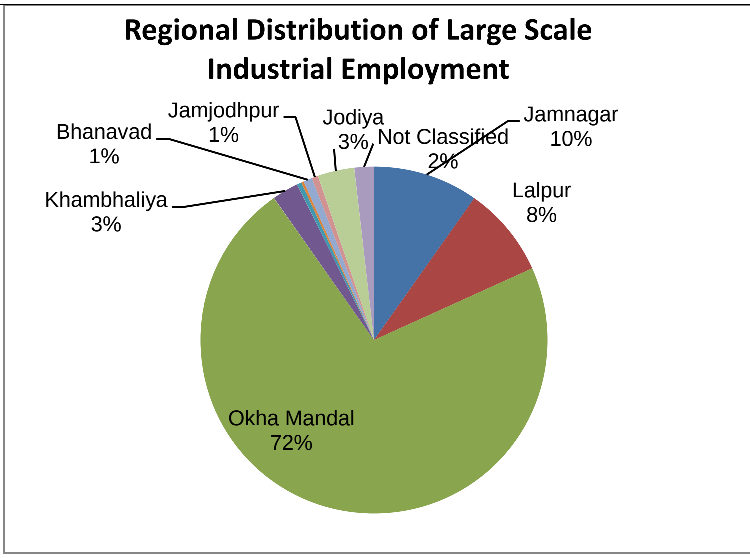
Registered factories and service enterprises have contributed to over fifty thousand employment opportunities in the district. While the growth in secondary sector is witnessing boost recently, unorganized sector continues to dominate the overall manufacturing sector employment.

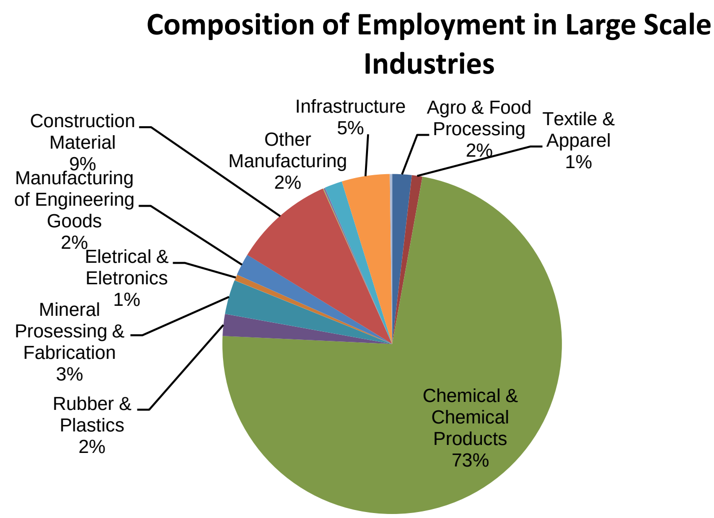
Organized Employment in Jamnagar[701]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	99660
MSME Category	30534
Manufacturing Units	26238
Service Enterprises	4296
Total	**130194**

Okha Mandal has attracted the largest employment in the large scale industries. Other notable locations include Jamnagar and Lalpur. Chemicals and chemical products segment attracts almost three quarters of employees.

699 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
700 *KPMG Analysis*
701 *IEM, MSME Part-II Data till 2012-13*

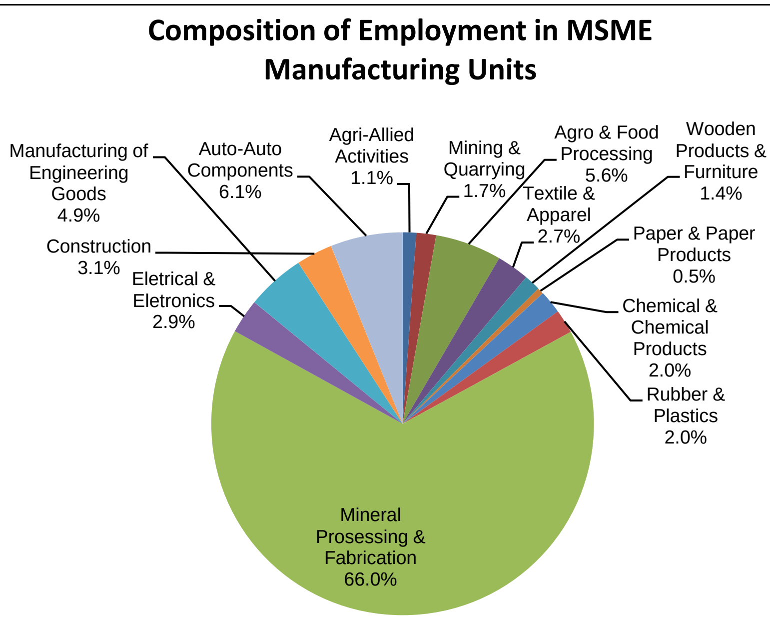
Large Scale Industrial Employment Overview in the District[702]

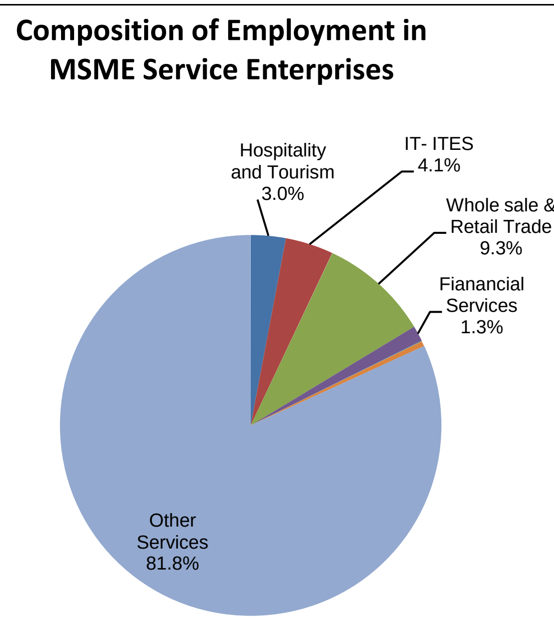




In case of MSME manufacturing units, mineral processing and fabrication provides maximum employment opportunities. Auto and auto components come a distant second with 6%. Micro and large scale category units account for a higher share of overall organized manufacturing employment. Basic metal manufacturing is a key MSME activity in the district from employment generation perspective. Chemicals and Petro Chemical units are major large scale industrial sectors in Jamnagar.

MSME Employment Overview in the District[703]





702 *IEM, MSME Part-II Data till 2012-13*
703 *IEM, MSME Part-II Data till 2012-13*

6.10.14.3. Human Resource Requirement Projections in Jamnagar (2012-22)

Incremental manpower requirement in the district of Jamnagar has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Jamnagar. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions

- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation & logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Jamnagar district are presented in the table[704].

Sector	2012-17				2017-22			
	Skilled	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Agriculture & Allied Activities	NA	NA	14626	14626	NA	NA	12249	12249
Agro & Food Processing	61	243	304	608	54	218	272	544
Textile & Apparel	28	111	139	278	25	99	124	248
Wooden Products & Furniture	8	31	39	78	7	28	35	70
Chemical & Chemical Products	893	3574	4467	8934	799	3196	3996	7991
Rubber & Plastics	37	147	183	366	33	131	164	328
Mineral Processing & Fabrication	424	1697	2121	4241	379	1517	1897	3794
Electrical & Electronics	23	94	117	234	21	84	105	210
Manufacturing of Engineering Goods	88	352	440	880	79	315	393	787
Manufacturing of Construction Material	116	462	578	1156	103	413	517	1034
Misc. Manufacturing	23	93	116	232	21	83	104	207
Construction	479	958	8141	9577	428	857	7281	8566
Trade, Retail	773	1160	5801	7735	846	1268	6341	8455
Transportation & Logistics	575	9127	10858	20560	470	7467	8884	16822
Hospitality & Tourism	1069	1604	8018	10690	855	1283	6414	8552
Banking & Financial Services	2795	8386	NA	11182	1957	5870	NA	7827
Healthcare	536	2411	NA	2947	714	3570	NA	4284
Education & Training	683	4595	NA	5278	1024	2757	NA	3781

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[705].

[704] *KPMG Analysis*
[705] *KPMG Analysis*

Secondary Sector (Manufacturing, Construction & Energy):

- **Chemical & Chemical Products:**

Category of Skills	Skills
Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Metal & Mineral Processing:**

Category of Skills	Skills
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services:**

Category of Skills	Skills
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.14.4. Human Resource Supply Scenario in the District

6.10.14.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Jamnagar would experience a moderate human resource growth during 2012-22. Better employment prospects within the district owing to industrialization would provide opportunities for local youth to be skilled and absorbed in Jamnagar. Details of human resource growth estimations during 2012-22 are presented in the table[706].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	216,295	121,793	70,519
2017-22	196,327	112,300	54,753

6.10.14.4.2. Education and Training Potential in the District

District has around 1632 K12 schools out of which 1419 schools are government schools. The private schools contribute to 13.05 percent of the total schools. The net enrolment ratio at the primary level and upper primary level are significantly lower than the averages for the state[707].

Total Enrollments in 209-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Jamnagar	164,614	57,171	64,190	20,518

Comparing the district's enrolment statistics with state average indicates that the district is a low performer in the primary education category[708]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Jamnagar	65.4	36.1
Gujarat	85.4	50.7

In the vocation education segment, the district lags behind in the provision of vocational training in comparison to state average. Private interest in the sector in this district is also very low indicating that the state must take proactive measures in seeking private support to augment vocational training infrastructure[709].

706 *KPMG Analysis*
707 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
708 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
709 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Jamnagar	17	4,656	2.16	5%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Jamnagar district needs to be focused on the tehsils of Jodiya, Dhrol, Kalyanpur, Lalpur, Kalavad and Khambhalia to bring them on par with the district average in vocational education capacity[710].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Bhanvad	381	3.07	11%
Jamnagar	2482	2.88	6%
Jamjodhpur	344	2.58	0%
Okha Mandal	400	2.45	0%
Jodiya	181	1.78	25%
Dhrol	112	1.32	0%
Kalyanpur	236	1.30	0%
Lalpur	148	1.28	0%
Kalavad	160	1.04	0%
Khambhalia	212	0.90	0%
District Total	**4656**	**2.16**	**5%**

In the higher education segment, Jamnagar is home to an Ayurvedic University offering post graduate and diploma courses in Ayurvedic medicines and pharmaceutical science, yoga and naturopathy. It has one medical college as well as dental, physiotherapy and ayurvedic colleges in the district. There are 16 colleges offering Arts, Commerce, Science, B.Ed & Law programs.

6.10.14.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				**2017-22**			
Sector	**Skilled**	**Semi**	**Minimally**	**Total**	**Skilled**	**Semi**	**Minimally**	**Total**

[710] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

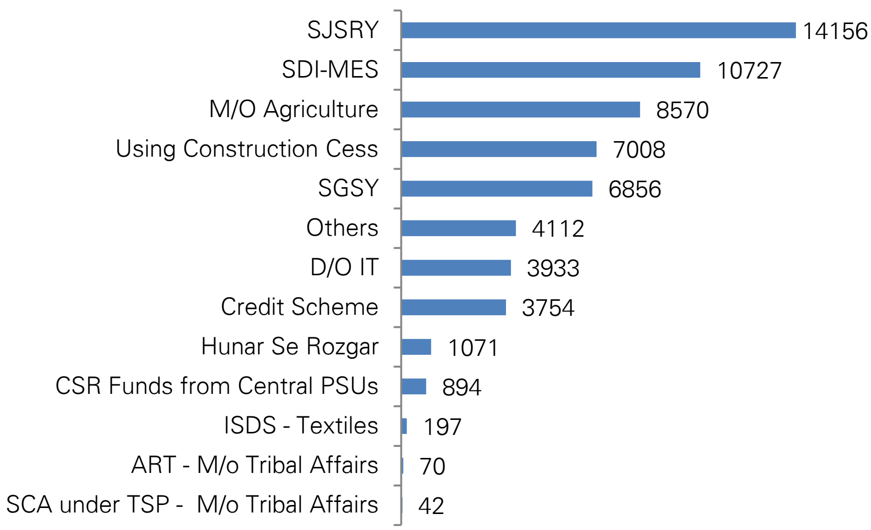
		Skilled	skilled			Skilled	skilled	
Demand-Supply Gap	133	28,472	481	29,083	(1,683)	20,918	11,759	30,996

*(Indicates excess supply)

6.10.14.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 61 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Jamnagar District[711]



6.10.14.5. District Specific Recommendations

Considering human resource potential and manpower requirements of the industry, the proposed action plan for stakeholders in skill development has been recommended:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following sectors • Transportation and Logistics

[711] *KPMG Analysis*

<table>
<tr><td></td><td>Healthcare
Construction
Hospitality and Tourism</td></tr>
<tr><td>District Administration</td><td>Provide skill training in conjunction with private skill training providers using government endowment training schemes
Agri Allied Activities such as animal husbandry and fisheries
Chemical and Chemical Products
Construction
Manufacturing of Construction Material</td></tr>
<tr><td>Private Skill Training Providers</td><td>Provide skill training in the sectors of
Transportation and Logistics
Healthcare
Construction
Hospitality and Tourism
Banking and Financial Services</td></tr>
<tr><td>Corporate</td><td>Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as
IT/ITES
Construction
Transportation and Logistics
Initiate and support modular employability skill training in collaboration with private players/Government
Create placement linkage opportunities in training institutions</td></tr>
</table>

6.10.15. Skill Gap Assessment of Sabar Kantha District

6.10.15.1. Socioeconomic Profile

6.10.15.1.1. Administrative Profile

Sabar Kantha district is located in the western part of the state with a geographical spread of 7390 sq.km[712]. District shares border with Banaskantha, Mehsana, Gandhinagar, Kheda, Panchmahal districts of Gujarat and Rajasthan state in the North. Administratively Sabar Kantha district is divided into 13 talukas and 1376 villages[713] with Himatnagar as the district capital. Himantnagar, Idar, Khedbrahma, Bhioloda, Modasa, Bayad, Prantij, Meghraj, Talod, Dhansura, Vijaynagar, Malpur and Vadali are taluka regions in the district.

6.10.15.1.2. Demographic Profile

Sabar Kantha is a moderate human resource potential region in Gujarat state. District has a total population of 24.27 lakhs[714] as per 2011 Census district accounting for 4 percent[715] of the overall state population. District has witnessed a higher decadal population growth in comparison to the overall state. Sabar Kantha population has witnessed a decadal growth rate of 24.43 percent[716] between 2001 and 2011 as against the state average of 19.17 percent[717] during the same period. Significant portion of district population lives in rural areas with these regions accounting for nearly 85.04 percent[718] of the total population. Population spread in the district is marginally lower than the state average with a density of 290 persons per sq.km[719] as against state average of 308 persons per sq.km[720]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Himantnagar, Idar, Khedbrahma, Bhioloda, Modasa and Bayad. Details of regional distribution of population in the district are presented in the table.

[712] *Census 2011 Statistics*
[713] *Census 2011 Statistics*
[714] *Census 2011 Statistics*
[715] *Census 2011 Statistics*
[716] *Census 2011 Statistics*
[717] *Census 2011 Statistics*
[718] *Census 2011 Statistics*
[719] *Census 2011 Statistics*
[720] *Census 2011 Statistics*

N·S·D·C National Skill Development Corporation

Regional Distribution of Population in the District[721]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Himatnagar	12%	332
Idar	11%	292
Khedbrahma	11%	268
Bhiloda	10%	286
Modasa	9%	318
Bayad	9%	315
Prantij	7%	365
Meghraj	7%	260
Talod	7%	322
Dhansura	5%	246
Vijaynagar	4%	199
Malpur	4%	236
Vadali	4%	243

Gender composition of district population is relatively better than the state average. As per 2011 census, district has a gender ratio of 936 females per 1000 males[722] as against the state average ratio of 918 females per 1000 males[723]. Gender ratio of district has increased from 930 females per 1000 males[724] in 2001 to 936 females per 1000 males[725] in 2011. Overall reserved categories contribute to 28.5 percent[726] of the total district population with scheduled tribes comprising 20.18 percent[727] indicating the need to include a focus on development scheduled tribes within Sabar Kantha district.

Education attainment levels in the district are relatively lower than the state average. As per 2011 estimates, the district has registered an overall literacy rate of 76.60 percent[728] as against state average of 79.31 percent[729]. The district has been making considerable progress in achieving regional inclusion in literacy rates while gender inclusion still remains a concern. Urban-rural literacy gap in Sabar Kantha is estimated to be 10.66 percent[730] comparable to the state average of 14.58 percent[731]. On the other hand, district still has a male-female literacy gap of 22.16

721 *Census 2001Statistics, KPMG Analysis*
722 *Census 2011 Statistics*
723 *Census 2011 Statistics*
724 *Census 2011 Statistics*
725 *Census 2011 Statistics*
726 *Census 2001Statistics, KPMG Analysis*
727 *Census 2001Statistics, KPMG Analysis*
728 *Census 2011 Statistics*
729 *Census 2011 Statistics*
730 *Census 2011 Statistics*
731 *Census 2011 Statistics*

percent[732] percent as against 16.5 percent[733] for Gujarat state. Continuing disparities in education attainment levels indicate a need for greater focus on female population. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth of the region.

6.10.15.1.3. Economic Profile

Sabar Kantha district of Gujarat is not considered an extremely industrial region and a majority of its occupants depend on agriculture and dairy farming for their sustenance. As a result of this, the region does host dairy companies, such as Sabar Dairy, and agriculture related industries, such as Pathik Agrotech. The region, however, is emerging as a significant producer of bauxite, clay and silica sand, which is paving way for new investment opportunities in the fields of fine bricks, crockery and vitrified tiles.

Investments in Sabar Kantha are relatively lower compared to major hubs like Rajkot and Surat. A total of INR 1086 Cr[734] has been commissioned with the Prantij and Himatnagar talukas being the largest recipients. Idar, Talod and Modsa talukas have seen also seen large scale investments, currently under implementation, that would lead to the development of industrial activity in these districts. Details about the large scale investment scenario are provided below:

Large Scale Investment Scenario In Sabar Kantha[735]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Himatnagar	28	432	21	365
Prantij	24	589	3	21
Talod	2	9	2	124
Idar	1	1	6	488
Modsa	1	44	3	374
Not Classified	1	11	3	107
District Total	**57**	**1086**	**38**	**1479**

Small scale industries in the region have seen the largest apportioning of investments when compared to micro and medium scale industries, seeing investments to the tune of INR 43658 lakhs[736]. The total investments in the MSMEs front sum to INR 65717 lakhs[737], benefiting over 1443 units[738]. Over 90% of the investments have been targeted at manufacturing units.

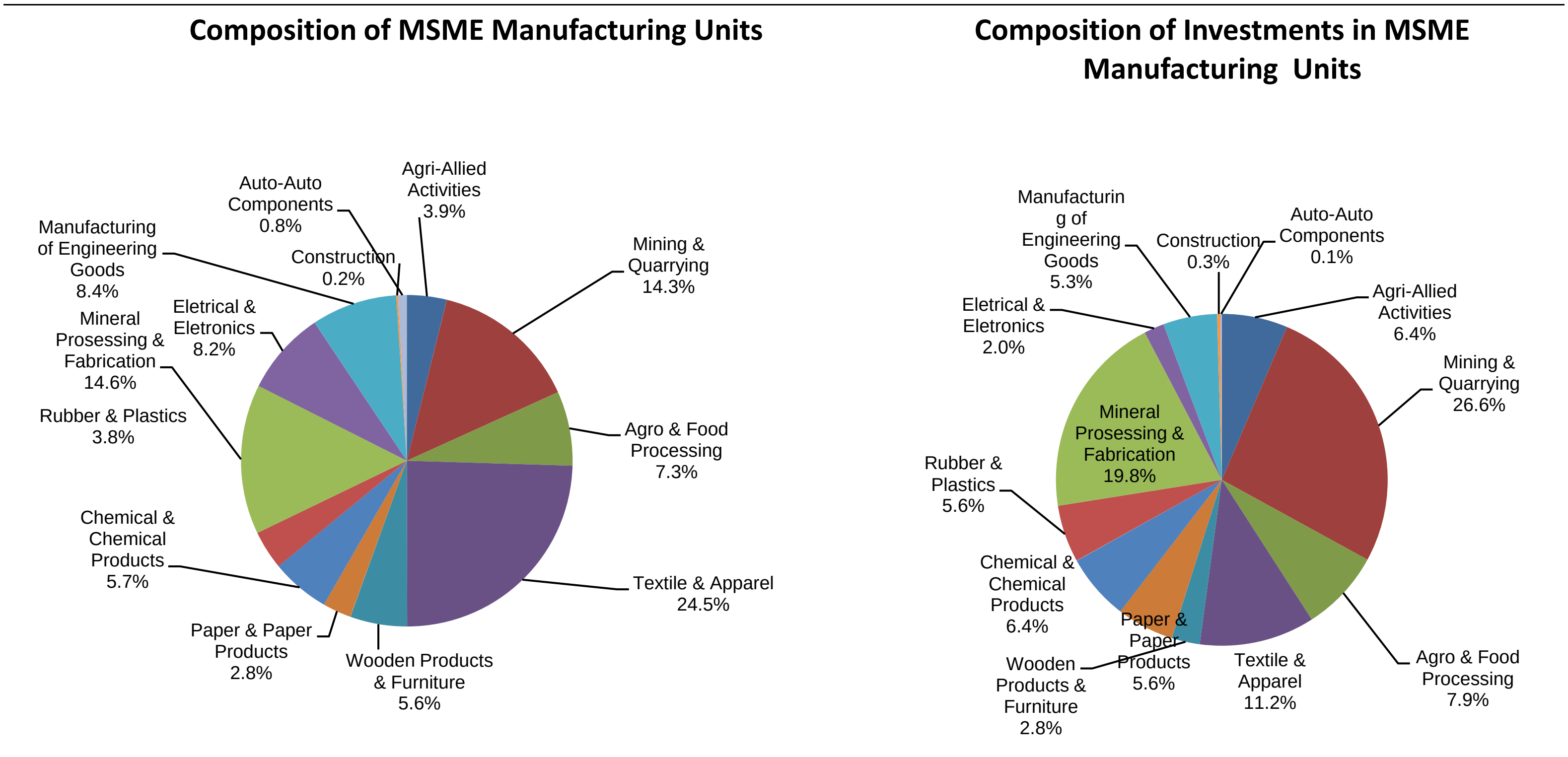
Details about the MSME investment scenario are tabulated below:

[732] *Census 2011 Statistics*
[733] *Census 2011 Statistics*
[734] *IEM, MSME Part-II Data till 2012-13*
[735] *IEM, MSME Part-II Data till 2012-13*
[736] *IEM, MSME Part-II Data till 2012-13*
[737] *IEM, MSME Part-II Data till 2012-13*
[738] *IEM, MSME Part-II Data till 2012-13*

MSME Investment Scenario in Sabar Kantha[739]		
Category of Industries	**Number of Units**	**Investment In Rs. Lakhs**
Micro	1,142	14,235
Small	291	43,658
Medium	10	7,824
Total	**1,443**	**65,717**
Manufacturing Sector Units	1,185	59,297
Service Enterprises	258	6,421

By volume, Textile & Apparel comprises of the largest segment amongst the MSME manufacturing units. This category sees 11.2% of the total investments in the space, but the segment which attracts the largest portion of the investment is Mining & Quarrying, receiving 26.6% of the total. Agro & Food processing forms 7.3% of the total number of MSME manufacturing units and witnesses 7.9% of the total investment. The charts below provide a detailed look into the MSME manufacturing units' space and the investment pattern in the same:

Composition of MSME Manufacturing Units in the District[740]

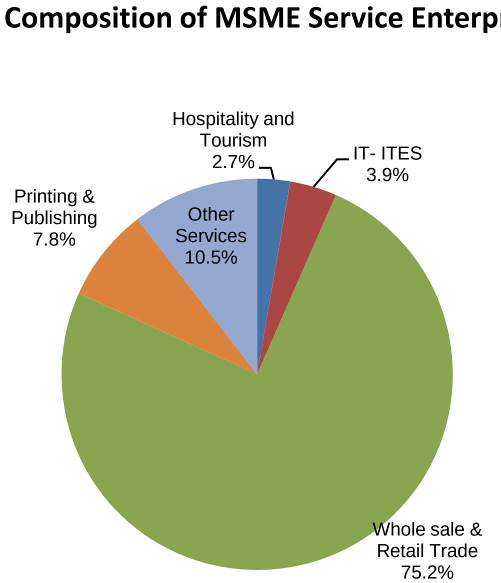


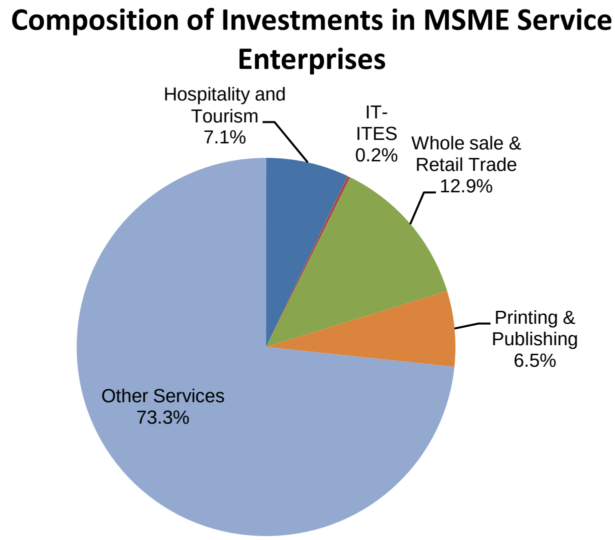
While the level of organized investments in services enterprises is low as evident from the MSME Part-II statistics, whole sale and retail trade has seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

739 *IEM, MSME Part-II Data till 2012-13*
740 *IEM, MSME Part-II Data till 2012-13*

N·S·D·C National Skill Development Corporation

Composition of MSME Services Units in the District[741]





Sabar Kantha has the National Highway 8 which connects it with Ahmadabad, Vadodara, Surat and Gandhinagar. There are 24 railway stations in the district connecting it with major cities of Gujarat and South Rajasthan. The nearest airport is at Ahmadabad.

The district consists of several historic locations, such as the Ruthi Rani Mahal, Sir Pratap Singh Palace and the Shrimad Rajchandra Vihar. The Shantinath Temple and Shamlaji temple are sacred sites in the region. Nature lovers are also attracted to the Polo forest in the Sabar Kantha district, which further bolster tourism in the area

With respect to medical facilities and institutions, Sabar Kantha is deemed to be a district with high penetration. The people catered by each hospital ratio falls a little higher than 24,000, ranking it 5th best in the state. There are 63 primary healthcare centers and 21 community healthcare centers[742]. There are the Seva Tribal hospital and the Civil hospital that confer medical aid in the region. There also exists the Government Ayurvedic hospital for alternate therapy.

The region does not enjoy the same comforts in the financial sector with Sabar Kantha rated as a low penetrated district. With 161 total banks, each institution on an average is required to cater to 15,077 people[743]. There is a gradual growth in the number of banks; the figures reflecting the same have grown at 6.4% CAGR between 2007 and

[741] *IEM, MSME Part-II Data till 2012-13*

[742] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[743] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

2012. In this period, deposits and credit amounts have grown faster at 24.5% and 26.4% and currently rest at INR 3,950 Cr. and INR 2,921 Cr[744] respectively.

The Sabar Kantha district falls under the North Gujarat agroclimatic zone, characterized by medium rainfall from the south-west monsoon during the months from June to September. 445000 hectares from the total 730000 hectares have been classified as cultivable. Over 50% of the soil is found to be of the black soil type with 26% constituted by sandy loam. Of the net sown area of 445000 hectares[745], 79000 hectares are sown more than once and result in a cropping intensity of 118%.

The district has a total rainfed area of 282000 hectares and 163000 hectares is the net irrigated area. Open wells are found to be the largest source of irrigation in Sabar Kantha, contributing to over 50% of the total irrigated area[746]. Studies on the groundwater availability have flagged the water at Idar as overexploited and that in Meghraj, Modasa and rest of the block to be either critical or semi-critical. Farmers need to be trained to conserve water and to adopt best practices in times of contingency to help accrue the water for the future.

The region cultivates fruits, such as mango, ber, citrus, sapota and aonla; as well as vegetables and medicinal crops like cucurbits, okra, ginger and turmeric. Conducive soil conditions facilitate the growth of cotton, leading to an average production of nearly 300000 tonnes of cotton lint.

Livestock in the region amount to over 18,00,000 animals, with the majority being constituted by graded buffalos at 43%. Goats and sheep together form 23% of the total livestock population in the district[747].

6.10.15.2. Workforce Distribution in the district

District has high level of dependency on agricultural activities for livelihood generation with three fourths of the total workforce engaged in this sector. Considering the low level penetration of manufacturing sector at 4.43 percent employment generation as against the state average of 15.86 percent, district has potential to become a sourcing hub for trained manpower. While the total worker participation rate is better than the state average, high manpower requirements in agrarian activities due to low output efficiency indicates the level of under employment in this category. Comparison of workforce distribution scenario in Sabar Kantha and Gujarat is presented in the table[748].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Sabar Kantha	60.6%	45.16%	76.45%	4.43%	19.12%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

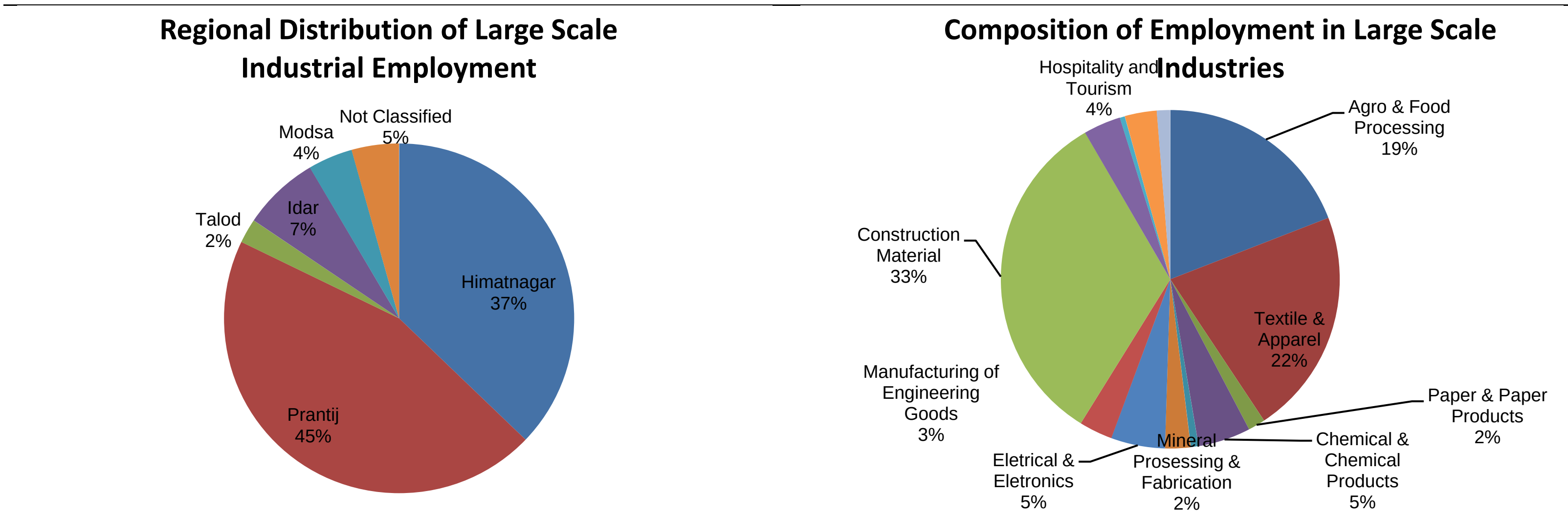
[744] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[745] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[746] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[747] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[748] *KPMG Analysis*

Registered factories and service enterprises have created over 21 thousand employment opportunities in the district. While the overall manufacturing base is low, high level of unorganized activity has further reduced organized job prospects in manufacturing sector within the district.

Organized Employment in Sabar Kantha[749]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	14072
MSME Category	13131
Manufacturing Units	12138
Service Enterprises	993
Total	**27203**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors. Himatnagar and Prantij account for a majority share of employment in this category. Textile and Apparel, Manufacture of Construction Material and Agro and Food Processing are major employment generating segments within the district. Regional and sectoral break up of large scale industrial employment is presented in the chart

Large Scale Industrial Employment Overview in the District[750]

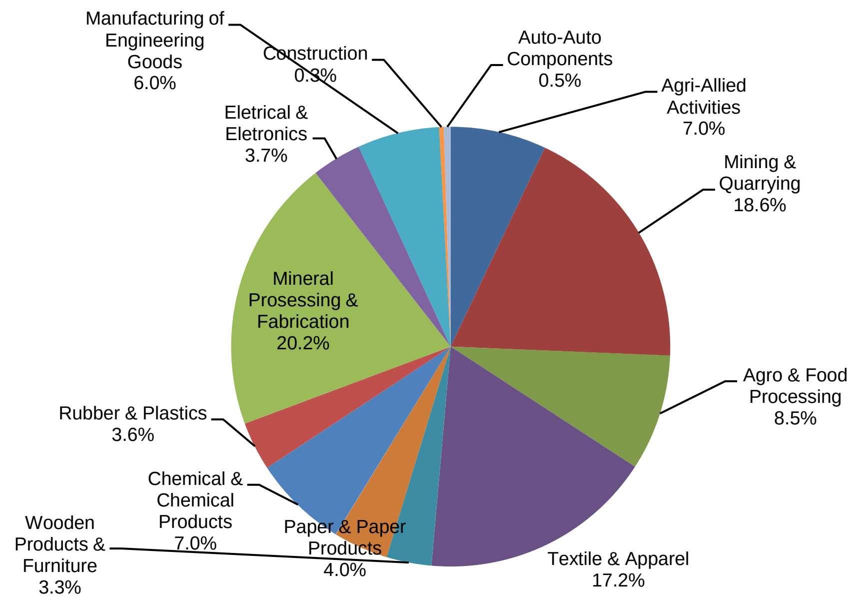


Among the manufacturing units in MSME segment Mining and Quarrying, Mineral Processing and Fabrication, Textiles and Apparels and Agro & Food Processing have accounted for majority share of the employment in all the categories of industries. Whole sale & retail trade, Publishing & printing and hospitality are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

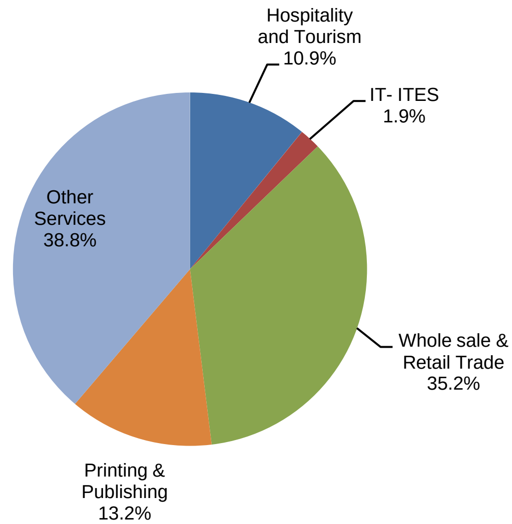
749 *IEM, MSME Part-II Data till 2012-13*
750 *IEM, MSME Part-II Data till 2012-13*

MSME Employment Overview in the District[751]

Composition of Employment in MSME Manufacturing Units



Composition of Employment in MSME Service Enterprises



6.10.15.3. Human Resource Requirement Projections in Sabar Kantha (2012-22)

Incremental manpower requirement in the district of Sabar Kantha has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Sabar Kantha. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri-allied activities is estimated considering the following parameters

[751] *IEM, MSME Part-II Data till 2012-13*

N·S·D·C National Skill Development Corporation

- Current level of employment in agricultural activities(farmers, agricultural laborers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation & logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub-segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)

- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- IT-ITES
- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in SabarKantha district are presented in the table[752].

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	25405	25405	NA	NA	21275	21275
Agro & Food Processing	99	397	496	991	89	355	443	887
Textile & Apparel	111	445	556	1111	99	398	497	994
Wooden Products & Furniture	9	35	44	87	8	31	39	78
Paper & Paper Products	16	62	78	156	14	56	70	139
Chemical & Chemical Products	34	135	168	337	30	120	151	301
Rubber & Plastics	12	46	58	116	10	42	52	104
Mineral Processing & Fabrication	109	438	547	1094	98	391	489	978
Electrical & Electronics	25	101	127	253	23	91	113	227
Manufacturing of Engineering	27	108	135	269	24	96	120	241

752 *KPMG Analysis*

Goods								
Manufacturing of Construction Material	100	400	500	999	89	358	447	894
Misc. Manufacturing	9	37	47	93	8	33	42	83
Construction	538	1077	9152	10767	482	963	8186	9630
Trade and Retail	870	1304	6522	8696	951	1426	7129	9506
Transportation & Logistics	469	7449	8863	16781	384	6095	7251	13730
Hospitality & Tourism	781	1172	5858	7810	625	937	4686	6248
Banking & Financial Services	1953	5858	NA	7811	1367	4101	NA	5468
Healthcare	602	2708	NA	3310	802	4009	NA	4811
Education & Training	1119	7531	NA	8650	1678	4519	NA	6197

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[753].

Secondary Sector (Manufacturing, Construction & Energy):

- **Textile & Apparel:**

Category of Skills	**Skills**
Core Skills	Ring frame operator, weaver, processing operator (CDR,BDR,Stuntor), Bar-coding machine operator
Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions.

- **Food Processing:**

Category of Skills	**Skills**
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists

[753] *KPMG Analysis*

Skills with acute shortage	PPO is required in industries having in house packing development.

- **Metal & Mineral Processing**:

Category of Skills	**Skills**
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	**Skills**
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services:**

Category of Skills	**Skills**
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	**Skills**
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management

Skills with acute shortage	Scheduling and logistics planning

- **Education:**

Category of Skills	**Skills**
Core Skills	School teachers, higher education faculty
Allied Skills	Knowledge on advanced teaching tools
Skills with acute shortage	Technical education trainers

Primary Sector:

- **Cultivation:**

Category of Skills	**Skills**
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	**Skills**
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.15.4. Human Resource Supply Scenario in the District

6.10.15.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Sabar Kantha is among the districts with moderately high human resource growth potential during 2012-22. Being a district with limited employment prospects, opportunities for absorbing the labour force have to be created through adequate skills. Details of human resource growth estimations during 2012-22 are presented in the table[754].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	255,224	163,435	90,320
2017-22	250,323	161,398	70,127

6.10.15.4.2. Education and Training Potential in the District

The district has the highest number of K12 schools amongst all districts of Gujarat. It has around 2893 K12 schools out of which the share of government schools is 88.56 percent. The net enrolment ratio of the district is higher than the state averages at both primary level and upper primary level[755].I

Total Enrollments in 2009-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Sabar Kantha	261508	93517	118793	40537

Comparing the district's enrolment statistics with state average indicates that the district is a strong performer in the primary education category[756]

Region	Number of it is	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Sabar Kantha	47	8,382	3.45	29%
Gujarat	711	138,106	2.29	26%

[754] *KPMG Analysis*
[755] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[756] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

In the vocation education segment, the district is ahead in the provision of vocational training in comparison to state average. Private interest in the sector in this district is high indicating that the state must take proactive measures in further increasing private support to improve vocational training infrastructure[757].

Given the unequal distribution of seats, capacity expansion in vocational education in Sabar Kantha district needs to be focused on the tehsils of Khedbrahma, Dhansura, Bayad, Meghraj, Vadali, Taro to bring them on par with the district average in vocational education capacity[758].

Taluka	**Seat Capacity**	**Vocational Training Capacity Density(Seats Per 1000 Population)**	**Private Sector Participation in Vocational Training**
Modasa	2320	10.37	8%
Bhiloda	1180	4.91	42%
Vijaynagar	392	3.71	49%
Himatnagar	1108	3.70	17%
Prantij	576	3.37	78%
Malpur	332	3.31	63%
Idar	738	2.68	53%
Khedbrahma	588	2.26	29%
Dhansura	228	2.03	33%
Bayad	380	1.75	11%
Meghraj	284	1.72	0%
Vadali	128	1.34	0%
Talod	128	0.80	0%
District Total	**8382**	**3.45**	**29%**

The district has 5 pharmacy colleges, 1 engineering college and 23 arts and science, commerce colleges in the district.

6.10.15.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				**2017-22**			
Sector	**Skilled**	**Semi**	**Minimally**	**Total**	**Skilled**	**Semi**	**Minimally**	**Total**

757 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
758 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

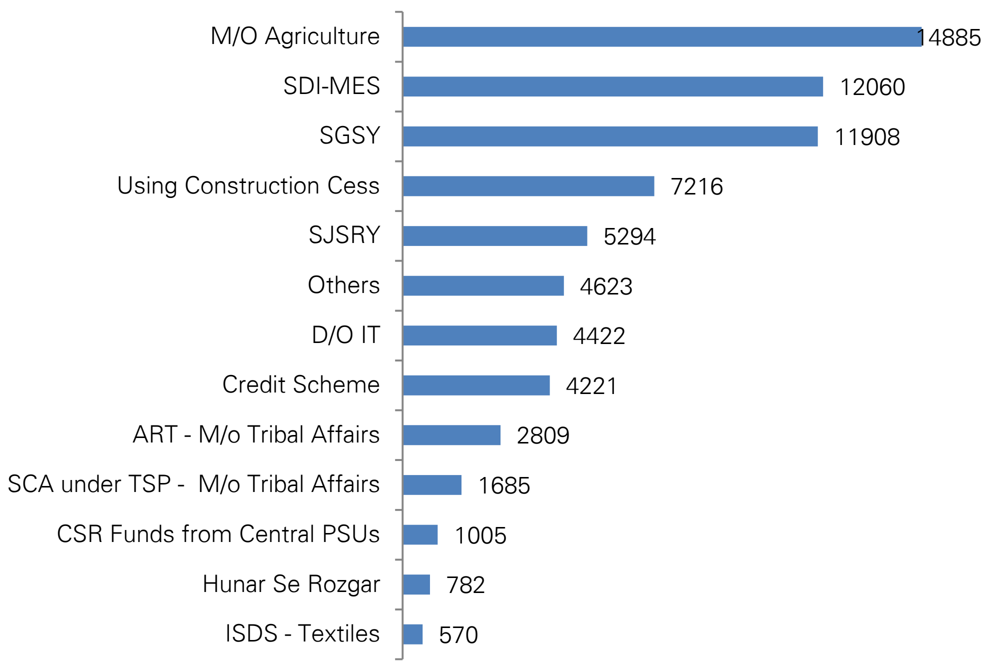
		Skilled	skilled			Skilled	skilled	
Demand-Supply Gap	(5,973)	19,336	(8,942)	4,416	(6,665)	12,358	5,972	11,664

*(Indicates excess supply)

6.10.15.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes, around 71 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labor Schemes are expected to contribute to a significant share of the training. Manpower training targets should focus on the primary sector considering the low level of industrial development in the district. Private training providers can explore opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Sabar Kantha District[759]



6.10.15.5. District Specific Recommendations

[759] *KPMG Analysis*

Considering these factors, the proposed action plan for stakeholders in skill development in the district would indicate the following priority areas:

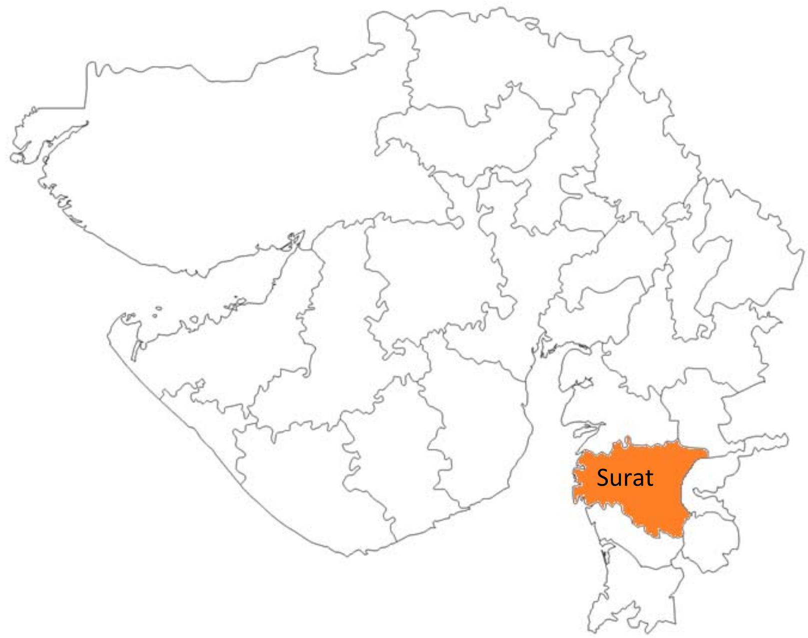
Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following sectors • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes • Mining and Quarrying • Agro and Food Processed • Textile and Apparel • Mineral Processing and Fabrication • Electrical and Electronics
Private Skill Training Providers	Provide skill training in the sectors of • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • Construction • Retail • Transportation and Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.16. Skill Gap Assessment of Surat District

6.10.16.1. Socioeconomic Profile

6.10.16.1.1. Administrative Profile

Surat is a coastal district in Gujarat located in the southern part of the state with a geographical spread of 4327 sq.km[760]. District shares border with Bharuch, Narmada, The Dangs, Navsari districts of Gujarat and Maharashtra state along with coastal line along Arabian Sea. Administratively Surat district is divided into 10 talukas and 707 villages[761] with Surat city as the district capital. Choryasi, Palsana, Kamrej, Bardoli, Olpad, Mangrol, Mandvi and Surat city are taluka regions in the district.



6.10.16.1.2. Demographic Profile

Surat is a high human resource potential region in Gujarat state. District has a total population of 60.79 lakhs[762] as per 2011 Census making it the second most populated district in state. Surat has witnessed the highest decadal population growth among the districts of Gujarat. District population has witnessed a decadal growth rate of 42.19 percent[763] between 2001 and 2011 as against the state average of 19.17 percent[764] during the same period. Surat is second most urbanized district in the state after Ahmedabad. A significant portion of district population lives in urban areas accounting for nearly 79.68 percent[765] of the total population. Population spread in the district is significantly higher than the state average with a density of 1376 persons per sq.km[766] as against state average of 308 persons per sq.km[767]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Surat and Chorasi. Details of regional distribution of population in the district are presented in the table.

[760] *Census 2011 Statistics*
[761] *Census 2011 Statistics*
[762] *Census 2011 Statistics*
[763] *Census 2011 Statistics*
[764] *Census 2011 Statistics*
[765] *Census 2011 Statistics*
[766] *Census 2011 Statistics*
[767] *Census 2011 Statistics*

Regional Distribution of Population in the District[768]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Surat	57%	21676
Chorasi	14%	1101
Bardoli	5%	558
Mandvi	4%	254
Olpad	4%	272
Kamrej	4%	455
Mangrol	4%	293
Mahuva	3%	402
Palsana	3%	599
Umarpada	2%	262

Gender composition of district population is highly skewed in comparison to the state average. As per 2011 census district has a gender ratio of 788 females per 100 males[769] as against the state average ratio of 918 females per 1000 males[770]. Gender ratio of the district has increased from 930 females per 1000 males[771] in 2001 to 936 females per 1000 males[772] in 2011. High levels of male migration into the industrial clusters of Surat are a key reason for increasingly biased population composition in the region. Overall reserved categories contribute to 31.58 percent[773] of the total district population with scheduled tribes comprising of 28.19 percent[774] indicating the need for inclusion focus on development of scheduled tribes within Surat district.

Education attainment levels in the district are amongst the highest in Gujarat. As per 2011 estimates, the district has registered an overall literacy rate of 86.65 percent[775] as against state average of 79.31 percent[776]. It has been making considerable progress in achieving regional and gender inclusion in literacy rates. Urban-rural literacy gap in Surat is estimated to be 10.87 percent[777] comparable to the state average of 14.58 percent[778]. Similarly, district still has a male-female literacy gap of 10.03 percent[779] as against 16.5 percent[780] for Gujarat state. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth of the region.

768 *Census 2001Statistics, KPMG Analysis*
769 *Census 2011 Statistics*
770 *Census 2011 Statistics*
771 *Census 2011 Statistics*
772 *Census 2011 Statistics*
773 *Census 2001Statistics, KPMG Analysis*
774 *Census 2001Statistics, KPMG Analysis*
775 *Census 2011 Statistics*
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777 *Census 2011 Statistics*
778 *Census 2011 Statistics*
779 *Census 2011 Statistics*
780 *Census 2011 Statistics*

6.10.16.1.3. Economic Profile

Surat's industrial landscape is dotted with a large number of petrochemicals, textiles and diamond processing related industries. The district contains 5 demarcated Special Economic Zones, 4 industrial parks and 16 industrial estates. This largely industrialized district has obtained worldwide recognition and fame as a premium diamond processing hub, handling 10 out of 12 varieties of diamond that currently exist in the world. The district plays a major role in India's diamond trade. The district's textile sector also contributes significantly to the man-made fiber production and exports.

Surat's promising industrial scene has also induced large scale investments in the region. Analysis of the large scale investment scenario indicates that the industrial growth has been largely concentrated in a few talukas like Chorayasi. However, through incentivization and promotions, other talukas like Surat and Kamrej are witnessing investments that would lead to the industrial development of the areas. The table below provides further details about the large scale investment scenario in the district:

Large Scale Investment Scenario In Surat[781]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Surat	283	1612	352	16543
Mangrol	162	607	54	9078
Chorayasi	153	24640	49	12204
Palsana	148	1795	75	1707
Mandvi	146	433	26	671
Olpad	35	141	29	4613
Mahuva	13	109	1	2
Bardoli	9	116	18	304
Kamrej	5	47	11	18965
Umarpada			1	0
Not Classified	4	1030	28	3339
District Total	**958**	**30530**	**644**	**67426**

The district's industrial nature provides a window for a slew of supplementary units, thereby increasing the scope for the establishment of MSMEs. As per the MSME investment Part–II statistics, there are 58163 units in the district that have attracted investments to the tune of INR 13, 08, 256 lakhs in 2012.

Investment outlook in MSME segment of Narmada district is presented in the table.

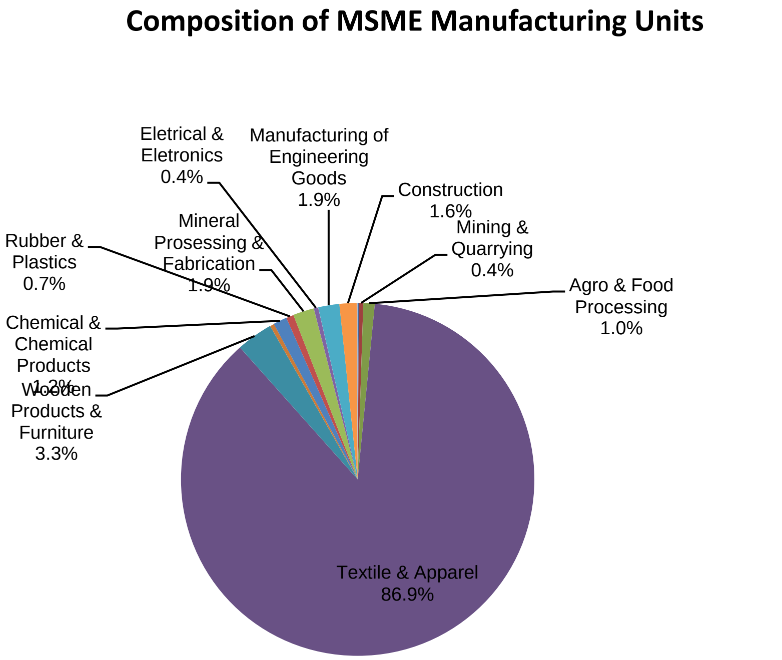
MSME Investment Scenario in Surat[782]		
Category of Industries	**Number of Units**	**Investment In Lakhs**
Micro	51,478	526,013
Small	6,440	585,084

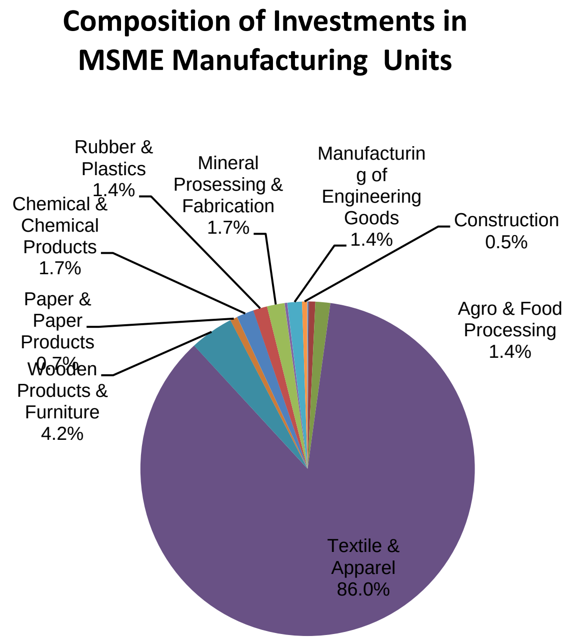
[781] *IEM, MSME Part-II Data till 2012-13*
[782] *IEM, MSME Part-II Data till 2012-13*

Medium	245	197,159
Total	**58,163**	**1,308,256**
Manufacturing Sector Units	41,073	1,202,432
Service Enterprises	17,090	105,824

Textiles & Apparel related manufacturing units form the majority with regards to the number of units as well as the amount of investment attracted. Over 85% of the units fall under the Textiles & Apparel category and obtain 86% of the total investments made in the MSME space. The category-wise split and investment pattern are illustrated in the charts below:

Composition of MSME Units in the District[783]

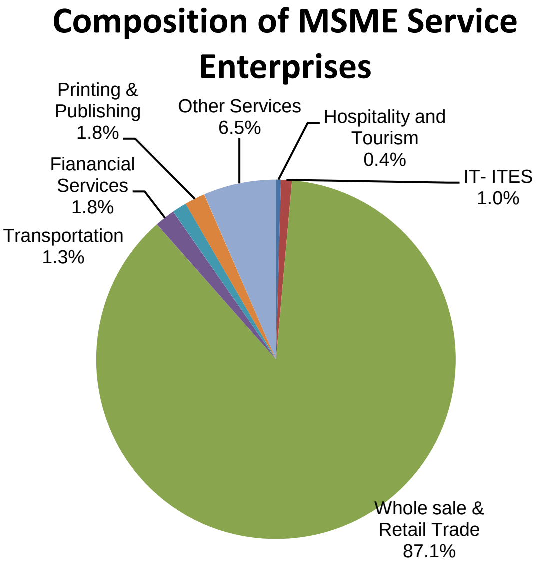


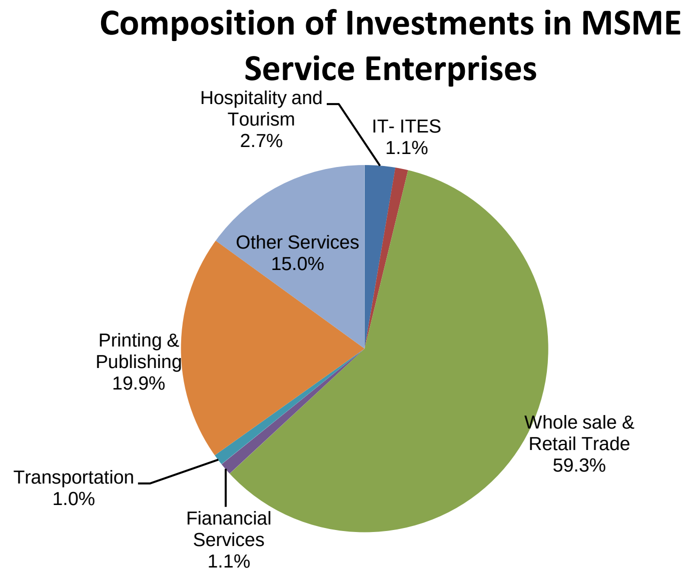


While the level of organized investments in services enterprises is low in comparison to that of manufacturing sector enterprises, services sector activity is one of the highest in the state. Whole sale and retail trade is the largest investment category in services sector in the district. Composition of MSME service enterprises and investments are presented in the chart

[783] *IEM, MSME Part-II Data till 2012-13*

Composition of MSME Service Enterprises in the District[784]





Tourism is a significant proponent of growth in Surat. The district accounted for 4.29% of the total tourist inflow in Gujarat during 2006/07 and has grown since. Historical locations like the Surat Castle and the Mughalsarai combined with ornately carved mosques and Parsi agiaris act as major attractors of tourist in the region. The Hazira bean and Dumas beach are other tourist spots in Surat.

Apart from tourism, the IT/ITES sector is envisaged as a rising sector in Surat. There is a proposal for an industrial center in Surat called Surat-Navsari Industrial area which has an IT/ITES/Biotech hub. The major investment avenues in the IT/ITES sector are in Software Development Centers, Business Process Outsourcing (BPO), Knowledge Process Outsourcing (KPO) and Educational Training Centers.

Surat's connectivity to major cities like Mumbai, Delhi and Ahmedabad through NH 8 helps facilitate the growth of tourism in the district. The rail network helps connect Surat with other areas in Gujarat, like Tapi, Ahmedabad, Bharuch, Vadodara and Valsad; while also providing lines to reach Mumbai. There is a domestic airport located in Surat connecting the district to Delhi, Jaipur and Ahmedabad. There are ports located at Magdalla and Hazira.

With regards to healthcare, Surat is ranked as the lowest penetrated district, with 63,325 people[785] having access to one hospital on average. This could be attributed to the relatively higher population of Surat compared to the other districts, but it still identifies a sector that has potential to generate employment. Training and preparatory courses are required to develop a workforce capable of enter the healthcare services sector. At present, the district has 50

[784] *IEM, MSME Part-II Data till 2012-13*
[785] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

primary healthcare centers, 13 community healthcare centers, 4 hospitals and 16 dispensaries. Apart from the above, there are specialized hospitals for TB and cancer detection[786].

There is also scope for development in financial services, with Surat falling a little below the average penetration in the state; each financial institution is required to cater to roughly 13,000 people[787] in the district. Currently, Surat has a total of 468 bank offices with a total deposit of 29,210 Cr INR and a total credit of 23,887 Cr INR as of March 2012.

Surat is located in the South Gujarat agro-climatic zone, characterized by above average rainfall of 974mm. The region experiences semi-arid to dry sub-humid weather variations. The soil consists largely of the deep black and coastal alluvium types. The geographical area sums up to a total over a little over 400000 hectares[788] of which over 76% is cultivable area[789] The proliferation of irrigation is high in the district with 2 hectares of land irrigated for every hectare of rain fed land. Over 1000 km of canals have been set up in the region instrumental in providing two-thirds of the cumulative irrigation.
Amongst horticultural crops, banana is cultivated over 10000 hectares with the district being one of the largest producers, followed by mango[790]. Brinjal and okra are the leading vegetables grown in the region with the district topping production of these two commodities in the state. The major kharif crop is rice and that in the rabi season is sugarcane incentivizing setting up of sugar processing facilities in the district. Livestock comprises 579071 animals, including cattle, buffalos, sheep, goat and others.

6.10.16.2. Workforce Distribution in Surat district

Being a highly industrialized district, Surat has made significant progress towards reducing dependency on agriculture. Nearly one third of the total workforce is dependent on secondary sector activities. Further, total work force participation rate is higher than the state average unlike most of the urban regions in India. Higher participation rates are attributed to significant women employment in textile units. Comparison of workforce distribution scenario in Surat and Gujarat is presented in the table[791].

Region	**Labour Force Participation**	**Workforce Participation**	**Percentage of Employment**		
			Primary Sector	**Secondary Sector**	**Tertiary Sector**
Surat	65.04%	43.69%	44.84%	31.56%	23.6%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

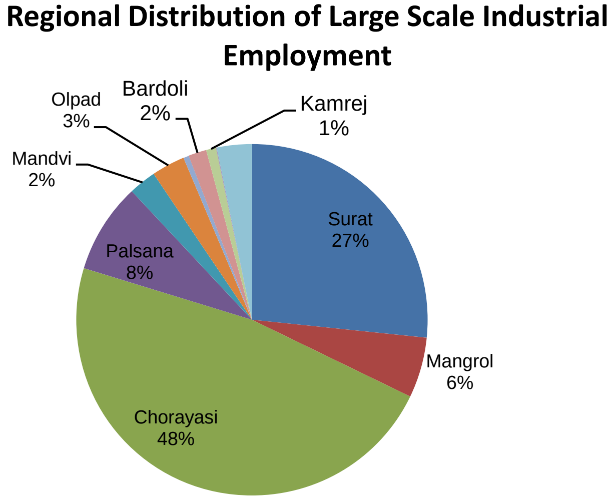
Organized secondary sector employment has contributed to significant share of secondary sector employment in the district. Registered MSME units and commissioned large scale industrial units have generated an employment base of 6.6 lakhs in the district.

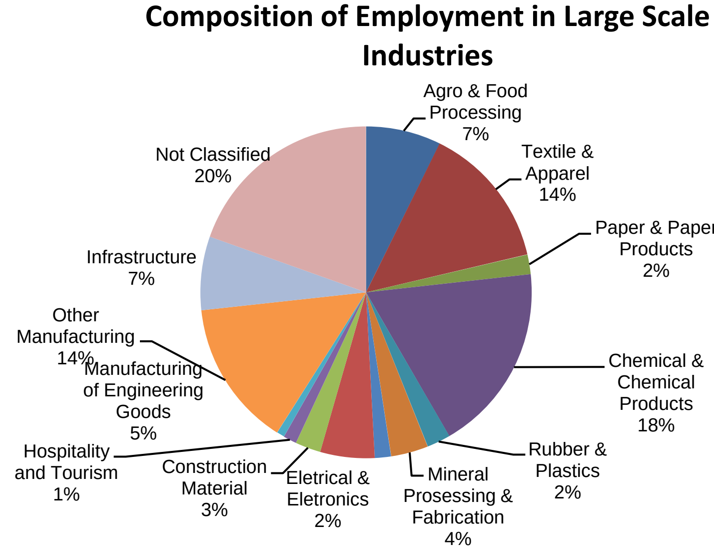
786 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
787 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
788 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
789 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
790 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
791 *KPMG Analysis*

Organized Employment in Surat[792]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	244390
MSME Category	509526
Manufacturing Units	426416
Service Enterprises	83110
Total	**753916**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors. Chorayasi and Surat talukas account for a majority share of employment in this category. Textile, Chemicals, manufacture of engineering goods, chemical and chemical products sector are major employment generating segments within the district. Regional and sectoral break up of large scale industrial employment is presented in the chart

Large Scale Industrial Employment Overview in the District[793]

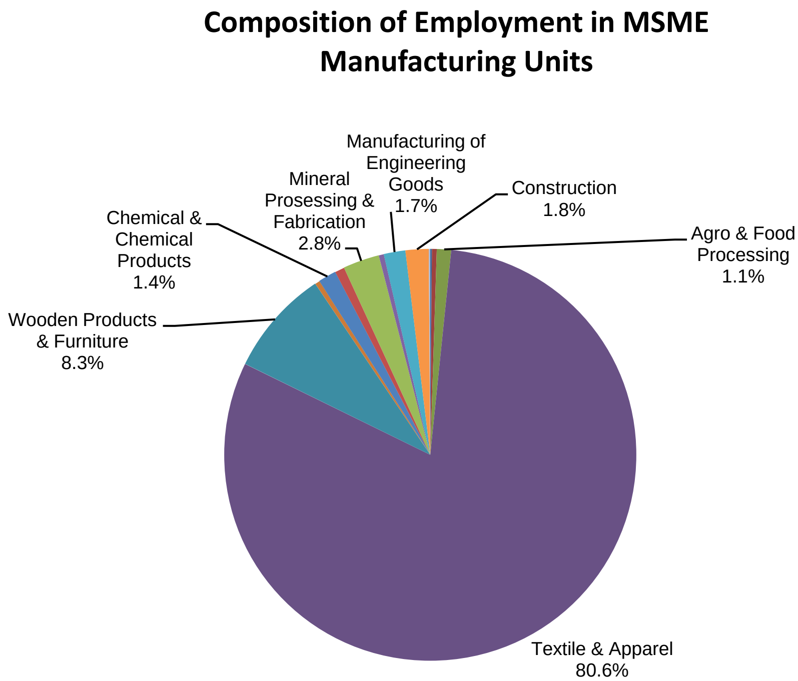


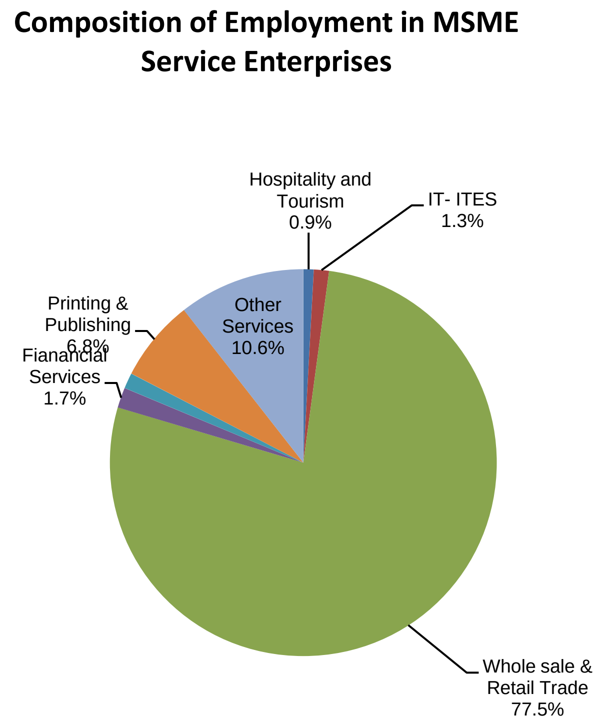


Among the manufacturing units in MSME segment Textiles and Apparel and manufacture of wooden products have accounted for majority share of the employment in all the categories of industries. Whole sale & retail trade and publishing & printing are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

792 *IEM, MSME Part-II Data till 2012-13*
793 *IEM, MSME Part-II Data till 2012-13*

MSME Employment Overview in the District[794]





6.10.16.3. Human Resource Requirement Projections in Surat (2012-22)

Incremental manpower requirement in the district of Surat has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Surat. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in

794 *IEM, MSME Part-II Data till 2012-13*

agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities (farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labor elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking. Other segments including hospitality and tourism, financial intermediation, communication, retail depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation & logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub-segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel

- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- IT-ITES
- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Surat district are presented in the table[795].

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	15205	15205	NA	NA	12733	12733
Agro & Food Processing	349	1395	1743	3486	312	1247	1559	3118
Textile & Apparel	9966	39866	49832	99664	8914	35657	44572	89143
Wooden Products & Furniture	768	3073	3842	7684	687	2749	3436	6872
Paper & Paper Products	96	383	479	957	86	342	428	856
Chemical & Chemical Products	711	2842	3553	7106	636	2542	3178	6356
Rubber & Plastics	151	604	755	1509	135	540	675	1350
Mineral Processing & Fabrication	467	1868	2335	4670	418	1671	2088	4177
Electrical &	112	450	562	1124	101	402	503	1005

795 *KPMG Analysis*

Electronics								
Manufacturing of Engineering Goods	367	1468	1835	3669	328	1313	1641	3282
Manufacturing of Construction Material	78	314	392	785	70	281	351	702
Drugs and Pharmaceuticals	24	95	119	239	21	85	107	213
Misc. Manufacturing	1066	4265	5331	10661	954	3814	4768	9536
Construction	1348	2697	22921	26966	1206	2412	20501	24119
Trade, Retail	2178	3267	16334	21778	2381	3571	17855	23806
Transportation & Logistics	2596	41226	49049	92871	2124	33731	40131	75985
IT-ITES	9000	22500	NA	31500	7500	18000	NA	25500
Hospitality & Tourism	2479	3719	18593	24790	1983	2975	14874	19832
Banking & Financial Services	2266	6799	NA	9066	1587	4760	NA	6346
Healthcare	462	2079	NA	2541	615	3077	NA	3693
Education & Training	1703	11468	NA	13171	2555	6881	NA	9436

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[796].

Secondary Sector (Manufacturing, Construction & Energy):

- **Textile & Apparel:**

Category of Skills	Skills
Core Skills	Ring frame operator, weaver, processing operator (CDR,BDR,Stuntor), Bar-coding machine operator
Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions.

- **Chemical & Chemical Products:**

Category of Skills	Skills

796 *KPMG Analysis*

Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Metal & Mineral Processing**:

Category of Skills	Skills
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services**:

Category of Skills	Skills
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	Skills

Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Healthcare :**

Category of Skills	**Skills**
Core Skills	MBBS Doctors, MD/MS specialists, Physician Assistants/Compounders, Radiologists, Dialysis technician, Respiratory technician and OT Assistants & Perfusionist.
Allied Skills	Lab technicians, pharmacists
Skills with acute shortage	Physiotherapists, Biomedical Instrumentation technicians

- **Organized Retail:**

Category of Skills	**Skills**
Core Skills	Shop floor executives/supervisors, computer operator
Allied Skills	Transportation & logistics staff
Skills with acute shortage	Store management, stock planning

6.10.16.4. Human Resource Supply Scenario in the District

6.10.16.4.1. Estimation of Labor Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Surat is among the districts with high human resource growth potential during 2012-22. Being a district with higher employment opportunities, district has potential to absorb workforce from neighbouring districts and even from outside the state. Details of human resource growth estimations during 2012-22 are presented in the table[797].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	507,976	255,044	179,396
2017-22	406,154	194,431	139,288

6.10.16.4.2. Education and Training Potential in the District

The district has around 1982 K12 schools with a 68.11 percent share of Government schools. The relatively higher share of private schools has a major role to play towards the high literacy rate of Surat. However the net enrolment ratio at the primary level and upper primary level are lower in comparison to the state averages primarily due to the high decennial growth rate in Surat's population[798].

Total Enrollments in 2009-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Surat	423,591	152,406	170,293	85,146

Comparing the district's enrolment statistics with state average indicates that the district is a very poor performer in the primary education category[799]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Surat	37.6	20.1
Gujarat	85.4	50.7

In the vocational education segment, the district lags behind in the provision of vocational training in comparison to state average. Private interest in the sector in this district is also low indicating that the state must take proactive measures in seeking private support to augment vocational training infrastructure[800].

797 *KPMG Analysis*
798 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
799 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
800 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Surat	30	7,750	1.27	17%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Surat district needs to be focused on the tehsils of Mangrol (S), Olpad, Palsana, Kamrej, Bardoli, Mandvi, Surat, Mahuva (S), Choryasi to bring them on par with the district average in vocational education capacity[801].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Umarpada	240	2.55	0%
Mangrol (S)	512	2.17	37%
Olpad	528	2.06	26%
Palsana	300	1.83	0%
Kamrej	392	1.65	67%
Bardoli	440	1.51	5%
Mandvi	348	1.36	0%
Surat	4262	1.27	7%
Mahuva (S)	192	0.98	0%
Choryasi	536	0.66	69%
District Total	**7750**	**1.27**	**17%**

The district has 6 pharmacy colleges, 4 engineering college, 2 medical colleges, 3 MCAs, 4 management colleges and 25 arts and science, commerce colleges in the district. Surat has many Medical, nursing, ayurvedic and physiotherapy educational institutions in Surat colleges. Technical colleges offering courses in chemical, civil, electrical, electronics and communication, information technology, production and mechanical engineering are also present in the district. Institutes providing specialized courses in gems & jewellery and textile sector are also widely available to provide trained manpower for the industry. Indian Diamond Institute provides different courses in diamonds, coloured gemstones and machine cast jewellery. Besides imparting training, it is also undertaking R & D and consultancy services. Man Made Textile Research Association (MANTRA) has been established to carry out R & D, testing and technical service activities to the man-made fiber textiles industry. MANTRA also caters to the increasing quality control needs of man-made textiles industry in Surat.

6.10.16.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

[801] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

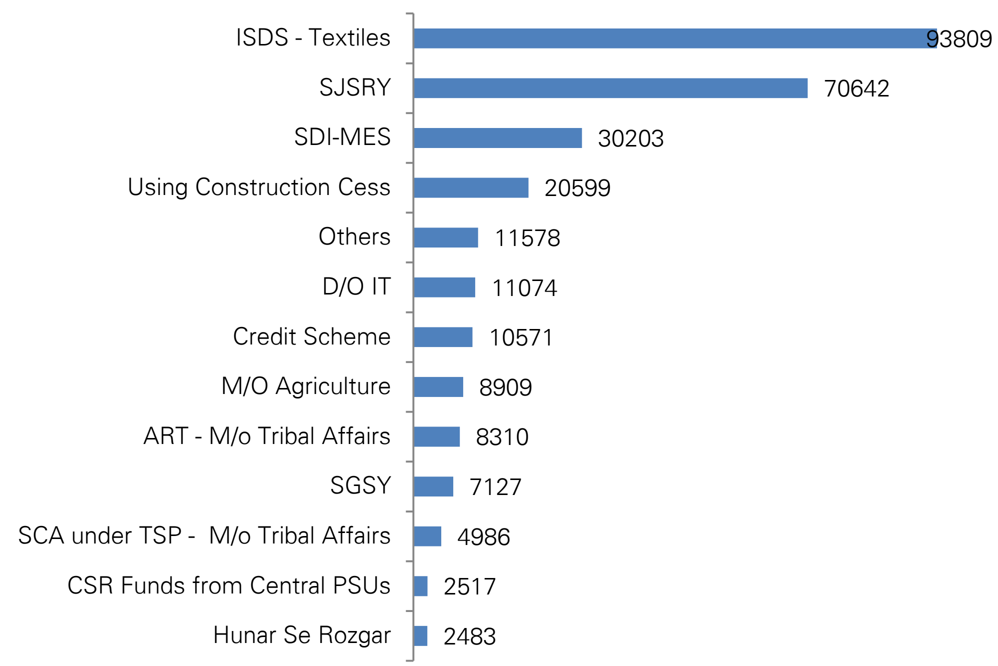
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	12,523	132,032	55,495	200,046	550	98,239	89,986	188,772

*(Indicates excess supply)

6.10.16.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 2.82 lakh people in total can be trained incrementally during the five year period of 2012-17. The Ministry of Agriculture and the Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets focus on the primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - District Surat[802]



6.10.16.5. District Specific Recommendations

[802] *KPMG Analysis*

N·S·D·C National Skill Development Corporation

Considering these factors, the proposed action plan for stakeholders in skill development in district would indicate the following priority areas:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following sectors • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes • Textiles and Apparels
Private Skill Training Providers	Provide skill training in the sectors of • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • Construction • Retail • Transportation and Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.17. Skill Gap Assessment of Surendranagar District

6.10.17.1. Socioeconomic Profile

6.10.17.1.1. Administrative Profile

Surendranagar is located in the western part of the state with a geographical spread of 10,489 sq.km[803]. The district shares its border with Rajkot, Patan, Kutch, Bhavnagar and Ahmedabad districts of Gujarat. Administratively Surendranagar district is divided into 10 talukas and 651 villages[804] with Surendranagar city as the district capital. Wadhwan, Dhrangadhra, Chotila, Dasada, Limbdi, Halvad, Muli, Sayla, Chuda and Lakhtar city are taluka regions in the district.

6.10.17.1.2. Demographic Profile

Surendranagar is a medium human resource potential region in Gujarat state. It has a total population of 17.56 lakhs[805] as per 2011 Census accounting for 2.9 percent[806] of the overall state population. Surendranagar has witnessed a relatively lower decadal population growth in comparison to the state average. The district population has witnessed a decadal growth rate of 15.89 percent[807] between 2001 and 2011 as against the state average of 19.17 percent[808] during the same period. Significant portion of district population lives in rural areas with these regions accounting for nearly 71.70 percent[809] of the total population. Population spread in the district is significantly lower than the state average with a density of 167 persons per sq.km[810] as against state average of 308 persons per sq.km[811]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Wadhwan, Dhrangadhra, Chotila and Dasada. Details of regional distribution of population in the district are presented in the table.

803 *Census 2011 Statistics*
804 *Census 2011 Statistics*
805 *Census 2011 Statistics*
806 *Census 2011 Statistics*
807 *Census 2011 Statistics*
808 *Census 2011 Statistics*
809 *Census 2011 Statistics*
810 *Census 2011 Statistics*
811 *Census 2011 Statistics*

Regional Distribution of Population in the District[812]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Wadhwan	21%	396
Dhrangadhra	13%	142
Chotila	11%	163
Dasada	11%	104
Limbdi	10%	132
Halvad	10%	118
Muli	7%	109
Sayla	7%	104
Chuda	6%	172
Lakhtar	5%	94

Gender composition of district population is marginally better in comparison to the state average. As per 2011 census the district has a gender ratio of 929 females per 1000 males[813] as against the state average ratio of 918 females per 1000 males[814]. The gender ratio of the district has increased from 930 females per 1000 males in 2001 to 936 females per 1000 males[815] in 2011. High levels of male migration into the industrial clusters of Surat are a key reason for increasingly biased population composition in the region. Overall reserved categories contribute to 11.92 percent[816] of the total district population with a higher proportion of scheduled castes indicating the need for inclusion focus on development scheduled castes within Surat district.

Education attainment levels in the district are lower than the state average. As per 2011 estimates, the district has registered an overall literacy rate of 73.19 percent[817] as against state average of 79.31 percent[818]. Continuing regional and gender disparities in literacy rates is a key concern within the district. Urban-rural literacy gap in Surendranagar is estimated to be 13.83 percent[819] comparable to the state average of 14.58 percent[820]. Similarly, the district has a male-female literacy gap of 21.27 percent[821] as against 16.5 percent[822] for Gujarat state. Efforts to increase inclusion focus in mass education programs are recommended to develop a quality workforce in Surendranagar.

812 *Census 2001Statistics, KPMG Analysis*
813 *Census 2011 Statistics*
814 *Census 2011 Statistics*
815 *Census 2011 Statistics*
816 *Census 2001Statistics, KPMG Analysis*
817 *Census 2011 Statistics*
818 *Census 2011 Statistics*
819 *Census 2011 Statistics*
820 *Census 2011 Statistics*
821 *Census 2011 Statistics*
822 *Census 2011 Statistics*

6.10.17.1.3. Economic Profile

Surendranagar is a base for industrial sectors such as, textiles, chemicals, ceramics and food processing industries. Textiles and chemicals have been the major sectors of investment and employment in the district, for over two decades.

The district is the largest producer of Shankar Cotton in the world and also houses the first Cotton Trading Exchange of India. Surendranagar also has rich reserves of silica sand, fire clay, white clay and molding sand

Several known industrial groups are present in Surendranagar which include, PepsiCo India Holding Ltd., PET Plastics, Unifrax, Luxite Industries, Mepro Pharmaceuticals, Rimtex Group, Biodeal Laboratories, and Panama Group

Analysis of regional distribution of investments in Surendranagar district indicates that the industrial development is concentrated in Muli, Chotila, Dasad and Halvad Talukas while other regions like Sayla, Limbdi, Dharangadra and Halvad still remain backward in terms of industrial development. Over the recent years State Government has initiated measures to enhance the industrial growth in backward talukas across the state through suitable incentives leading to an increased investment potential of these regions over the next decade.

Details of region wise large scale investments in Surendranagar district till 2012 is presented in the table.

Large Scale Investment Scenario In Surendranagar[823]

Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Wadhwan	11	45	3	1840
Chotila	7	111	10	255
Dasada	4	92	7	1954
Dharangadhra	3	11	4	313
Halvad	3	86	2	81
Lakhtar	2	8	1	49
Muli	2	146	4	40
Sayla	2	1	2	312
Limbdi			3	1347

[823] *IEM, MSME Part-II Data till 2012-13*

Not Classified	1	11	48	3123
District Total	**35**	**511**	**84**	**9314**

Moderate growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 1459 units operating in the district attracting an investment of INR 61,006 lakhs in 2012.

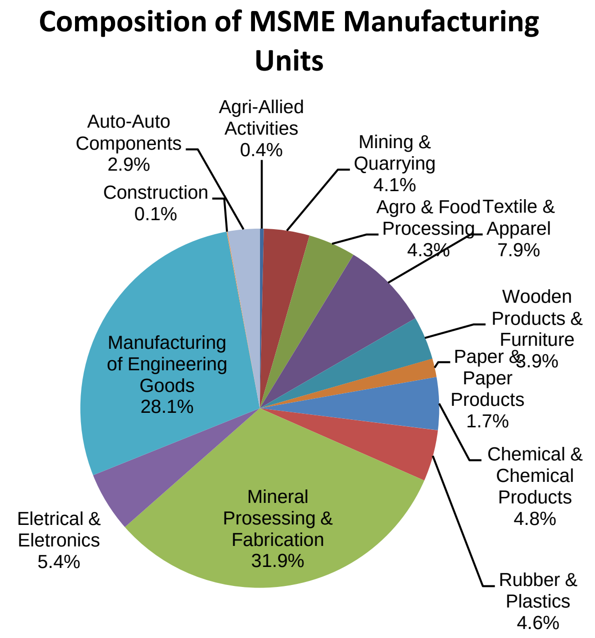
Investment outlook in MSME segment of Surendranagar district is presented in the table.

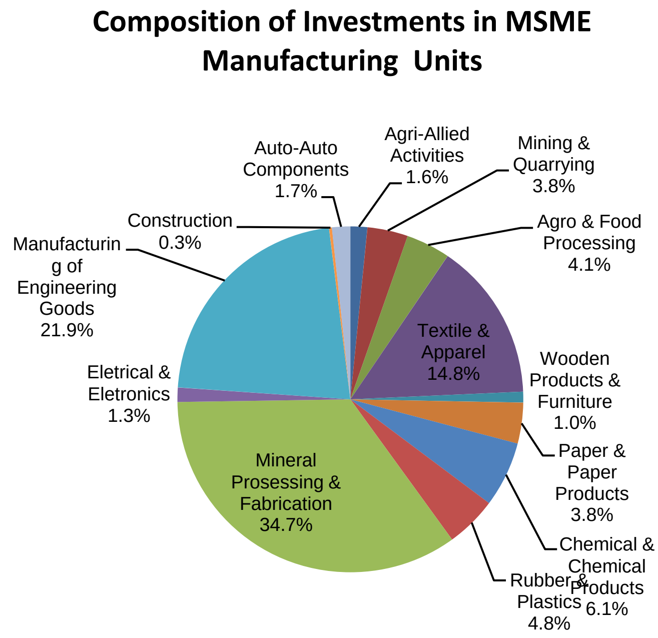
MSME Investment Scenario in Surendranagar[824]		
Category of Industries	**Number of Units**	**Investment In Lakhs**
Micro	1193	19508
Small	259	36460
Medium	7	5037
Total	**1459**	**61006**
Manufacturing Sector Units	1387	59404
Service Enterprises	72	1602

MSME segment in Surendranagar is dominated by manufacturing industries in terms of both volume and investments. Among the manufacturing based MSME units mineral processing and fabrication, chemical and chemical products and manufacturing of engineering goods are prominent categories in terms of number of units and investment. Composition of MSME manufacturing units and investments are presented in the chart.

MSME Manufacturing Scenario in the District[825]

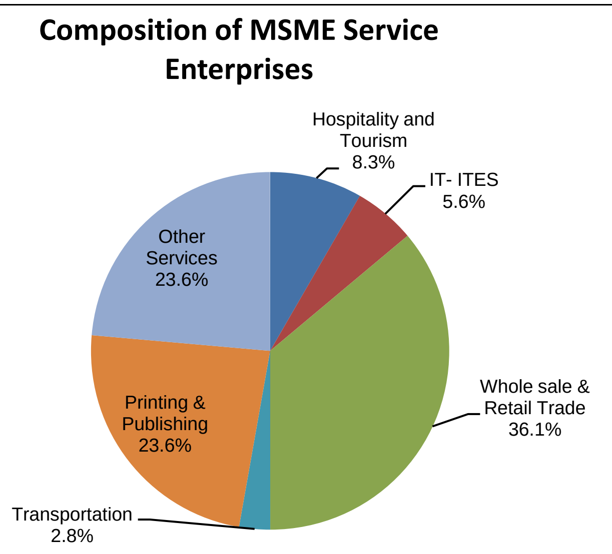
[824] *IEM, MSME Part-II Data till 2012-13*
[825] *IEM, MSME Part-II Data till 2012-13*

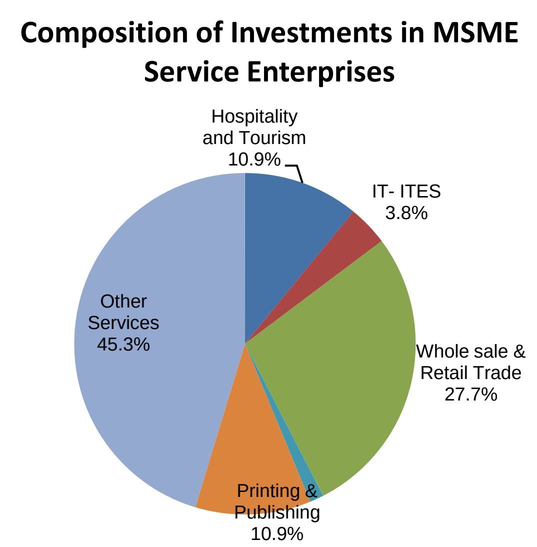




While the level of organized investments in services enterprises is low as evident from the MSME Part-II statistics, sectors of whole sale and retail trade, Printing and Publishing and Hospitality and Tourism have seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

MSME Manufacturing Sector Scenario in the District[826]





826 *IEM, MSME Part-II Data till 2012-13*

The Trinetreshwar Mahadev Mela (Tarnetar Fair) is very famous in the region and is one of Surendranagar's major tourist attractions. The Chotila Hills, Shigh Mahal, Ranakdevi Temple and Ganga Kund are other tourist locations in the district.

Tourists and travelers looking to enter the district can utilize the NH 8A when coming from the Ahmedabad and Kachch regions. The rail network also provides access by way of the broad gauge railway line connecting Surendranagar with major cities like Delhi, Mumbai, Ahmedabad, Bangalore and Hyderabad. The nearest airport, however, is located in Ahmedabad and Rajkot .

Surendranagar is considered to have medium penetration in the financial sector; it has been estimated that 1 bank exists for 12,724 people[827] in the region. There are 138 banks offices aggregating deposit and credit amounts of 3,389 Cr. INR and 1,553 Cr. INR. The region has seen a year-on-year growth in the number of banks at 7.3% between 2007 and 2012. An increased propensity towards saving money is observed with deposits growing at 23.2% CAGR in same period. Credit has grown at CAGR 17%[828].

Medical infrastructure in the district, however, does need to be bolstered with one medical institution catering to nearly 32,000 people[829]. At present, Surendranagar has 31 primary healthcare centers, 11 community healthcare centers and 8 hospitals. Some hospitals in the area include C.U. Shah Hospital, Unique Cardiac Care, Nathwani Surgical Hospitals and Shreyansh Hospital.

The Surendranagar district in Gujarat constitutes the North-West agro-climatic zone. Majority of the rainfall is through the South-West monsoon through the months of June and September with the average rainfall recorded in the region to the tune of 600mm with approximately 30 days of rainfall thus ensuring that the region has sufficient rainfall

Thus, majority of the land is rain fed as for every hectare of irrigated land, 5 hectares of land is irrigated[830]. Majority of the irrigation is done through private tube-wells and similar sources.

The soil predominantly consists of medium black soil, with 60% of the land composed of this soil type.
The district has a total area of 1046000 hectares[831], of which nearly 67% is cultivable indicating the favorable cultivable environment for the district owing to the soil & rainfall characteristics The kharif crops chiefly consist of cotton, sesame and castor while cumin and wheat are grown in the rabi season. The district is also the largest standalone producer of Ber in the country with more than 1700 Hectares under cultivation[832].

[827] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[828] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[829] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[830] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[831] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[832] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

Over 65% of the livestock[833] in the region consist of low yielding varieties of cattle and buffaloes with the remaining 35% split between goat and sheep. Availability of large pasture lands indicates significant potential to promote animal husbandry in the district. Along with strengthening animal husbandry activities among small and marginal farmers through advanced rearing training, there is a need for integrating the animal husbandry with promotion of organic farming as well.

6.10.17.2. Workforce Distribution in the district

The district workforce has marginally higher dependency on primary sector in comparison to the state average. Manufacturing sector has witnessed a moderate penetration in the economy accounting for nearly 15 percent of the overall district workforce.While the total worker participation rate is marginally better than the state average, high manpower requirements in agrarian activities due to low output efficiency indicates the level of under employment in this category. Comparison of workforce distribution scenario in Surendranagar and Gujarat is presented in the table[834].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Surendranagar	62.68%	42.74%	64.33%	14.82%	20.86%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

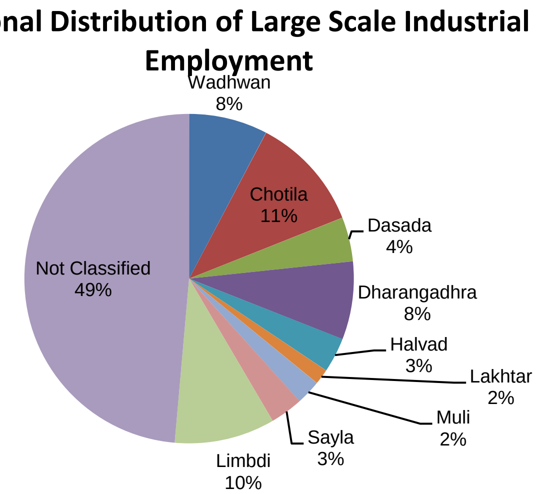
Registered factories and service enterprises have created 18 thousand employment opportunities in the district. While the overall manufacturing base is low, high level of unorganized activity has further reduced organized job prospects in manufacturing sector within the district.

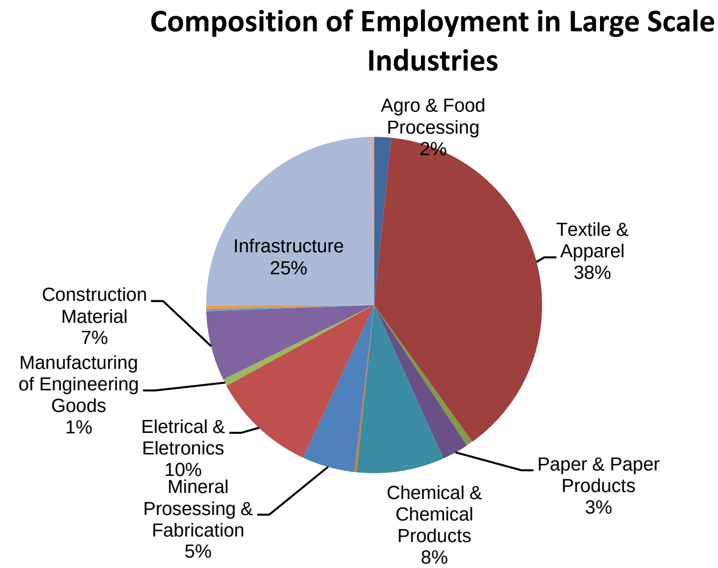
Organized Employment in Surendranagar[835]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	21487
MSME Category	15087
Manufacturing Units	14669
Service Enterprises	418
Total	**36574**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors. Chotila, Limbdi and Wadhwan account for a majority share of employment in this category. Textile and Apparel, Infrastructure and Electrical & Electronics sectors are major employment generating segments within the district. Regional and sectoral break up of large scale industrial employment is presented in the chart.

Large Scale Industrial Employment Overview in the District[836]

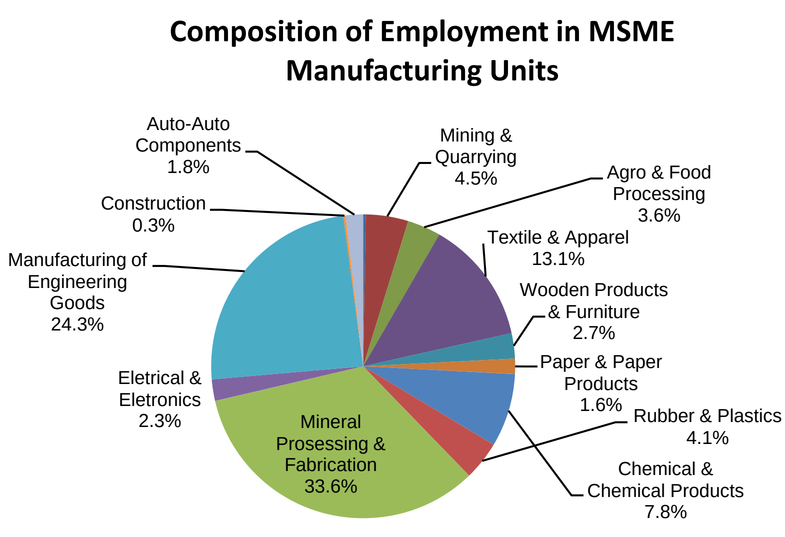
[833] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[834] *KPMG Analysis*
[835] *IEM, MSME Part-II Data till 2012-13*
[836] *IEM, MSME Part-II Data till 2012-13*

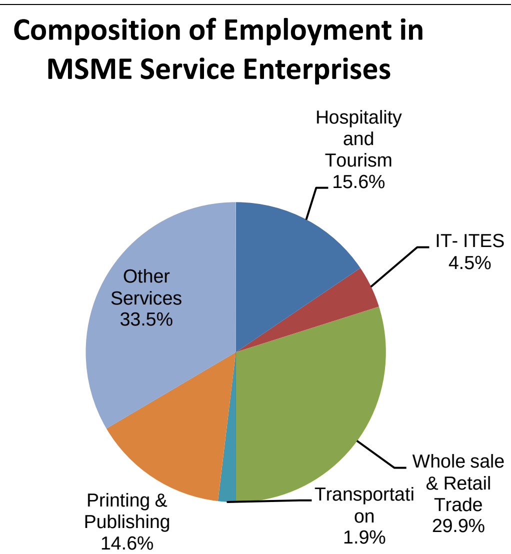




Among the manufacturing units in MSME segment Mineral Processing & Fabrication, Manufacturing of Engineering Goods and Textiles & Apparel have accounted for majority share of the employment in all the categories of industries. Whole sale & retail trade, Publishing & printing, hospitality are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

MSME Employment Overview in the District[837]





6.10.17.3. Human Resource Requirement Projections in Surendra Nagar (2012-22)

[837] *IEM, MSME Part-II Data till 2012-13*

Incremental manpower requirement in the district of Surendranagar has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Surendranagar. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, the period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural laborers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in the secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation& logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub-segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Surendernagar district are presented in the table[838].

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total

838 *KPMG Analysis*

Agriculture & Allied Activities	NA	NA	15492	15492	NA	NA	12974	12974
Agro & Food Processing	20	79	99	198	18	71	88	177
Textile & Apparel	221	883	1104	2207	197	790	987	1974
Wooden Products & Furniture	11	45	57	114	10	41	51	102
Paper & Paper Products	17	68	86	171	15	61	77	153
Chemical & Chemical Products	64	256	320	640	57	229	286	572
Rubber & Plastics	14	57	71	141	13	51	63	127
Mineral Processing & Fabrication	145	579	723	1446	129	517	647	1294
Electrical & Electronics	54	217	272	543	49	194	243	486
Manufacturing of Engineering Goods	86	344	430	860	77	308	385	770
Manufacturing of Construction Material	31	125	157	313	28	112	140	280
Drugs and Pharmaceuticals	2	6	8	16	1	6	7	14
Misc. Manufacturing	2	6	8	16	1	6	7	15
Construction	389	779	6620	7789	348	697	5921	6966
Trade, Retail	629	944	4718	6290	688	1031	5157	6876
Transportation & Logistics	294	4663	5548	10504	240	3815	4539	8594
Hospitality & Tourism	688	1032	5160	6880	550	826	4128	5504
Banking & Financial Services	2314	6942	NA	9255	1620	4859	NA	6479
Healthcare	388	1745	NA	2133	517	2583	NA	3100
Education & Training	811	5461	NA	6272	1217	3277	NA	4493

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[839].

Secondary Sector (Manufacturing, Construction & Energy):

[839] *KPMG Analysis*

- **Auto & Auto Components**

Subsector	Skills
Auto Assembling and Component Manufacturing	**Core Skills:** Motor Mechanic, Diesel Mechanic, Fitter, Welder, Fabricators **Allied Skills:** Electrician, Wireman **Acute Skill Deficits:** Specialized welders in Arc welding who can work in extreme conditions on advanced fabrication equipments

- **Textile & Apparel:**

Category of Skills	Skills
Core Skills	Ring frame operator, weaver, processing operator (CDR,BDR,Stuntor), Bar-coding machine operator
Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions.

- **Metal & Mineral Processing:**

Category of Skills	Skills
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services:**

Category of Skills	Skills
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques

Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.17.4. Human Resource Supply Scenario in the District

6.10.17.4.1. Estimation of Labor Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Surendranagar is among the districts with moderate human resource growth potential during 2012-22. Being a district with limited organized employment opportunities, adequate skilling of incremental labour force is critical for securing job opportunities outside Surendranagar. Details of human resource growth estimations during 2012-22 are presented in the table[840].

Period	**Gross Addition to Working Age Population**	**Gross Addition to Labour Force**	**Net Addition to Labour Force-Supply**
2012-17	196,756	119,975	62,191
2017-22	180,122	110,788	48,287

6.10.17.4.2. Education and Training Potential in the District

The district has around 1171 K12 schools with 85.65 percent share of Government schools. The net enrolment ratios at primary levels and upper primary levels are higher than the state averages[841].

Total Enrollments in 2009-10	**Primary Level (Std I-V)**	**Upper Primary Level (Std VI-VIII)**	**Secondary Level (Std IX-X)**	**Higher Secondary Level (Std XI-XII)**
Surendranagar	195476	65131	57653	18452

Comparing the district's enrolment statistics with state average indicates that the district is a strong performer in the primary education category[842]

[840] *KPMG Analysis*

[841] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Surendranagar	97.6	57.7
Gujarat	85.4	50.7

In the vocational education segment, the district lags is an average performer in comparison to the state average. Private interest in the sector in this district is also low indicating that the state must take proactive measures in seeking private support to augment vocational training infrastructure[843].

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Surendranagar	27	4,356	2.48	21%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Surendranagar district needs to be focused on the tehsils of Dhangadhra, Muli, Limbdi, Halvad, Sayla, Chotila, Chuda and Dasada to bring them on par with the district average in vocational education capacity[844].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Wadhwan	2068	5.65	15%
Lakhtar	250	3.10	46%
Dhangadhra	492	2.18	0%
Muli	240	2.04	43%
Limbdi	282	1.54	52%
Halvad	252	1.51	54%
Sayla	168	1.43	24%
Chotila	260	1.30	15%
Chuda	128	1.26	0%
Dasada	216	1.10	15%
District Total	**4356**	**2.48**	**21%**

The district has 1 pharmacy college, 2 engineering colleges, 1 medical college and 9 arts and science, commerce colleges in the district. C.U. Shah College of Engineering & Technology offers engineering courses in mechanical, information technology and electronic and telecommunication branches with 320 seats per annum.

6.10.17.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school

[842] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[843] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[844] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

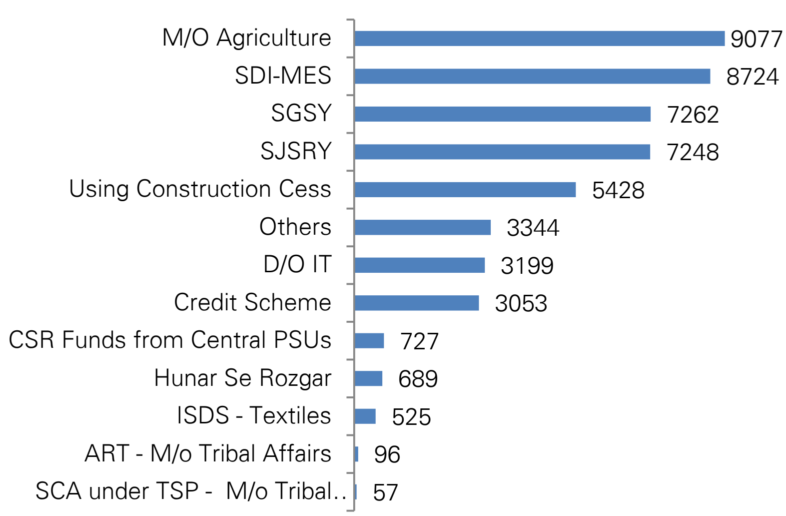
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	(2,834)	17,243	(5,317)	9,089	(4,307)	10,729	6,240	12,663

*(Indicates excess supply)

6.10.17.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 49 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labor Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Surendranagar District[845]



6.10.17.5. District Specific Recommendations

[845] *KPMG Analysis*

Considering these factors, the proposed action plan for stakeholders in skill development in the district would indicate the following priority areas:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following sectors • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes • Manufacturing of Engineering Goods • Mineral Processing and Fabrication
Private Skill Training Providers	Provide skill training in the sectors of • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • Construction • Retail • Transportation and Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.18. Skill Gap Assessment of Tapi District

6.10.18.1. Socioeconomic Profile

6.10.18.1.1. Administrative Profile

Tapi is located in the south eastern part of the state with a geographical spread of 3,239 sq.km[846]. District shares border with Surat, The Dangs, and Narmada districts of Gujarat and Maharashtra state. Administratively Tapi district is divided into 5 talukas and 488 villages[847] with Vyara as the district capital. Vyara, Songadh, Nizar, Valod and Uchchhal are taluka regions in the district.

6.10.18.1.2. Demographic Profile

Tapi is a low human resource potential region in Gujarat state. The district has a total population of 8.06 lakhs[848] as per 2011 Census accounting for only 1.3 percent[849] of the overall state population. It has witnessed a lower decadal population growth in comparison to the state average. District population has witnessed a decadal growth rate of 12.07 percent[850] between 2001 and 2011 as against the state average of 19.17 percent[851] during the same period. Significant portion of district population lives in rural areas with these regions accounting for nearly 90.21 percent[852] of the total population. Population spread in the district is relatively lower than the state average with a density of 249 persons per sq.km[853] as against state average of 308 persons per sq.km[854]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Vyara and Sonagadh. Details of regional distribution of population in the district are presented in the table.

846 *Census 2011 Statistics*
847 *Census 2011 Statistics*
848 *Census 2011 Statistics*
849 *Census 2011 Statistics*
850 *Census 2011 Statistics*
851 *Census 2011 Statistics*
852 *Census 2011 Statistics*
853 *Census 2011 Statistics*
854 *Census 2011 Statistics*

Regional Distribution of Population in the District[855]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Vyara	35%	307
Songadh	28%	169
Nizar	15%	266
Valod	12%	431
Uchchhal	10%	118

The district has a higher proportion of females than males. As per 2011 census district has a gender ratio of 1004 females per 1000 males[856] as against the state average ratio of 918 females per 1000 males[857]. High levels of male migration into the industrial clusters of Tapi are a key reason for higher female composition of population. Overall reserved categories contribute to significantly high proportion of district population indicating the need for inclusion focus on development scheduled categories within Tapi district.

Education attainment levels in the district are significantly lower than the state average. As per 2011 estimates, district has registered an overall literacy rate of 69.23 percent[858] as against state average of 79.31 percent[859]. Continuing regional and gender disparities in literacy rates is a key concern within the district. Urban-rural literacy gap in Surendranagar is estimated to be 18.47 percent[860] comparable to the state average of 14.58 percent[861]. Similarly, district has a male-female literacy gap of 15.17 percent[862] as against 16.5 percent[863] for Gujarat state. Efforts towards increasing inclusion focus in mass education programs are recommended to develop a quality workforce in Tapi district.

6.10.18.1.3. Economic Profile

The economy of the district is predominantly dependent on agriculture. Major minerals are not present in significant quantities in the district. Tapi however is a major source of minor minerals like black trap and sand. The major mineral based industries in Tapi are stone crushing units.

Analysis of regional distribution of investments in Tapi district indicates that the industrial development is concentrated in Valod Talukas. In recent years, the state Government has initiated measures to further enhance the industrial growth in Valod through suitable incentives leading to an increased investment potential of these regions over the next decade. Details of region wise large scale investments in Tapi district till 2012 is presented in the table.

855 *Census 2001Statistics, KPMG Analysis*
856 *Census 2011 Statistics*
857 *Census 2011 Statistics*
858 *Census 2011 Statistics*
859 *Census 2011 Statistics*
860 *Census 2011 Statistics*
861 *Census 2011 Statistics*
862 *Census 2011 Statistics*
863 *Census 2011 Statistics*

Large Scale Investment Scenario In Tapi[864]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Nizar	3	31	2	8
Valod	2	53	3	3583
Vyara	1	24	1	4
District Total	**6**	**108**	**6**	**3595**

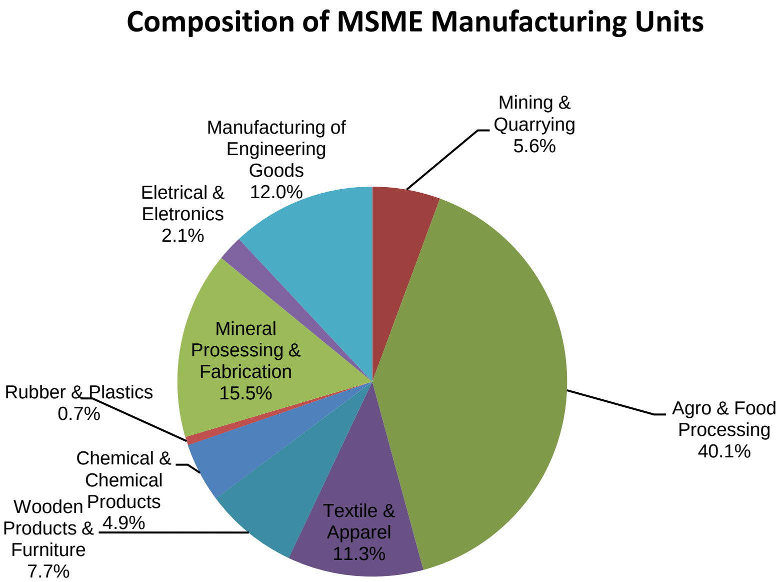
Moderate growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 179 units operating in the district attracting an investment of INR 4,001 lakhs in 2012. Investment outlook in MSME segment of Tapi district is presented in the table.

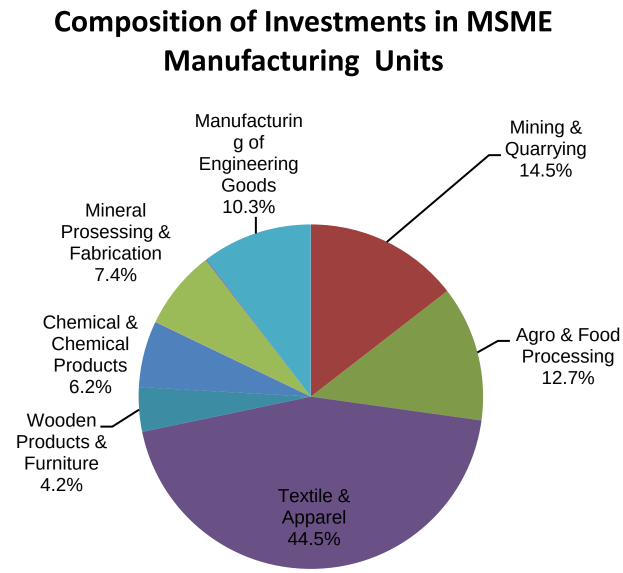
MSME Investment Scenario in Tapi[865]		
Category of Industries	**Number of Units**	**Investment In Lakhs**
Micro	165	1643
Small	14	2368
Medium	--	--
Total	**179**	**4011**
Manufacturing Sector Units	142	3506
Service Enterprises	37	505

MSME segment in Tapi is dominated by agro and food processing manufacturing industries in terms of units. However, in terms of investments, textile and apparel and mining & quarrying remain the prominent categories. Composition of MSME manufacturing units and investments are presented in the chart.

[864] *IEM, MSME Part-II Data till 2012-13*
[865] *IEM, MSME Part-II Data till 2012-13*

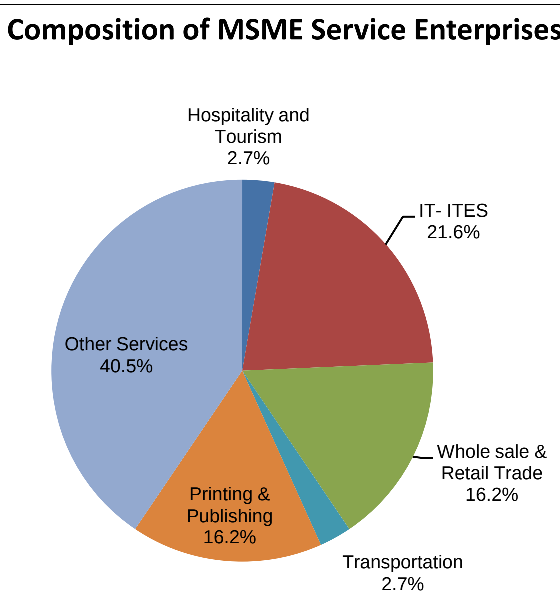
MSME Manufacturing Scenario in the District[866]

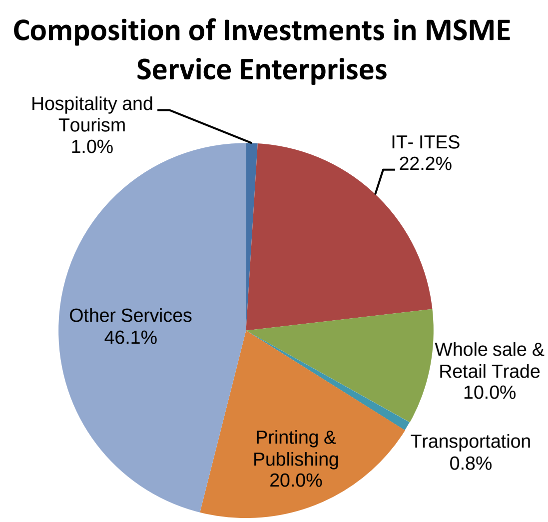




While the level of organized investments in services enterprises is low as evident from the MSME Part-II statistics, sectors of whole sale and retail trade, Printing and Publishing and IT-ITES have seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

MSME Services Sector Scenario in the District[867]





866 *IEM, MSME Part-II Data till 2012-13*
867 *IEM, MSME Part-II Data till 2012-13*

With 30 primary healthcare centers, 5 community healthcare centers and 2 hospitals, Tapi is considered to be a highly penetrated district with regards to healthcare, with each institution being required to cater to an average of 20163 people.

The district, however, suffers from low penetration of financial services with only 38 bank offices[868] in the district. The total deposit amount sum to 1,049 Cr. INR and the credit amounts to 363 Cr. INR. Per financial institution, there exist 21,223 people, on average, that need to be catered to. In the last 5 years, there has been a slow growth at a CAGR of 6%, a rate insufficient to serve the current requirements. Credit and deposit amounts are both growing at a rate of 20% in the same period.

Tapi enjoys a moderate connectivity with major Gujarat cities through the National Highways and the State Highways. Via Surat, travelers can access Delhi and Mumbai; Tapi is connected to Surat through NH 6. Intrastate and interstate linkages have been established through the rail network, which connects Tapi with Valsad, Vapi and Mumbai in south and with Bharuch, Vadodara and Ahmedabad in north.

Development of tourism in the district can be facilitated through enhancing transportation networks. Tapi does contain several tourist attractions such as the Fort of Songadh, Dosvada Dam, Tapi River, Ukai Dam and Gaumukh. The Rokadia Hanuman Mandir, Suryatapeshwar Mandir, Kalyanraiji Mandir, Saibaba Mandir and Firangi Mandir are a few of the religious locations that also constitute the tourism scene in the region.

Tapi's agro-climatic zone has been classified as a constituent of the Gujarat plains and hills region. The district witnesses heavy rainfall, primarily from the South-west monsoon. The region also has heavy black soils, covering over 40% of the total area with Lateritic soil observed in the hilly region. Thus, owing to the soil and rainfall conditions, of the total geographical area of 500000 hectares, over 45% of the land is cultivable indicating a modest agricultural environment.
The net irrigated area sums up to 63400 hectares and nearly 112974 hectares of land is fed by rainfall[869]

The climatic and soil conditions favor the growth of cotton and paddy in the kharif period and to some extent groundnut as well. Sugarcane is the primary crop cultivated in the rabi season and is the highest produced crop in the district thus paving the way for potential investments in the sugar processing sector due to raw material proximity (On an average, over 7500000 tonnes of sugarcane are produced) [870]. Amongst fruits, the Tapi region grows mango, sapota, papaya, custard apple and banana; with the production of banana being the highest.

6.10.18.2. Workforce Distribution in the district

The district has very low level secondary and tertiary sectoral penetration resulting in high dependency on agriculture. As high as 85 percentage of the total workforce is engaged in the primary sector. While the total worker participation rate is higher than the state average, high manpower requirements in agrarian activities due to low output efficiency would indicate significant under employment in this category. The district can only explore

[868] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[869] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[870] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

opportunities for sourcing trained manpower to industrial clusters of Surat and Vadodara considering the low levels of organized employment opportunities. Comparison of workforce distribution scenario in Tapi and Gujarat is presented in the table[871].

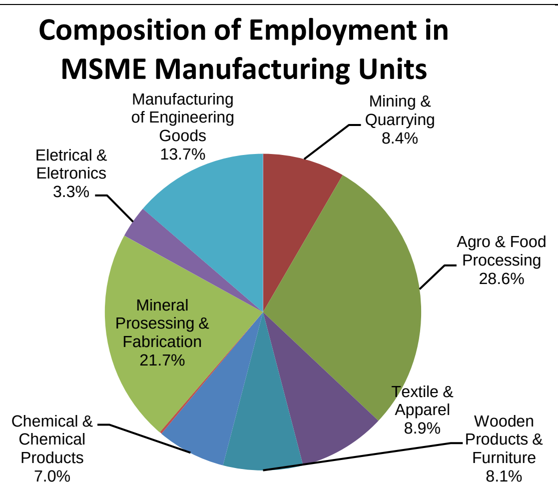
Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Tapi	72.56%	49.8%	87.94%	2.49%	9.57%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

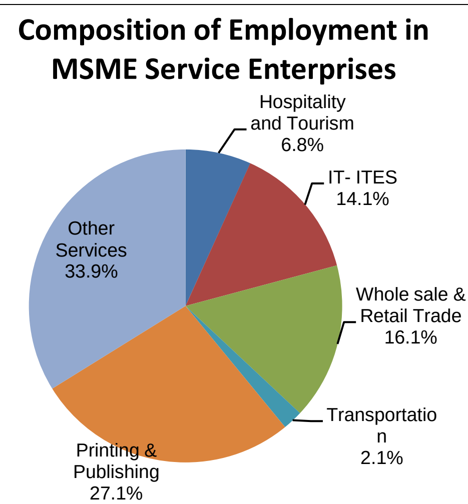
Organized industrial employment in registered factories and service enterprises has been significantly low with only 1500 employment opportunities created in MSME segment.

Organized Employment in Tapi[872]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	3423
MSME Category	1505
Manufacturing Units	1313
Service Enterprises	192
Total	**4928**

Among the manufacturing units in MSME segment agro and food processing, mineral processing and fabrication and manufacturing of engineering goods have accounted for majority share of the employment in all the categories of industries. Whole sale & retail trade, IT-ITES, Publishing & printing are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

MSME Employment Overview in the District[873]





[871] *KPMG Analysis*
[872] *IEM, MSME Part-II Data till 2012-13*
[873] *IEM, MSME Part-II Data till 2012-13*

6.10.18.3. Human Resource Requirement Projections in Tapi (2012-22)

Incremental manpower requirement in the district of Tapi has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Tapi. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, the period between 2012 and 2022 would witness a net outflow of workforce from agricultural activities. Agricultural workforce displacement is expected to be significant in the marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation& logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub-segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Infrastructure(Construction)

Tertiary Sector

- IT-ITES
- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Amreli district are presented in the table[874].

[874] *KPMG Analysis*

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	8953	8953	NA	NA	7498	7498
Agro & Food Processing	41	163	203	406	36	145	182	364
Textile & Apparel	3	10	13	25	2	9	11	23
Wooden Products & Furniture	2	9	12	23	2	8	10	21
Chemical & Chemical Products	2	8	10	20	2	7	9	18
Mineral Processing & Fabrication	39	156	194	389	35	139	174	348
Electrical & Electronics	1	4	5	9	1	3	4	8
Manufacturing of Engineering Goods	17	68	84	169	15	60	76	151
Construction	179	358	3041	3577	160	320	2720	3200
Trade, Retail	289	433	2167	2889	316	474	2369	3158
Transportation & Logistics	18	284	338	640	15	233	277	524
IT-ITES								
Hospitality & Tourism	281	422	2108	2810	225	337	1686	2248
Banking & Financial Services	1387	4162	NA	5549	971	2913	NA	3884
Healthcare	172	775	NA	947	229	1147	NA	1377
Education & Training	227	1526	NA	1753	340	916	NA	1256

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[875].

Secondary Sector (Manufacturing, Construction & Energy):

- **Food Processing:**

Category of Skills	Skills
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician

[875] *KPMG Analysis*

Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists
Skills with acute shortage	PPO is required in industries having in house packing development.

- **Metal & Mineral Processing:**

Category of Skills	**Skills**
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	**Skills**
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services:**

Category of Skills	**Skills**
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.18.4. Human Resource Supply Scenario in the District

6.10.18.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Tapi is among the districts with low human resource growth potential during 2012-22. Being a district with low human resource base coupled with effects of migration incremental labour force is significantly lower than other districts. Details of human resource growth estimations during 2012-22 are presented in the table[876].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	75,920	49,042	30,195
2017-22	66,615	43,881	23,444

6.10.18.4.2. Education and Training Potential in the District

Tapi district has around 888 K12 schools out of which there are 861 government schools with a share of 96.96 percent of total schools. Further, it has the highest share of K12 government schools among all districts.

In the vocational education segment, the district lags is an average performer in comparison to the state average. Private interest in the sector in this district is very low indicating that the state must take proactive measures in seeking private support to augment vocational training infrastructure.

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Tapi	7	1,930	2.39	3%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Tapi district needs to be focused on the tehsils of Vyara, Songadh and Nizar to bring them on par with the district average in vocational education capacity.

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Uchchhal	312	3.10	0%
Valod	320	2.66	0%
Vyara	656	1.91	6%
Songadh	434	1.54	2%
Nizar	208	1.43	0%
Tapi Total	**1930**	**2.39**	**3%**

876 *KPMG Analysis*

6.10.18.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

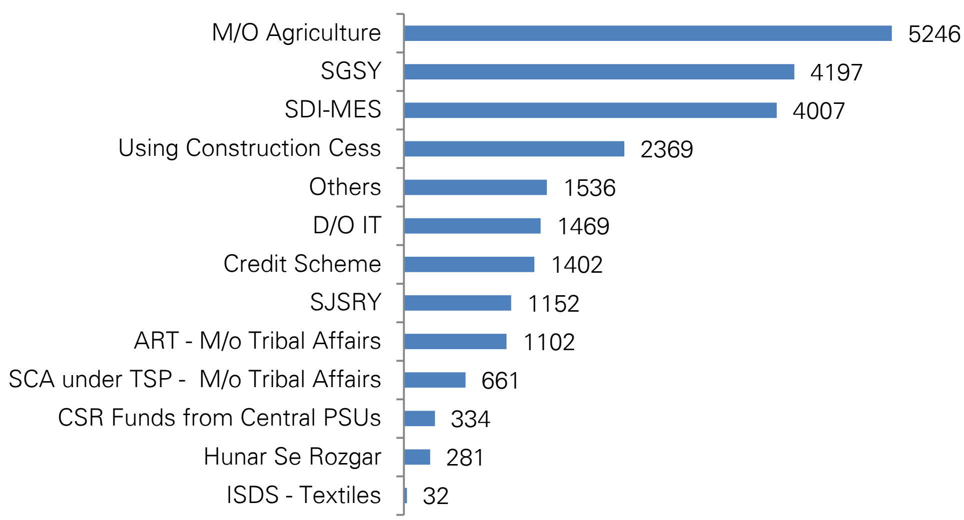
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				**2017-22**			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	172	6,451	(8,654)	(2,036)	(520)	4,222	(3,070)	634

*(Indicates excess supply)

6.10.18.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 23 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Tapi District[877]



[877] *KPMG Analysis*

6.10.18.5. District Specific Recommendations

Considering these factors, the proposed action plan for stakeholders in skill development in district would indicate the following priority areas:

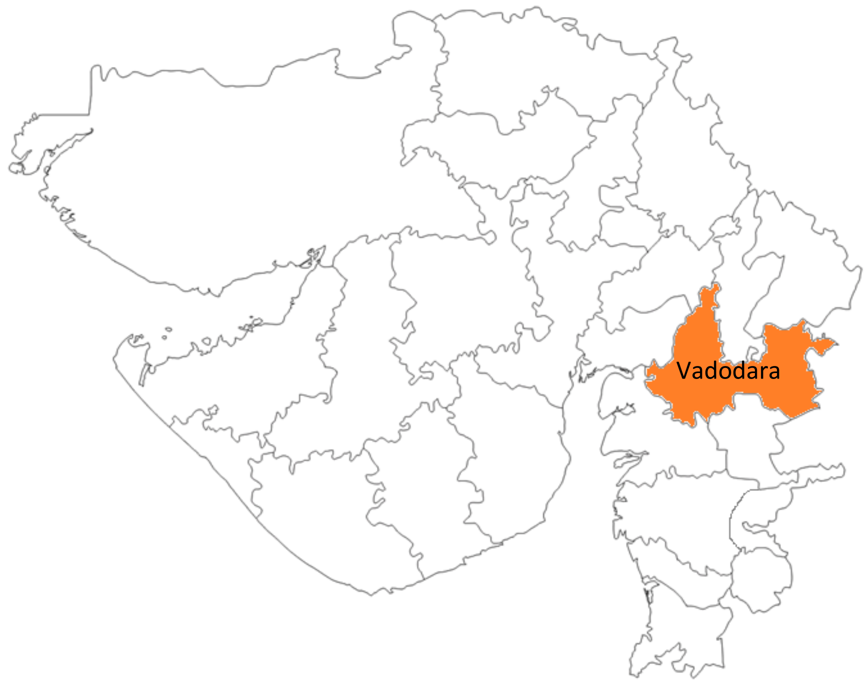
Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following sectors • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes • Agro and Food Processing • Mineral Processing and Fabrication • Mining and Quarrying • Textile and Apparel • Wooden Products
Private Skill Training Providers	Provide skill training in the sectors of • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • Construction • Retail • Transportation and Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.19. Skill Gap Assessment of Vadodara District

6.10.19.1. Socioeconomic Profile

6.10.19.1.1. Administrative Profile

Vadodara is located in the eastern part of the state with a geographical spread of 7,555 sq.km[878]. District shares border with Anand, Bharuch, Narmada, Dahod, Panchmahals, Kheda districts of Gujarat and Madhya Pradesh, Maharashtra states. Administratively Vadodara district is divided into 12 talukas and 1548 villages[879] with Vadodara city as the district capital. Vadodara, Padra, Karjan, Savli, Waghodiya, Dabhoi, Sinor, Sankheda, Chhota Udepur, Naswadi, Kwant and Pavi Jetpur are taluka regions in the district.



6.10.19.1.2. Demographic Profile

Vadodara is a high human resource potential region in Gujarat state. District has a total population of 41.58 lakhs[880] as per 2011 Census accounting for only 6.9 percent[881] of the overall state population. The district has witnessed a lower decadal population growth in comparison to the state average. District population has witnessed a decadal growth rate of 14.16 percent[882] between 2001 and 2011 as against the state average of 19.17 percent[883] during the same period. District population is equally distributed among urban and rural areas. Population spread in the district is higher than the state average with a density of 551 persons per sq.km[884] as against state average of 308 persons per sq.km[885]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the taluka of Vadodara accounting for nearly half of the total district population. Details of regional distribution of population in the district are presented in the table.

878 *Census 2011 Statistics*
879 *Census 2011 Statistics*
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883 *Census 2011 Statistics*
884 *Census 2011 Statistics*
885 *Census 2011 Statistics*

Regional Distribution of Population in the District[886]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Vadodara	47%	2460
Padra	7%	443
Savli	7%	300
Jetpur	6%	280
Chhota	6%	265
Sankheda	5%	257
Dabhoi	5%	290
Kavant	5%	281
Karjan	4%	270
Vaghodia	4%	236
Nasvadi	3%	372
Sinor	2%	236

The district has marginally better gender composition of population. As per 2011 census district has a gender ratio of 934 females per 1000 males[887] as against the state average ratio of 918 females per 1000 males[888]. Gender ratio of the district has improved from 919 females per 1000 males[889] in 2001 to 934 females per 1000 males by 2011[890]. Overall reserved categories contribute to significantly high proportion of 32.17 percent[891] in district population indicating the need for inclusion focus on development scheduled categories within Vadodara district.

Education attainment levels in the district are better than the state average. As per 2011 estimates, the district has registered an overall literacy rate of 81.21 percent[892] as against state average of 79.31 percent[893]. Continuing regional and gender disparities in literacy rates is a key concern within the district. Urban-rural literacy gap in Vadodara is estimated to be 20.78 percent[894] comparable to the state average of 14.58 percent[895]. Similarly, the district has a male-female literacy gap of 13.19 percent[896] percent as against 16.5 percent[897] for Gujarat state. Efforts towards increasing inclusion focus in mass education programs is recommended to develop a quality workforce in Vadodara district.

886 *Census 2001Statistics, KPMG Analysis*
887 *Census 2011 Statistics*
888 *Census 2011 Statistics*
889 *Census 2011 Statistics*
890 *Census 2011 Statistics*
891 *Census 2001Statistics, KPMG Analysis*
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896 *Census 2011 Statistics*
897 *Census 2011 Statistics*

6.10.19.1.3. Economic Profile

The Delhi-Mumbai Industrial Corridor passes through Vadodara, making it a key destination for attracting industrial investments. Vadodara is the exclusive producer of Dolomite and Fluorspar in Gujarat, offering scope for tremendous growth in the processing industries.

Several Government companies such as GSFC and GACL have their manufacturing plants in the district. Gujarat's leading educational institutions are located in Vadodara, offering skilled and intellectual manpower in abundance for various industries and R&D activities.

Proximity of Vadodara to key industrial centers of Gujarat such as Ahmedabad (via India's first Expressway), Bharuch and Surat, along NH8 could be considered a major driver for growth of the economy

Analysis of regional distribution of investments in Vadodara district indicates that the industrial development is concentrated in Vadodara, Salvi, Padra and Waghodia Talukas while other regions like Kwant, Jetpur – Pavi, Chota Udaipur, Dabhoi and Sinor still remain backward in terms of industrial development. Over the recent years State Government has initiated measures to enhance the industrial growth in main talukas across the state through suitable incentives leading to an increased investment potential of these regions over the next decade. Details of region wise large scale investments in Vadodara district till 2012 is presented in the table.

Large Scale Investment Scenario In Vadodara[898]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Vadodara	329	15631	92	1791
Salvi	137	2498	35	902
Padra	116	2284	73	1625
Waghodia	53	2117	31	2482
Karjan	23	1571	10	315
Sinor	2	41	1	9
Dabhoi	1	3	--	--
Chhota Udaipur	--	--	2	93
Jetpur-Pavi	--	--	1	0
Kwant	--	--	1	0

[898] *IEM, MSME Part-II Data till 2012-13*

N·S·D·C National Skill Development Corporation

Not Classified	4	93	20	954
District Total	**665**	**24238**	**266**	**8171**

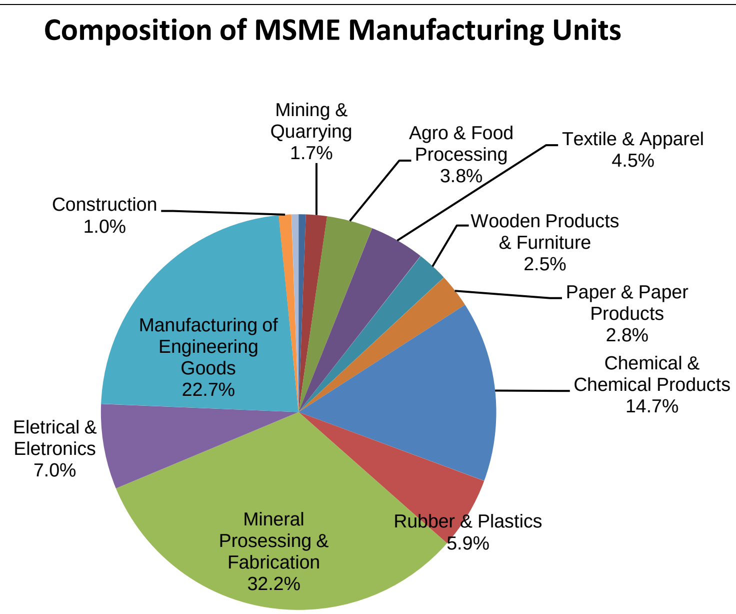
Rapid growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 7051 units operating in the district attracting an investment of INR 4,05,772 lakhs in 2012. Investment outlook in MSME segment of Vadodara district is presented in the table

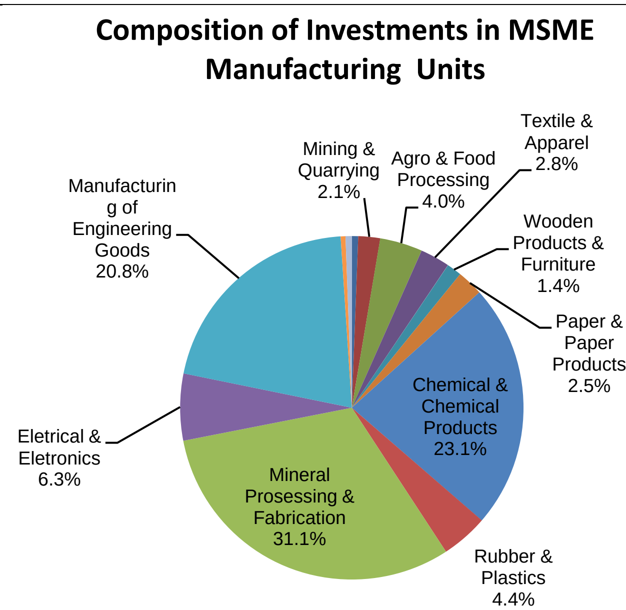
MSME Investment Scenario in Vadodara[899]

Category of Industries	Number of Units	Investment In Lakhs
Micro	5,644	125,613
Small	1,338	212,393
Medium	69	67,766
Total	**7,051**	**405,772**
Manufacturing Sector Units	4,918	347,928
Service Enterprises	2,133	57,845

MSME segment in Vadodara is dominated by manufacturing industries in terms of both volume and investments. Among the manufacturing based MSME units mineral processing and fabrication, chemical and chemical products and manufacturing of engineering goods are prominent categories in terms of number of units and investment. Composition of MSME manufacturing units and investments are presented in the chart.

MSME Manufacturing Sector Scenario in the District[900]

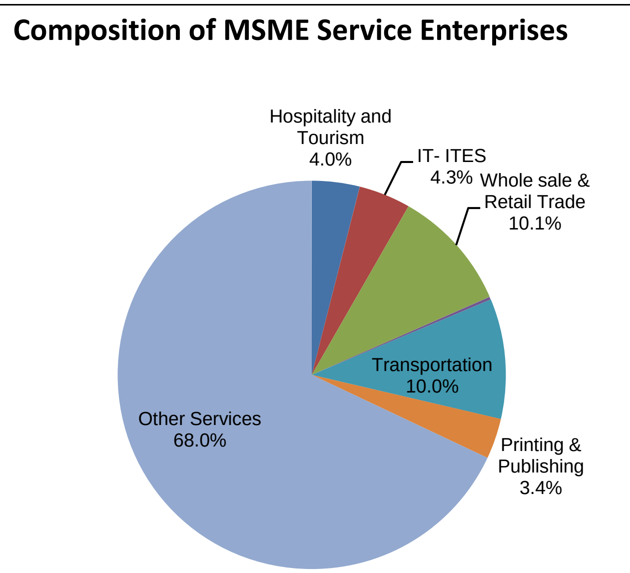


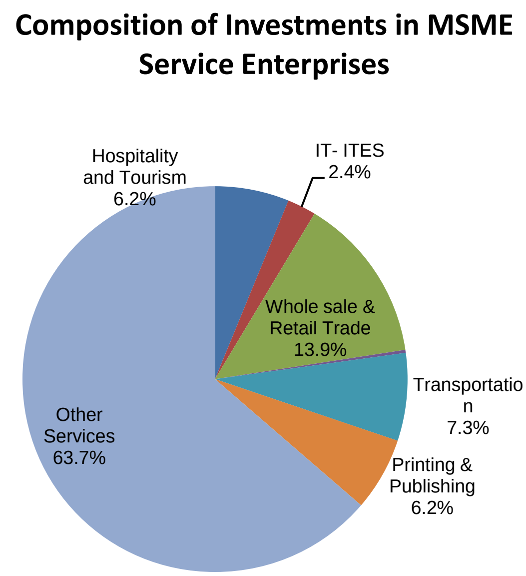


[899] *IEM, MSME Part-II Data till 2012-13*
[900] *IEM, MSME Part-II Data till 2012-13*

While the level of organized investments in services enterprises is relatively lower than manufacturing sector enterprises, the district still has a overall higher composition of service based enterprises from a state perspective. Sectors of whole sale and retail trade and Transportation & Logistics have seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

MSME Services Sector Overview in the District[901]





Several historical sites in the district, such as the Aurobindo Society, Baroda Museum & Gallery, Darbar Hall, EME temple, Khanderao market, Kirti Mandir, Champaner, Lehripura Gate, Laxmi Vilas Palace and the Makarpura Palace have helped bring tourists to the region. There are also other sites like the Mahatma Gandhi Nagar Gruh, Maharaja Fatehsinh Museum, Mandvi gate, Maqbara (Hajira), Nazarbaug Palace and Nyaymandir (District court).

Healthcare in the district is looked after by the 78 primary centers, 16 community health centers, 6 hospitals and 14 dispensaries. The district also has Bankers Heart Institute and Baroda Heart Institute & Research Centre[902].

Vadodara is connected to Delhi, Mumbai, Ahmedabad, Rajkot and Surat through the NH 8 and the DMIC. The district also has the State Highway 6 that provides access to important regions in the state, such as Ahmedabad and Surat. Vadodara witnessed the completion India’s first expressway connecting the district with Ahmedabad. Apart from the roadways, the railways help connect the region with important capitals of other states like Mumbai and Delhi, as well as major districts in the Gujarat. Vadodara does host a domestic airport with linkages with Delhi, Mumbai,

[901] *IEM, MSME Part-II Data till 2012-13*

[902] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

Chennai and Bangalore. In the pipeline, plans exist to develop the Vadodara airport as an "Aircraft Maintenance Hub" for Western India.

Banks in Vadodara have a bank to customer base ratio of 8,590, making it a highly penetrated district in Gujarat with regards to financial services. There exist 484 bank offices that hold a total deposit amount of Rs. 40,898 Cr. and have lent Rs. 32,005 Cr., as of May 2012[903]. The number of banks continued to increase at a CAGR of 6.4% between 2007 and 2012. The growth rate of deposits exceeded that of the credit amount in the same time window.

Vadodara enjoys medium to high rainfall conditions and falls in the Middle Gujarat agro-climatic zone. The region witnesses an average rainfall of 800mm to 1000mm with high potassium content in the soil, which is predominantly of the black-clayey kind. 68% of the total area[904] in the region is cultivable owing to favorable soil characteristics. Paddy, pulses, cotton and maize are the key Kharif crops while wheat, tobacco, sugarcane and maize are cultivated in the Rabi season. Horticulture in the district consists of the cultivation of vegetables like brinjal, tomato and okra; fruits such as pear, guava, mangoes and citrus fruits. The ratio of the Rabi to Kharif crop is about 0.2, indicating low multi-cropping in the district. Presently, the usage of hybrid crop varieties is low. There is a need for Taluka Seed farms in the district to improve the availability of good quality seeds. 48% of the net cultivable area has been brought under irrigation.

The soil experiences deficiency in nitrogen and has led to the increased use of nitrogen rich fertilizers. Awareness levels on organic farming and vermin-compost methods are low. This lacuna needs to be addressed in order to promote sustainable agricultural practices.

Livestock in the district consists mainly of cows and buffalos. There are 444671 cows and 385583 buffalos[905] being raised in the region currently. Other domestic animals would include goat and poultry. There exists a need for integrating animal husbandry with the promotion of organic farming amongst small and marginal farmers alongside the strengthening of animal husbandry activities.

6.10.19.2. Workforce Distribution in the district

Vadodara being an industrial hub in Gujarat has made significant progress towards reducing dependency on agriculture. State comparable work force and labour force participation rates are attributed to low female participation despite the growing industrial activity in the district. Efforts towards higher levels of gender inclusion in education and employment are expected to improve the situation over the next decade. Comparison of workforce distribution scenario in Vadodara and Gujarat is presented in the table[906].

Region	**Labour Force Participation**	**Workforce Participation**	**Percentage of Employment**		
			Primary Sector	**Secondary Sector**	**Tertiary Sector**

903 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

904 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

905 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

906 *KPMG Analysis*

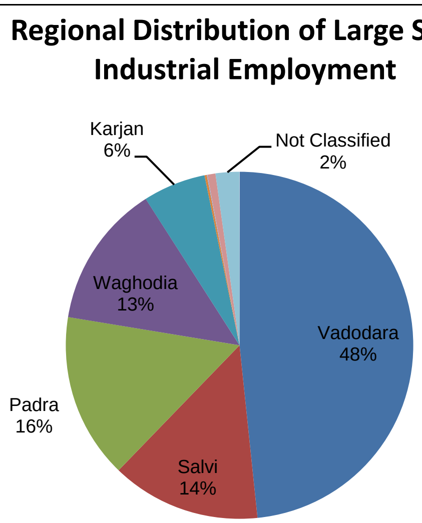
Vadodara	57.33%	41.71%	55.9%	15.16%	28.94%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

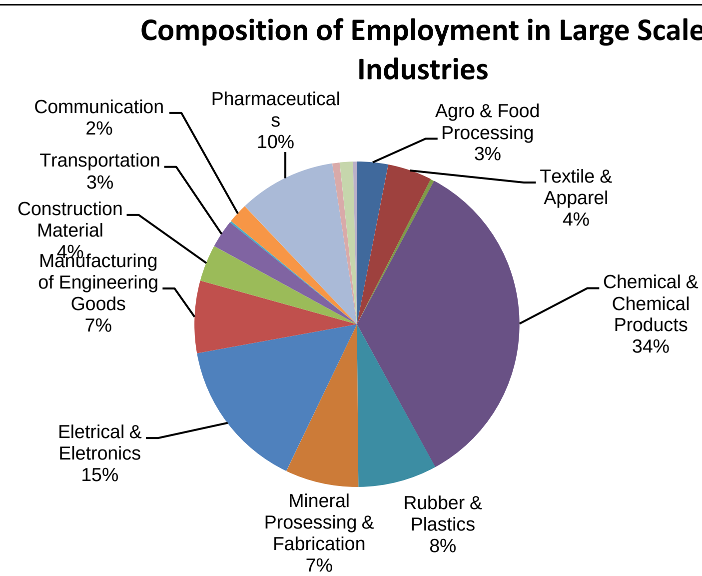
Organized industrial employment in registered factories and service enterprises has been significantly high with over 2.4 lakh employment opportunities created in large scale and MSME segments. Detailed breakup of employment opportunities in the district is presented in the table.

Organized Employment in Vadodara[907]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	143547
MSME Category	97492
Manufacturing Units	76048
Service Enterprises	21444
Total	**241039**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors. Vadodara, Padra, Salvi and Waghodia talukas account for a majority share of employment in this category. Chemical and Chemical Products, Electrical and Electronics and Pharmaceuticals are major employment generating segments within the district. Regional and sectoral break up of large scale industrial employment is presented in the chart.

Large Scale Industrial Overview in the District[908]



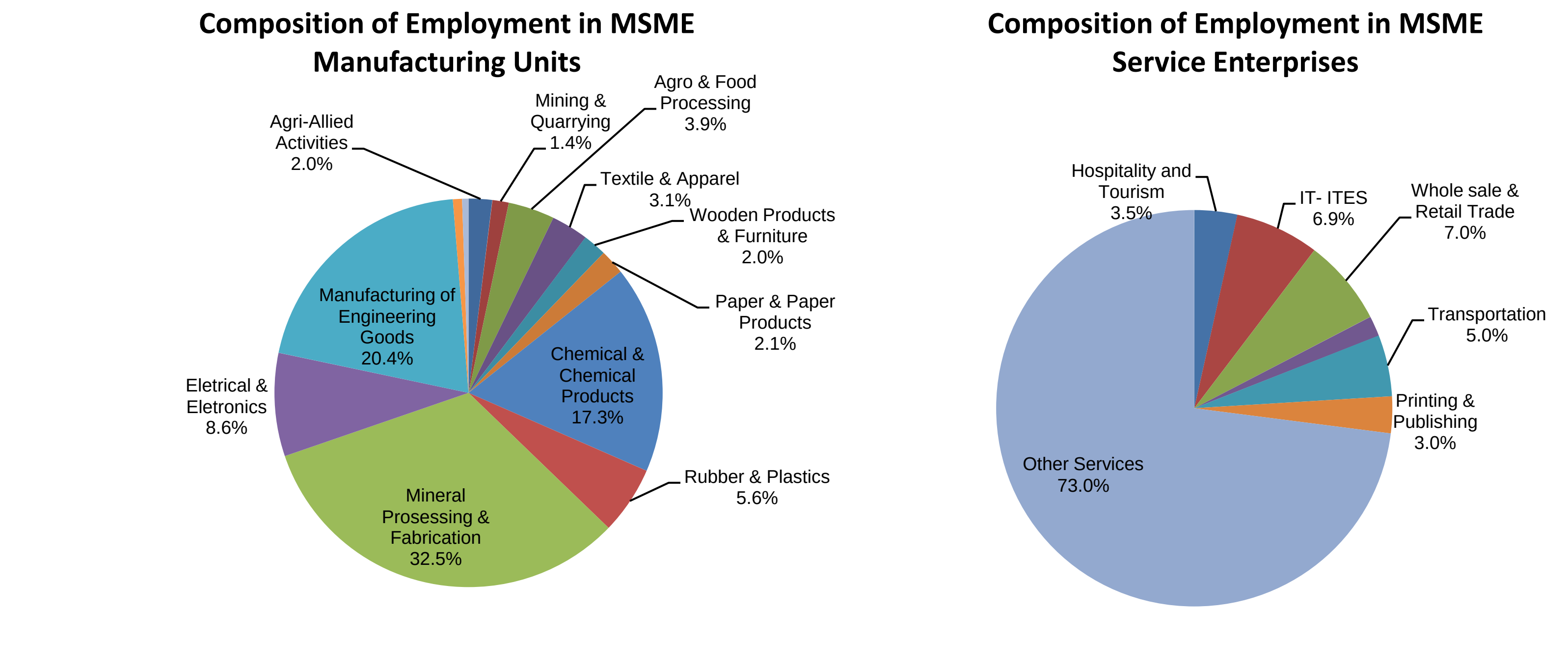


Among the manufacturing units in MSME segment Mineral Processing and Fabrication, Manufacturing of Engineering Goods and Chemical and Chemical Products Manufacturing have accounted for majority share of the employment in all the categories of industries. Whole sale & retail trade and IT-ITES are major employment generating sectors

[907] *IEM, MSME Part-II Data till 2012-13*
[908] *IEM, MSME Part-II Data till 2012-13*

within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

MSME Segment Employment Overview in the District[909]



6.10.19.3. Human Resource Requirement Projections in Vadodara (2012-22)

Incremental manpower requirement in the district of Vadodara has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Vadodara. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in

[909] *IEM, MSME Part-II Data till 2012-13*

agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural laborers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation & logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub-segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel

- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- IT-ITES
- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Vadodara district are presented in the table[910].

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	25817	25817	NA	NA	21620	21620
Agro & Food Processing	192	768	960	1920	172	687	858	1717
Textile & Apparel	188	751	938	1876	168	671	839	1678
Wooden Products & Furniture	32	129	162	323	29	116	145	289
Paper & Paper Products	46	183	228	457	41	163	204	409
Chemical & Chemical Products	1347	5387	6733	13467	1205	4818	6023	12045
Rubber & Plastics	337	1347	1684	3368	301	1205	1506	3012
Mineral Processing & Fabrication	785	3139	3924	7848	702	2808	3510	7020
Electrical &	608	2430	3038	6076	543	2174	2717	5435

[910] *KPMG Analysis*

Electronics								
Manufacturing of Engineering Goods	568	2274	2842	5684	508	2034	2542	5084
Manufacturing of Construction Material	113	453	567	1134	101	406	507	1014
Drugs and Pharmaceuticals	301	1203	1503	3006	269	1076	1344	2689
Misc. Manufacturing	35	138	173	346	31	124	155	309
Construction	922	1844	15676	18442	825	1650	14021	16495
Trade, Retail	1489	2234	11170	14894	1628	2442	12211	16281
Transportation & Logistics	1905	30252	35992	68148	1559	24751	29448	55758
IT-ITES	12000	30000	NA	42000	10000	24000	NA	34000
Hospitality & Tourism	1608	2412	12060	16080	1286	1930	9648	12864
Banking & Financial Services	3427	10282	NA	13710	2399	7198	NA	9597
Healthcare	1070	4816	NA	5886	1426	7129	NA	8555
Education & Training	1431	9631	NA	11062	2146	5779	NA	7925

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[911].

Secondary Sector (Manufacturing, Construction & Energy):

- **Auto & Auto Components**

Subsector	Skills
Auto Assembling and Component Manufacturing	**Core Skills:** Motor Mechanic, Diesel Mechanic, Fitter, Welder, Fabricators **Allied Skills:** Electrician, Wireman **Acute Skill Deficits:** Specialized welders in Arc welding who can work in extreme conditions on advanced fabrication equipments

- **Textile & Apparel**:

Category of Skills	Skills
Core Skills	Ring frame operator, weaver, processing operator (CDR,BDR,Stuntor), Bar-coding machine operator

911 *KPMG Analysis*

Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions.

- **Chemical & Chemical Products:**

Category of Skills	**Skills**
Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Electrical & Electronics:**

Category of Skills	**Skills**
Core Skills	Electronics, PPO, Electrical, Instrumentation
Allied Skills	Fitter
Skills with acute shortage	PPO trade is a key deficit in all industries involving plastic processing Electronics and Instrumentation

- **Metal & Mineral Processing:**

Category of Skills	**Skills**
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Drugs & Pharmaceuticals:**

Category of Skills	**Skills**
Core Skills	Process Operator, Packaging Operator, Process Technicians, Lab QC

	Technicians -Lab Technicians (Analytical), R&D Technicians
Allied Skills	Electrician, Instrumentation
Skills with acute shortage	Bio-instrumentation

- **Construction:**

Category of Skills	**Skills**
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services:**

Category of Skills	**Skills**
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	**Skills**
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Organized Retail:**

Category of Skills	**Skills**
Core Skills	Shop floor executives/supervisors, computer operator

Allied Skills	Transportation & logistics staff
Skills with acute shortage	Store management, stock planning

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.19.4. Human Resource Supply Scenario in the District

6.10.19.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Vadodara is among the districts with high human resource growth potential during 2012-22. Better employment opportunities within the district would drive inward migration of workforce from within and outside Gujarat resulting in higher growth of manpower supply. Details of human resource growth estimations during 2012-22 are presented in the table[912].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	393,227	237,767	145,880
2017-22	363,174	222,577	113,266

6.10.19.4.2. Education and Training Potential in the District

District has around 2888 K12 schools with 84.35 percent share of Government schools. The net enrollment ratio at both primary levels and upper primary levels is lesser than the state average which indicates that there needs to be more inclusive child education programs in Vadodara[913].

Total Enrollments in 2009-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Vadodara	361952	122543	153505	58235

Comparing the district's enrolment statistics with state average indicates that the district is a weak performer in the primary education category[914]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Vadodara	77.6	41.8
Gujarat	85.4	50.7

In the vocational education segment, the district lags behind in the provision of vocational training in comparison to state average. Private interest in the sector in this district is also lower indicating that the state must take proactive measures in seeking private support to augment vocational training infrastructure[915].

Region	Number of it is	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Vadodara	48	9,168	2.21	26%
Gujarat	711	138,106	2.29	26%

912 *KPMG Analysis*
913 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
914 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
915 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Given the unequal distribution of seats, capacity expansion in vocational education in Vododara district needs to be focused on the tehsils of Savli, Naswadi, Sankheda, Karjan, Kawant, Padra, Pavi Jetpur and Chotaudepur to bring them on par with the district average in vocational education capacity[916].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Vadodara	5688	2.92	26%
Vaghodiya	440	2.89	35%
Sinor	184	2.33	35%
Dabhoi	464	2.22	72%
Savli	472	1.74	0%
Naswadi	236	1.66	0%
Sankheda	316	1.49	0%
Karjan	272	1.47	50%
Kawant	256	1.32	44%
Padra	352	1.28	27%
Pavi Jetpur	268	1.04	0%
Chhotaudepur	220	0.95	0%
District Total	**9168**	**2.21**	**26%**

The district has 8 pharmacy colleges, 3 engineering colleges, 2 MCA colleges and 13 arts and science, commerce colleges in the district. Vadodara has Maharaja Sayajirao University (MS University), renowned for several departments such as fine arts, medicine, arts & commerce, journalism & communication, among several others. Other well renowned institutions include Indian Institute of Materials Management and National Fire Academy. The district also has institutes providing courses in physiotherapy, ayurvedic and homeopathic medicines.

6.10.19.4.3. Demand-Supply Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Demand-Supply Gap	8,650	94,358	12,656	115,664	3,542	72,254	34,736	110,530

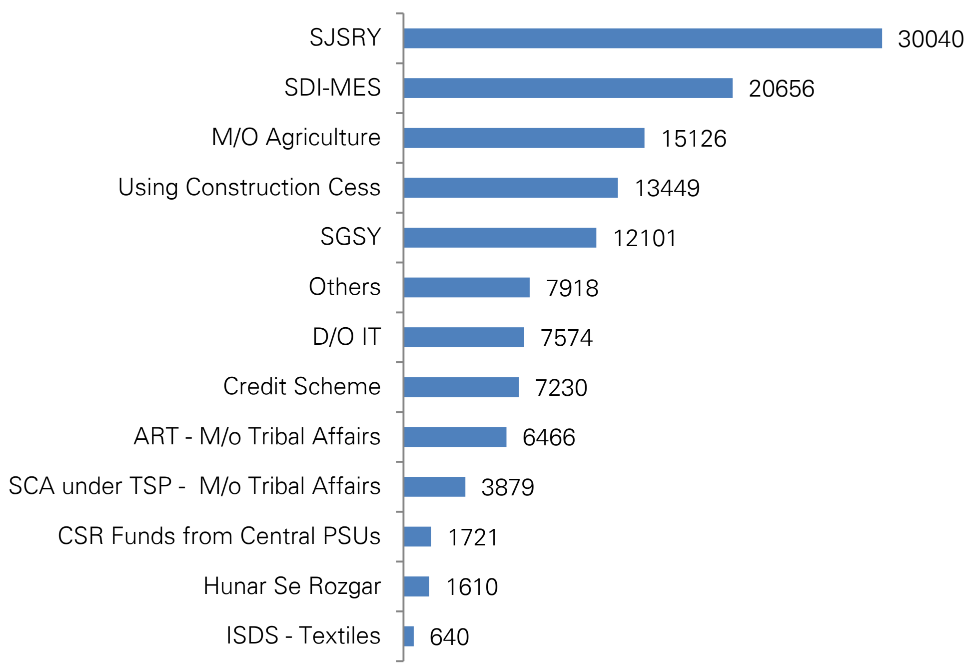
*(Indicates excess supply)

916 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

6.10.19.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 1.28 lakh people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Vadodara District[917]



6.10.19.5. District Specific Recommendations

Considering these factors, the proposed action plan for stakeholders in skill development in district would indicate the following priority areas:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers

[917] *KPMG Analysis*

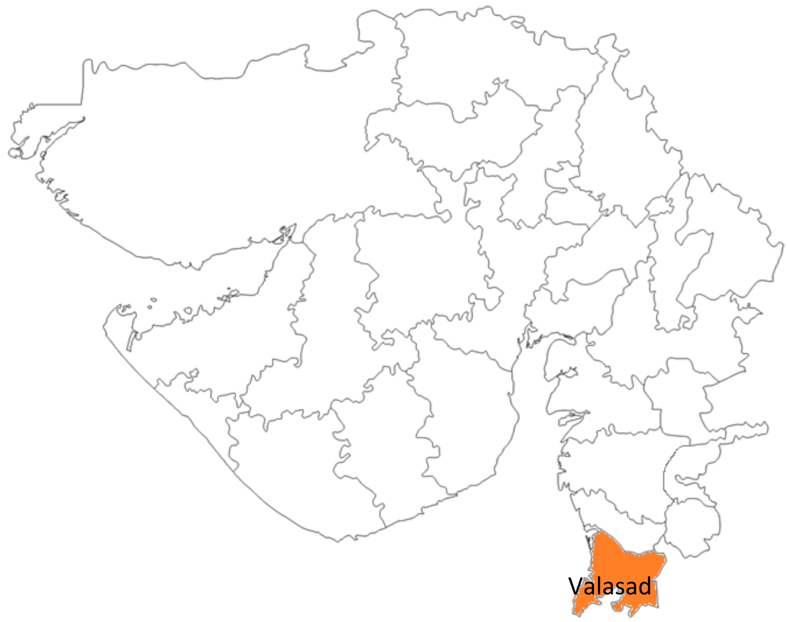
	with focus on the following sectors • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes • Mineral Processing and Fabrication • Chemical Products • Manufacturing of Engineering Goods
Private Skill Training Providers	Provide skill training in the sectors of • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • Construction • Retail • Transportation and Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.20. Skill Gap Assessment of Valasad District

6.10.20.1. Socioeconomic Profile

6.10.20.1.1. Administrative Profile

Valasad is located in the southern part of the state with a geographical spread of 2,939 sq.km[918]. District shares border with Navsari district of Gujarat, Daman (UT) and Maharashtra state. Administratively Valasad district is divided into 5 talukas and 434 villages[919] with Valsad town as the district capital. Valsad, Pardi, Umargam, Dharampur and Kaprada are taluka regions in the district.



6.10.20.1.2. Demographic Profile

Valasad is a medium human resource potential region in Gujarat state. The district has a total population of 17.03 lakhs[920] as per 2011 Census accounting for only 2.8 percent[921] of the overall state population. It has witnessed relatively higher population growth in comparison to the state average. District population has witnessed a decadal growth rate of 20.74 percent[922] between 2001 and 2011 as against the state average of 19.17 percent[923] during the same period. The district is predominantly rural with a rural proportion of 62.77 percent[924]. Population spread in the district is higher than the state average with a density of 561 persons per sq.km[925] as against state average of 308 persons per sq.km[926]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas Pardi and Valasad. Details of regional distribution of population in the district are presented in the table.

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918 *Census 2011 Statistics*
919 *Census 2011 Statistics*
920 *Census 2011 Statistics*
921 *Census 2011 Statistics*
922 *Census 2011 Statistics*
923 *Census 2011 Statistics*
924 *Census 2011 Statistics*
925 *Census 2011 Statistics*
926 *Census 2011 Statistics*

Regional Distribution of Population in the District[927]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Pardi	29%	953
Valsad	27%	755
Umbergaon	17%	653
Kaprada	14%	319
Dharampur	13%	253

As per 2011 census, the district has a gender ratio of 926 females per 1000 males[928] as against the state average ratio of 918 females per 1000 males[929]. Gender ratio of district has marginally improved from 920 females per 1000 males[930] in 2001 to 926 females per 1000 males by 2011. Scheduled tribes contribute to significantly high proportion of 54.76 percent[931] in district population indicating the need for inclusion focus on development scheduled tribes within Valasad district.

Education attainment levels in the district are marginally better than the state average. As per 2011 estimates, district has registered an overall literacy rate of 80.94 percent[932] as against state average of 79.31 percent[933]. Continuing regional and gender disparities in literacy rates is a key concern within the district. Urban-rural literacy gap in Valasad is estimated to be 19.25 percent[934] comparable to the state average of 14.58 percent[935]. Similarly, district has a male-female literacy gap of 11.52 percent[936] as against 16.5 percent[937] for Gujarat state. Efforts towards increasing inclusion focus in mass education programs are recommended to develop a quality workforce in Valasad district.

6.10.20.1.3. Economic Profile

Valasad is an industrial base for sectors such as chemicals, textiles, and paper & pulp industries. Since 1980's, Textile and Chemicals have been the major sectors of investments and employment in the district. The district is also an emerging as a horticulture hub of the State, witnessing significant production in food grains and crops.

With presence of large number of medium and large scale industries, Vapi is a major industrial center in Valsad witnessing tremendous business activities. One of the Asia's largest Common Effluent Treatment Plant (CETP) is present in Vapi, owned by Vapi Waste & Effluent Management Company and promoted by Vapi Industrial Association.

927 *Census 2001Statistics, KPMG Analysis*
928 *Census 2011 Statistics*
929 *Census 2011 Statistics*
930 *Census 2011 Statistics*
931 *Census 2001Statistics, KPMG Analysis*
932 *Census 2011 Statistics*
933 *Census 2011 Statistics*
934 *Census 2011 Statistics*
935 *Census 2011 Statistics*
936 *Census 2011 Statistics*
937 *Census 2011 Statistics*

Several small and medium enterprises (SMEs), involved in different sectors, such as chemicals, textiles, engineering, and paper industry etc., are present in the district. Some of the private conglomerates are present in Valsad, including Wyeth, Welspun Polyesters India Ltd., Aarti Industries, Atul industries, Gujarat Heavy Chemicals Ltd. (GHCL), Raymond, Sun Pharmaceuticals, United Phosphorus, Pidilite and Vadilal.

Analysis of regional distribution of investments in Valasad district indicates that industrial development is concentrated in Pardi, Valasad and Umargam Talukas while other regions like Kaprada and Dharmapur still remain backward in terms of industrial development. Over the recent years State Government has initiated measures to enhance industrial growth in backward talukas across the state through suitable incentives leading to an increased investment potential of these regions over the next decade. Details of region wise large scale investments in Valasad district till 2012 is presented in the table.

Large Scale Investment Scenario In Valasad[938]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Pardi	356	4532	112	2777
Umargam	171	1618	73	2063
Valasad	160	1961	78	1272
Dharmapur	13	117	3	39
Kaprada	9	27	3	41
Not Classified	6	65	21	745
District Total	**715**	**8320**	**290**	**6937**

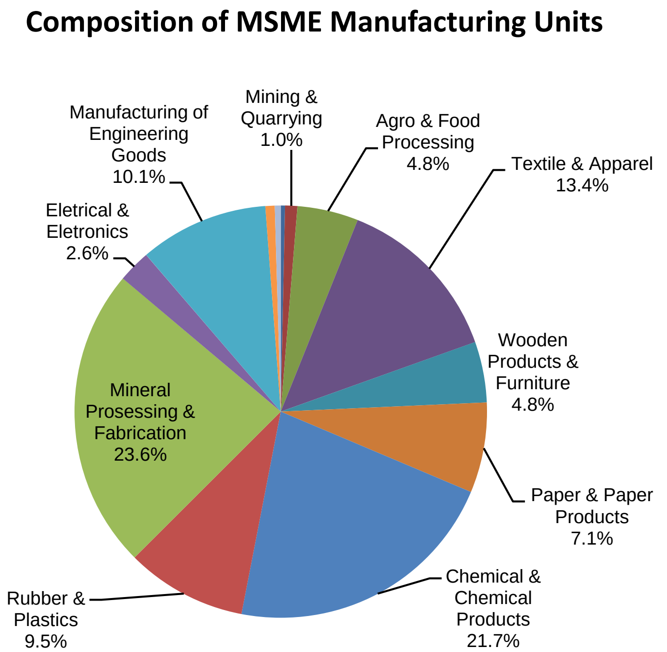
Rapid growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 3402 units operating in the district attracting an investment of INR 2, 93,883 lakhs in 2012. Investment outlook in MSME segment of Valasad district is presented in the table.

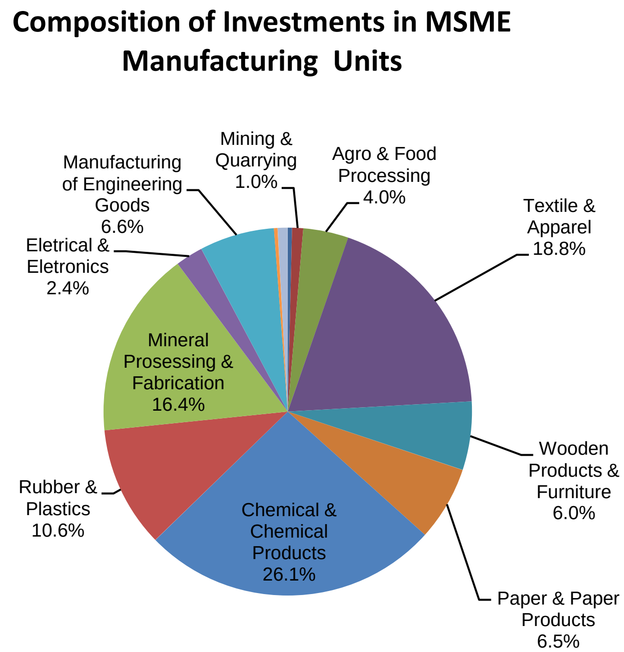
[938] *IEM, MSME Part-II Data till 2012-13*

MSME Investment Scenario in Valasad[939]		
Category of Industries	**Number of Units**	**Investment In Lakhs**
Micro	2548	48795
Small	775	158912
Medium	79	86176
Total	**3402**	**293883**
Manufacturing Sector Units	3012	285294
Service Enterprises	390	8590

MSME segment in Valasad is dominated by manufacturing industries in terms of both volume and investments. Among the manufacturing based MSME units chemical and chemical products, mineral processing, agro and food processing, and textile and apparel are prominent categories in terms of number of units and investment. Composition of MSME manufacturing units and investments are presented in the chart.

MSME Manufacturing Sector Overview in the District[940]

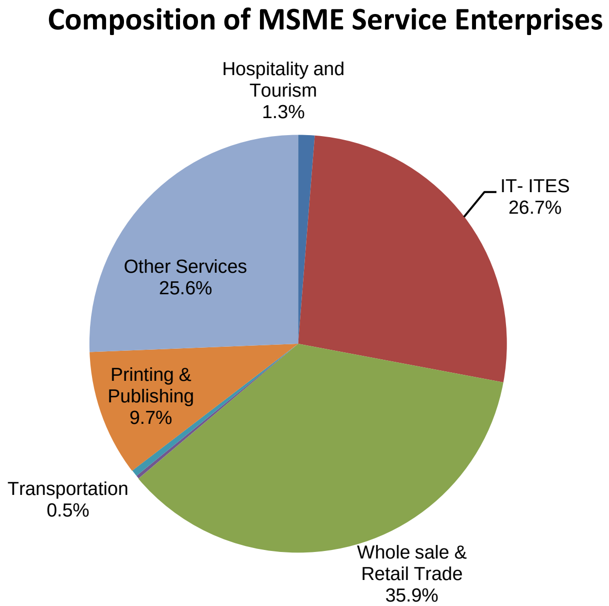


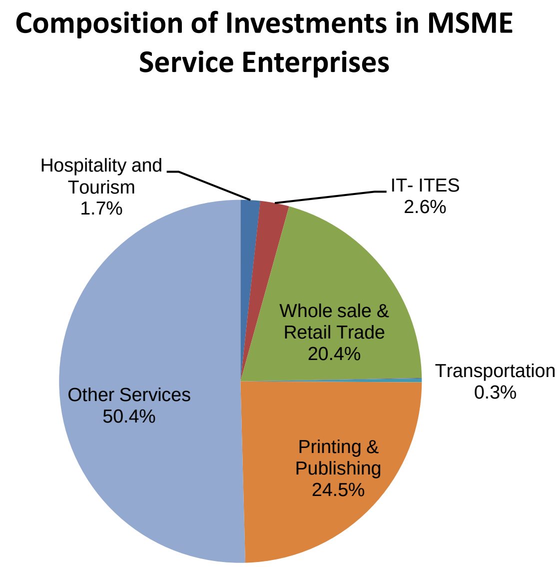


While the level of organized investments in services enterprises is low as evident from the MSME Part-II statistics, sectors of whole sale and retail trade, Printing and Publishing and IT-ITES have seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

[939] *IEM, MSME Part-II Data till 2012-13*
[940] *IEM, MSME Part-II Data till 2012-13*

MSME Services Sector Overview in the District[941]





Tourism contributes significantly to Valsad's service sector. The region contains several tourism centers, such as the Fire Temple at Udvada, a holy place for the parsis; Lady Wilson museum and the District Science Centre. Tourists also visit Sahyadri Mountain, which is a designated UNESCO World Heritage Site. Apart from these locations, tourism in the region is supplemented by visitors travelling to Daman and Diu.

The tourism is further bolstered by a robust transport network linking Valsad with the neighbouring regions in Gujarat and with other states as well. The rail network provides connectivity to major destinations, such as Ahmedabad, Mumbai and Delhi through the Western Railway. There has also been an increased focus on the betterment of the road network with the announcement of several infrastructure development projects. Projects have also been proposed for ports and rails. There are plans for developing a new Greenfield site, as an industrial port. A rail line to connect the Maroli (Umargaon) port with Surat and Mumbai is also in the pipeline. The district, however, does not have an airport; the nearest airport is located in Surat.

With regards to healthcare, the district sees a medium penetration of health services, with one medical institution available for approximately 30,000 people in the region. There are 41 primary healthcare centers, 10 community healthcare centers, 2 hospitals and 3 dispensaries[942]. The Kasturba Hospital, Bhatia General Hostpital and Adarsh Hospital are multi-specialty hospitals in the district having modern equipment.

The district also witnesses a moderate penetration in the financial sector having one bank for nearly 12,000 people. The number of banks in the district has been growing at a year-on-year rate of 6.4% percent, however the amount of

941 *IEM, MSME Part-II Data till 2012-13*

942 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

deposit and credit at growing at a CAGR of 19.8 % and 22.2% respectively[943] in the 2007-2012 period. Valsad has 146 bank offices with a total deposit and credit amount of 6,593 Cr INR and 3,477 Cr INR[944] as of 2012.

Being a high rainfall witnessing region, the majority of land is rainfed with only around 36 % of net cultivable area under irrigation[945]. This Agricultural irrigation in Valsad is predominantly dependent on canals and open wells. Large scope for the operation and maintenance of tube wells for lift irrigation would mandate requirement of skilled manpower with knowledge on repair and maintenance.

Poor nitrogen and high potash content in Valsad soils has resulted in large scale usage of nitrogen rich fertilizers. Awareness levels on organic farming and vermi compost methods are low indicating a need to improve the same in order to promote sustainable agricultural practices.

Cotton and Ragi are key kharif crops grown in the district while Niger & Indian Bean are the major rabi crops. The ratio of area under Kharif to Rabi crop cultivation is 3.32 indicating good prospects for multiple cropping. Main horticulture crops include banana, sapota and Okra and mango where the district topped the state in terms of production[946]. Currently usage of hybrid crop varieties is low with a need to promote across crop categories. There is a need for Taluka Seed Farms in the district to improve the availability of quality seeds.

Cow and buffalos are main cattle varieties in Valsad with 300736 cows and 95430 buffalos. Other prominent domestic animals under animal husbandry activities are goats. Each taluka of the district has a permanent pasture though they are small in size. This opens up opportunity for animal husbandry which when clubbed with organic farming can give impressive results.
Educating farmer communities/ groups on marketing and processing would be crucial to enhance the revenue benefits to marginal communities by limiting the role of middlemen. Government initiative to set up agricultural collection centers towards achieving this objective has to be supplemented by relevant training programs.

6.10.20.2. Workforce Distribution in the district

Valasad being an emerging industrial hub is witnessing significant growth of the secondary sector in regard to overall employment. Traditionally the dependency on agriculture has been high as indicated by a marginally higher dependency on primary sector than the state average, but in recent years there has been significant progress towards secondary and tertiary activities. Comparison of workforce distribution scenario in Valasad and Gujarat is presented in the table[947].

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943 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

944 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

945 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

946 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

947 *KPMG Analysis*

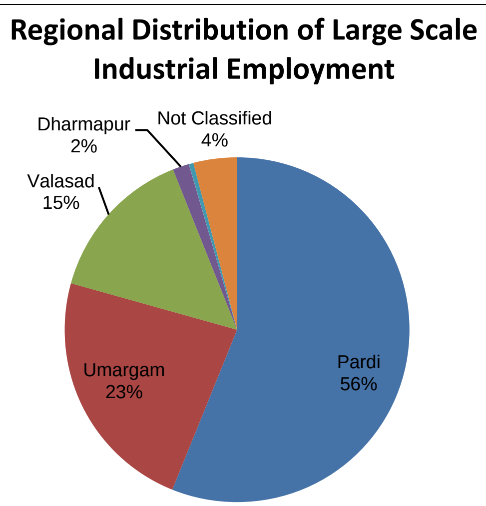
Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Valasad	51.84%	34.55%	62.18%	18.48%	19.34%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

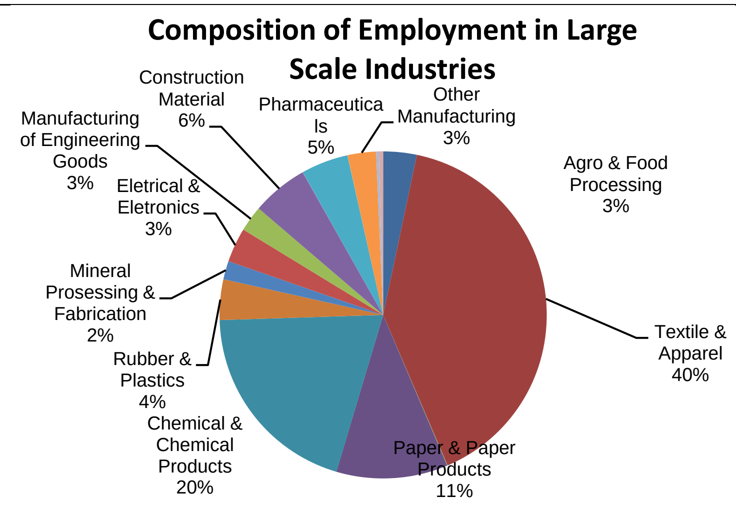
Organized industrial employment in registered factories and service enterprises has contributed to significant share of employment in the district. While the unorganized sector still dominates the overall employment market, registered and commissioned industrial units have generated an employment base of 1.3 lakhs in the district. Proposed large scale industries along with existing units in the category have potential employment generation capacity of 70 thousand.

Organized Employment in Valasad[948]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	108892
MSME Category	66296
Manufacturing Units	63375
Service Enterprises	2921
Total	**175188**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors. Pardi, Umargam and Valasad talukas account for a majority share of employment in this category. Textiles and apparel, chemical and chemical products are the key employment generating segments within the district. Regional and sectoral break up of large scale industrial employment is presented in the chart.

Large Scale Industrial Overview in the District[949]

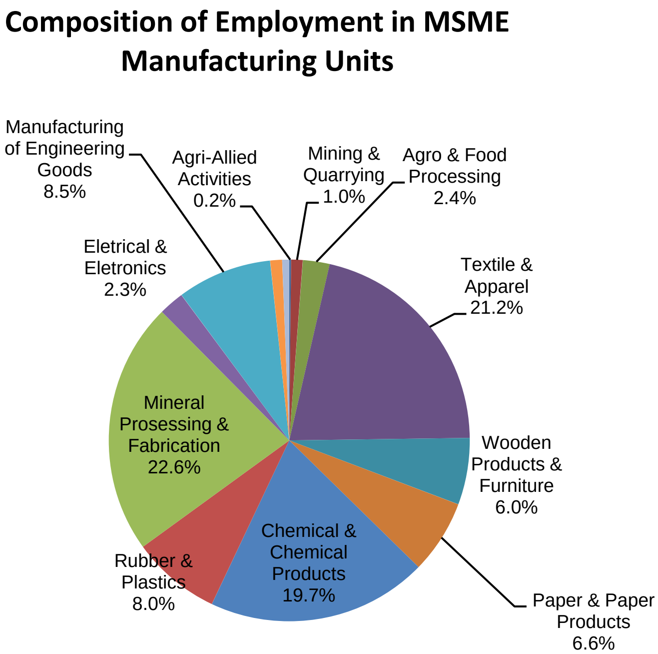


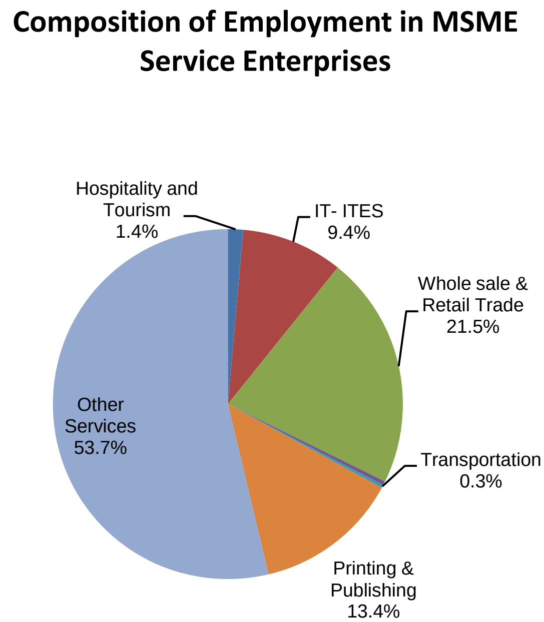


948 *IEM, MSME Part-II Data till 2012-13*
949 *IEM, MSME Part-II Data till 2012-13*

Among the manufacturing units in MSME segment, Mineral Processing and Fabrication, Textile and apparel, chemical and chemical product units have accounted for majority share of the employment in all the categories of industries. Whole sale & retail trade, IT-ITES, Publishing & printing are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart

MSME Employment Overview in the District[950]





6.10.20.3. Human Resource Requirement Projections in Valasad (2012-22)

Incremental manpower requirement in the district of Valsad has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Valsad. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

[950] *IEM, MSME Part-II Data till 2012-13*

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, the period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural laborers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation & logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub-segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- IT-ITES
- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Amreli district are presented in the table[951].

Sector	2012-17				2017-22			
	Skilled	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Agriculture & Allied Activities	NA	NA	13156	13156	NA	NA	11017	11017
Agro & Food Processing	117	469	587	1173	105	420	525	1049
Textile & Apparel	1290	5161	6452	12904	1154	4617	5771	11541
Wooden Products & Furniture	83	332	415	830	74	297	371	743
Paper & Paper Products	363	1454	1817	3635	325	1300	1626	3251
Chemical & Chemical Products	765	3059	3824	7648	684	2736	3420	6840
Rubber & Plastics	209	836	1045	2090	187	748	935	1870

951 *KPMG Analysis*

Mineral Processing & Fabrication	369	1476	1846	3691	330	1321	1651	3301
Electrical & Electronics	116	463	578	1156	103	414	517	1034
Manufacturing of Engineering Goods	188	752	940	1880	168	673	841	1681
Manufacturing of Construction Material	138	552	691	1381	124	494	618	1235
Drugs and Pharmaceuticals	116	465	581	1162	104	416	520	1039
Misc. Manufacturing	80	320	401	801	72	287	358	717
Construction	378	755	6421	7554	338	676	5743	6757
Trade, Retail	610	915	4576	6101	667	1000	5002	6669
Transportation & Logistics	852	13534	16101	30487	697	11073	13174	24944
IT-ITES	3600	9000	NA	12600	3000	7200	NA	10200
Hospitality & Tourism	827	1241	6203	8270	662	992	4962	6616
Banking & Financial Services	2524	7572	NA	10096	1767	5300	NA	7067
Healthcare	439	1976	NA	2415	585	2925	NA	3510
Education & Training	678	4568	NA	5246	1018	2741	NA	3758

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[952].

Secondary Sector (Manufacturing, Construction & Energy):

- **Textile & Apparel:**

Category of Skills	Skills
Core Skills	Ring frame operator, weaver, processing operator (CDR,BDR,Stuntor), Bar-coding machine operator
Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions.

- **Chemical & Chemical Products:**

Category of Skills	Skills
Core Skills	Mechanical, Electrical skills

[952] *KPMG Analysis*

Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Metal & Mineral Processing:**

Category of Skills	**Skills**
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	**Skills**
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services:**

Category of Skills	**Skills**
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	**Skills**
Core Skills	Heavy vehicle drivers, logistics management

Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Education:**

Category of Skills	Skills
Core Skills	School teachers, higher education faculty
Allied Skills	Knowledge on advanced teaching tools
Skills with acute shortage	Technical education trainers

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.20.4. Human Resource Supply Scenario in the District

6.10.20.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Valasad is among the districts with moderate human resource growth potential during 2012-22. Limited employment opportunities within the district would drive outward migration especially in the skilled category resulting in a declining labour force growth in Valasad. Details of human resource growth estimations during 2012-22 are presented in the table[953].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	116,878	73,594	62,450
2017-22	140,361	88,032	48,488

6.10.20.4.2. Education and Training Potential in the District

The district has around 1210 K12 schools with 86.61 percent share of Government schools. The net enrolment ratio of the district at the primary level and the upper primary level is higher than the enrolment ratio of the state[954].

Total Enrollments in 2009-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Valsad	170612	57541	62366	27603

Comparing the district's enrolment statistics with state average indicates that the district is a strong performer in the primary education category[955]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Valsad	94.3	54.5
Gujarat	85.4	50.7

[953] *KPMG Analysis*
[954] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[955] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

In the vocational education segment, the district lags behind in the provision of vocational training in comparison to state average. Private interest in the sector in this district is also lower indicating that the state must take proactive measures in seeking private support to augment vocational training infrastructure[956].

Region	**Number of ITIs**	**Seat Capacity**	**Vocational Training Capacity Density (Seats Per 1000 Population)**	**Private Sector Participation in Vocational Training**
Valsad	11	3,319	1.95	21%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Valsad district needs to be focused on the tehsils of Umargam, Valasad and Kaparada to bring them on par with the district average in vocational education capacity[957].

Taluka	**Seat Capacity**	**Vocational Training Capacity Density(Seats Per 1000 Population)**	**Private Sector Participation in Vocational Training**
Dharampur	758	3.48	24%
Pardi	1184	2.42	11%
Umargam	512	1.79	0%
Valasad	597	1.28	62%
Kaparada	268	1.09	0%
District Total	**3319**	**1.95**	**21%**

The district has 2 pharmacy colleges, 1 engineering college and 8 arts and science, commerce colleges. With 120 seats, there is one Degree Engineering College present in Valsad offering engineering courses in mechanical and chemical branches. Located in Vapi, G. M. Bilakhia Pharmacy College has an intake capacity of 60 students per year. Rofel Institute of Management studies in Valsad offers full time MBA course and takes 120 students per annum.

6.10.20.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				**2017-22**			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**

956 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

957 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

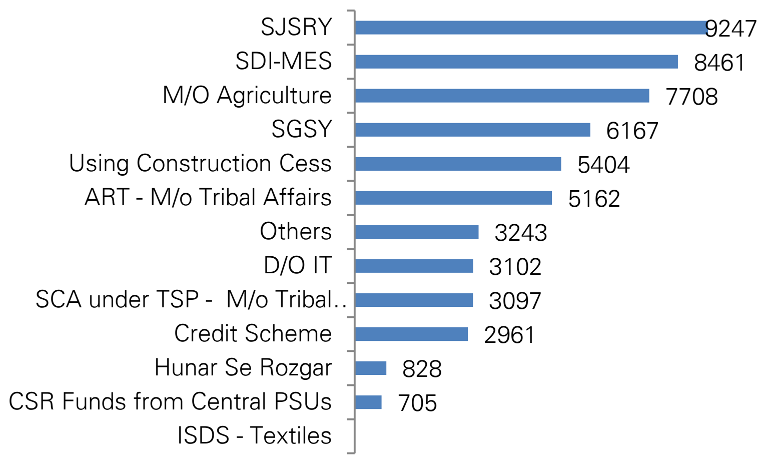
Demand-Supply Gap	864	44,916	26,047	71,826	1,043	35,984	29,330	66,351

*(Indicates excess supply)

6.10.20.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 56 thousand people in total can be trained incrementally during the five year period of 2012-17. The Ministry of Agriculture and the Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Valsad District[958]



6.10.20.5. District Specific Recommendations

Considering these factors, the proposed action plan for stakeholders in skill development in district would indicate the following priority areas:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers in the following sectors • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services

958 *KPMG Analysis*

District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes • Mineral Processing and Fabrication • Chemical Products • Manufacturing of Engineering Goods
Private Skill Training Providers	Provide skill training in the sectors of • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • Construction • Retail • Transportation and Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.21. Skill Gap Assessment of Navsari District

6.10.21.1. Socioeconomic Profile

6.10.21.1.1. Administrative Profile

Navsari is a coastal district located in the south eastern part of Gujarat with a geographical spread of 2,658sq.km[959]. The district shares a border with Surat, The Dangs, Valasad districts of Gujarat and Arabian Ocean. Administratively Navsari district is divided into 5 talukas and 372 villages[960]. Navsari, Jalalpore, Gandevi, Chukli and Vansda are taluka regions in the district. .

6.10.21.1.2. Demographic Profile

Navasari district has a relatively low human resource potential region in Gujarat state. The district has a total population of 13.31 lakhs[961] as per 2011 Census district, accounting for 2.2 percent[962] of the overall state population. It has witnessed the least decadal population growth among districts of Gujarat. Navsari population has witnessed a decadal growth rate of 8.24 percent[963] between 2001 and 2011 in comparison to state average of 19.17 percent[964] during the same period. Significant portion (nearly 70% of total population[965]) of district population lives in rural areas. Population spread in the district is higher than the state average with a density of 602 persons per sq.km[966] as against state average of 308 persons per sq.km[967]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Chikhli, Navsari and Gandhevi.

Details of regional distribution of population in the district are presented in the table.

[959] *Census 2011 Statistics*
[960] *Census 2011 Statistics*
[961] *Census 2011 Statistics*
[962] *Census 2011 Statistics*
[963] *Census 2011 Statistics*
[964] *Census 2011 Statistics*
[965] *Census 2011 Statistics*
[966] *Census 2011 Statistics*
[967] *Census 2011 Statistics*

Regional Distribution of Population in the District[968]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Chikhli	24%	510
Navsari	22%	1102
Gandevi	20%	815
Jalalpore	18%	448
Bansda	16%	336

Gender composition of district population is better than the state average. As per 2011 census, the district has a gender ration of 961 females per 1000 males[969] as against the state average ratio of 918 females per 1000 males[970]. Further, it has witnessed an improving trend in female composition with the gender ratio increasing from 955 females per 1000 males[971] in 2001 to 960 females per 1000 males[972] by 2011. It is a key tribal zone in the state of Gujarat, with the scheduled tribes accounting for 48.08 of overall district population[973]. Overall reserved categories contribute to 51.3 percent[974] of the total district population indicating the need for special focus on the upliftment of these communities within Navsari.

Education attainment levels in the district are moderately higher than the state average. As per 2011 estimates, it has registered an overall literacy rate of 80.78 percent[975] as against state average of 79.31 percent[976]. The district has made significant progress towards achieving higher levels of gender and regional inclusion in literacy. Urban-rural literacy gap in Navsari is estimated to be 7.25 per cent[977] as against 14.58 percent[978] for the overall state. Similarly, it still has a male-female literacy gap of 10.76 percent[979] as against 16.5 percent[980] for Gujarat state. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth of the region.

6.10.21.1.3. Economic Profile

Textiles, diamond business, sugar industry, agro & food processing, paper, engineering and chemicals are some of the key business sectors in Navsari. The district has well developed floriculture and horticulture activities owing to its suitable climate and presence of a major player Best Roses Biotech Pvt. Ltd. Other large players in the district include Gufic Biosciences Ltd., Tata Steel Ltd., and Mafatlal Industries. Analysis of regional distribution of investments in

968 *Census 2001Statistics, KPMG Analysis*
969 *Census 2011 Statistics*
970 *Census 2011 Statistics*
971 *Census 2011 Statistics*
972 *Census 2011 Statistics*
973 *Census 2001Statistics, KPMG Analysis*
974 *Census 2001Statistics, KPMG Analysis*
975 *Census 2011 Statistics*
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977 *Census 2011 Statistics*
978 *Census 2011 Statistics*
979 *Census 2011 Statistics*
980 *Census 2011 Statistics*

Navsari district indicates that the industrial development is concentrated in Navsari and Jalalpore Talukas. Over the recent years State Government has initiated some measures to enhance the industrial growth in backward taluka Chikhli through suitable incentives to increase the investment potential of these regions over the next decade.

Details of region wise large scale investments in Navsari district till 2012 is presented in the table.

Large Scale Investment Scenario In Navsari[981]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Navsari	36	321	10	42
Gandevi	7	69	3	1
Jalalpore	3	125	1	7
Chikhli	2	5	4	59
Vansda	1	2	--	--
Not Classified	1	--	--	--
District Total	**50**	**522**	**18**	**109**

Rapid growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 1,790 units operating in the district attracting an investment of INR 44,283 lakhs in 2012.

Investment outlook in MSME segment of Navsari district is presented in the table.

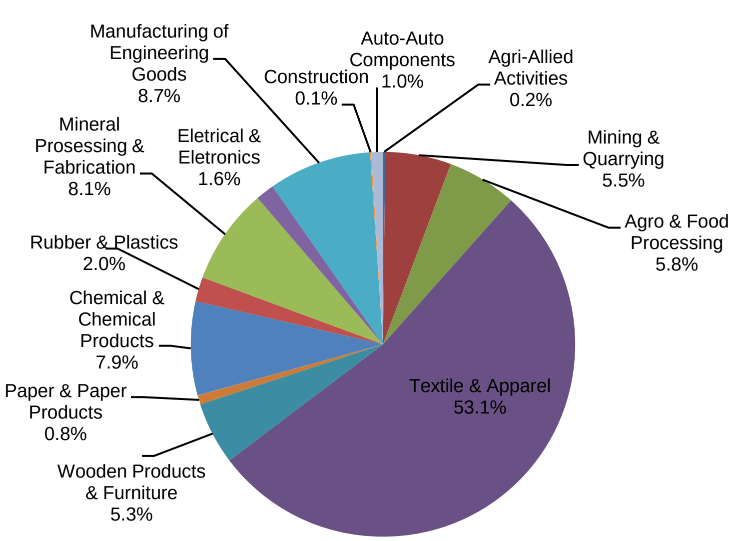
MSME Investment Scenario in Navsari[982]		
Category of Industries	**Number of Units**	**Investment In Lakhs**
Micro	1594	10839
Small	189	27077
Medium	7	6367
Total	**1790**	**44283**
Manufacturing Sector Units	1028	41767
Service Enterprises	762	2515

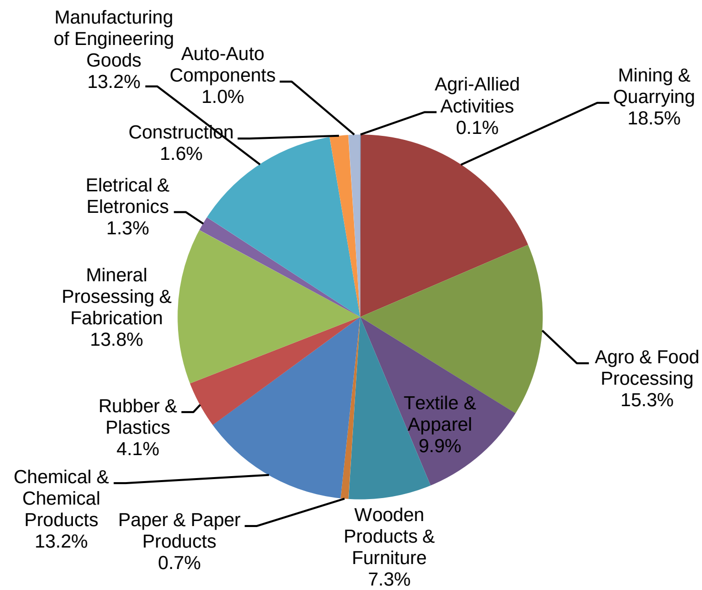
MSME segment in Navsari is dominated by manufacturing industries in terms of both volume and investments. Among the manufacturing based MSME units, textile and apparel is the prominent category in terms of number of units. However, in terms of investments, mining and quarrying, chemical and chemical products and textile and

[981] *IEM, MSME Part-II Data till 2012-13*
[982] *IEM, MSME Part-II Data till 2012-13*

apparel are the prominent industries. Composition of MSME manufacturing units and investments are presented in the chart.

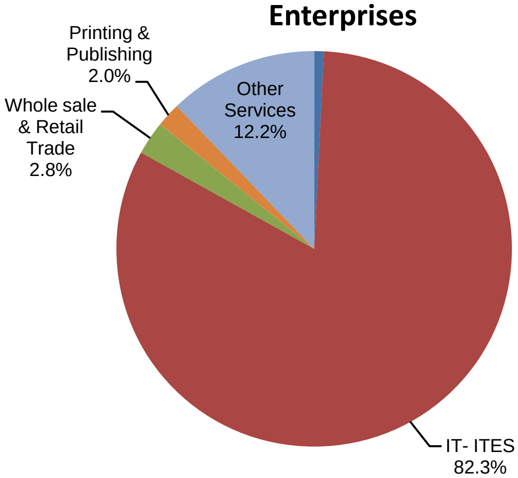
MSME Manufacturing Sector Overview in the District[983]

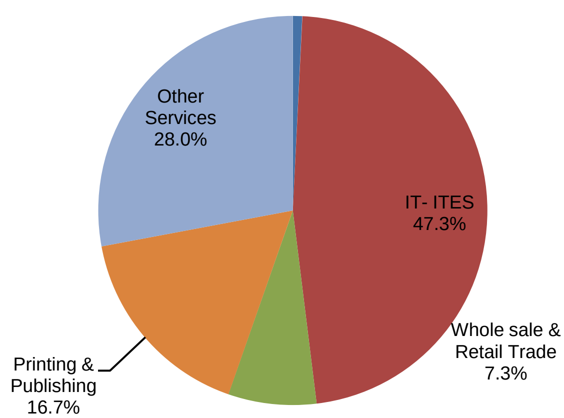




While the level of organized investments in service enterprises is low as evident from the MSME Part-II statistics, IT-ITES sector has seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

MSME Services Sector Overview in the District[984]





983 *IEM, MSME Part-II Data till 2012-13*

984 *IEM, MSME Part-II Data till 2012-13*

The tourism sector has attracted major investments during the Vibrant Gujarat Summits. The major tourist destinations include Dandi, Somnath Mahadev temple, Dastur Meherji-Rana Library and Ubhrat - a beach and amusement park. Apart from the above, the district also has Vansda National Park which includes 250 species of plants and rich diversity of animal species.

The district has 37 primary healthcare centers, 10 community healthcare centers and 3 hospitals. There is also the presence of hospitals like Navsari Agriculture University, Sugarcane Research Station and Mahatma Gandhi Institute of Technical Education and Research. The Navsari Cancer Care Foundation has also undertaken a project to establish a state-of-art Radiotherapy Unit at Civil Hospital Navsari, jointly with the Government of Gujarat[985].

The region has a robust health care system with high penetration of medical institution – 22,706 people per institute. The district consists of Community Health Centers (10), Primary Healthcare Centers (37) in rural areas and about 3 hospitals and one dispensary in urban areas.

The Navsari district has strong connectivity. It is connected with the major cities in Gujarat like Ahmadabad, Surat and Vadodara and other major Indian cities like Delhi, Mumbai and Ahmedabad. The rail network connects the district with most of the major cities as well. The nearest domestic airport is at Surat. On the port infrastructure front, the Gujarat Maritime Board has identified Vansi-Borsi as a green field site for developing a direct berthing deep water port.

Navsari has 180 bank offices and the total bank deposit amounts to 9,537 Cr INR and the total credit amount of 1,530 Cr INR as of Mar 2012[986].. Navsari has the highest penetration of banking and financial services amongst all districts with a density of 7,393 people per bank as of March 2012. While the CAGR of the number of bank offices in Navsari stands at 4.6 percent from 2007 to 2012, the amount of deposit and credit have increased at a CAGR of 14.2 percent and 12.6 percent respectively from 2007-2012.

Navsari has high rainfall conditions and mostly constitute the South Gujarat agro climatic zone. Owing to the soil characteristics, majority of the district geographical land is cultivable (69 percent of total area). The location of the district near the river and high rainfall has resulted in good forest coverage as well (20.46 percent of total geographical area).

The district has a good spread of irrigation facilities with 51.72 percent[987] of net cultivable area under irrigation. Agricultural irrigation in Navsari is predominantly dependent on canals followed by open wells with a 45 percent and 41 percent share of net irrigated area respectively. Large scope for the operation and maintenance of pumps and tube wells would mandate requirement of skilled manpower with knowledge on repair and maintenance. Further there is an increasing need to promote micro irrigation and water management programs in the district.

985 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
986 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
987 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

Poor nitrogen content in Navsari soils has resulted in large scale usage of nitrogen rich fertilizers. Awareness levels on organic farming and vermi compost methods are low indicating a need to improve the same in order to promote sustainable agricultural practices.

Paddy, Jowar, Pulses (Tur, Moong, Black gram), Groundnut and Ragi are key Kharif crops while Paddy, Wheat, Sorghum, Tur, Green gram, Castor and Sugarcane are major Rabi crops grown in the district. Main horticulture crops include fruits (mainly mangoes), vegetables and flowers. The ratio of area under Rabi to Kharif crop is around 0.5 which indicates significant potential for improvement in multiple cropping. Currently usage of hybrid crop varieties is low with a need to promote across crop categories. The district has 3 Taluka Seed Farms which are targeted to improve the availability of quality seeds.

Cow and buffalos are main cattle varieties in Navsari with 1,11,715 cows[988] and 82,966 buffalos[989]. Other prominent domestic animal under animal husbandry activities is goat. Availability of large pasture lands indicates significant potential to promote animal husbandry in the district. Along with strengthening animal husbandry activities among small and marginal farmers through advanced rearing training, there is a need for integrating the animal husbandry with promotion of organic farming as well.

6.10.21.2. Workforce Distribution in the district

Dependency on agricultural activities for livelihood opportunities in Navsari is on par with the state average. Over 60 percent of total workforce is engaged in primary sector. Secondary and tertiary sectors have nearly equal contributions to the workforce of the district. While the penetration of secondary sector is marginally better than the state average, high level of unorganized activity has limited the extent of organized job prospects within the district.

Comparison of workforce distribution scenario in Navsari and Gujarat is presented in the table[990].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Navsari	63.16%	44.35%	62.18%	18.48%	19.34%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

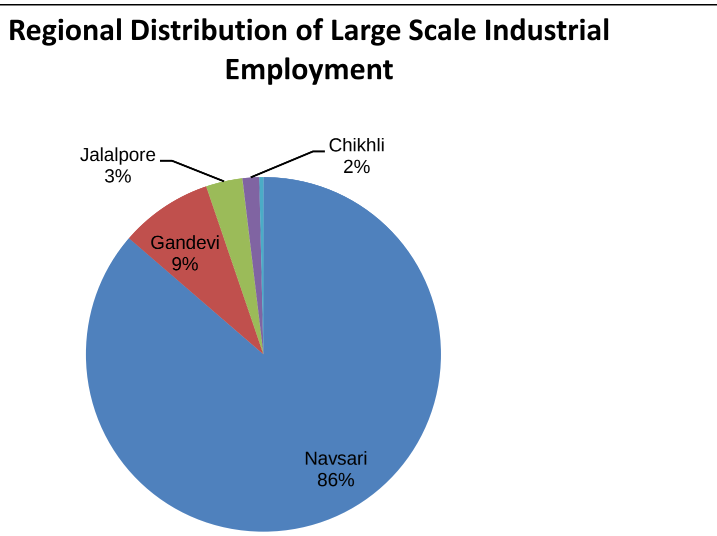
Registered factories and service enterprises have created employment opportunities to the extent of 25 thousand. MSME category is dominated by food processing and non metallic processing units, accounting for a majority share of overall employment in the sector. Manufacturing of apparel, food processing, equipment manufacturing are the other key employment generating sectors in MSME segment.

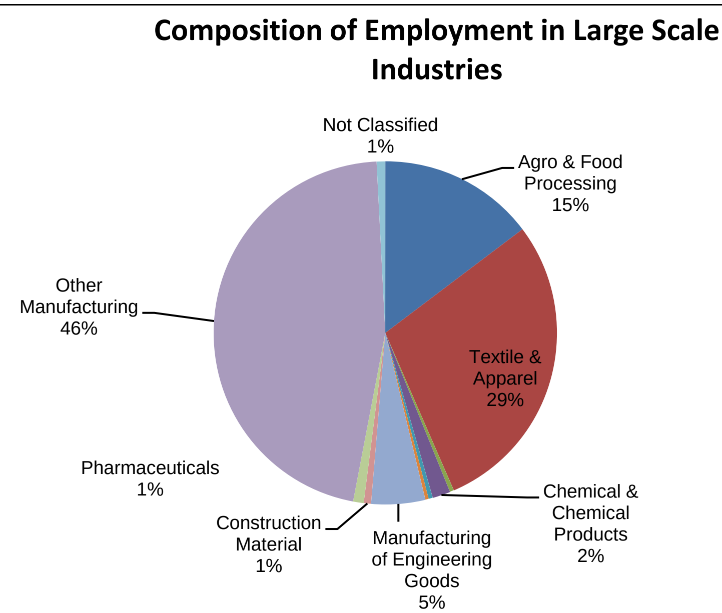
988 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
989 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
990 *KPMG Analysis*

Organized Employment in Navsari[991]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	18,585
MSME Category	13,662
Manufacturing Units	12,514
Service Enterprises	1,148
Total	**32,247**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors. Navsari and Gandevi account for a majority share of employment in this category. Textiles and Apparel and Agro and Food Processing are major employment generating segments within the district. Regional and sectoral break up of large scale industrial employment is presented in the chart.

Large Scale Industrial Employment Overview in the District[992]

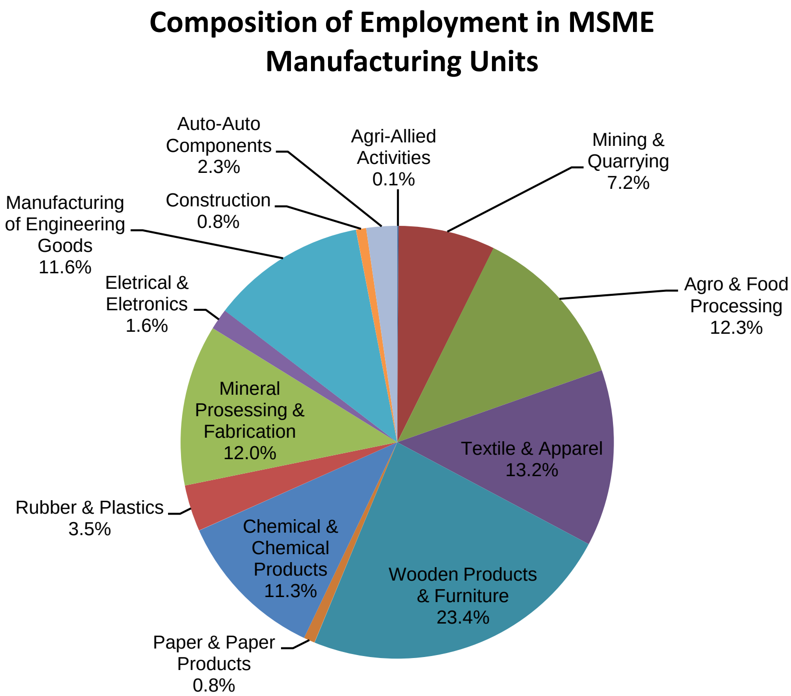


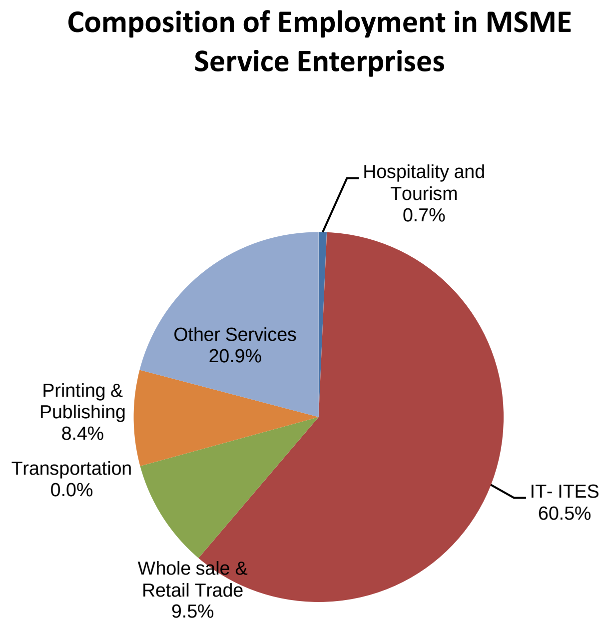


Among the manufacturing units in MSME segment Textile, chemical and chemical product manufacturing, wooden products and furniture units have accounted for majority share of the employment in all the categories of industries. Whole sale & retail trade and IT-ITES are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

991 *IEM, MSME Part-II Data till 2012-13*
992 *IEM, MSME Part-II Data till 2012-13*

MSME Employment Overview in the District[993]





6.10.21.3. Human Resource Requirement Projections in Navsari (2012-22)

Incremental manpower requirement in the district of Navsari has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Navsari. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors, incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, the period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

[993] *IEM, MSME Part-II Data till 2012-13*

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation& logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)

- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Navsari district are presented in the table[994].

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	11342	11342	NA	NA	9498	9498
Agro & Food Processing	93	371	464	928	83	332	415	830
Textile & Apparel	152	606	758	1516	136	542	678	1356
Wooden Products & Furniture	64	254	318	636	57	227	284	569
Paper & Paper Products	4	15	19	38	3	14	17	34
Chemical & Chemical Products	37	149	187	373	33	134	167	334
Rubber & Plastics	11	44	55	110	10	39	49	98
Mineral Processing & Fabrication	53	214	267	534	48	191	239	478
Electrical & Electronics	4	17	21	43	4	15	19	38
Manufacturing of Engineering Goods	58	232	290	580	52	208	259	519

[994] *KPMG Analysis*

Manufacturing of Construction Material	3	11	14	28	2	10	12	25
Drugs and Pharmaceuticals	4	16	20	40	4	14	18	36
Misc. Manufacturing	189	757	947	1893	169	677	847	1693
Construction	295	590	5017	5903	264	528	4488	5280
Trade, Retail	477	715	3575	4767	521	782	3908	5211
Transportation & Logistics	143	2274	2706	5123	117	1861	2214	4191
Hospitality & Tourism	528	792	3960	5280	422	634	3168	4224
Banking & Financial Services	3982	11947	NA	15929	2788	8363	NA	11151
Healthcare	494	2222	NA	2716	658	3289	NA	3947
Education & Training	460	3099	NA	3559	690	1859	NA	2550

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[995].

Secondary Sector (Manufacturing, Construction & Energy):

- **Textile & Apparel:**

Category of Skills	Skills
Core Skills	Ring frame operator, weaver, processing operator (CDR,BDR,Stuntor), Bar-coding machine operator
Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions.

- **Food Processing:**

Category of Skills	Skills
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists

[995] *KPMG Analysis*

Skills with acute shortage	PPO is required in industries having in house packing development.

- **Metal & Mineral Processing**:

Category of Skills	**Skills**
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	**Skills**
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

- **Salt Production:**

Category of Skills	**Skills**
Core Skills	Earth moving equipment operators, tractor drivers
Allied Skills	Minimally skilled workers
Skills with acute shortage	Chemists

Services:

- **Banking & Financial Services:**

Category of Skills	**Skills**
Core Skills	Knowledge on core banking/mobile/internet platforms

Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.21.4. Human Resource Supply Scenario in the District

6.10.21.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Navsari is among the districts with low human resource growth potential during 2012-22. High incidence of outward migration over the last decade into industrial clusters of Surat has resulted in limited declining population growth in this region.

Details of human resource growth estimations during 2012-22 are presented in the table[996].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	81,807	55,675	52,366
2017-22	73,451	51,584	40,658

6.10.21.4.2. Education and Training Potential in the District

The district has around 894 K12 schools with 86.02 percent share of Government schools. For the district, the net enrolment ratio at both primary levels and upper primary levels are lower than the enrolment ratios of the state[997].

Total Enrollments in 2009-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Navsari	117958	46806	63351	21623

Comparing the district's enrolment statistics with state average indicates that the district is a weak performer in the primary education category[998]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Navsari	75.5	47.4
Gujarat	85.4	50.7

In the vocational education segment, the district is ahead in the provision of vocational training in comparison to state average. Private interest in the sector in this district is low indicating that the state must take proactive measures in increasing private support to augment vocational training infrastructure[999].

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Navsari	15	6,125	4.6	8%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Navsari district needs to be focused on the tehsils of Vansada, Navsari and Jalalpor to bring them on par with the district average in vocational education capacity[1000].

996 *KPMG Analysis*
997 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
998 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
999 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Gandevi	3824	14.70	5%
Chikhli	1108	3.49	12%
Vansada	469	2.15	18%
Navsari	532	1.79	0%
Jalalpor	192	0.81	33%
District Total	**6125**	**4.60**	**8%**

The district has 1 medical college, 1 engineering college and 12 colleges offering Arts, Commerce, Science, B.Ed and Law programs. Navsari Agriculture University in the district provides education in the fields of agriculture, forestry, horticulture, and fisheries. Sugarcane Research Station at Navsari Agriculture University is mainly engaged in the research of crop improvement, crop production, and crop protection. Mahatma Gandhi Institute of Technical Education and Research in the district offers courses in computer science, electrical, electronics, communication and mechanical engineering. M.G.G. Hospital offers courses in the district in general nursing and Midwifery.

6.10.21.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	(2,818)	16,674	(4,885)	8,972	(4,941)	10,175	6,168	11,404

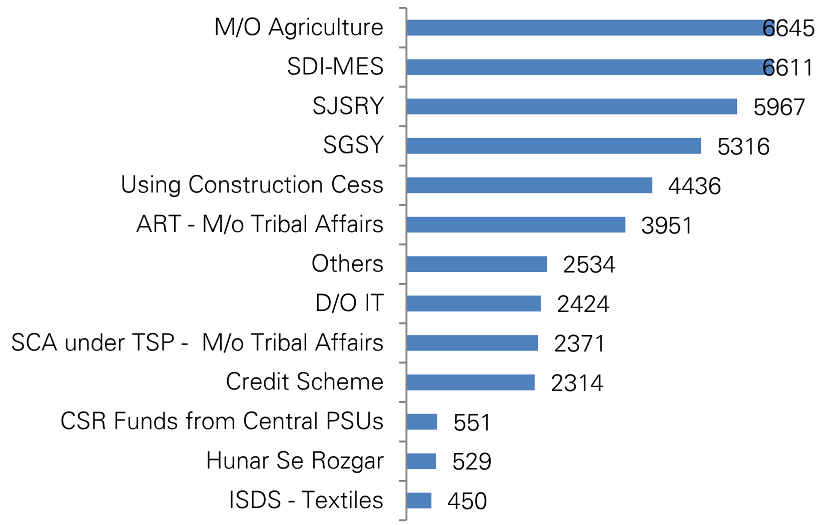
*(Indicates excess supply)

6.10.21.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 44 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

[1000] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Government Funded Incremental Training Capacity (2012-17) - Navsari District[1001]



6.10.21.5. District Specific Recommendations

Considering these factors, the proposed action plan for stakeholders in skill development in the district would indicate the following priority areas:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following sectors • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes • Agri allied activities such as animal husbandry, horticulture crops such as Banana, Mango, Brinjal, Cowpea and Okra • Agro and Food Processing • Textile and Apparel • Wooden Products and Furniture • Manufacture of Engineering Goods
Private Skill	Provide skill training in the sectors of

[1001] *KPMG Analysis*

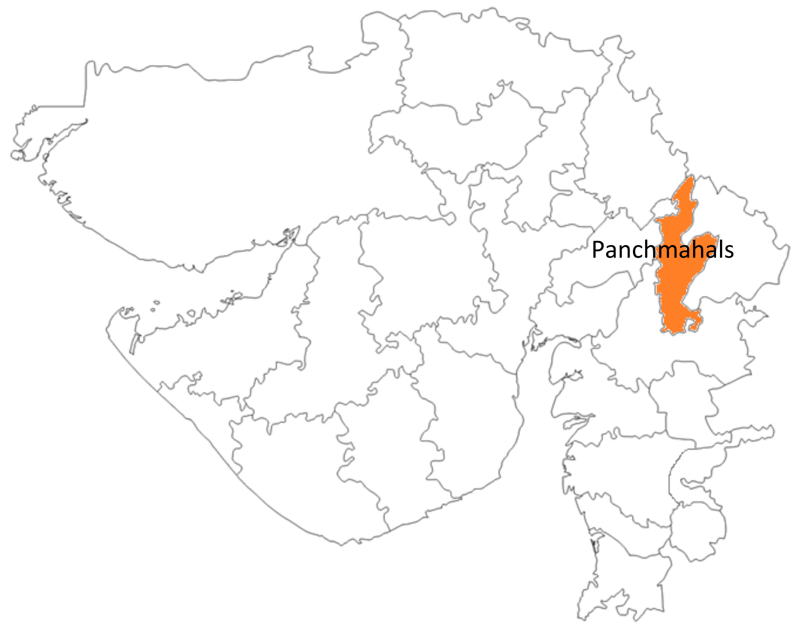
<table>
<tr><td>Training Providers</td><td>Transportation and Logistics
Healthcare
Construction
Hospitality and Tourism
Banking and Financial Services
Textiles and Apparel</td></tr>
<tr><td>Corporate</td><td>Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as
Construction
Retail
Transportation and Logistics
Initiate and support modular employability skill training in collaboration with private players/Government
Create placement linkage opportunities in training institutions</td></tr>
</table>

6.10.22. Skill Gap Assessment of Panchmahals District

6.10.22.1. Socioeconomic Profile

6.10.22.1.1. Administrative Profile

Panchmahals district is located in the northern part of Gujarat with a geographical spread of 5210 sq.km[1002]. The district shares its border with Vadodara, Dahod, Kheda, Sabar Kantha districts of Gujarat and Rajasthan state. Administratively Panchmahals district is divided into 11 talukas and 1210 villages[1003] with Godhra Taluka as the district capital. Khanpur, Kadana, Santrampur, Lunawada, Shahera, Morava, Godhra, Kalol, Dhodhanba, Halol and Jambudhoda are taluka regions in the district.



6.10.22.1.2. Demographic Profile

Panchmahals district is a medium human resource potential region in Gujarat state. The district has a total population of 23.88 lakhs[1004] as per 2011 Census district, accounting for 4 percent[1005] of the overall state population. It has witnessed relatively lower decadal population growth in comparison to the overall state. Panchmahals population has witnessed a decadal growth rate of 17.92 percent[1006] between 2001 and 2011 as against the state average of 19.17 percent[1007] during the same period. Significant portion of district population lives in rural areas with these regions accounting for nearly 86 percent[1008] of the total population. Population spread in the district is higher than the state average, with a density of 458 persons per sq.km[1009] as against a state average of 308 persons per sq.km[1010]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Godhra, Shehera, Lunawada and Santrampur. Details of regional distribution of population in the district are presented in the table.

[1002] *Census 2011 Statistics*
[1003] *Census 2011 Statistics*
[1004] *Census 2011 Statistics*
[1005] *Census 2011 Statistics*
[1006] *Census 2011 Statistics*
[1007] *Census 2011 Statistics*
[1008] *Census 2011 Statistics*
[1009] *Census 2011 Statistics*
[1010] *Census 2011 Statistics*

Regional Distribution of Population in the District[1011]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Godhra	19%	520
Shehera	11%	379
Lunawada	11%	370
Santrampur	11%	378
Halol	10%	378
Kalol	9%	482
Ghoghamba	9%	359
Morwa	8%	475
Kadana	5%	260
Khanpur	4%	264
Jambughoda	2%	171

Gender composition of district population is better than the state average. As per 2011 census, the district has a gender ratio of 945 females per 100 males[1012] as against the state average ratio of 918 females per 1000 males[1013]. Further, the district has witnessed an improving trend in female composition with the gender ratio of district has increasing from 938 females per 1000 males[1014] in 2001 to 945 females per 1000 males[1015] by 2011. Overall reserved categories contribute to 32.02 percent[1016] of the total district population indicating the need for special focus required for the upliftment of these communities within Panchmahals.

Education attainment levels in the district are lower than the state average. As per 2011 estimates, district has registered an overall literacy rate of 72.32 percent[1017] as against state average of 79.31 percent[1018]. Continuing regional and gender variations in literacy rates is a key concern within the district. Urban-rural literacy gap in Panchmahals is estimated to be 18.03 percent[1019] as against the 14.58 percent[1020] for overall state. Similarly, district still has a male-female literacy gap of 24.12 percent[1021] as against 16.5 percent[1022] for Gujarat state. There is a greater need to embark gender and region specific approach in implementing mass education programs in the district. Increasing focus on literacy is expected to create demand for education and training facilities within the district to support the economic growth of the region.

1011 *Census 2001Statistics, KPMG Analysis*
1012 *Census 2011 Statistics*
1013 *Census 2011 Statistics*
1014 *Census 2011 Statistics*
1015 *Census 2011 Statistics*
1016 *Census 2001Statistics, KPMG Analysis*
1017 *Census 2011 Statistics*
1018 *Census 2011 Statistics*
1019 *Census 2011 Statistics*
1020 *Census 2011 Statistics*
1021 *Census 2011 Statistics*
1022 *Census 2011 Statistics*

6.10.22.1.3. Economic Profile

Panchmahals is rich in minerals and agricultural produce. Major occupations in the district are dairy farming and agriculture; major crops cultivated are wheat, maize and pulses. Panchmahals boasts of 97% production of Quartz in Gujarat and supplies to other districts and regions. The district is a manufacturing base for steel products, automobiles and cryogenic equipments

The major industrial locations in the district are Kalol, Halol and Godhra. The focus industry sectors include minerals, engineering & automobiles, tourism, irrigation projects, dairy farming.

Analysis of regional distribution of investments in Panchmahals district indicates that industrial development is concentrated in Halol and Godhra Talukas. Over recent years, the State Government has initiated some measures to enhance industrial growth in backward talukas like Lunawada and Shahera through suitable incentives to increase the investment potential of these regions over the next decade. Details of region wise large scale investments in Panchmahals district till 2012 is presented in the table.

Large Scale Investment Scenario In Panchmahals[1023]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Halol	145	2777	57	5031
Kalol	25	139	7	226
Godhra	15	797	3	338
Jhambughoda	1	18	--	--
Shahera	1	9	1	13
Lunawada	--	--	1	50
Not Classified	1	15	3	29
District Total	**188**	**3755**	**72**	**5687**

Rapid growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 779 units operating in the district attracting an investment of INR 38,293 lakhs in 2012.

Investment outlook in MSME segment of Panchmahals district is presented in the table.

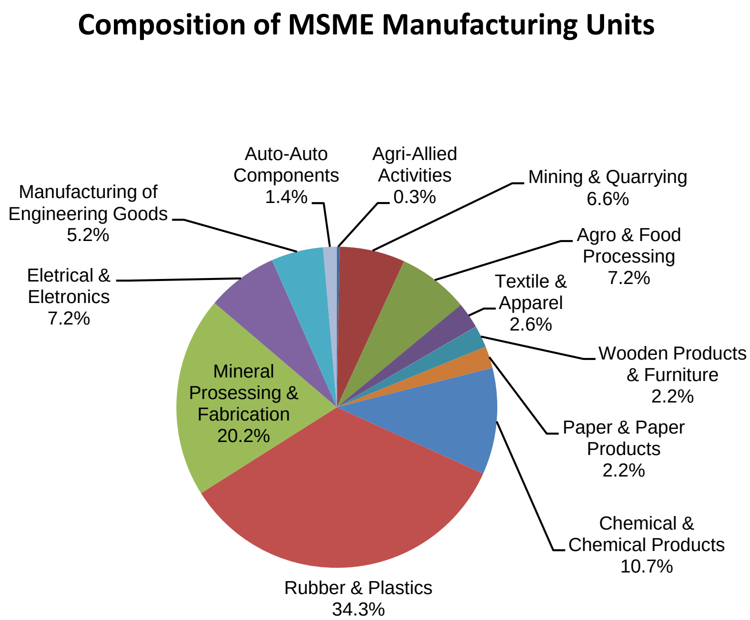
MSME Investment Scenario in Panchmahals[1024]		
Category of Industries	**Number of Units**	**Investment In Lakhs**
Micro	629	8211
Small	141	22267
Medium	9	7815
Total	**779**	**38293**

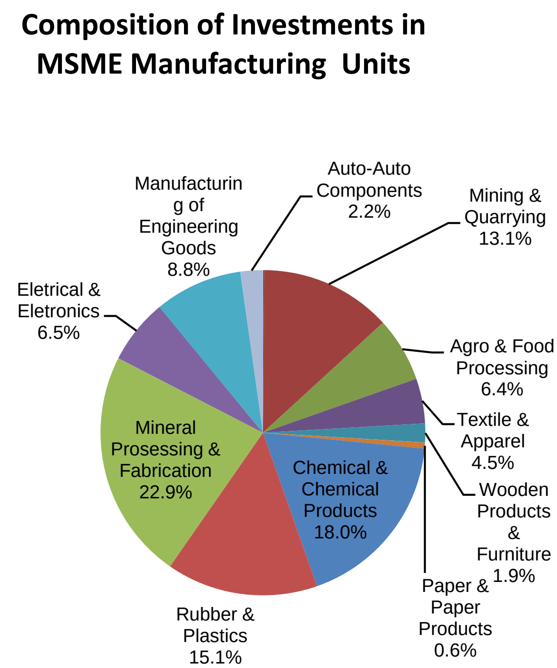
[1023] *IEM, MSME Part-II Data till 2012-13*
[1024] *IEM, MSME Part-II Data till 2012-13*

Manufacturing Sector Units	727	37671
Service Enterprises	52	622

MSME segment in Panchmahals is dominated by manufacturing industries in terms of both volume and investments. Among the manufacturing based MSME units, rubber and plastics, mineral and processing and chemical and chemical products are the key prominent categories both in terms of number of units and investments. Composition of MSME manufacturing units and investments are presented in the chart.

MSME Manufacturing Sector Overview in the District[1025]

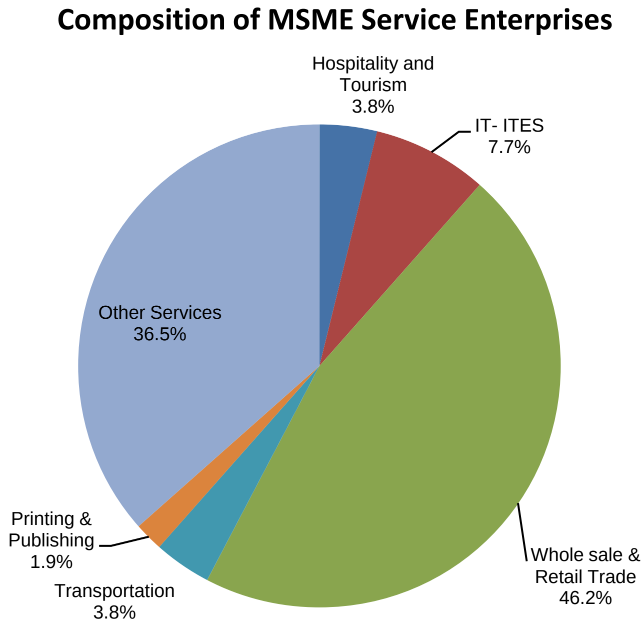


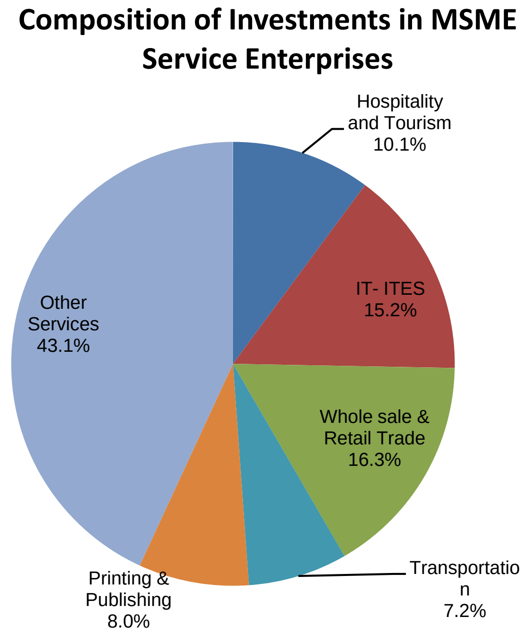


While the level of organized investments in services enterprises is low as evident from the MSME Part-II statistics, sectors of whole sale and retail trade has seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

[1025] *IEM, MSME Part-II Data till 2012-13*

MSME Services Sector Overview in the District[1026]





The district boasts of tourist attractions like Champaner-Pavagadh Archeological Park which was listed as the World Heritage Site by UNESCO in 2004, Luneshwar Mahadev Temple and Marideshvar Mahadev Temple. Apart from the these places, the district also has Chaiti Atham and Math Kotal fairs, Jambhughoda Wild life sanctuary and Ratan Mahal Sloth Bear Sanctuary. There is huge scope for investment in tourism sector specifically in hotels and food joints in this district.

The district has a robust healthcare network with high medical penetration – 25,680 people per institution. The district has 65 primary healthcare centers, 14 community healthcare centers and 3 hospitals. There are healthcare centers which offer medical facilities in pediatrics, cardiac, obstetrics and gynecology [1027.]

The total road length in Panchmahals is around 4,900 km and is connected with the most major districts of Gujarat. The district has National Highway (NH) 59 connecting it with Ahmadabad. There is also the NH 8 which connects the district with Dahod. There are proposals in the pipeline to set up a couple of new state highways through the district. The rail infrastructure comprises of six broad gauge railway stations and having a total rail length of 155 km. The nearest airport is at Vadodara.

Panchmahals has a presence of 119 bank offices and the total bank deposit amounts to 3,493 Cr INR and the total credit amount of 1,506 Cr INR as of Mar 2012[1028]. Panchmahals has a low penetration of banking and financial services amongst all districts with a density of 20,069 people per bank as of March 2012. While the CAGR of the

1026 *IEM, MSME Part-II Data till 2012-13*

1027 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

1028 *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

number of bank offices in Panchmahals stands at 6.5 percent from 2007 to 2012, the amount of deposit and credit have increased at a CAGR of 22.2 percent and 26.5 percent respectively from 2007-2012.

Panchmahals has medium to high rainfall conditions and constitutes of Middle Gujarat agro climatic zones. Owning to the soil characteristics, majority of district geographical land is cultivable (57 percent of total area). The district has good forest coverage of 23 percent which implying excellent potential for forestry in the district.

Being a low rainfall witnessing region, the district has limited spread of irrigation facilities with only 17 percent of net cultivable area under irrigation. Agricultural irrigation in Panchmahals is predominantly dependent on open wells with a 68 percent share of net irrigated area. The large scope for the operation and maintenance of pumps and tube wells would requirement skilled manpower with knowledge on repair and maintenance. Further there is an increasing need to promote micro irrigation and water management programs in the district.

Poor nitrogen content in Panchmahals soils has resulted in large scale usage of nitrogen rich fertilizers. Awareness levels on organic farming and vermi compost methods are low indicating a need to improve the same in order to promote sustainable agricultural practices.

Maize, Paddy, Tur and Cotton are key Kharif crops while Wheat and Gram are the major Rabi crops grown in the district. Main horticulture crops include Citrus, Mango, Ber, Aonla and Custard apple. The ratio of area under Rabi to Kharif crop is around 0.3 which indicating low levels of multiple cropping systems in the district. Currently usage of hybrid crop varieties is low with a need to promote across crop categories. The district has 3 Taluka Seed Farms targeted to improve the availability of quality seeds.

Cow and buffalos are main cattle varieties under animal husbandry in Panchmahals. There are 6,44,507 cows and 5,16,791 buffalos[1029]. Other prominent domestic animals under animal husbandry activities are goats. Availability of large pasture lands indicates significant potential to promote animal husbandry in the district. Along with strengthening animal husbandry activities among small and marginal farmers through advanced rearing training, there is a need for integrating the animal husbandry with promotion of organic farming.

6.10.22.2. Workforce Distribution in the district

Panchmahals district has a high dependency on primary sector for livelihood opportunities, with over 80 percent of the total workforce engaged in this sector. Considering the low level penetration of manufacturing sector at 4.18 percent employment generation as against the state average of 15.86 percent, the district has the potential to become a sourcing hub for trained manpower. While overall dependency on manufacturing sector is low, recent years have witnessed a significant change. Growth of large investments has led to employment generation in the organized manufacturing sector.

[1029] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

Comparison of workforce distribution scenario in Panchmahals and Gujarat is presented in the table[1030].

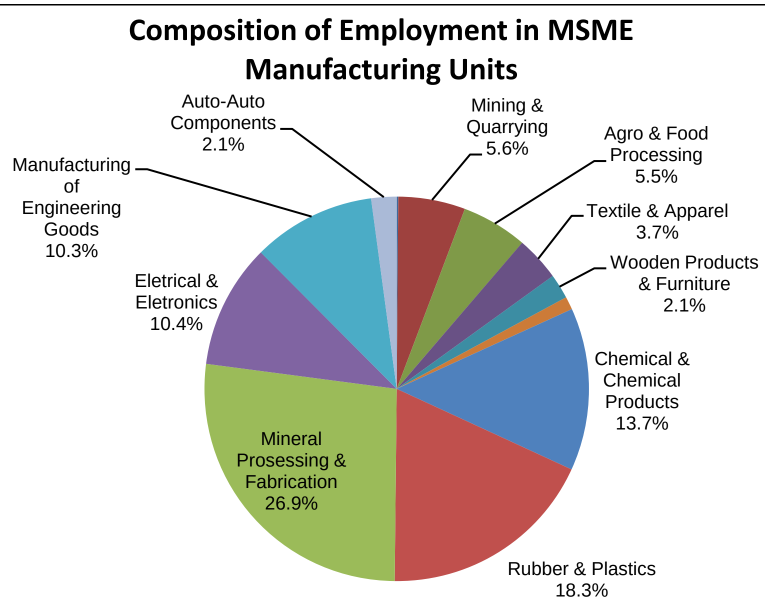
Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Panchmahals	62.1%	48.23%	82.01%	4.18%	13.8%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

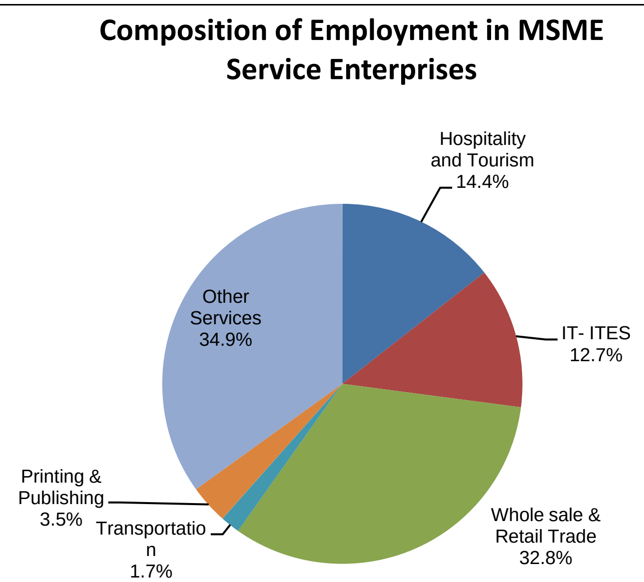
Registered factories and service enterprises have created over 30 thousand employment opportunities in the district. While the overall manufacturing base is low, the large scale enterprises segment, witnessing significant employment growth, has contributed to more than half of the overall industrial employment.

Organized Employment in Panchmahals[1031]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	33,600
MSME Category	11,761
Manufacturing Units	11,532
Service Enterprises	229
Total	**45,361**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors. Halol and Kalol talukas account for a majority share of employment in this category. Chemicals, Mineral processing & fabrication, rubber and plastic products, engineering goods are major employment generating segments within the district. Regional and sectoral break up of large scale industrial employment is presented in the chart.

MSME Employment Overview in the District[1032]





[1030] *KPMG Analysis*

[1031] *IEM, MSME Part-II Data till 2012-13*

[1032] *IEM, MSME Part-II Data till 2012-13*

6.10.22.3. Human Resource Requirement Projections in Panchmahals (2012-22)

Incremental manpower requirement in the district of Panchmahals has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Panchmahals. Based on an analysis of the current state of workforce distribution and potential employment opportunities in various sectors, incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22.

Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, the period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri-allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22 (Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district

- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation & logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Panchmahals district are presented in the table[1033].

Sector	2012-17				2017-22			
	Skilled	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Agriculture & Allied Activities	NA	NA	25276	25276	NA	NA	21167	21167
Agro & Food Processing	45	181	226	452	40	162	202	404
Textile & Apparel	30	121	151	302	27	108	135	270
Paper & Paper Products	31	123	154	309	28	110	138	276
Chemical & Chemical Products	146	585	731	1462	131	523	654	1308
Rubber & Plastics	125	499	624	1248	112	446	558	1116
Mineral Processing & Fabrication	218	870	1088	2175	195	778	973	1946
Electrical & Electronics	134	534	668	1336	120	478	598	1195
Manufacturing of Engineering Goods	97	387	483	966	86	346	432	864
Manufacturing of Construction Material	35	141	176	352	32	126	158	315
Misc. Manufacturing	12	49	61	122	11	44	55	109
Construction	530	1059	9005	10594	474	948	8054	9475
Trade, Retail	856	1283	6417	8556	935	1403	7014	9352
Transportation & Logistics	285	4521	5378	10184	233	3699	4401	8332
Hospitality & Tourism	523	785	3923	5230	418	628	3138	4184
Banking & Financial Services	1467	4401	NA	5868	1027	3081	NA	4108
Healthcare	448	2017	NA	2465	597	2986	NA	3583
Education & Training	1138	7664	NA	8802	1708	4598	NA	6306

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[1034].

1033 *KPMG Analysis*
1034 *KPMG Analysis*

Secondary Sector (Manufacturing, Construction & Energy):

- **Auto & Auto Components**

Subsector	Skills
Auto Assembling and Component Manufacturing	**Core Skills:** Motor Mechanic, Diesel Mechanic, Fitter, Welder, Fabricators **Allied Skills:** Electrician, Wireman **Acute Skill Deficits:** Specialized welders in Arc welding who can work in extreme conditions on advanced fabrication equipments

- **Food Processing:**

Category of Skills	Skills
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists
Skills with acute shortage	PPO is required in industries having in house packing development.

- **Chemical & Chemical Products:**

Category of Skills	Skills
Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Electrical & Electronics:**

Category of Skills	Skills
Core Skills	Electronics, PPO, Electrical, Instrumentation
Allied Skills	Fitter
Skills with acute shortage	PPO trade is a key deficit in all industries involving plastic processing Electronics and Instrumentation

- **Metal & Mineral Processing:**

Category of Skills	Skills
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services:**

Category of Skills	Skills
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management

Skills with acute shortage	Scheduling and logistics planning

- **Education:**

Category of Skills	**Skills**
Core Skills	School teachers, higher education faculty
Allied Skills	Knowledge on advanced teaching tools
Skills with acute shortage	Technical education trainers

Primary Sector:

- **Cultivation:**

Category of Skills	**Skills**
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	**Skills**
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.22.4. Human Resource Supply Scenario in the District

6.10.22.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022.

Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Panchmahals is among the districts with moderately higher human resource growth potential during 2012-22. Limited employment opportunities within the district to absorb the incremental labour force have to be addressed through adequate skilling for employment opportunities outside the district. Details of human resource growth estimations during 2012-22 are presented in the table[1035].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	269,503	182,042	93,808
2017-22	260,708	176,672	72,836

6.10.22.4.2. Education and Training Potential in the District

The district has around 2,597 K12 schools with a 93.45 percent share of Government schools. While the net enrolment ratio at the primary level for the district is slightly higher than the state average, the net enrolment ratio at the upper primary is slightly lower than the state average[1036].

Total Enrollments in 2009-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Panchmahals	277805	92875	99436	28618

Comparing the district's enrolment statistics with state average indicates that the district is an average performer in the primary education category[1037]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Panchmahals	87.8	48.9
Gujarat	85.4	50.7

In the vocational education segment, it is ahead in the provision of vocational training in comparison to state average. Private interest in this district is very high indicating that the state must take proactive measures in further increasing private support to augment vocational training infrastructure[1038].

[1035] *KPMG Analysis*
[1036] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[1037] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[1038] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Panchmahals	45	7,488	3.14	51%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Panchmahals district needs to be focused on the tehsils of Kaalol, Kadana, Santrampur, Halol, Ghoghamba to bring them on par with the district average in vocational education capacity[1039].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Jambughoda	408	9.53	71%
Godhara	2228	4.80	31%
Morva (Hadaf)	792	4.40	83%
Lunawada	1156	4.27	56%
Shahera	1012	3.71	77%
Khanpur	284	2.83	55%
Kaalol	464	2.05	71%
Kadana	252	1.94	6%
Santrampur	400	1.55	54%
Halol	276	1.20	0%
Ghoghamba	216	1.02	33%
District Total	**7488**	**3.14**	**51%**

The district has 3 pharmacy colleges and 12 colleges offering Arts, Commerce, Science, B.Ed and Law programs.

6.10.22.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Demand-Supply Gap	(6,614)	15,347	(16,840)	(8,109)	(7,379)	8,708	151	1,474

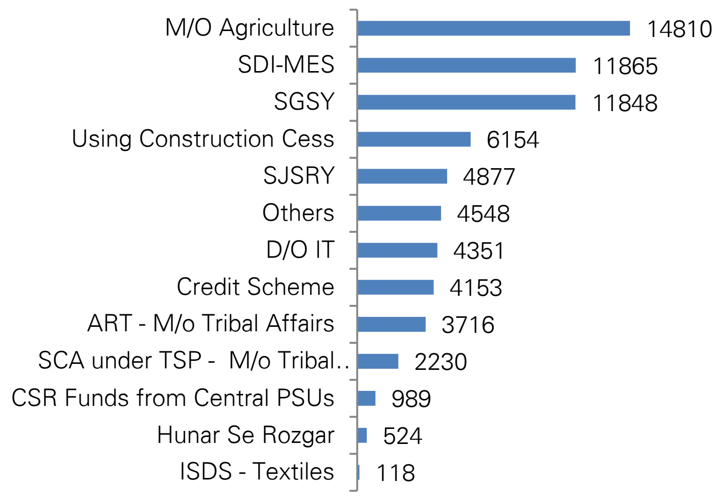
*(Indicates excess supply)

1039 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

6.10.22.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 70 thousand people in total can be trained incrementally during the five year period of 2012-17. The Ministry of Agriculture and the Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets focus on the primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Panchmahals District[1040]



6.10.22.5. District Specific Recommendations

Considering these factors, the proposed action plan for stakeholders in skill development in the district would indicate the following priority areas:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following sectors • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes

[1040] *KPMG Analysis*

	• Agri allied activities such as animal husbandry and organic farming of vegetables • Mineral Processing & Fabrication • Rubber and Plastics • Chemical and Chemical products
Private Skill Training Providers	Provide skill training in the sectors of • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • Construction • Retail • Transportation and Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.23. Skill Gap Assessment of Patan District

6.10.23.1. Socioeconomic Profile

6.10.23.1.1. Administrative Profile

Patan district is located in the northern part of Gujarat with a geographical spread of 5740 sq.km[1041]. The district shares its border with Banaskantha, Mehsana, Surendranagar and Kutch districts of Gujarat. Administratively Patan district is divided into 7 talukas and 517 villages[1042] with Patan as the district capital. Patan, Santalpur, Radhanpur, Siddhpur, Harij, Sami and Chanasma are taluka regions in the district.

6.10.23.1.2. Demographic Profile

Patan district is a relatively low human resource potential region in Gujarat state. District has a total population of 13.42 lakhs[1043] as per 2011 Census district accounting for 2.2 percent[1044] of the overall state population. District has witnessed lower decadal population growth in comparison to the overall state. Patan population has witnessed a decadal growth rate of 13.53 percent[1045] between 2001 and 2011 as against the state average of 19.17 percent[1046] during the same period. A significant portion of the district population lives in rural areas accounting for 79.07 percent[1047] of the total population. Population spread in the district is considerably lower than the state average with a density of 234 persons per sq.km[1048] as against state average of 308 persons per sq.km[1049].

Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Patan, Sidhpur, Sami and Chanasma. Details of regional distribution of population in the district are presented in the table.

[1041] *Census 2011 Statistics*
[1042] *Census 2011 Statistics*
[1043] *Census 2011 Statistics*
[1044] *Census 2011 Statistics*
[1045] *Census 2011 Statistics*
[1046] *Census 2011 Statistics*
[1047] *Census 2011 Statistics*
[1048] *Census 2011 Statistics*
[1049] *Census 2011 Statistics*

Regional Distribution of Population in the District[1050]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Patan	25%	398
Sidhpur	16%	491
Sami	14%	109
Chanasma	11%	281
Radhanpur	10%	197
Santalpur	9%	81
Vagdod	7%	315
Harij	7%	208

The gender composition of district population is marginally better than the state average. As per 2011 census, the district has a gender ratio of 932 females per 1000 males[1051], as against the state average ratio of 918 females per 1000 males[1052]. Overall reserved categories contribute to only 10.95 percent[1053] of the total district population indicating the inclusion focus for the development of the economy has to be primarily on upliftment of women within Patan district.

Education attainment levels in the district are lower than the state average. As per 2011 estimates, district has registered an overall literacy rate of 73.47 percent[1054] as against state average of 79.31 percent[1055]. Continuing regional and gender variations in literacy rates is a key concern within the district. Urban-rural literacy gap in Patan is estimated to be 13.75 percent[1056] comparable to the state average of 14.58 percent[1057]. Similarly, the district still has a male-female literacy gap of 22.27 percent[1058] as against 16.5 percent[1059] for Gujarat state. There is a greater need to embark gender specific approach in implementing mass education programs in the district. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth of the region.

6.10.23.1.3. Economic Profile

With the recent surge in investments in the oil and gas sector, Patan is progressively shaping up into an attractive destination for investors. The textile sector also contributes largely to the district economy.

Patan Patola is one of the finest hand woven textile materials produced. Besides this, Mashru, a mixed fabric, woven with a combination of cotton and silk is also traditionally produced in Patan.

[1050] *Census 2001Statistics, KPMG Analysis*
[1051] *Census 2011 Statistics*
[1052] *Census 2011 Statistics*
[1053] *Census 2001Statistics, KPMG Analysis*
[1054] *Census 2011 Statistics*
[1055] *Census 2011 Statistics*
[1056] *Census 2011 Statistics*
[1057] *Census 2011 Statistics*
[1058] *Census 2011 Statistics*
[1059] *Census 2011 Statistics*

Analysis of regional distribution of investments in Patan district indicates that industrial development is concentrated in Santalpur Talukas. Over the recent years State Government has initiated some measures to enhance the industrial growth in backward talukas like Patan and Sami in addition to Santalpur through suitable incentives leading to an increased investment potential of these regions over the next decade. Details of region wise large scale investments in Patan district till 2012 is presented in the table.

Large Scale Investment Scenario In Patan[1060]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Sidhapur	9	21	3	46
Santalpur	5	571	16	6053
Chanasma	1	7	--	--
Patan	1	0	4	146
Radhanpur	1	4	--	--
Unjha	1	3	--	--
Sami	--	--	2	100
Not Classified	1	287	9	1361
District Total	19	893	34	7706

Moderate growth of industrialization in the district has widened the scope for establishment of ancillary units in MSME segment. As per the MSME investment Part–II statistics, overall there are 372 units operating in the district attracting an investment of INR 24,153 lakhs in 2012.

Investment outlook in MSME segment of Patan district is presented in the table.

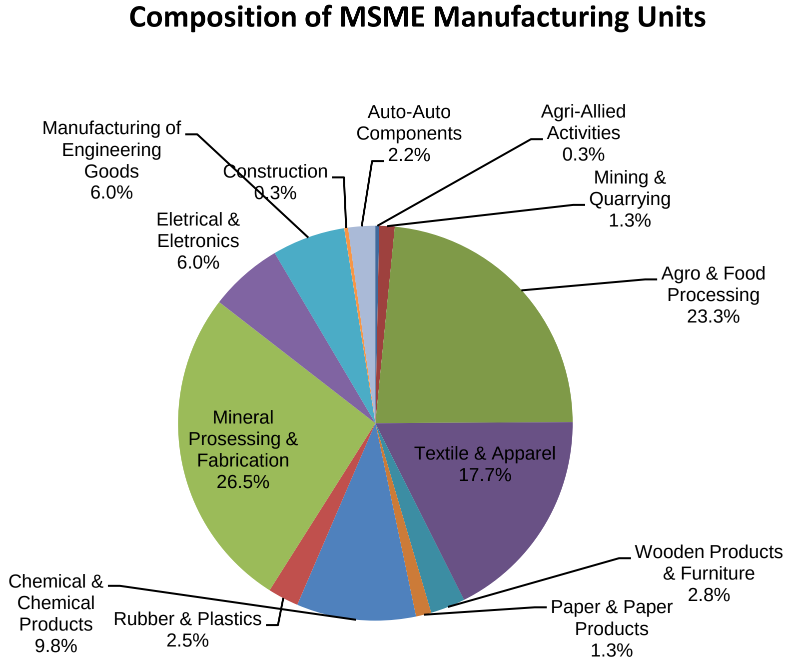
MSME Investment Scenario in Patan[1061]		
Category of Industries	**Number of Units**	**Investment In Lakhs**
Micro	254	4612
Small	118	19540
Medium	--	--
Total	**372**	**24153**
Manufacturing Sector Units	317	20931
Service Enterprises	55	3222

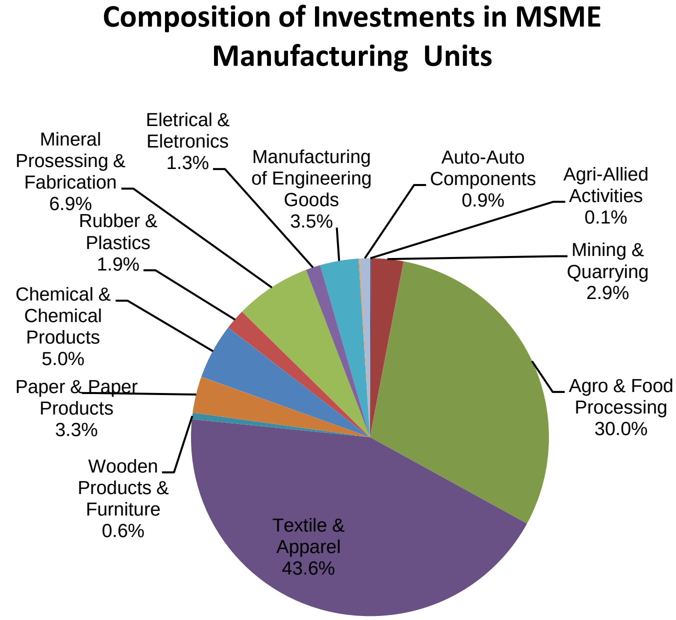
MSME segment in Patan is dominated by manufacturing industries in terms of both volume and investments. Among the manufacturing based MSME units, agro & food processing, mineral processing and fabrication, textile & apparel and chemical and chemical products are the key prominent categories in terms of number of units. However, in terms

[1060] *IEM, MSME Part-II Data till 2012-13*
[1061] *IEM, MSME Part-II Data till 2012-13*

of investments, agro & food processing and textile & apparel are the key prominent categories. Composition of MSME manufacturing units and investments are presented in the chart.

MSME Manufacturing Sector Overview in the District[1062]

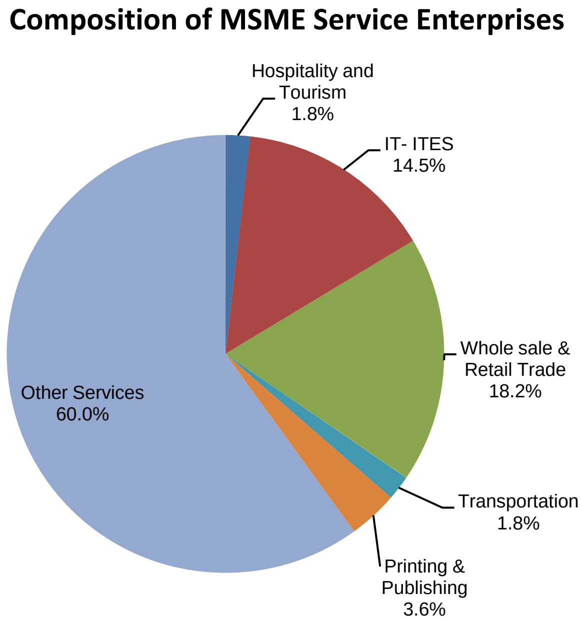


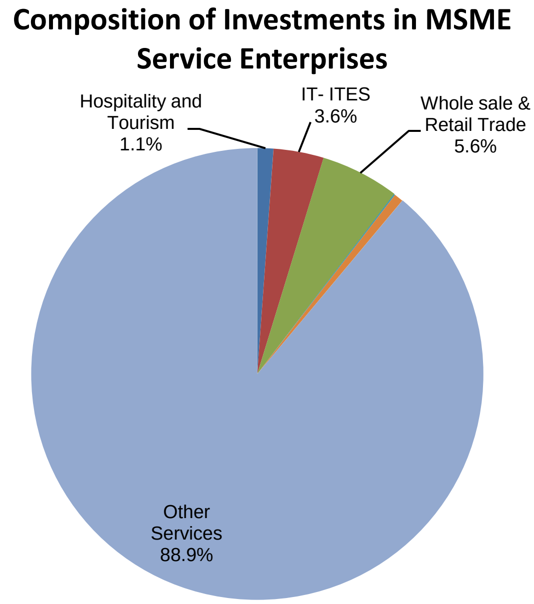


While the level of organized investments in services enterprises is low, as evident from the MSME Part-II statistics, sectors of whole sale and retail trade and IT-ITES have seen investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

1062 *IEM, MSME Part-II Data till 2012-13*

MSME Services Sector Overview in the District[1063]





The tourism sector of the district is one of the sectors which have attracted major investment. There are many places of tourism delight like Queen's Step well or Rani Ki Vav, Sahastralinga Talav, Panchasara Parasvanath jain temple. The district is also famous for the Patola saree

The district is the headquarter to the Hemchandracharya North Gujarat University and also has the Government Engineering College, K.D. Polytechnic College and Sheth M. N. Law College.

The district has medium penetration of medical institutions with 30,516 people per institute. It has 29 primary healthcare centers, 13 community healthcare centers and 2 hospitals. Apart from the above, Patan also has Sonam Hospital and Urology Centre in Sidhpur, City Hospital & Gastroenterology Research Centre and Sewa International Hospital[1064]

The road infrastructure of Patan comprises of National Highway 14, 15 and State Highway 7, 8 and 10 which connect the district with the major cities of Gujarat and India. The rail network is part of the Western railways connecting Patan with major cities in India such as Delhi and Mumbai via Ahmadabad. The nearest airport to Patan is located at Ahmadabad.

There are 85 bank offices in Patan with total deposits of 2,212 Cr INR and total credit of 980 Cr INR as of Mar 2012[1065]. Patan has a relatively lower penetration of banking and financial services with a high density of 15,797 people per bank as of March 2012. While the number of banks has increased at a CAGR of 5.5 percent from 2007 to

[1063] *IEM, MSME Part-II Data till 2012-13*

[1064] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[1065] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

2012, the amount of deposit and credit have increased at a CAGR of 21.9 percent and 17.6 percent respectively from 2007-2012.

Owning to the soil characteristics, a majority of the district geographical land is cultivable (70 percent of total area). Patan has moderate rainfall conditions with the average rainfall in the last 10 years being 500 nm

Being a low rainfall witnessing region, Patan has a limited spread of irrigation facilities with only 28.89 percent[1066] of net cultivable area under irrigation. Certain talukas like Santalpur have only 5.23 percent of cultivable land under irrigation resulting in poor agriculture in the district.

Bajra, Cotton (desi)/cotton (irrigated), castor and sesamum are the key Kharif crops while Mustard, Wheat, Cumin, Pulse (Gram) and fodder crop (Lucerne) are the main Rabi crops grown in the district. The ratio of area under Rabi to Kharif crop is around 0.5 which indicates significant potential for improvement in multiple cropping. Main horticulture crops include spices, fruits (mainly mangoes) and vegetables. Currently usage of hybrid crop varieties is low with a need to promote this practice across crop categories. The district has no Taluka Seed Farms which are mainly targeted at improving the availability of quality seeds.

Cow and buffalos are main cattle varieties in Patan with 1,12,020 cows and 3,69,514 buffalos[1067]. The other prominent domestic animal under animal husbandry activities is goat. Availability of pasture lands indicates significant potential to promote animal husbandry in the district. Along with strengthening animal husbandry activities among small and marginal farmers through advanced rearing training, there is a need for integrating the animal husbandry with promotion of organic farming.

6.10.23.2. Workforce Distribution in the district

Patan is predominantly dependant on the primary sector for livelihood generation with over three fourths of total workforce engaged in this sector. Considering the low level penetration of manufacturing sector at 7.23 percent employment generation as against the state average of 15.86 percent, district has potential to become a sourcing hub for trained manpower. While the total worker participation rate is marginally better than the state average, high manpower in agrarian activities having low output efficiency indicates under employment.

Comparison of workforce distribution scenario in Patan and Gujarat is presented in the table[1068].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Patan	60.3%	45.07%	77.59%	7.23%	15.18%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

[1066] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[1067] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

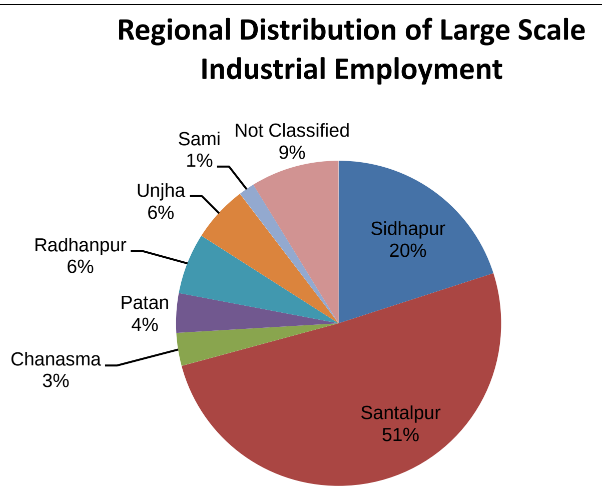
[1068] *KPMG Analysis*

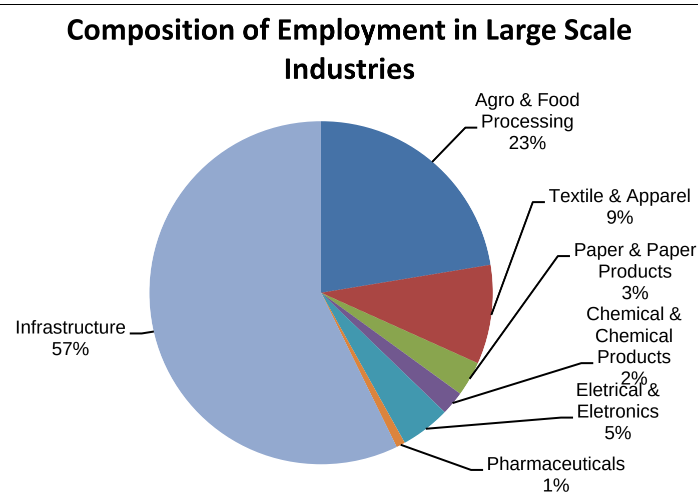
Registered factories and service enterprises accounted for only 5 thousand job opportunities in the district. While the overall manufacturing and services employment base is low, high level of unorganized activity has further reduced organized job prospects in these sectors.

Organized Employment in Patan[1069]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	2143
MSME Category	4706
Manufacturing Units	4161
Service Enterprises	545
Total	**6849**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors. Santalpur and Sidhapur talukas account for a majority share of employment in this category. Infrastructure and Agro Processing are major employment generating segments within the district. Regional and sectoral break up of large scale industrial employment is presented in the chart.

Large Scale Industrial Employment Overview in the District[1070]



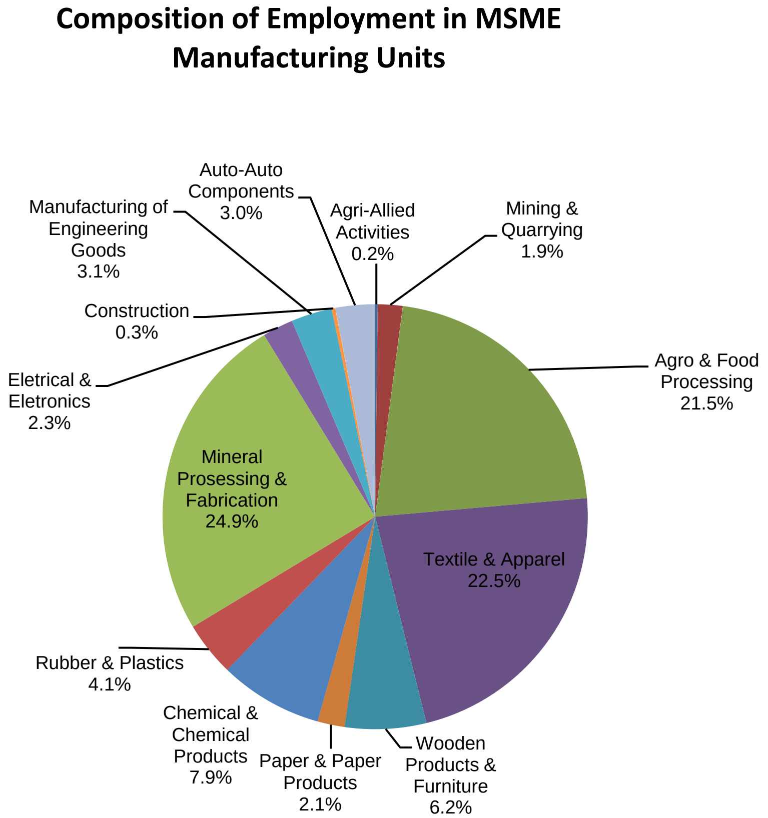


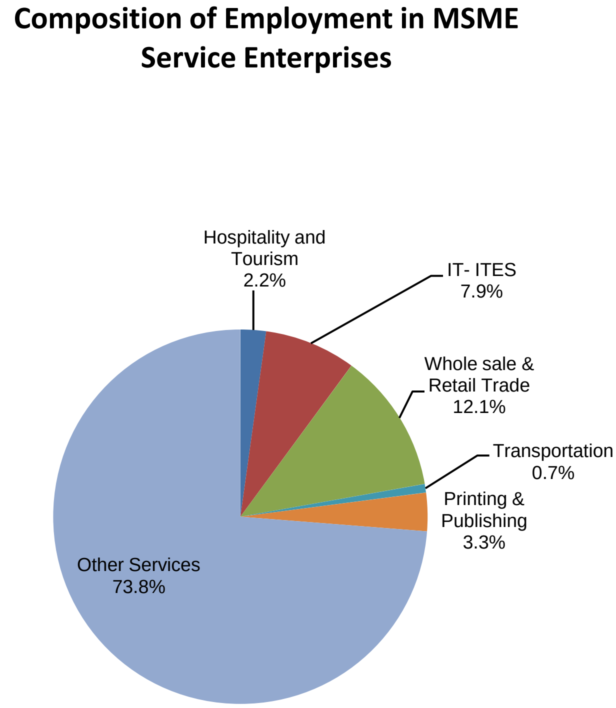
Among the manufacturing units in MSME segment Textile, Mineral Processing and Fabrication and Agro and Food Processing have accounted for majority share of the employment in all the categories of industries. Basic metal working units, furniture making enterprises have contributed significantly to the Micro industries category. Whole sale & retail trade and IT-ITES are major employment generating sectors within tertiary enterprises. Details of sector

[1069] *IEM, MSME Part-II Data till 2012-13*
[1070] *IEM, MSME Part-II Data till 2012-13*

wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

MSME Employment Overview in the District[1071]





6.10.23.3. Human Resource Requirement Projections in Patan (2012-22)

Incremental manpower requirement in the district of Patan has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Patan. Based on an analysis of the current state of workforce distribution and potential employment opportunities in various sectors, incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

[1071] *IEM, MSME Part-II Data till 2012-13*

Considering the increasing level of farm mechanization and sharing agricultural land usage, the period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation & logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Patan district are presented in the table[1072].

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	13066	13066	NA	NA	10942	10942
Agro & Food Processing	30	120	150	300	27	107	134	268
Textile & Apparel	25	99	123	246	22	88	110	220
Wooden Products & Furniture	6	22	28	56	5	20	25	50
Paper & Paper Products	3	14	17	34	3	12	15	30
Chemical & Chemical Products	8	32	41	81	7	29	36	73

[1072] *KPMG Analysis*

Rubber & Plastics	4	15	19	37	3	13	17	33
Mineral Processing & Fabrication	24	97	121	242	22	87	108	216
Electrical & Electronics	4	17	21	43	4	15	19	38
Manufacturing of Engineering Goods	6	22	28	55	5	20	25	49
Misc. Manufacturing	6	25	32	64	6	23	28	57
Construction	298	596	5063	5956	266	533	4528	5327
Trade, Retail	481	722	3608	4810	526	789	3944	5258
Transportation & Logistics	62	978	1163	2203	50	800	952	1802
Hospitality & Tourism	511	767	3833	5110	409	613	3066	4088
Banking & Financial Services	1864	5591	NA	7455	1305	3914	NA	5218
Healthcare	223	1003	NA	1226	297	1485	NA	1782
Education & Training	652	4388	NA	5040	978	2633	NA	3611

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[1073].

Secondary Sector (Manufacturing, Construction & Energy):

- **Textile & Apparel:**

Category of Skills	**Skills**
Core Skills	Ring frame operator, weaver, processing operator (CDR,BDR,Stuntor), Bar-coding machine operator
Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions.

- **Food Processing:**

Category of Skills	**Skills**

[1073] *KPMG Analysis*

Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists
Skills with acute shortage	PPO is required in industries having in house packing development.

- **Metal & Mineral Processing:**

Category of Skills	Skills
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services:**

Category of Skills	Skills
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Education:**

Category of Skills	Skills
Core Skills	School teachers, higher education faculty
Allied Skills	Knowledge on advanced teaching tools
Skills with acute shortage	Technical education trainers

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.23.4. Human Resource Supply Scenario in the District

6.10.23.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Patan is among the districts with moderately lower human resource growth potential during 2012-22. Limited employment opportunities within the district to absorb the incremental labour force have to be addressed through adequate skilling for employment opportunities outside the district. Details of human resource growth estimations during 2012-22 are presented in the table[1074].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	150,654	99,015	51,192
2017-22	137,952	92,064	39,747

6.10.23.4.2. Education and Training Potential in the District

Patan district has around 911 K12 schools with a 91.11 percent share of Government schools. On one hand, the net enrolment ratio of the district for the primary level is higher than the net enrolment ratio. On the other hand, the net enrolment ratio of the district for upper primary level is lower than the net enrolment ratio. Hence, there is a significant gap between the education scenario at primary level and upper primary level[1075].

Total Enrollments in 2009-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Patan	154436	47169	20540	39839

Comparing the district's enrolment statistics with state average indicates that the district is a strong performer in the primary education category[1076]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Patan	97.6	50.0
Gujarat	85.4	50.7

In the vocational education segment, the district lags behind in the provision of vocational training in comparison to state average. Private interest in the sector in this district is also lower indicating that the state must take proactive measures in seeking private support to augment vocational training infrastructure[1077].

[1074] *KPMG Analysis*
[1075] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[1076] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[1077] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Patan	12	2,952	2.2	18%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Patan district needs to be focused on the tehsils of Santhalpur, Siddhapur, Radhanpur, Sami to bring them on par with the district average in vocational education capacity[1078].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Chanasma	636	4.36	80%
Patan	1144	3.41	0%
Harij	292	3.03	0%
Santalpur	244	1.96	0%
Siddhapur	304	1.40	0%
Radhanpur	184	1.35	0%
Sami	148	0.79	14%
District Total	**2952**	**2.20**	**18%**

The district has 1 pharmacy college, 1 engineering college, 1 MCA college and 15 colleges offering Arts, Commerce, Science, B.Ed and Law programs. Patan is the headquarters for a northern Gujarat University - Hemchandracharya North Gujarat University. The university offers MBA and MCA courses. The district houses some of the renowned technical and law colleges. The district also has the provision for distance learning programs and correspondence courses offered by various Study Centers under Open University Scheme of Indian universities. Law Colleges in Patan such as Sheth M. N. Law College offer law education including civil , criminal, business and forensic law etc. The Government Engineering College and K.D. Polytechnic College at Patan offers courses in computer science, electronics & communications and mechanical engineering with intake capacity of 180 people per annum.

6.10.23.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	Skilled	Semi	Minimally	Total	Skilled	Semi	Minimally	Total

[1078] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

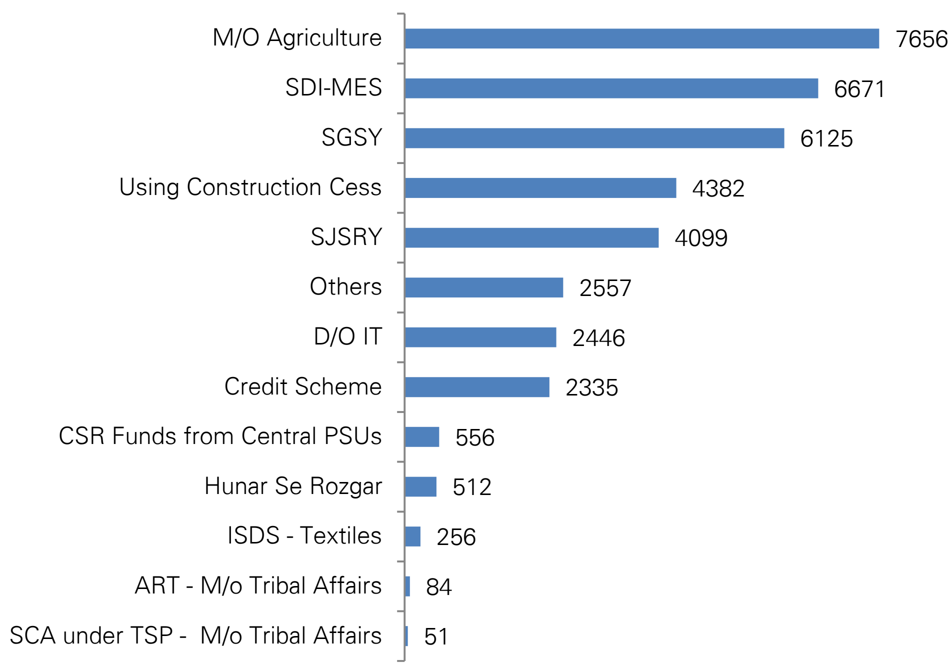
		Skilled	skilled			Skilled	skilled	
Demand-Supply Gap	(2,896)	9,002	(11,270)	(5,168)	(3,955)	4,337	(1,064)	(685)

*(Indicates excess supply)

6.10.23.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 37 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Patan District[1079]



6.10.23.5. District Specific Recommendations

[1079] *KPMG Analysis*

Considering these factors, the proposed action plan for stakeholders in skill development in district would indicate the following priority areas:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following sectors • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes • Agri allied activities such as animal husbandry and organic farming of vegetables • Agro and Good Processing • Textiles and Apparels •
Private Skill Training Providers	Provide skill training in the sectors of • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • Construction • Retail • Transportation and Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.24. Skill Gap Assessment of Porbandar District

6.10.24.1. Socioeconomic Profile

6.10.24.1.1. Administrative Profile

Porbandar is a coastal district in Gujarat is located in the south western part of the state with a geographical spread of 2272 sq.km[1080]. The district shares its border with Jamnagar, Rajkot and Junagadh districts of Gujarat along with coastal line along Arabian Sea. Administratively Porbandar district is divided into 3 talukas and 182 villages[1081] with Porbandar as the district capital. Kutiyana, Porbandar and Ranavav are taluka regions in the district.

6.10.24.1.2. Demographic Profile

Porbandar district is a low human resource potential region in Gujarat state. The district has a total population of 5.86 lakhs[1082] as per 2011 Census, accounting for 1 percent[1083] of the overall state population. It has witnessed significantly lower decadal population growth in comparison to the overall state. Porbandar population has witnessed a decadal growth rate of 9.17 percent[1084] between 2001 and 2011 as against the state average of 19.17 percent[1085] during the same period. Significant portion of district population lives in urban areas with these regions accounting for nearly 49 percent[1086] of the total population. Population spread in the district is considerably lower than the state average with a density of 255 persons per sq.km[1087] as against state average of 308 persons per sq.km[1088]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the taluka of Porbandar. Details of regional distribution of population in the district are presented in the table.

1080 *Census 2011 Statistics*
1081 *Census 2011 Statistics*
1082 *Census 2011 Statistics*
1083 *Census 2011 Statistics*
1084 *Census 2011 Statistics*
1085 *Census 2011 Statistics*
1086 *Census 2011 Statistics*
1087 *Census 2011 Statistics*
1088 *Census 2011 Statistics*

Regional Distribution of Population in the District[1089]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Porbandar	65%	306
Ranavav	19%	176
Kutiyana	15%	146

Gender composition of the district population is better than the state average. As per 2011 census, the district has a gender ration of 947 females per 1000 males[1090] as against the state average ratio of 918 females per 1000 males[1091]. Overall reserved categories contribute to only 10.95 percent[1092] of the total district population, indicating the need for their inclusion for the development of the economy.

Education attainment levels in the district are relatively lower than the state average. As per 2011 estimates, the district has registered an overall literacy rate of 76.63 percent[1093] as against state average of 79.31 percent[1094]. Continuing regional and gender variations in literacy rates is a key concern within the district. Urban-rural literacy gap in Porbandar is estimated to be 12.96 percent[1095] comparable to the state average of 14.58 percent[1096]. Similarly, district still has a male-female literacy gap of 16.24 percent[1097] as against 16.5 percent[1098] for Gujarat state. There is a greater need to embark gender and region specific approach in implementing mass education programs in the district. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth of the region.

6.10.24.1.3. Economic Profile

The coastal nature of Porbandar has fuelled the growth of specific industries in the district, such as ports and ship building, cement and chemical. The Arabian Sea facing port supports these industries by acting as a channel for importing required raw material and by allowing exporting the finished goods, such as cement clinker. The district rests on a rich bed of chalk and bauxite, which attract and feed related industries in the area.

Within the district, the Porbandar taluka has witnessed substantial investments, to the tune of over INR 600 Cr. But at the same time, Ranavav taluka has nearly INR 550 Cr., under implementation. The large scale investment details for the district are provided in the table:

1089 *Census 2001Statistics, KPMG Analysis*
1090 *Census 2011 Statistics*
1091 *Census 2011 Statistics*
1092 *Census 2001Statistics, KPMG Analysis*
1093 *Census 2011 Statistics*
1094 *Census 2011 Statistics*
1095 *Census 2011 Statistics*
1096 *Census 2011 Statistics*
1097 *Census 2011 Statistics*
1098 *Census 2011 Statistics*

Large Scale Investment Scenario In Porbandar[1099]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Porbandar	17	654	2	197
Ranavav	10	314	4	546
Not Classified	--	--	2	56
District Total	27	968	8	799

Investments in MSMEs in Porbandar are largely directed towards small industries with INR 8,645 lakhs being directed towards the same. 418 micro industry units have been supported through timely investments. Total investments in the district sum up to INR 13778 Cr. with nearly 70% of this amount going towards manufacturing sector units.

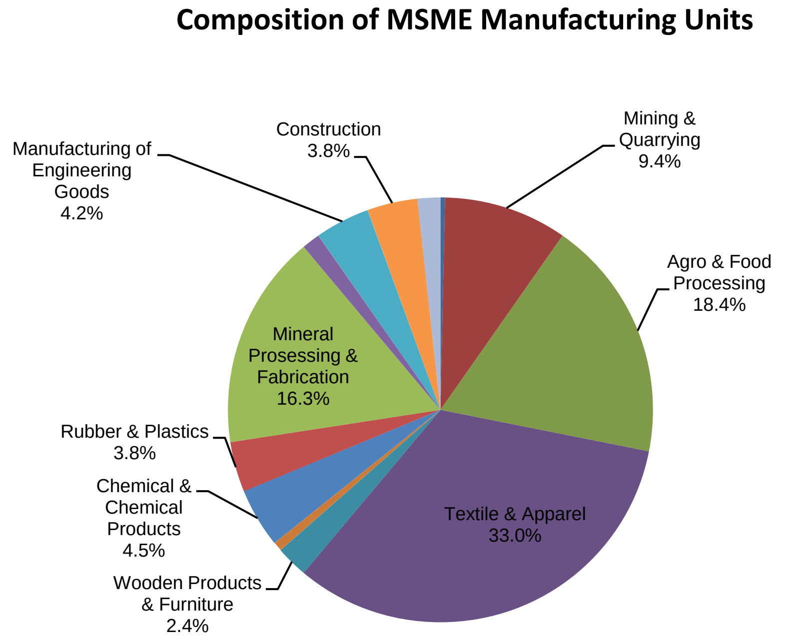
MSME Investment Scenario in Porbandar[1100]		
Category of Industries	**Number of Units**	**Investment In Lakhs**
Micro	418	2435
Small	44	8645
Medium	2	2698
Total	**464**	**13778**
Manufacturing Sector Units	288	9437
Service Enterprises	176	4341

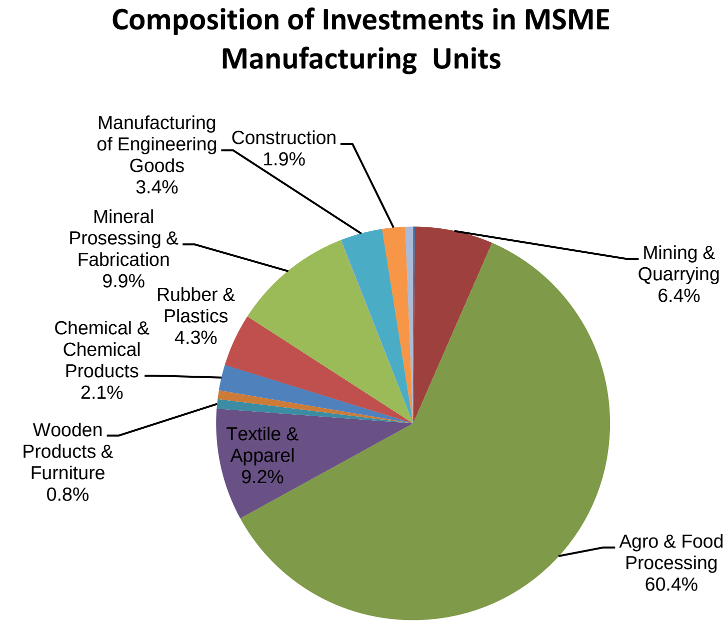
Textile & Apparel and Agro & Food Processing MSMEs constitute the two largest segments in the manufacturing space. Of the INR 9,437 Cr. invested in manufacturing units, Agro & Food Processing units have attracted nearly 60%. Mineral Processing and Fabrication and Mining & Quarrying are two other important segments, attracting 10% and 6.5% of the investments in their space.

A comprehensive overview of the manufacturing MSMEs and the investments in that area are given below:

[1099] *IEM, MSME Part-II Data till 2012-13*
[1100] *IEM, MSME Part-II Data till 2012-13*

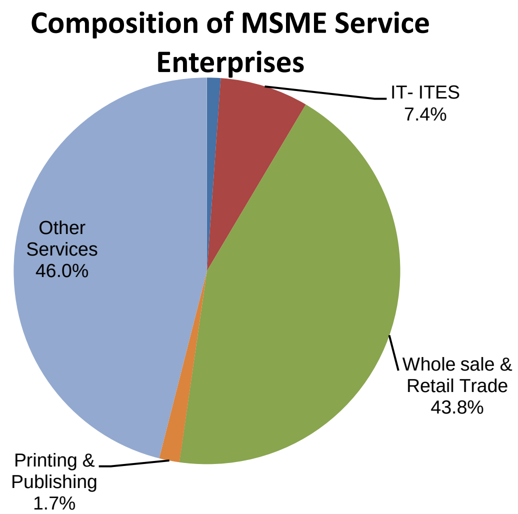
MSME Manufacturing Sector Overview in the District[1101]

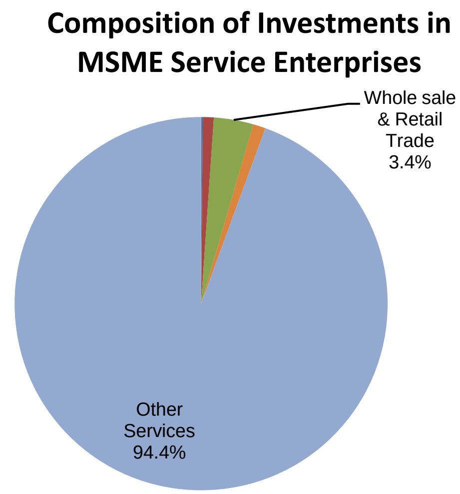




While the level of organized investments in services enterprises is low as evident from the MSME Part-II statistics, sectors of whole sale and retail trade and IT-ITES have seen investments in the district. Composition of MSME service enterprises and investments are presented in the chart

MSME Services Sector Overview in the District[1102]





[1101] *IEM, MSME Part-II Data till 2012-13*
[1102] *IEM, MSME Part-II Data till 2012-13*

The tourism sector is one of the major drivers of the district's economy with a growth of over 23% in tourist inflow during 2006-07 as compared to the tourist inflow during 2005-06. The district has major tourist destinations like Kirti Mandir - the birth place of Mahatma Gandhi), Bharat Mandir, Nehru Planetarium and Vijay Vilas.

Apart from the above places, the district also has Barda Hills Sanctuary, Madhavraiji Haveli Temple, Sudamapuri Temple, Hazoor Court and sea beaches.

The district has low penetration of medical institutions with 41,862 people per institute. There are about 10 primary healthcare centers and 3 community healthcare centers[1103].

The road network of Porbandar has National Highways 8 B and 8E (Ext.) which connects the district with Rajkot and Jamnagar. The western railways connect the district with Rajkot, Surat, Vadodara and Ahmadabad. There are four broad gauge rail lines with a total length of 33 km. The district also has an airport which connects it with Rajkot and Mumbai.

The district has a port at Porbandar which functions along the 106 km maritime border facing Arabian Sea. The imports at the port include commodities like coal, date palm, LPG, butane, building materials, animal feed, steel, edible oil. The exports from the port include commodities like fish, cement, groundnut cakes, soyabean cakes, edible oil, bauxite, onion, garlic and building materials.

Porbandar has 61 bank offices with total deposits of 3,506 Cr INR and total credit of 704 Cr INR as of Mar 2012[1104]. Porbandar has a high penetration of banking and financial services with a density of 9.608 people per bank[1105] as of March 2012. While the number of banks has increased at a CAGR of 4.1 percent[1106] from 2007 to 2012, the amount of deposit and credit have increased at the lowest CAGR amongst all districts at 13.1 percent and 9.3 percent respectively[1107] from 2007-2012.

Porbandar has medium to high rainfall conditions of the South Saurashtra type. Owning to the soil characteristics, a majority of the district geographical land is cultivable (65 percent of total area). Being a high rainfall witnessing region, the majority of land is rainfed with only around 19 percent[1108] of net cultivable area under irrigation[1109]. Agricultural irrigation in Porbandar is predominantly dependent on canals and open wells. The large scope for

[1103] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[1104] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[1105] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[1106] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[1107] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[1108] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[1109] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

operation and maintenance of tube wells for lift irrigation would mandate requirement of skilled manpower with knowledge on repair and maintenance.

Cotton and Wheat are key kharif crops grown in the district while gram and millet are the major rabi crops. The ratio of area under Kharif to Rabi crop cultivation is 1.61 indicating good prospects for multiple cropping. Main horticulture crops include fruits (Banana), vegetables and Spices with the district contributing to a sizeable portion of Gujarat's onion production[1110]. Currently usage of hybrid crop varieties is low with a need to promote across crop categories. There is a need for Taluka Seed Farms in the district to improve the availability of quality seeds.

Cow and buffalos are main cattle varieties in Porbandar with 83,415 cows and 1,00,417 buffalos[1111]. The other prominent domestic animal under animal husbandry activities is goat. Each taluka of the district has a permanent pasture though they are small in size. This opens up opportunity for animal husbandry which when clubbed with organic farming can give impressive results.

6.10.24.2. Workforce Distribution in the district

Porbandar has a marginally higher dependency on the primary sector for livelihood generation than the state average. Over two thirds of the district workforce is dependent on agriculture and allied activities. Further, the district has lower workforce and labour force participation rates. The penetration level of the manufacturing sector is low at 8.7 percent employment generation as against the state average of 15.86 percent. As a result, the district has the potential to become a sourcing hub for trained manpower.

Comparison of workforce distribution scenario in Porbandar and Gujarat is presented in the table[1112].

Region	**Labour Force Participation**	**Workforce Participation**	**Percentage of Employment**		
			Primary Sector	**Secondary Sector**	**Tertiary Sector**
Porbandar	56.78%	40.07%	67.43%	8.7%	23.87%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

Organized sector employment in registered factories and service enterprises in the district currently stands at 6,700. While the overall manufacturing base is low, high level of unorganized activity has further reduced organized job prospects in manufacturing sector within the district.

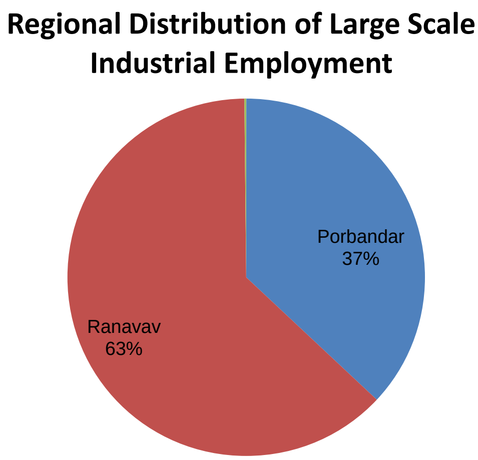
Organized Employment in Porbandar[1113]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	4902
MSME Category	2853
Manufacturing Units	2599

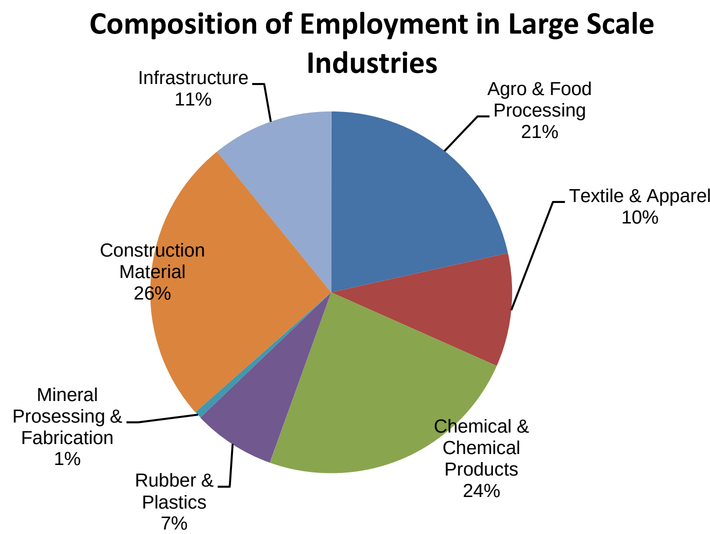
[1110] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[1111] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[1112] *KPMG Analysis*
[1113] *IEM, MSME Part-II Data till 2012-13*

Service Enterprises	254
Total	**7755**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors. Ranavav and Porbandar talukas account for a majority share of employment in this category. Textile, Chemicals, Construction Material and Agro and Food Processing Units are major employment generating segments within the district. Regional and sectoral break up of large scale industrial employment is presented in the chart.

Large Scale Industrial Employment Overview in the District[1114]

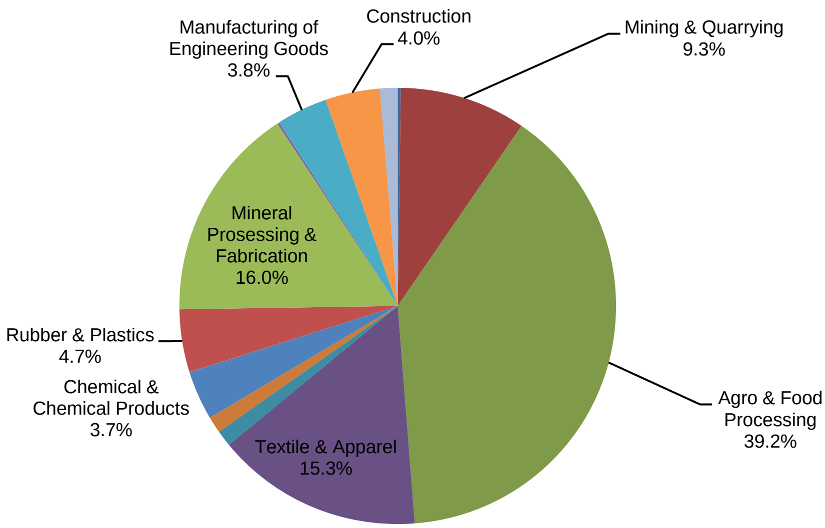


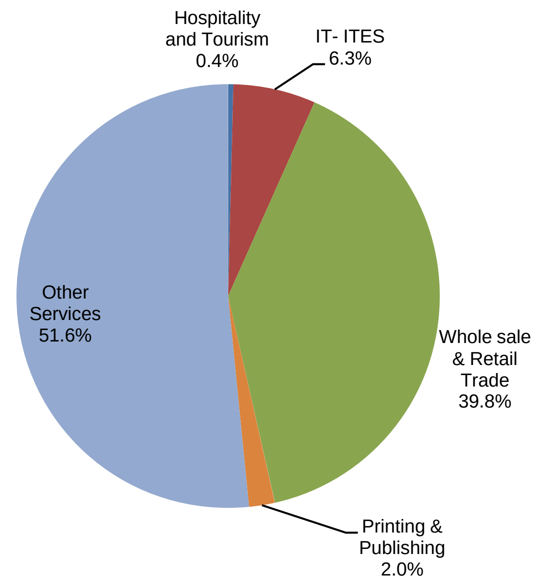


Among the manufacturing units in MSME segment Agro and Food Processing and Mineral Processing and Fabrication have accounted for majority share of the employment in all the categories of industries. Basic metal working units, furniture making enterprises have contributed significantly to the Micro industries category. Whole sale & retail trade, IT-ITES, Publishing & printing, hospitality are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

[1114] *IEM, MSME Part-II Data till 2012-13*

MSME Employment Overview in the District[1115]





6.10.24.3. Human Resource Requirement Projections in Porbandar (2012-22)

Incremental manpower requirement in the district of Porbandar has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Porbandar. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors, incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods of 2012-17 and 2017-22.

Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

[1115] *IEM, MSME Part-II Data till 2012-13*

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22(Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation & logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)

- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Porbandar district are presented in the table[1116].

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	3695	3695	NA	NA	3094	3094
Agro & Food Processing	45	181	226	452	40	162	202	404
Textile & Apparel	19	78	97	194	17	70	87	174
Chemical & Chemical Products	28	110	138	275	25	99	123	246
Rubber & Plastics	10	42	52	105	9	37	47	94
Mineral Processing & Fabrication	15	60	75	149	13	53	67	134
Manufacturing of Engineering Goods	3	11	14	29	3	10	13	26
Manufacturing of Construction Material	27	110	137	274	25	98	123	245
Construction	130	260	2210	2600	116	233	1976	2325
Trade, Retail	210	315	1575	2099	230	344	1721	2295
Transportation &	50	789	939	1778	41	646	768	1455

[1116] *KPMG Analysis*

Logistics								
Hospitality & Tourism	214	321	1605	2140	171	257	1284	1712
Banking & Financial Services	3064	9193	NA	12257	2145	6435	NA	8580
Healthcare	201	905	NA	1106	268	1339	NA	1607
Education & Training	224	1506	NA	1730	336	904	NA	1239

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand detailed manpower needs. Sector level skill interventions are indicated in the section below[1117].

Secondary Sector (Manufacturing, Construction & Energy):

- **Textile & Apparel:**

Category of Skills	**Skills**
Core Skills	Ring frame operator, weaver, processing operator (CDR,BDR,Stuntor), Bar-coding machine operator
Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions

- **Food Processing:**

Category of Skills	**Skills**
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists
Skills with acute shortage	PPO is required in industries having in house packing development.

- **Chemical & Chemical Products:**

Category of Skills	**Skills**
Core Skills	Mechanical, Electrical skills

[1117] *KPMG Analysis*

Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Construction:**

Category of Skills	**Skills**
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services:**

Category of Skills	**Skills**
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

Primary Sector:

- **Cultivation:**

Category of Skills	**Skills**
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.24.4. Human Resource Supply Scenario in the District

6.10.24.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Porbandar is among the districts with low human resource growth potential during 2012-22. Low population base coupled with high incidence of outward migration over the years into industrial clusters of Jamnagar, is a key reason for the lower human resource growth potential in the district. Details of human resource growth estimations during 2012-22 are presented in the table[1118].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	59,866	36,474	20,659
2017-22	51,111	32,039	16,040

6.10.24.4.2. Education and Training Potential in the District

The district has the second lowest number of K12 schools amongst all districts. The district has 437 K12 schools with a 75.74 percent share of Government schools. However, the net enrolment ratios at primary and upper primary levels are marginally lower than the state averages[1119].

Total Enrollments	Primary Level	Upper Primary Level	Secondary Level	Higher Secondary

[1118] *KPMG Analysis*
[1119] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

in 2009-10	(Std I-V)	(Std VI-VIII)	(Std IX-X)	Level (Std XI-XII)
Porbandar	59015	23166	23134	6243

Comparing the district's enrolment statistics with state average indicates that the district is an average performer in the primary education category[1120]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Porbandar	83.6	49.9
Gujarat	85.4	50.7

In the vocational education segment, the district severely lags behind in comparison to state average. Private interest in the sector in this district is also low indicating that the state must take proactive measures in seeking private support to augment vocational training infrastructure[1121].

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Porbandar	3	560	0.96	0%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Porbandar district needs to be focused on the tehsils of Porbandar and Kutiyana to bring them on par with the district average in vocational education capacity[1122].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Ranavav	120	1.06	0%
Porbandar	312	0.82	0%
Kutiyana	128	0.14	0%
District Total	**560**	**0.96**	**0%**

The district has 8 colleges offering Arts, Commerce, Science, B.Ed and Law programs.

6.10.24.4.3. Demand Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

[1120] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[1121] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[1122] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

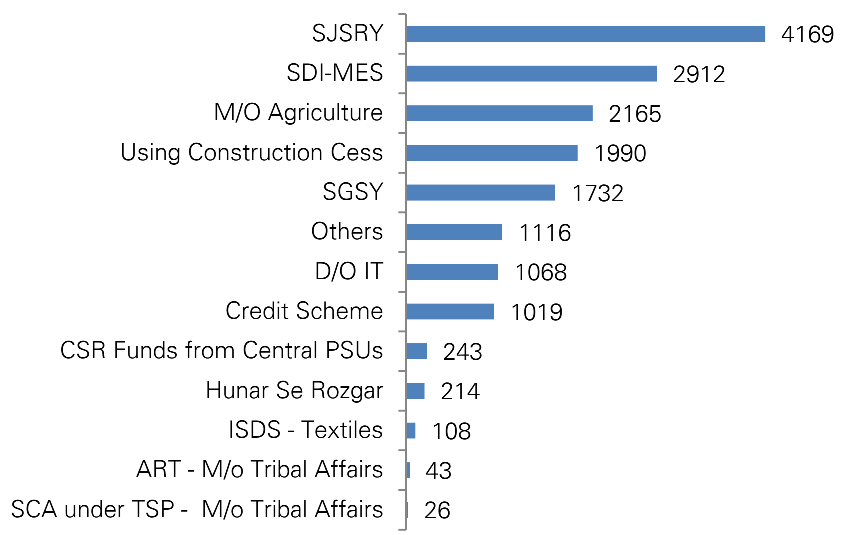
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	1,267	11,576	(4,617)	8,224	(57)	7,654	(6)	7,590

*(Indicates excess supply)

6.10.24.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 16 thousand people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Porbandar District[1123]



6.10.24.5. District Specific Recommendations

Considering these factors, the proposed action plan for stakeholders in skill development in the district would indicate the following priority areas:

[1123] *KPMG Analysis*

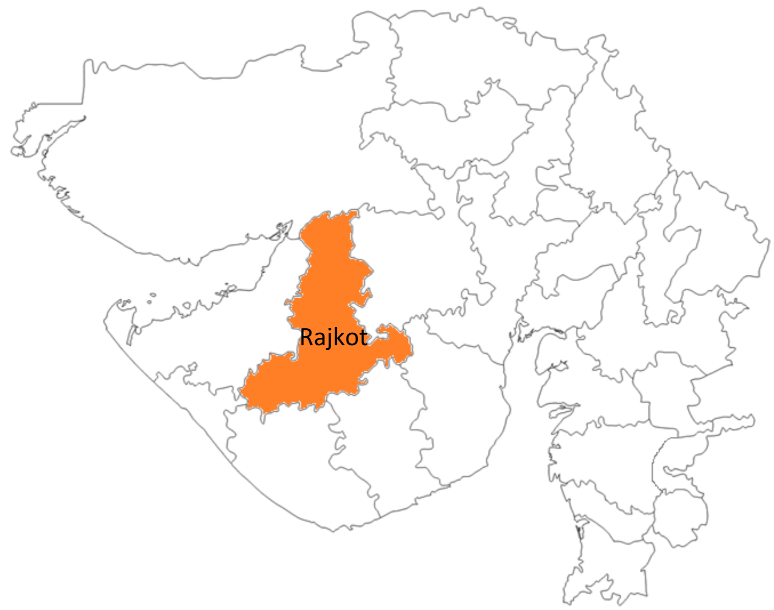
Stakeholder	**Action Points for Stakeholders**
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following sectors • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes • Agri allied activities such as animal husbandry and organic farming of vegetables • Agro and Good Processing • Textiles and Apparels • Mineral Processing and Fabrication
Private Skill Training Providers	Provide skill training in the sectors of • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • Construction • Retail • Transportation and Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.25. Skill Gap Assessment of Rajkot District

6.10.25.1. Socioeconomic Profile

6.10.25.1.1. Administrative Profile

Rajkot district is located in the western part of the state with a geographical spread of11, 203 sq.km[1124]. The district shares its border with Kutch, Surendranagar, Bhavnagar, Amreli, Junagadh and Jamnagar. Administratively Porbandar district is divided into 14 talukas and 835 villages[1125] with Rajkot city as the district capital. Maliya, Morbi, Tankara, Padadhari, Lodhika, Dhoraji, Wankaner, Rajkot, Jamkandorna, Upleta, Jetpur, Kotda, Sangani, Jasdan and Gondal are taluka regions in the district.



6.10.25.1.2. Demographic Profile

Being the third most populous district, Rajkot is a high human resource potential region in Gujarat, . It has a total population of 37.99 lakhs[1126] as per 2011 Census district accounting for 6.3 percent[1127] of the overall state population. The district has witnessed a state comparable decadal population growth. Rajkot population has witnessed a decadal growth rate of 19.87 percent[1128] between 2001 and 2011 as against the state average of 19.17 percent[1129] during the same period. A significant portion of the district population lives in urban areas with these regions accounting for nearly 58.12 percent[1130] of the total population. Population spread in the district is marginally higher than the state average with a density of 339 persons per sq.km[1131] as against state average of 308 persons per sq.km[1132]. Analysis of population distribution in the district as per 2001 census indicates higher human resource potential in the talukas of Rajkot, Gondal, Jasdan and Jetpur with Rajkot having a highest population density. Details of regional distribution of population in the district are presented in the table[1133].

[1124] *Census 2011 Statistics*
[1125] *Census 2011 Statistics*
[1126] *Census 2011 Statistics*
[1127] *Census 2011 Statistics*
[1128] *Census 2011 Statistics*
[1129] *Census 2011 Statistics*
[1130] *Census 2011 Statistics*
[1131] *Census 2011 Statistics*
[1132] *Census 2011 Statistics*
[1133] *Census 2001 Statistics, KPMG Analysis*

Regional Distribution of Population in the District[1134]		
Region	**Contribution to District Population (2001)**	**Population Density (Persons per Sq.km- 2001)**
Rajkot	36%	1061
Morvi	10%	298
Gondal	8%	222
Jasdan	8%	198
Jetpur	7%	349
Wankaner	6%	166
Upleta	5%	203
Dhoraji	5%	272
Tankara	3%	127
Maliya	3%	108
Kotda	3%	179
Jamkandorna	2%	135
Paddhari	2%	122
Lodhika	1%	124

Gender composition of district population is comparable to the state average. As per 2011 census district has a gender ration of 924 females per 1000 males[1135] as against the state average ratio of 918 females per 1000 males[1136].. Decreasing composition of female population is a concern within the district. Adult gender ratio of district has decreased from 930 females per 1000 males[1137] in 2001 to 924 females per 1000 males[1138] by 2011.Overall reserved categories contribute to only 8.13 percent[1139] of the total district population indicating the need for inclusion focus.

Education attainment levels in the district are marginally better than the state average. As per 2011 estimates, district has registered an overall literacy rate of 82.20 percent[1140] as against state average of 79.31 percent[1141]. District has been making considerable progress in achieving regional and gender inclusion in literacy rates. Urban-rural literacy gap in Rajkot is estimated to be 10.66 percent[1142] comparable to the state average of 14.58 percent[1143]. Similarly, district still has a male-female literacy gap of 13.41 percent[1144] as against 16.5 percent[1145] for Gujarat

1134 *Census 2001 Statistics, KPMG Analysis*
1135 *Census 2011 Statistics*
1136 *Census 2011 Statistics*
1137 *Census 2011 Statistics*
1138 *Census 2011 Statistics*
1139 *Census 2001 Statistics, KPMG Analysis*
1140 *Census 2011 Statistics*
1141 *Census 2011 Statistics*
1142 *Census 2011 Statistics*
1143 *Census 2011 Statistics*
1144 *Census 2011 Statistics*
1145 *Census 2011 Statistics*

state. Increasing focus on literacy would create demand for education and training facilities within the district to support the economic growth of the region.

6.10.25.1.3. Economic Profile

Rajkot is considered to be an important industrial hub in the state, with the majority of the workforce engaged in the manufacturing sector and the service sector. The district's main industries include Chemicals, Engineering Electronics, Food Processing and Textiles & Apparels with the region hosting industrial players like Gujarat Agro Industries Corporation Ltd., Samay Electronics and Ajanta Electronics. Concentrated industrial activities in the district can be seen in the Aji and Bhaktinagar areas which are two major industrial estates in Rajkot.

Investments in Rajkot have been focused on the Morvi and Malia talukas with INR 9379 Cr. and INR 5735 Cr. currently under implementation.

A detailed taluka-wise breakdown of the large scale investment scenario is provided in the table.

Large Scale Investment Scenario In Rajkot[1146]				
Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Morvi	80	638	63	9379
Kotda Sangani	43	179	4	1546
Rajkot	35	372	29	964
Tankara	21	110	--	--
Wankaner	16	218	23	571
Lodhika	15	103	13	65
Gondal	10	670	12	241
Paddhari	5	61	--	--
Dhoraji	3	4	--	--
Upleta	3	100	5	556
Jasdan	1	15	--	--
Jetpur	1	20	--	--
Malia	--	--	1	5735

[1146] *IEM, MSME Part-II Data till 2012-13*

Not Classified	2	33	7	1502
District Total	**235**	**2523**	**157**	**20559**

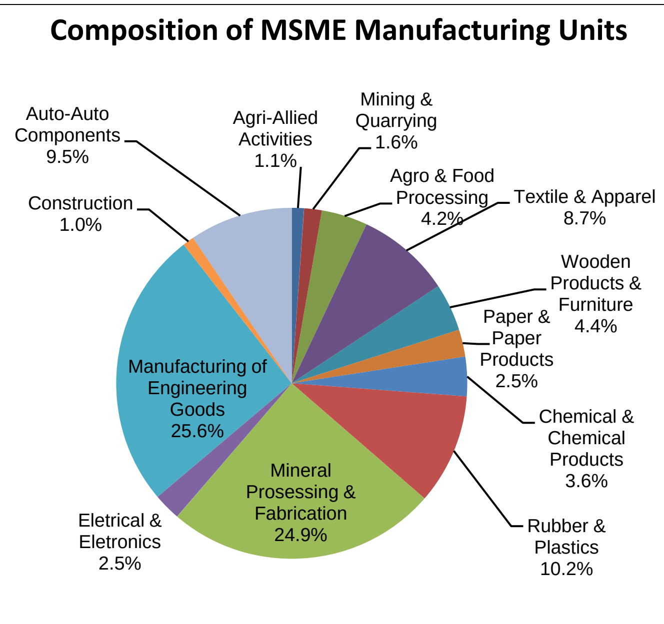
The intense industrial nature of Rajkot has naturally led to the creation of several auxiliary MSME units. Potential exists for further growth in the scene with the inflow of over INR 7, 00,000 lakhs of investments. 10,049 micro scale and 2,216 small scale industries are expected to benefit with 87% of the investments directed towards these units.

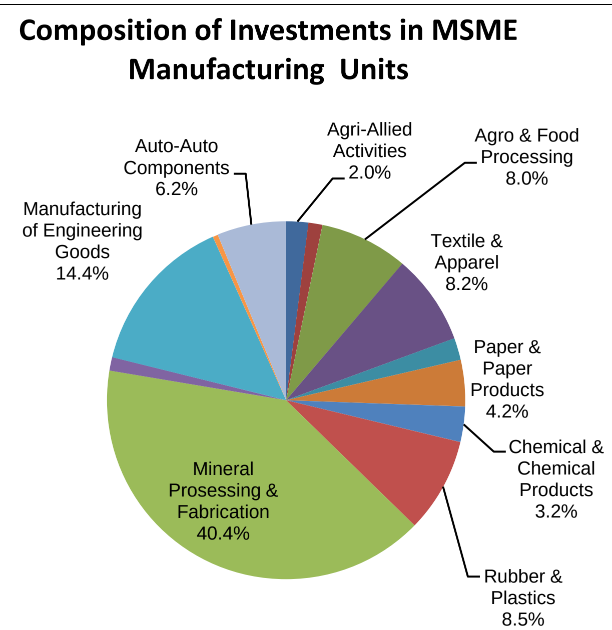
The MSME investment details for the district are provided below:

MSME Investment Scenario in Rajkot[1147]		
Category of Industries	**Number of Units**	**Investment In Lakhs**
Micro	10049	231780
Small	2216	386678
Medium	98	85676
Total	**12363**	**704134**
Manufacturing Sector Units	10649	658448
Service Enterprises	1714	45686

MSME manufacturing units have seen investments to the tune of INR 6,58,448 lakhs, with the biggest beneficiaries being the Mineral Processing & Fabrication segment and the Manufacturing of Engineering Goods segment. The two aforementioned areas also constitute the largest segments by volume in the MSME manufacturing space. Rubber & Plastics and Auto-Auto Components are the two other important industries that have attracted investments. The chart below contains a detailed look at the MSME manufacturing scenario and the investments in the same:

MSME Manufacturing Sector Overview in the District[1148]

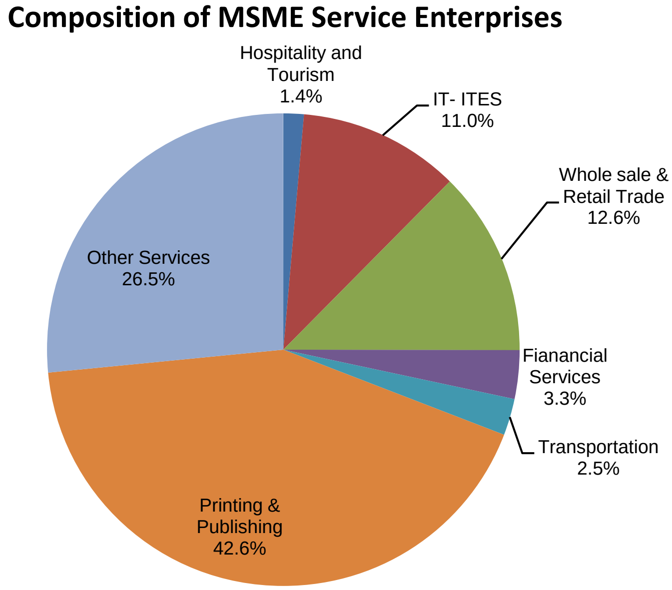


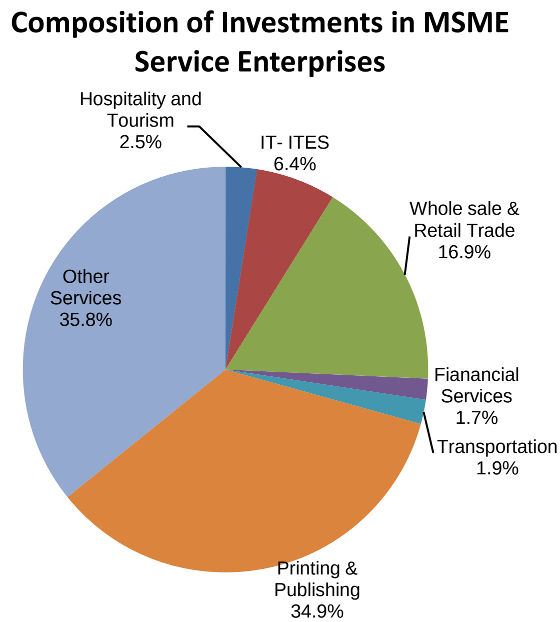


[1147] *IEM, MSME Part-II Data till 2012-13*
[1148] *IEM, MSME Part-II Data till 2012-13*

While the level of organized investments in services enterprises is low as evident from the MSME Part-II statistics, sectors of whole sale and retail trade, Printing and Publishing and IT-ITES have seen considerable investments in the district. Composition of MSME service enterprises and investments are presented in the chart.

MSME Services Sector Overview in the District[1149]





The primary focus sub-sectors within IT/ITES sector include Software Development Centers, Business Process Outsourcing (BPO), Knowledge Process Outsourcing (KPO) and Educational Training Centers.

There are many places of tourism importance in Rajkot such as Kaba Gandhi no Delo – a national monument built by Mahatma Gandhi, Watson Museum, Rajkumar College and Energy Park. Apart from the above, there are other places of tourist attraction like Community Science Center & Planetarium, Rotary Dolls Museum, Swaminarayan Temple and Mukti dham - Crematorium

The district has low penetration of medical institution with about 40,423 people per institute. It has 44 primary healthcare centers, 18 community healthcare centers, 12 hospitals and 14 dispensaries. The district also has N M Virani Wockhardt Hospital - super-specialty hospital, Civil hospital, G.T. Seth Eye hospital, K.T. Children Hospital and R.Z. Women Hospital[1150].

The district has the Saurashtra University, R.K. College offering medicine, engineering & pharmacy and five engineering colleges.

[1149] *IEM, MSME Part-II Data till 2012-13*
[1150] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

The road infrastructure connects Rajkot with major cities like Ahmadabad, Vadodara and Surat. The rail infrastructure links Rajkot with major cities in Gujarat like Ahmadabad and Vadodara and Indian cities like Delhi, Mumbai, Cochin, Coimbatore and Bhopal. The district has an airport which connects it with Vadodara, Mumbai, Delhi and Ahmadabad. The district also has a port in Navlakhi with road and rail connectivity.

Rajkot has a presence of 360 bank offices and the total bank deposit amounts to 17,490 Cr INR and the total credit amount of 17,080 Cr INR as of Mar 2012[1151]. Rajkot has the high penetration of banking and financial services amongst all districts with a density of 10,555 people per bank as of March 2012. While the CAGR of the number of bank offices in Rajkot stands at 7.2 percent from 2007 to 2012, the amount of deposit and credit have increased at a CAGR of 19.6 percent and 27.9 percent respectively from 2007-2012.

Rajkot has medium to high rainfall conditions and is part of North Saurashtra Agro-Zone. Owning to the soil characteristics, 43% of total geographical land is cultivable. Poor nitrogen and high potash content in Rajkot soils has resulted in large scale usage of nitrogen rich fertilizers. Awareness levels on organic farming and vermi -compost methods are low indicating a need to improve the same in order to promote sustainable agricultural practices.

Cotton and Groundnut are key kharif crops grown in the district while wheat is the major Rabi crop. The ratio of area under Kharif to Rabi crop cultivation is 4.08 indicating good prospects for multiple cropping. The district is the largest producer of Cotton in the state of Gujarat. Main horticulture crops include fruits (Banana), vegetables and Spices with the district being the second largest in terms of onion production[1152].
Currently usage of hybrid crop varieties is low with a need to promote this practice across crop categories. There is a need for Taluka Seed Farms in the district to improve the availability of quality seeds.

Cow and buffalos are main cattle varieties in Rajkot with 273401 cows and 343988 buffalos[1153]. Other prominent domestic animals under animal husbandry activities are goats. Each taluka of the district has a permanent pasture though they are small in size. This opens up opportunity for animal husbandry which when clubbed with organic farming can give impressive results.

6.10.25.2. Workforce Distribution in the district

As an industrially developed district with significant commercial activity, Rajkot has made considerable progress towards reducing dependency on agriculture over the years. While employment in secondary and tertiary sectors is nearly half of the overall economy, manufacturing activities account for about 20 percent of the overall district workforce. While the total worker participation rate less than state average due to low female participation. Low female participation is however a main concern for the district as is the case with most of the urban regions in India. Efforts towards higher levels of gender inclusion in education and employment are expected to improve the situation over the next decade.
Comparison of workforce distribution scenario in Rajkot and Gujarat is presented in the table[1154].

[1151] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[1152] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[1153] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*
[1154] *KPMG Analysis*

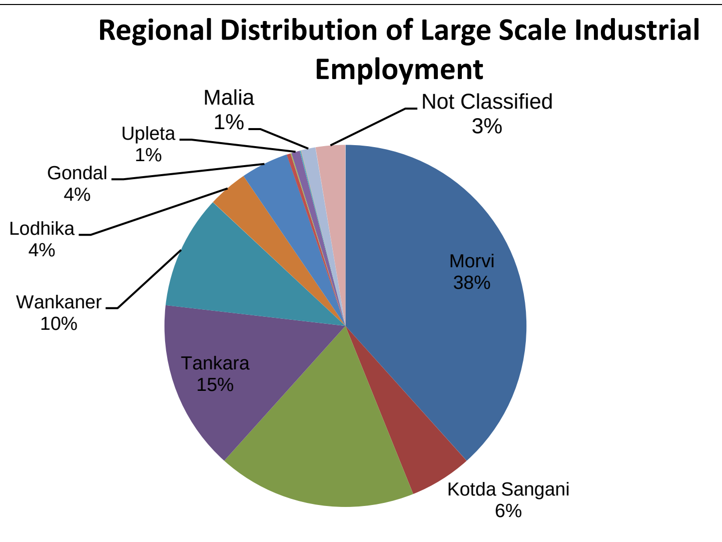
Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Rajkot	58.11%	39.27%	51.16%	19.72%	29.12%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

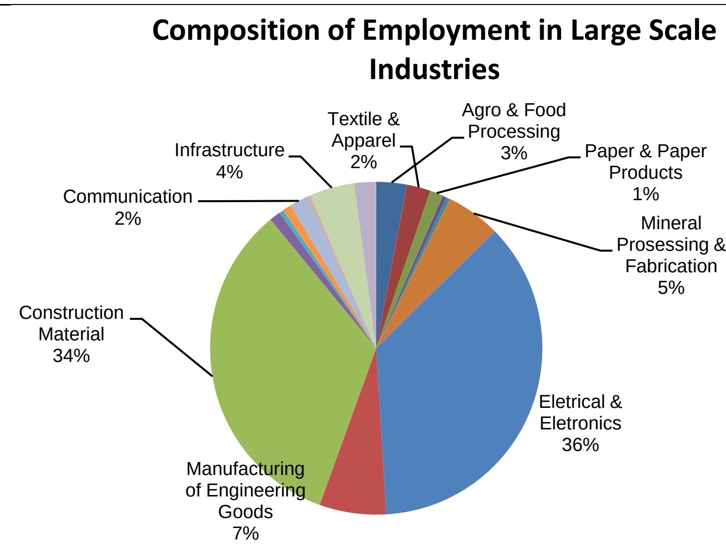
Organized industrial employment in registered factories and service enterprises has contributed to significant share of secondary sector employment in the district. Registered and commissioned industrial units have generated an employment base of 1.5 lakhs in the district.

Organized Employment in Rajkot[1155]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	78119
MSME Category	116717
Manufacturing Units	104187
Service Enterprises	12530
Total	**194836**

Regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in key sectors. Rajkot and Morvi talukas account for a majority share of employment in this category. Electrical and electronics and construction material units are major employment generating segments within the district. Regional and sectoral break up of large scale industrial employment is presented in the chart.

Large Scale Industrial Employment Overview in the District[1156]

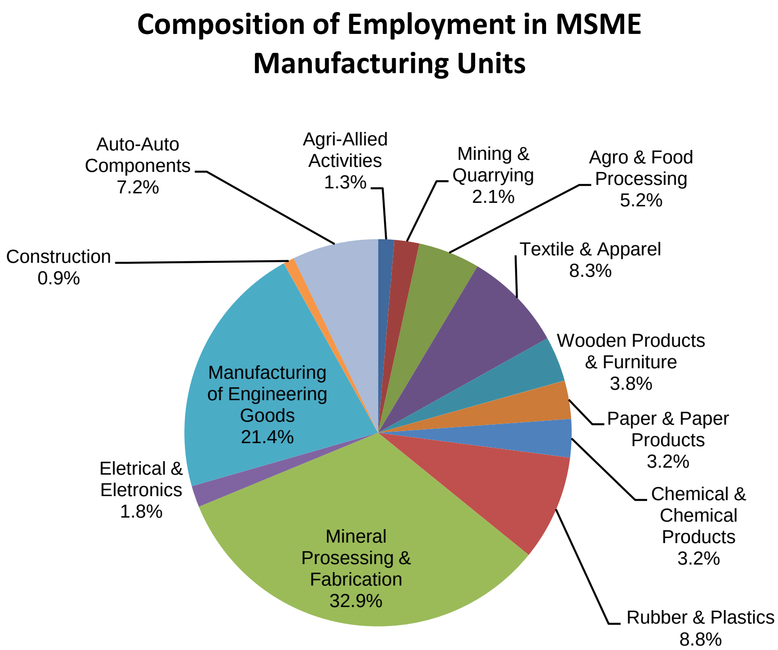


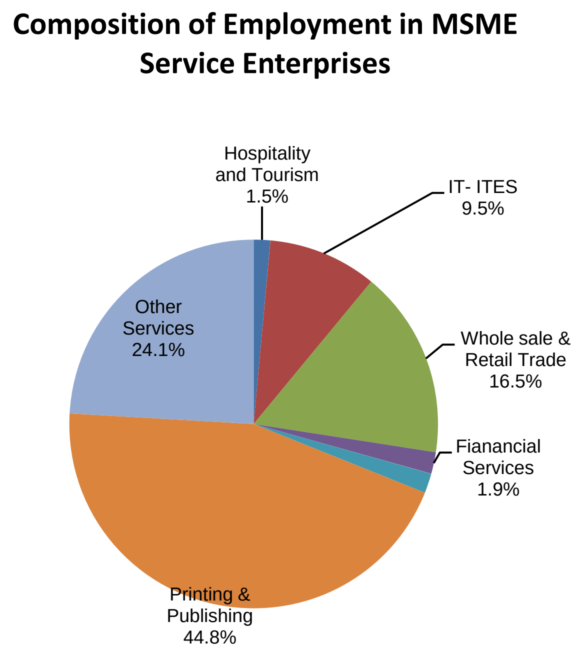


1155 *IEM, MSME Part-II Data till 2012-13*
1156 *IEM, MSME Part-II Data till 2012-13*

Among the manufacturing units in MSME segment Textile, Mineral Processing and Fabrication and Manufacture of Engineering Goods have accounted for majority share of the employment in all the categories of industries. Whole sale & retail trade, IT-ITES and Publishing & printing are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

MSME Employment Overview in the District[1157]





6.10.25.3. Human Resource Requirement Projections in Rajkot (2012-22)

Incremental manpower requirement in the district of Rajkot has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Rajkot.

Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods of 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. Detailed

[1157] *IEM, MSME Part-II Data till 2012-13*

approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migrational constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22 (Increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by Government thrust in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation& logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. Detailed methodology for estimation of manpower in services sub segments is presented in the appendix.

Based on the analysis of socio economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Rajkot district are presented in the table[1158].

Sector	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	19582	19582	NA	NA	16399	16399
Agro & Food Processing	194	776	970	1940	174	694	868	1735
Textile & Apparel	225	899	1123	2247	201	804	1005	2010
Wooden Products & Furniture	85	339	424	848	76	303	379	758
Paper & Paper Products	93	373	466	932	83	333	417	834

[1158] *KPMG Analysis*

Chemical & Chemical Products	78	313	391	782	70	280	350	699
Rubber & Plastics	204	818	1022	2045	183	732	915	1829
Mineral Processing & Fabrication	874	3498	4372	8744	782	3128	3911	7821
Electrical & Electronics	621	2483	3103	6206	555	2221	2776	5551
Manufacturing of Engineering Goods	748	2993	3741	7483	669	2677	3346	6693
Manufacturing of Construction Material	535	2139	2673	5347	478	1913	2391	4783
Misc. Manufacturing	38	153	191	382	34	137	171	341
Construction	843	1685	14327	16855	754	1508	12814	15075
Trade, Retail	1361	2042	10209	13612	1488	2232	11160	14880
Transportation & Logistics	1534	24366	28989	54890	1255	19936	23719	44910
IT-ITES	4800	12000	NA	16800	4000	9600	NA	13600
Hospitality & Tourism	1535	2303	11513	15350	1228	1842	9210	12280
Banking & Financial Services	2789	8368	NA	11157	1953	5858	NA	7810
Healthcare	1048	4714	NA	5762	1396	6978	NA	8374
Education & Training	1242	8360	NA	9602	1863	5016	NA	6879

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[1159].

Secondary Sector (Manufacturing, Construction & Energy):

- **Auto & Auto Components**

Subsector	Skills
Auto Assembling and Component Manufacturing	**Core Skills:** Motor Mechanic, Diesel Mechanic, Fitter, Welder, Fabricators **Allied Skills:** Electrician, Wireman **Acute Skill Deficits:** Specialized welders in Arc welding who can work in extreme conditions on advanced fabrication equipments

[1159] *KPMG Analysis*

Auto/Industrial Manufacturing	**Core Skills:** Shop floor technical workers **Allied Skills:** Maintenance(Mechanical, Electrical, mechatronics, automobile electronics) **Acute Skill Deficits:** Painting, Body Building (spot welding), Sheet Metal Work, Machining & Casting.

- **Textile & Apparel:**

Category of Skills	Skills
Core Skills	Ring frame operator, weaver, processing operator (CDR,BDR,Stuntor), Bar-coding machine operator
Allied Skills	Electrician, Wireman, Fitter
Skills with acute shortage	The industry has high attrition rates in operator roles (semi skilled) owing to extreme working conditions

- **Electrical & Electronics:**

Category of Skills	Skills
Core Skills	Electronics, PPO, Electrical, Instrumentation
Allied Skills	Fitter
Skills with acute shortage	PPO trade is a key deficit in all industries involving plastic processing Electronics and Instrumentation

- **Metal & Mineral Processing:**

Category of Skills	Skills
Core Skills	Fitter, Welder, Turner, Electrician
Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	Skills
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

- **Salt Production:**

Category of Skills	Skills
Core Skills	Earth moving equipment operators, tractor drivers
Allied Skills	Minimally skilled workers
Skills with acute shortage	Chemists

Services:

- **Banking & Financial Services:**

Category of Skills	Skills
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	Skills
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Healthcare :**

Category of Skills	Skills
Core Skills	MBBS Doctors, MD/MS specialists, Physician Assistants/Compounders, Radiologists, Dialysis technician, Respiratory technician and OT Assistants & Perfusionist.
Allied Skills	Lab technicians, pharmacists
Skills with acute shortage	Physiotherapists, Biomedical Instrumentation technicians

- **Education:**

Category of Skills	Skills
Core Skills	School teachers, higher education faculty
Allied Skills	Knowledge on advanced teaching tools
Skills with acute shortage	Technical education trainers

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques

Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.25.4. Human Resource Supply Scenario in the District

6.10.25.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Rajkot is among the districts with high human resource growth potential during 2012-22. Being a district with significant employment opportunities, district has potential to absorb the incremental labour force if matched with adequate skills. Details of human resource growth estimations during 2012-22 are presented in the table[1160].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	338,798	183,119	119,548
2017-22	320,481	172,910	92,821

6.10.25.4.2. Education and Training Potential in the District

The district has around 2186 K12 schools with a relatively higher share of private schools as compared to other districts. The share of private schools is 33.35 percent of the total number of K12 schools. The net enrolment ratio at both primary levels and upper primary levels is higher than the state average[1161].

Total Enrollments in 2009-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Rajkot	310906	120586	172556	48785

Comparing the district's enrolment statistics with state average indicates that the district is a strong performer in the primary education category[1162]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Rajkot	93.0	65.4

1160 *KPMG Analysis*
1161 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
1162 *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Gujarat	85.4	50.7

In the vocational education segment, the district lags behind in the provision of vocational training in comparison to state average. Private interest in the sector in this district is also low indicating that the state must take proactive measures in seeking private support to augment vocational training infrastructure[1163].

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Rajkot	36	6,920	1.82	15%
Gujarat	711	138,106	2.29	26%

Given the unequal distribution of seats, capacity expansion in vocational education in Rajkot district needs to be focused on the tehsils of Rajkot, Maliya, Upleta, Jamkandorana, Paddhari, Kotda Sanghani, Wankaner, Jasdan, Morbi, Jetpur to bring them on par with the district average in vocational education capacity[1164].

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Gondal	1512	4.74	4%
Lodhika	152	2.74	21%
Dhoraji	412	2.31	30%
Tankara	232	2.29	41%
Rajkot	2640	1.94	8%
Maliya (R)	184	1.84	30%
Upleta	344	1.69	33%
Jamkandorana	144	1.59	11%
Paddhari	136	1.55	0%
Kotda Sanghani	124	1.30	0%
Wankaner	240	1.08	0%
Jasdan	264	0.84	48%
Morbi	316	0.81	29%
Jetpur	220	0.81	47%
District Total	**6920**	**1.82**	**15%**

The district has 14 pharmacy colleges, 5 engineering colleges, 1 medical college, 8 management colleges and 74 colleges offering Arts, Commerce, Science, B.Ed and Law programs. Saurashtra University is a major university in Rajkot which was established in 1967. The university is well known for several departments such as journalism, economics, biosciences, pharmaceutical science, electronics, and chemistry, among several others. There are 5 engineering colleges in the district offering courses in computers, electronics and communication, instrumentation and control, mechanical, IT, and electrical engineering. R.K. College in Rajkot imparts education in major branches such as engineering, management and pharmacy.

[1163] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[1164] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

6.10.25.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

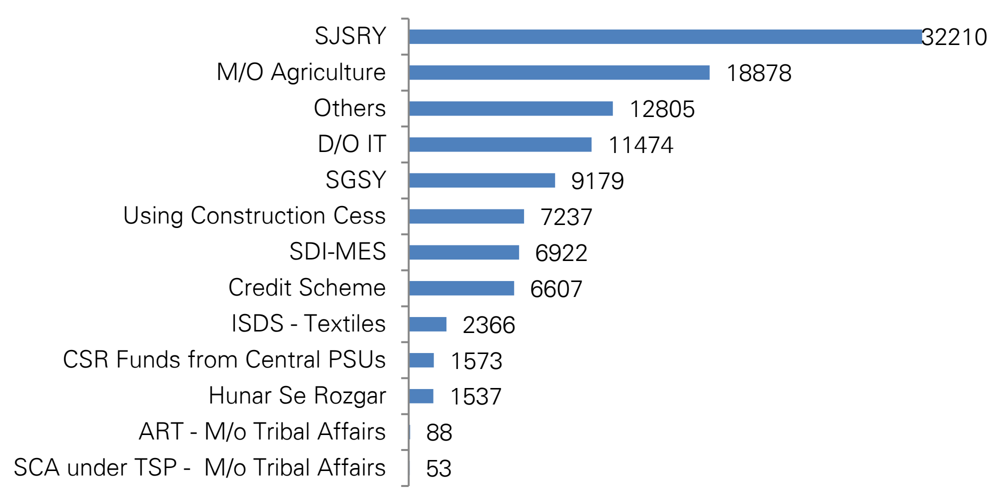
Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				**2017-22**			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	792	64,624	15,601	81,018	(2,509)	49,060	33,892	80,440

*(Indicates excess supply)

6.10.25.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes around 1.1 lakh people in total can be trained incrementally during the five year period of 2012-17. Ministry of Agriculture and Ministry of Labour Schemes are expected to contribute to a significant share of the training. Manpower training targets have predominant focus on primary sector considering the low level of industrial development in the district. Private training providers have opportunities in livelihood training programs.

Government Funded Incremental Training Capacity (2012-17) - Rajkot District[1165]



[1165] *KPMG Analysis*

6.10.25.5. District Specific Recommendations

Considering these factors, the proposed action plan for stakeholders in skill development in district would indicate the following priority areas:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following sectors • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes • Agri allied activities • Mineral Processing and Fabrication • Manufacturing of Engineering Goods • Rubber and Plastics related industries
Private Skill Training Providers	Provide skill training in the sectors of • Transportation and Logistics • Healthcare • Construction • Hospitality and Tourism • Banking and Financial Services
Corporate	Provide training for skills in those sector where the requirement for absorption within the corporate is higher such as • Construction • Retail • Transportation and Logistics Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

6.10.26. Skill Gap Assessment of Anand District

6.10.26.1. Social Profile

6.10.26.1.1. Administrative Profile

Spread across a geographical area of 2,951 sq.km[1166] the district of Anand is located in the central part of Gujarat. The district shares its border with Ahmedabad, Kheda, Vadodara districts on three sides and Gulf of Khambhat in the south. Administratively, the district is divided into 8 talukas and 347 villages[1167] with Anand town as the district capital. Anand, Umreth, Borsad, Petlad, Sojitra, Khambhat, Tarapur and Anklavare are taluka regions in the district.

6.10.26.1.2. Demographic Profile

Anand has a population of 20.90 lakhs[1168] as per 2011 Census with 69.68 percent[1169] of urban population. The population density of the district which is 711 persons per sq.km[1170] is much higher than the state population density of 308 persons per sq.km. Anand has a literacy rate of 85.79 percent[1171] which is higher than the state average of 79.31 percent[1172]. The district has a low gap of 6.31 percent[1173] in the literacy rates between urban and rural population which is less when compared to the state's overall gap of 14.58 percent[1174]. The district has a gap of 15.47 percent[1175] in the literacy rates between males and females which is less than the state's overall gap of 16.5 percent. The district's male literacy rate stands at a high 93.23 percent[1176] compared to the state's male literacy rate at 87.23 percent[1177]. On the other hand, the female literacy rate in the district stands at 77.76 percent compared to the state female literacy rate at 70.73 percent.

The decreasing female composition in the overall population is a key concern for the district indicating a need to enhance gender-centric development programs. Adult gender ratio of district has decreased from 987 females per

[1166] *Census 2011 Statistics*
[1167] *Census 2011 Statistics*
[1168] *Census 2011 Statistics*
[1169] *Census 2011 Statistics*
[1170] *Census 2011 Statistics*
[1171] *Census 2011 Statistics*
[1172] *Census 2011 Statistics*
[1173] *Census 2011 Statistics*
[1174] *Census 2011 Statistics*
[1175] *Census 2011 Statistics*
[1176] *Census 2011 Statistics*
[1177] *Census 2011 Statistics*

1000 males[1178] in 2001 to 964 females per 1000 males[1179] in 2011. This indicates that inclusive growth in Anand could be achieved through higher focus on female-centric initiatives. The representation of scheduled categories to the overall population is also not significant.

The education attainment levels in the district are lower than the state average. District has a literacy rate of 74.49 percent[1180] as compared to the state average of 79.31 percent. However, the district has witnessed high levels of inclusion in literacy with the district registering lower urban-rural and male-female literacy rate gaps as compared to the state average. Considering the low levels of literacy rates it is imperative to improve literacy across all segments of population to develop quality workforce in the district.

6.10.26.1.3. Economic Profile

Anand is an emerging industrial base in Gujarat for chemical, engineering and food and agriculture industries in Gujarat. While the district is still dependent on agriculture and allied activities; industrial development has enhanced due to establishment of chemical and engineering units in the district with the presence of major players like Cambay Chemicals Ltd., Beepee Coating Ltd. and Elicon Engineering Company Ltd. In food processing category, the National Dairy Development Board and Mother Dairy Food Processing Ltd are some large scale players. Over the last decade, industrial engineering sector has witnessed considerable growth in terms of investments and employment creation. Plastic and plastic products are the other major industrial category garnering significant quantum of investments. Among others the metallurgical industries, electrical equipments, miscellaneous machinery and engineering and auto parts are key industries in industrial engineering sector.

As per the IEM, LIO, LOP investment details, district has a total of 82 commissioned large scale industrial units attracting an investment of INR 1,110 Cr along with 29 units under implementation with an investment of INR 414 Cr. An analysis of regional distribution of investments in Anand district indicates that the industrial development is concentrated around Anand, Tarapur, Khambhat Talukas while other regions including Umreth, Borsad, Petlad, Sojitra and Anklavare still remain backward in terms of industrial development. Over the recent years the state government has initiated measures to enhance the industrial growth in backward talukas across the state over the next decade. Details of region-wise large scale investments in Ananad district till 2012 is presented in the table.

Large Scale Investment Scenario In Anand[1181]

Region	**Commissioned**		**Under Implementation**	
	No. of Units	**Investment (INR Cr)**	**No. of Units**	**Investment (INR Cr)**
Anand	62	793	16	222
Tarapur	1	12	2	120
Khambhat	6	51	5	21
Petlad	8	31		
Sojitra	3	2	4	1

[1178] *Census 2011 Statistics*
[1179] *Census 2011 Statistics*
[1180] *Census 2011 Statistics*
[1181] *IEM, MSME Part-II Data till 2012-13*

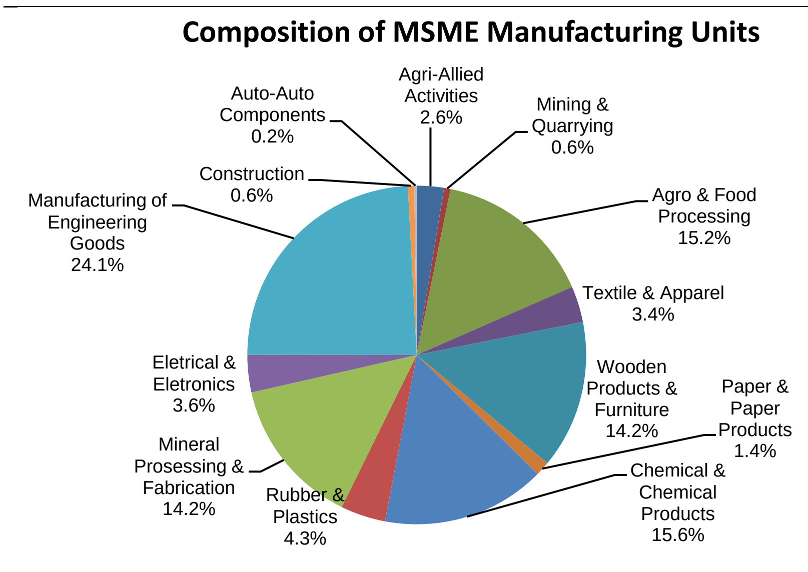
Umreth	1	3		
Not Classified	1	218	2	50
District Total	82	1110	29	414

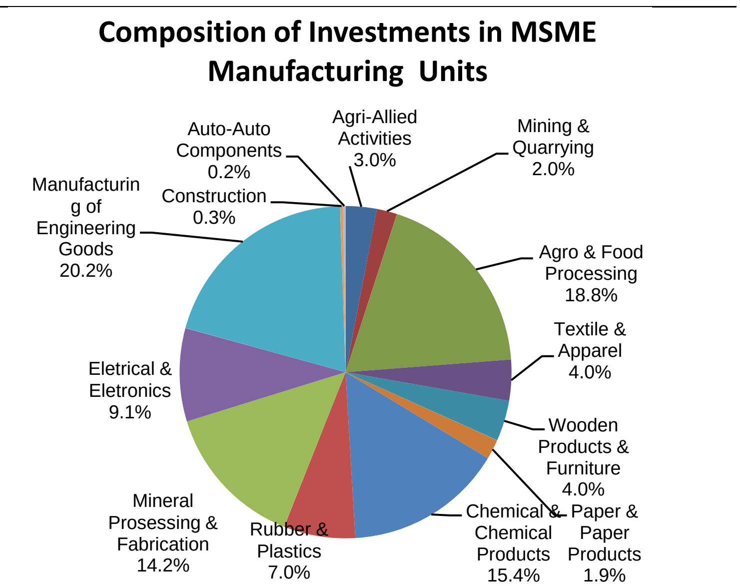
Small and Medium Enterprises (SMEs) are concentrated in the talukas of Anand, Sojitra, Khambhat, Petland and Umerth. As per MSME investment Part–II statistics, overall there are 1,535 units operating in the district attracting an investment of INR 69,168 lakhs in 2012. MSME segment in Anand is dominated by manufacturing industries both in terms of volume and investments with limited number of registered service enterprises indicating the high level of unorganized activity in services segment. The investment outlook in MSME segment of Anand district is presented in the table.

MSME Investment Scenario in Anand[1182]		
Category of Industries	**Number of Units**	**Investment In Lakhs**
Micro	1274	16408
Small	247	36065
Medium	14	16694
Total	**1535**	**69168**
Manufacturing Sector Units	1313	64951
Service Enterprises	222	4216

The laths and machine tools, rice production, tobacco steaming and wood products are some key MSME segments in manufacturing. Agro and food processing, chemicals and petrochemicals and auto and engineering are some of the emerging sector in the small and medium segment. Composition of MSME manufacturing units and investments are presented in the chart.

MSME Manufacturing Sector Overview in the District[1183]

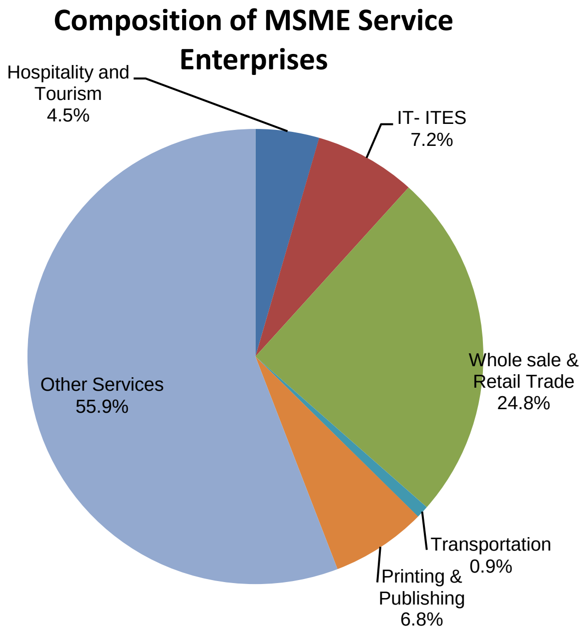


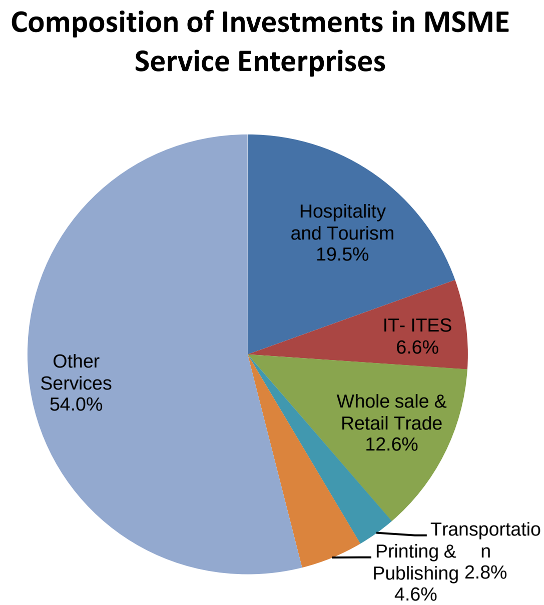


[1182] *IEM, MSME Part-II Data till 2012-13*
[1183] *IEM, MSME Part-II Data till 2012-13*

While the level of organized investments in services enterprises is low as evident from the MSME Part-II statistics, sectors of whole sale and retail trade, printing and publishing, IT-ITES, transportation and logistics and hospitality and tourism have seen considerable investments in the district. The district has significant growth potential for servicing and repairing units, tourism and port-based logistics sectors in the near future. The composition of MSME service enterprises and investments are presented in the chart.

MSME Services Sector Overview in the District[1184]





Anand is an important activity centre due to its proximity to large cities like Ahmedabad, Vadodara, Bharauch and Gandhinagar. The National highway 8 passes through Anand district connecting it to Vadodara (38 kms) and Kheda (21 kms). The district is well connected with Godhra, Ahmedabad, Kheda, Khambhat, Vasad and Mumbai through a broad gauge rail line of 147 km[1185]. The nearest airports are in Ahmedabad and Vadodara and the nearest ports are Dahej port and Hazira port.

In terms of services sector in the district, tourism remains the key economic activity. The major tourist attractions in Anand are the Flo-Art Gallery which showcases cottage industry handmade crafts and household accessories, Amul Diary Cooperative Museum, Sardar Vallabhbhai Patel and Veer Vithalbhai Patel Memorial and Khambhat which is renowned for textile products. Apart from the above, the district houses a famous Jain temple, Stambhan Parshvanath Jinalaya and Swaminarayan Mandir.

[1184] *IEM, MSME Part-II Data till 2012-13*

[1185] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

An IT park spread over of 259 hectares[1186] indicates the developing IT/ITES sector in the district. The region is expected to attract similar investments because the district has a large pool of skilled and qualified manpower due to presence of educational and research institutions like Institute of Rural Management (IRMA), National Research Centre for Medicinal & Aromatic Plants (NRCMA) and a medical institute.

In terms of banking infrastructure, Anand has a high penetration of banking and financial services with 9,088 people having access to bank. There are a total of 230 bank offices with a total deposit amount of 13,503 Cr INR and total credit amount of 2,924 Cr INR as of March 2012[1187]. While the number of banks has increased at a CAGR of 6.2 percent from 2007 to 2012, the amount of deposit and credit have increased at a relatively lower CAGR of 15.4 percent and 16.3 percent respectively from 2007-2012.

However, the medical infrastructure is poor in Anand. With only 45 primary healthcare centers, 11 community healthcare centers and 1 hospital, the district has a low availability of infrastructure with 33,000 people per medical institution.

Agriculture and allied sectors have a significant role to play in Anand. The district is blessed with high rainfall (>1000 mm) and favorable soil characteristics (deep black clayey soils). Over 75 percent[1188] of the total area is cultivable and of this 89 percent is under irrigation, which is much higher than the state average. The major source of irrigation remains underground water, with bore wells and open wells having a share of around 30 percent[1189] each. Currently, steps are being taken to promote micro irrigation and water management programs in the district. The nitrogen content of soil is poor. As a result, there has been a large scale usage of nitrogen rich fertilizers, which has had negative effect on overall environment. Therefore, efforts are being made to shift to more sustainable agricultural practices like organic farming and vermicompost.

In terms of crops, paddy, bajra and tobacco are the key kharif crops while wheat, potato and maize are the major rabi crop grown in the district. The ratio of land covering kharif and rabi crop is almost one indicating a good pattern for multiple cropping.

Animal husbandry is an important activity in the district. Anand houses the largest dairy co-operative of India – Amul Dairy. The presence of large pasture land has played an important role in development of this activity in the district. The total population of cows and buffalos which are the main cattle is 1,31,565 and 2, 91,016 respectively[1190].

6.10.26.2. Workforce Distribution in the district

[1186] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[1187] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[1188] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[1189] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

[1190] *Directorate of Agriculture-Govt of Gujarat,R BI Statistics, 2012-13, Directorate of Road Transportation-Govt of Gujarat, District wise Animal Census 2006-07*

Anand is predominantly dependant on agricultural activities for livelihood generation with over 70 percent of total workforce engaged in this sector. Considering the low employment generation from manufacturing sector at 9.19 percent as against the state average of 15.86 percent, the district has potential to become a sourcing hub for trained manpower. The total worker participation rate is marginally better than the state average. However, the high manpower requirements in agrarian activities is due to the low and inefficient output which has resulted in significant under employment in this category. A comparison of workforce distribution scenario in Anand and Gujarat is presented in the table[1191].

Region	Labour Force Participation	Workforce Participation	Percentage of Employment		
			Primary Sector	Secondary Sector	Tertiary Sector
Anand	57.01%	42.26%	70.43%	9.19%	20.37%
Gujarat	59.27%	41.95%	59.34%	15.86%	24.8%

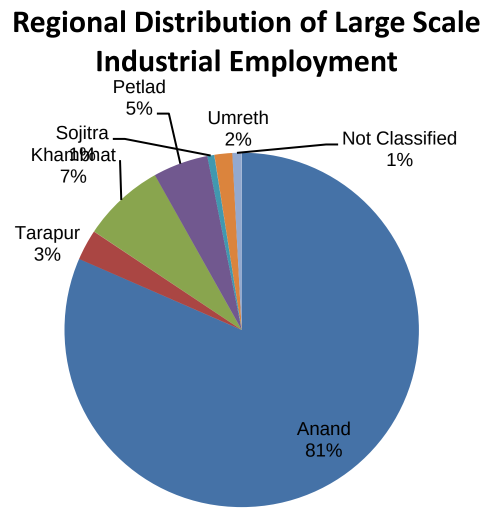
Organized industrial employment in registered factories and service enterprises has contributed to over 33,000 job opportunities within the district. Employment share of MSME units is relatively higher that the large scale industrial units. Large scale industrial units accounted for 14,645 employment opportunities in industries across commissioned and under-implementation stages. Within the MSME category, employment share of services is lower than manufacturing units indicating high level of unorganized activity in tertiary sector. Details of category-wise industrial employment as per 2012 statistics are presented in the table.

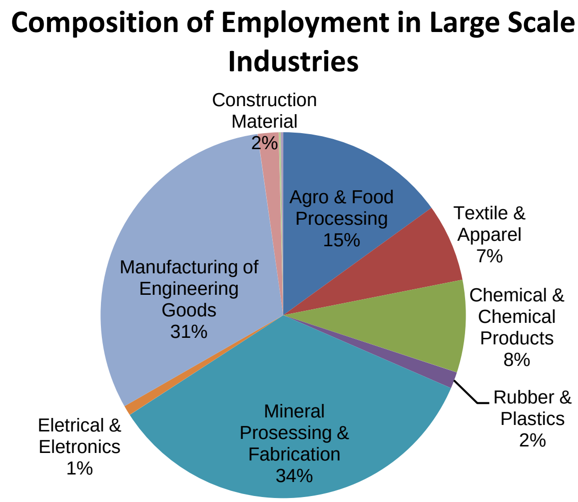
Organized Employment in Anand[1192]	
Category of Industries	**Employment**
Large Scale Industries (Commissioned + Under Implementation)	14645
MSME Category	19134
Manufacturing Units	16906
Service Enterprises	2228
Total	**33779**

The regional and sectoral analysis of large scale industrial employment indicates a clear concentration of employment in important sectors within key taluka regions. Anand and Khambhat talukas account for a major share of employment in this category. Mineral processing, engineering goods, auto, agriculture and food processing are major employment generating segments within the district. Regional and sector wise break up of large scale industrial employment is presented in the chart.

1191 *KPMG Analysis*
1192 *IEM, MSME Part-II Data till 2012-13*

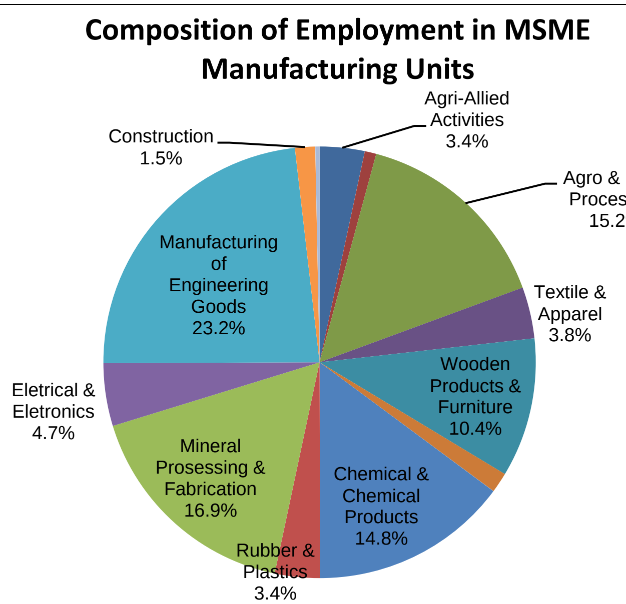
Large Scale Industrial Employment Overview in the District[1193]

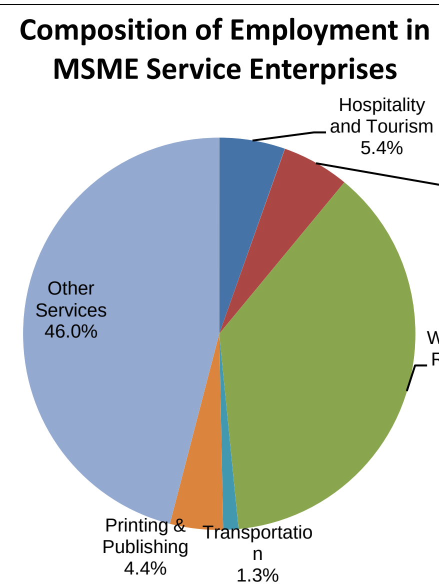




Among the manufacturing units in MSME segment agro and food processing, mineral processing and fabrication, chemical and chemical products, manufacturing of engineering goods (auto components) units have accounted for major share of the employment in all the categories of industries. Whole sale and retail trade, IT-ITES, publishing & printing, hospitality are major employment generating sectors within tertiary enterprises. Details of sector wise industrial employment in manufacturing and services MSME units as per 2012 statistics are presented in the chart.

MSME Employment Overview in the District[1194]





[1193] *IEM, MSME Part-II Data till 2012-13*
[1194] *IEM, MSME Part-II Data till 2012-13*

6.10.26.3. Human Resource Requirement Projections in Anand (2012-22)

Incremental manpower requirement in the district of Anand has been estimated based on several parameters such as investments trends, national level benchmarks on industrial growth across sectors, state manufacturing policy targets, performance of state against economy targets, national level inclusion targets for certain sectors, employment generation potential of various sectors based on labour elasticity and market based insights from discussions with industries in Anand. Based on the analysis of current state of workforce distribution and potential employment opportunities in various sectors incremental manpower requirement in key primary, secondary and tertiary segments is estimated for the periods 2012-17 and 2017-22. Further, manpower requirement is classified into skilled, semi skilled and minimally skilled categories considering the present level of employment in these categories for respective sectors and analysis of expected developments in the industry that would lead to significant realignment of the categories. A detailed approach for manpower estimations is presented in the appendix and specific factors for estimation are discussed below.

Primary Sector:

Considering the increasing level of farm mechanization and sharing agricultural land usage, period between 2012 and 2022 would witness a net outflow of workforce from the agricultural activities. Agricultural workforce displacement is expected to be significant in marginal workers category. A significant portion of the workforce would engage in agri-allied activities depending on the availability of allied resources and migration constraints. Incremental manpower requirement for the agri- allied activities is estimated considering the following parameters

- Current level of employment in agricultural activities(farmers, agricultural labourers)
- Estimated displacement factors for agricultural workforce based on Planning Commission Projections for 2012-17 and 2017-22 periods and analysis of level of mechanization and allied factors in Gujarat
- Employment potential in agri-allied activities in the district considering the level of involvement in the respective activities and regional conditions

Manufacturing Sector:

Manpower requirement in secondary sector is driven by investments and output growth. Various factors including analysis of manufacturing, sub sector policies, investment trends, availability of resources, are considered for the incremental manpower estimation in different subsectors of manufacturing in the district. Human resource requirement projections for manufacturing sub sectors in the district are estimated considering the following parameters

- Manufacturing growth targets for Gujarat for 2012-17 and 2017-22 (increasing secondary sector share in GSDP to 32% by 2017)
- Identifying key growth sub segments within the district based on study of existing industrial base, primary interactions
- Estimation of growth targets for the district based on analysis of investment trends in the district in comparison to the state, available infrastructure, policy thrust on key manufacturing segments identified for the district
- Labour elasticity factors in the potential sectors for the district

Tertiary Sector:

Employment growth in some of the services sector is driven by government in terms of budgetary allocations to achieve inclusion targets in education, healthcare and banking while the other segments including hospitality and tourism, financial intermediation, communication, retail would depend on the level of economic activity in the region resulting in high or low spending capacity of population. Also segments like IT-ITES, transportation and logistics are driven by investments into infrastructure and manpower. Hence human resource requirement projections for services sub sectors would have specific approaches depending on the growth drivers for the segments in the district. A detailed methodology for estimation of manpower in services sub segments is presented in the appendix.

Based on the analysis of socio-economic conditions, investment scenario and availability resources incremental manpower requirement has been estimated for the following sectors.

Primary Sector

- Agriculture & Allied Activities(Horticulture, Sericulture, Animal Husbandry and Fisheries)

Secondary Sector

- Textile and Apparel
- Manufacturing of Engineering Goods(Including Auto & Auto Components)
- Chemical & Chemical Products(Including Petro Chemicals)
- Drugs & Pharmaceuticals
- Agro & Food Processing
- Electrical and Electronics
- Mineral Processing & Fabrication
- Construction Material(Cement, Ceramics)
- Rubber & Plastics
- Paper & Paper Products
- Infrastructure(Construction)

Tertiary Sector

- Transportation & Logistics(including port based logistics)
- Banking & Financial Services
- Organized Retail
- Hospitality & Tourism
- Healthcare
- Education & Training

Incremental manpower requirements for the priority sectors in Anand district are presented in the table[1195].

[1195] *KPMG Analysis*

Sector	**2012-17**				**2017-22**			
	Skilled	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Agriculture & Allied Activities	NA	NA	17924	17924	NA	NA	15011	15011
Agro & Food Processing	115	458	573	1146	103	410	513	1025
Textile & Apparel	35	142	177	354	32	127	158	317
Wooden Products & Furniture	38	153	191	382	34	137	171	342
Paper & Paper Products	6	22	28	55	5	20	25	49
Chemical & Chemical Products	80	318	398	796	71	285	356	712
Rubber & Plastics	17	68	84	169	15	60	76	151
Mineral Processing & Fabrication	172	687	859	1718	154	615	768	1536
Electrical & Electronics	20	80	100	199	18	71	89	178
Manufacturing of Engineering Goods	183	731	914	1828	163	654	817	1635
Manufacturing of Construction Material	6	23	29	58	5	21	26	52
Drugs and Pharmaceuticals	1	2	3	6	1	2	3	5
Misc. Manufacturing	1	3	3	6	1	2	3	6
Construction	464	927	7881	9272	415	829	7049	8293
Trade, Retail	749	1123	5616	7488	819	1228	6139	8186
Transportation & Logistics	1019	1529	7643	10190	815	1223	6114	8152
Hospitality & Tourism	86	1359	1617	3061	70	1112	1323	2505
Banking & Financial Services	3240	9719	NA	12958	2268	6803	NA	9071
Healthcare	359	1614	NA	1973	478	2390	NA	2867
Education & Training	833	5605	NA	6437	1249	3363	NA	4612

Skill requirements in key growth sectors have been analyzed based on industry interactions to understand the detailed manpower needs. Sector level skill interventions are indicated in the section below[1196].

Secondary Sector (Manufacturing, Construction & Energy):

- **Auto & Auto Components**

Subsector	Skills
Auto Assembling and Component Manufacturing	**Core Skills:** Motor Mechanic, Diesel Mechanic, Fitter, Welder, Fabricators **Allied Skills:** Electrician, Wireman **Acute Skill Deficits:** Specialized welders in Arc welding who can work in extreme conditions on advanced fabrication equipments

- **Food Processing:**

Category of Skills	Skills
Core Skills	Fitter, Electrician, Wireman, Instrumentation, Lab Technician
Allied Skills	Instrumentation, Packaging (Jar, Pouch) Operator, AOCP, Lab Attendant, Boiler Operator, QC Chemists
Skills with acute shortage	PPO is required in industries having in house packing development.

- **Chemical & Chemical Products:**

Category of Skills	Skills
Core Skills	Mechanical, Electrical skills
Allied Skills	Instrumentation, boiler attendant,AOCP, lab attendants
Skills with acute shortage	MSc/BSc chemists, Electronic Automation with understanding of PLC systems

- **Metal & Mineral Processing:**

Category of Skills	Skills
Core Skills	Fitter, Welder, Turner, Electrician

[1196] *KPMG Analysis*

Allied Skills	Melter, Boiler Operator
Skills with acute shortage	PCB instrumentation

- **Construction:**

Category of Skills	**Skills**
Core Skills	Electricians, carpenters, barbenders, welders and masons
Allied Skills	Minimally skilled workers
Skills with acute shortage	Machine operators

Services:

- **Banking & Financial Services:**

Category of Skills	**Skills**
Core Skills	Knowledge on core banking/mobile/internet platforms
Allied Skills	Sales & Marketing
Skills with acute shortage	insurance underwriting, claims management

- **Transportation :**

Category of Skills	**Skills**
Core Skills	Heavy vehicle drivers, logistics management
Allied Skills	Administrative, computer data management
Skills with acute shortage	Scheduling and logistics planning

- **Education:**

Category of Skills	**Skills**
Core Skills	School teachers, higher education faculty

Allied Skills	Knowledge on advanced teaching tools
Skills with acute shortage	Technical education trainers

Primary Sector:

- **Cultivation:**

Category of Skills	Skills
Core Skills	Awareness about high yield varieties, micro nutrients and pest Control, Organic farming and Vermi compost methods, Micro irrigation techniques
Allied Skills	Knowledge on food processing techniques and related procedures to extract greater value from farm produce
Skills with acute shortage	Usage and repair of farm equipments, Marketing and management practice

- **Agri- Allied Activities:**

Category of Skills	Skills
Core Skills	Modern rearing techniques of live stock, piggery, goatery and fisheries
Allied Skills	Knowledge on processing techniques
Skills with acute shortage	Marketing and distribution of forest/animal husbandry produce

6.10.26.4. Human Resource Supply Scenario in the District

6.10.26.4.1. Estimation of Labour Force Supply

District-wise incremental supply has been determined based on net addition of labour force. Gross addition to working age group population during 2012-17 and 2017-22 were determined based on Census 2011 age wise population accounting for death rate and life expectancy normalized against population corrections in 2017 and 2022. Applying labour force participation rates, considering the historical trends, gross additions to labour force were estimated for the two time periods. Accommodating for retirement from the existing pool of labour force, net supply to labour force has been estimated.

Anand would experience a moderate growth in human resource base during 2012-22. Increased industrial activity in the district would drive a higher population growth in the district over the next decade. Details of human resource growth estimations during 2012-22 are presented in the table[1197].

Period	Gross Addition to Working Age Population	Gross Addition to Labour Force	Net Addition to Labour Force-Supply
2012-17	204,570	127,216	75,362
2017-22	187,353	118,634	58,513

6.10.26.4.2. Education and Training Potential in the District

The district has around 1335 secondary and senior secondary (nursery to class 12) schools with a 20.07 percent share of private schools. The net enrolment ratios at both primary level and upper primary level for the state are higher than the state figures[1198].

Total Enrollments in 209-10	Primary Level (Std I-V)	Upper Primary Level (Std VI-VIII)	Secondary Level (Std IX-X)	Higher Secondary Level (Std XI-XII)
Anand	209387	83366	110054	15389

Comparing the district's enrolment statistics with state average indicates that the district is a strong performer in the primary education category[1199]

Region	Net Enrolment Ratio (Primary Level)	Net Enrolment Ratio (Upper Primary Level)
Anand	88.0	58.3
Gujarat	85.4	50.7

In the vocational education segment, the district lags behind in the provision of vocational training in comparison to state average. Despite low vocational education capacity, the private sector has shown keen interest to invest in this district. The state must take proactive measures in seeking private support to augment vocational training infrastructure.

Region	Number of ITIs	Seat Capacity	Vocational Training Capacity Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Anand	29	4,230	2.02	57%
Gujarat	711	138,106	2.29	26%

Capacity expansion in vocational education in Anand needs to be focused on. The tehsils of Tarapur, Anklay, Umreth, Khambhat and Borsad needs attention to bring them at par with the district average in vocational education capacity[1200].

[1197] *KPMG Analysis*
[1198] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*
[1199] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

Taluka	Seat Capacity	Vocational Training Capacity Density(Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Anand	2120	3.66	65%
Petlad	660	2.21	81%
Sojitra	228	2.11	40%
Tarapur	136	1.59	0%
Anklav	197	1.30	39%
Umreth	224	1.23	43%
Khambhat	328	1.12	15%
Borsad	337	0.86	57%
District Total	**4230**	**2.02**	**57%**

In the higher education segment, there are 12 pharmacy colleges, with a total intake capacity of 1180. There are 5 engineering colleges offering courses in chemical, civil, electrical, electronics and communication, information technology, production and mechanical engineering. Pramukhswami Medical College is the only medical college present in the district with an intake capacity of 100. Institute of Rural Management (IRMA) is one of the five management colleges present in Anand, which provides MBA courses and offers specialized rural management programs. The district also houses Anand Agricultural University and Sardar Patel University along with 24 Arts, Commerce, Science, B.Ed and Law Colleges.

6.10.26.4.3. Demand-Supply Gap Analysis for the District

Incremental skill category wise supply for the periods 2012-17 and 2017-22 in the district are estimated based on net output from higher education institutions (skilled), vocational training(semi skilled), minimally skilled (school education) for periods 2012-17 and 2017-22 considering the LPR estimations for the districts in 15-59 age group and retirement from existing labour force.

Based on the skill category human resource demand projections for 2012-22 and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the table below

Category Wise Demand-Supply Gap in the District (2012-22)								
	2012-17				2017-22			
Sector	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**	**Skilled**	**Semi Skilled**	**Minimally skilled**	**Total**
Demand-Supply Gap	(3,610)	16,009	(11,734)	658	(5,505)	8,751	2,950	6,192

*(Indicates excess supply)

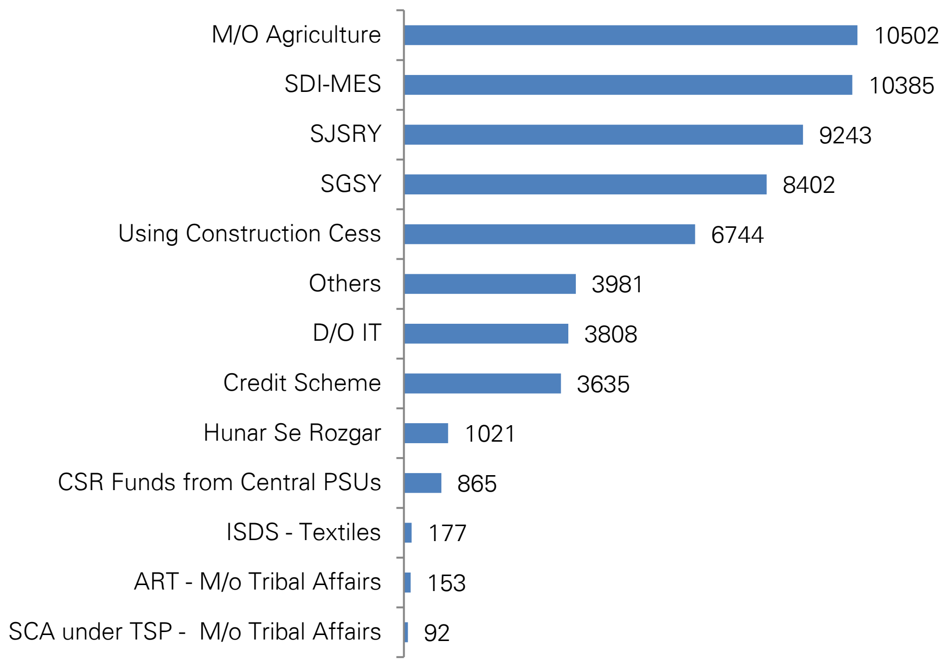
6.10.26.4.4. Skill Development Potential through Government Endowments

According to KPMG estimates, based on the potential district budgetary allocation for various central government schemes, around 59 thousand people in total can be trained incrementally during the five year period of 2012-17. The Ministry of MSME, Ministry of Labour and Ministry of Agriculture are expected to contribute significantly to training. Manpower training targets are more focused on small and medium industries, considering the low penetration of

[1200] *Gujarat Higher Education Commission, DISE, Directorate of Labour & Employment-Govt of Gujarat*

large scale industries in the district. Private training providers have significant up-skilling opportunities for MSME manpower in the district.

Government Funded Incremental Training Capacity (2012-17) - Anand District[1201]



6.10.26.5. District Specific Recommendations

Considering human resource potential and manpower requirements of the industry, the proposed action plan for stakeholders in skill development has been recommended:

Stakeholder	Action Points for Stakeholders
NSDC	Focus on increasing participation from national/regional private skill training providers with focus on the following regions having high human resource potential • Anand, Tarapur, Khambhat Focus on sectors with high employment potential in Gujarat • **Services:** Transportation & Logistics, Organized Retail, IT-ITES, Banking & Financial Services, Hospitality & Tourism, Construction • **Manufacturing:** Textile, Auto- Auto Components, Engineering Goods, Chemical & Chemical Products
District Administration	Provide skill training in conjunction with private skill training providers using government endowment training schemes in sectors of

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	• Animal Husbandry(Diary) Focus on improving industrial training infrastructure in the regions of • Tarapur, Anklay, Umreth, Khambhat and Borsad
Private Skill Training Providers	• Focus on placement driven training for youth from high human resource potential regions of Anand, Tarapur, Khambhat Focus on sectors with high employment potential in Gujarat • **Services:** Transportation & Logistics, Organized Retail, IT-ITES, Banking & Financial Services, Hospitality & Tourism, Construction • **Manufacturing:** Textile, Auto- Auto Components, Engineering Goods, Chemical & Chemical Products
Corporate	Provide support for training/placement for youth from the district for placements in industrial belts Initiate and support modular employability skill training in collaboration with private players/Government Create placement linkage opportunities in training institutions

PART- IV

7. Glossary

Abbreviation	Explanation of abbreviated terms
GIDC	Gujarat Industrial Development Corporation
BDO	Block Development Officer
BRGF	Backward Region Grant Fund
Build. Const. Real Est.	Building, Construction, Real Estate
CAGR	Compound Annual Growth Rate
Capex	Capital Expenditure
CEO	Chief Executive Officer
CII	Confederation of Indian Industry
CMIE	Centre for Monitoring Indian Economy
CoE	Centre for Excellence
COPA	Computer Operator and Programming Assistant
CSC	Common Service Centre
DAO	District Agriculture Office
DIC	District Industries Center
DRDA	District Rural Development Agency
DUDA	District Urban Development Agency
FGD	Focus Group Discussion
FMCG	Fast Moving Consumer Goods
FY	Financial Year
GDDP	Gross District Domestic Product
GDP	Gross Domestic Product
GoW	Government of Gujarat
GSDP	Gross State Domestic Product
HDI	Human Development Index
HR	Human Resource
HUPA	Housing and Urban Poverty Alleviation
ICT	Information and Communication Technologies
IFFCO	Indian Farmers Fertiliser Cooperative Limited
IOC	Indian Oil Corporation

IT	Information Technology
ITC	Industrial Training Centre
ITeS	Information Technology Enabled Services
ITI	Industrial Training Institute
Kg	Kilogram
Km	Kilometre
L&T	Larsen and Toubro
LPG	Liquefied Petroleum Gas
M. Tech	Mater of Technology
MBA	Master of Business Administration
MBBS	Bachelor of Medicine Bachelor of Surgery
MCA	Master of Computer Application
mfp	Minor forest produce
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
mm	Millimeter
MoU	Memorandum of Understanding
MSME	Micro, Small and Medium Enterprises
MT	Metric Tonnes
MW	Mega Watt
NAC	National Academy of Construction
GCVT	Gujarat Council for Vocational Education & Training
NGO	Non Government Organization
NH	National Highway
no.	Number
NSDC	National Skill Development Corporation
NSS	National Service Scheme
NTFP	Non Timber Forest Products
OBC	Other Backward Castes
p.m.	per month
PHC	Public Health Centre
PPP	Public Private Partnership
PVC	PolyVinyl Chloride

RKVY	Rastriya Krishi Vikas Yojana
RSETI	Rural self employment training institute
RTE	Right to Education
RYK	Rajiv Yuva Kiranalu
SC	Scheduled Caste
SC	Scheduled Caste
SEZ	Special Economic Zone
SHG	Self Help Group
SJSY	Swarn Jayanti Swarojgar Yojna
SME	Small and Medium Enterprises
sq	Square
SSI	Small Scale Industry
ST	Scheduled Tribe
ST	Scheduled Tribe
TV	Television
VT	Vocational Training
VTP	Vocational Training Provider

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