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National
Skill Development
Corporation



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



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List of Abbreviations and acronyms

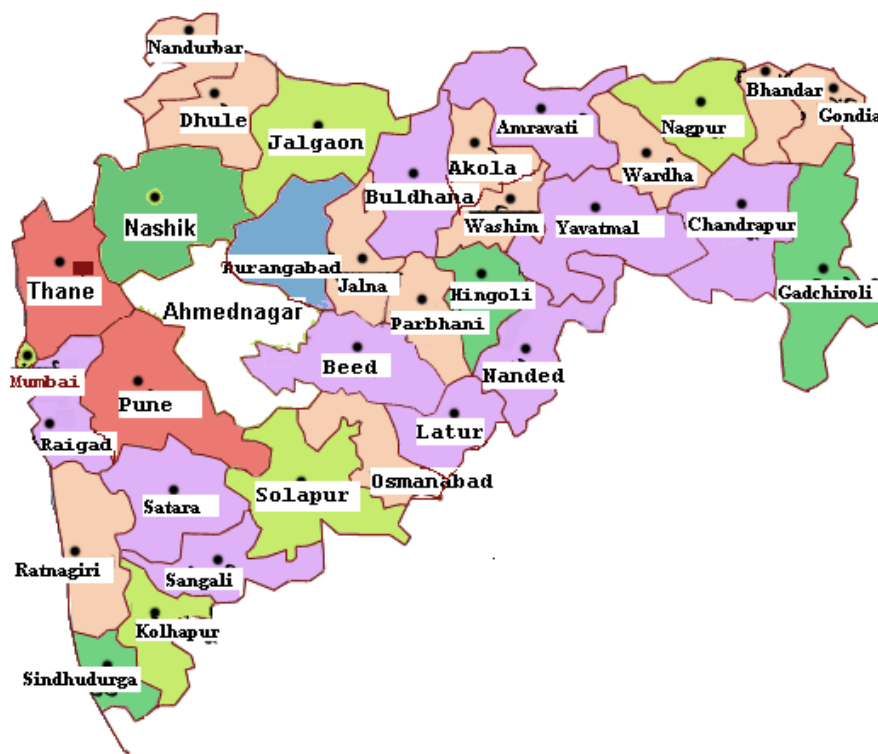
Abbreviation/ acronym	Full form
ASI	Annual Survey of Industries
BFSI	Banking, Financial Services and Insurance
BPO	Business Process Outsourcing
CADD	Computer Aided Design and Drawing
CAM	Computer Aided Manufacturing
CEC	Central Empowered Committee
CNC	Computer Numerical Control
Cr.	Crore
Deptt.	Department
DIC	District Industries Centre
DRDA	District Rural Development Agency
e.g.	Example
EDP	Entrepreneurship Development Programmes
Eoi	Expression of Interest
FDI	Foreign Direct Investment
GDDP	Gross District Domestic Product
GDI	Gender Development Index
GDP	Gross Domestic Product
GSDP	Gross State Domestic Product
ha	Hectares
HDI	Human Development Index
HHI	Household Industry
HR	Human Resources
HRD	Human Resource Development
ICT	Information and communication technology

Abbreviation/ acronym	Full form
IPR	Intellectual Property Right
IT	Information Technology
ITC	Industrial Training Centre
ITES	IT Enabled Services
ITI	Industrial Training Institute
KPO	Knowledge Process Outsourcing
LMIS	Labour Market Information System
MES	Modular Employment Scheme
MHRD	Ministry of Human Resource Development
MMTPA	Million Metric Tonne Per Annum
MMV	Mechanic Motor Vehicle
MNCs	Multi-national companies
MoU	Memorandum of Understanding
MSME	Micro, Small & Medium Enterprises
MW	Megawatt
n/a	Not applicable
NBFC	Non-Banking Financial Corporations
NGO	Non-Governmental Organisations
NH	National Highway
NIFT	National Institute of Fashion Technology
No.	Number
NSR	National Skills Registry
PPP	Public-Private Partnership
R&D	Research and Development
RBI	Reserve Bank of India
SC	Scheduled Caste
SCM	Supply Chain Management
SEZ	Special Economic Zone
SHGs	Self-Help Groups
SOP	Standard Operating Procedure
sq.ft.	Square Feet
sq.km.	Square kilometre
SSC	Sector Skill Council
SSI	Small Scale Industry
ST	Scheduled Tribe
SWOT	Strengths, Weaknesses, Opportunities, Threats
WSHGs	Women Self Help Groups

1. MAHARASHTRA

1.1. Background of the study

Maharashtra is the second largest State in India both in terms of population (9.3 per cent) and geographical area (9.3 per cent). It is better urbanised with 45 per cent people residing in urban areas, as compared to the India average of 31.2 per cent. It is bifurcated into six revenue divisions' viz. Konkan, Pune, Nashik, Aurangabad, Amravati and Nagpur for administrative purposes. It has a long tradition of having statutory bodies for planning at the district. For local self-governance in rural areas, there are 33 Zilla Parishad, 351 Panchayat Samiti and 27,906 Gram Panchayat. The urban areas are governed through 23 Municipal Corporations, 221 Municipal Councils, five Nagar Panchayats and seven Cantonment Boards.



Maharashtra's Gross State Domestic Product (GSDP) at current prices for 2011-12 is estimated at Rs. 11.99 lakh crore, contributing to 14.4 per cent of India's Gross Domestic Product (GDP). The GSDP at constant prices has increased at a CAGR of 8.1 per cent in the last five years (2006-07 to 2011-12) slightly higher than the GDP growth of India at 7.9 per cent.

Presently, industrial and services sector both together contribute about 87 per cent of GSDP, while agriculture and allied activities sector's contribution is about 13 per cent. The per capita income of the State at current prices is estimated at Rs.95,339 in the year 2011-12 – much higher than the All-India average of Rs.60,972 per annum.

As per India Human Development Report, 2011 Human Development Index (HDI) of India average is 0.467 and Maharashtra ranks 5th in the country with HDI of 0.572. The State has placed thrust on primary

education, which has resulted in consistent improvement in literacy rate. As of Census 2011, the State's literacy rate was 82.9 per cent – higher than All-India average of 74 per cent. The State has prominent higher educational institutions in the fields of engineering, medical and management.

As mentioned earlier, Maharashtra makes second largest contribution to India's population – thus becoming a large contributor to the India's demographic dividend. As of Census 2011, Maharashtra has a population of 11.23 crore persons. Of this, 59 per cent of the population is in working-age group, while only 45 per cent is in the labour force. The gap is attributed to people who do not want to work. This could be due to aspirations for higher studies or voluntary unemployment for unwillingness to work.

As of 2011, the State's workforce is estimated at 4.94 crore persons. Majority of these are employed in agriculture at 55 per cent as either cultivators or agricultural labourers. The remaining 45 per cent are employed in non-agricultural activities.

The State Government has worked on building a good education infrastructure in the State over the last few years to ensure availability of qualified and skilled manpower in the State. Presently, the State has 19 universities, 3,277 general colleges, 1,004 engineering colleges, 508 MBA colleges and many other educational institutions for higher studies in different streams. At school level, the State has 75,695 primary schools and 21,357 secondary and higher secondary schools.

The Government has put in place an institutional structure for skill development in the State up to the district level. The key highlights are given in the box below.

Maharashtra's focus on skill development

Maharashtra Government is proactively following the skill development agenda in the State. It has planned to equip **4.5 crore people with employable skills by 2022** as a part of the overall plan of the Government of India. To achieve this objective, the Chief Minister of the State has constituted the State Apex Council for Skill Development. An Executive Committee for Skill Development has been constituted under the chairmanship of the Chief Secretary. The Skill Development Executive Committees have been formed at the regional and district levels as well.

The State Government has established Sectoral Skill Development Committees with industry participation for the following 11 sectors:

1. Construction
2. Production and Manufacturing
3. Textiles
4. Automobile
5. Hospitality
6. Healthcare
7. Banking, Finance & Insurance
8. Retail
9. Pharmaceuticals & Chemicals
10. IT & ITES
11. Agro Processing

Knowledge Management Centre on Skill Development has been proposed to be established at Yashada, Pune during 2012-13.

Given the above background and the growing importance of skill development in the State of Maharashtra, the District Wise Skill Gap Study for the State of Maharashtra has been conducted. The findings of the study are presented in this report.

1.1.1. Study objectives

The terms of reference for the study are as follows:

1. Review the socio-economic profile of the district covering demography, economic profile of district by industry, state of education etc.,
2. Identify developmental opportunities keeping in mind factor endowments and stakeholder perspectives
3. Identify specific developmental initiatives/projects which have impact on employment generation
4. Articulate the aspirations of the youth
5. Identify the current and future (2012 to 2022) skills and manpower requirement by industry and estimate the gap that exists
6. Study the existing VT infrastructure both in the private sector and the government domain
7. Identify current schemes and programmes relating to skill development and their achievements / challenges.
8. Suggest suitable interventions/recommendations to address the skills gap
 - Recommendations have to be specific and actionable
 - Recommendations should also include specific initiatives that NSDC can take based on the mandate of the organisation
9. Create an action plan with indicative timelines

1.1.2. Approach and Methodology

The study has been conducted in three phases: (1) Diagnostics; (2) Synthesis; and (3) Recommendations. The same has been achieved through a combination of primary and secondary survey.

Phase – 1: Diagnostic Phase

The objective of this phase was to review the socio-economic profile of the State and all the 35 districts of Maharashtra. We focused on analyzing the economic and social position of the districts based on evolution of the district and type of economic activity and status of education. The factor advantages, constraints facing the district either due to intrinsic factors or common among the State, and the challenges going forward were analysed. We thus understood the factor endowments of the district and the potential it holds. At the end of this stage, we have presented the SWOT analysis of each of the districts.

Phase – 2: Synthesis Phase

The objective of this phase was to map the development and employment opportunities in the district, and assess the sectoral skill requirement. This was carried-out in three modules:

Module 1- Assessment of Development Potential: The objective of this phase was to identify development opportunities across formal and informal sectors which provide livelihood opportunities for employment.

Module 2 - Assessment of Employment Potential: For the developmental opportunities identified, we forecasted district level employment potential for 2012 to 2022

Module 3 - Assessment of sectoral skill requirement and gap analysis: As a part of this, we assessed the current and future skills required among the district level workforce and identified the skill gaps which currently exist.

Phase – 3: Recommendations

Based on the results from Phase 1 and Phase 2, we framed our recommendations. Our recommendations focus on various measures targeted at all ‘levels’ of the skill pyramid towards skill building at a ‘district and state level’. Recommendations have interventions for the Government, Private Players, Industry and NSDC. Our interventions focus on various measures/potential ideas/projects required to be pursued for development and employment generation.

Primary Research

Given the nature of assignment, IMaCS met key Government officials to review the policy direction. We also interacted with industry representatives in the formal and informal sector to understand human resource and skill requirements from a district and regional as well as State level. In addition, we administered a structured questionnaire to select companies and educational institutions to map the current and future skill requirement.

As part of the field survey, some of the key stakeholders we interacted with at the district level were:

- District Collectors / Additional District Collectors
- General Manager – District Industries Centre
- Employment Exchange Officer
- Tribal Development Officer
- Project Director – District Rural Development Agency
- District Vocational Education and Training Officer
- Other Government departments such as animal husbandry, sericulture, fishery, tourism etc.
- Select industrial associations
- Select industries – both large and MSME
- NGOs and SHGs
- Select educational institutions such as universities, colleges, ITI, polytechnics, private training institutes etc.
- Youth groups

The list is not exhaustive and varies from district to district depending upon the availability of the personnel.

The survey was based on a stratified sample basis. During the course of the study, we interacted with 488 stakeholders (across Government, industry and educational institutions). In addition, we covered 1,162 students as a part of our youth group discussions.

Secondary Research

We also relied on information available in the public domain that we considered reliable to validate the findings of our primary survey.

1.1.3. Methodology used for forecasting demand and supply

As a part of the study, we have forecasted the demand and supply of human resources from 2012 to 2022. The demand and supply forecasts help determine the potential skill gaps (quantitative) in the State as well as its different districts.

Demand side estimation

Different methodologies have been used for different sectors – based on difference in sector dynamics as well as data availability. Broad methodology used for different sectors is elucidated in the table below.

Sector	Data sources	Factors considered
Agriculture and allied	NSSO 55 th round, 61 st round and 66 th round, Census 2001, Census 2011	Historical trends, employment elasticity, district wise number of cultivators and agricultural workers, share of agriculture in total workers, discussions with stakeholders
Auto and auto components	ASI, Primary survey	Historical trends in employment, output, productivity, growth of auto manufacturing industry, penetration of automobile, demand for auto servicing, discussions with stakeholders
BFSI	RBI, IRDA, Statistical Abstract of Maharashtra	Historical trends, growth of banking, insurance, mutual funds, NBFCs and financial intermediaries, discussions with stakeholders
Construction	NSSO 55 th round, 61 st round and 66 th round, CMIE, Economic Survey of Maharashtra	Historical trends, employment elasticity, upcoming investments, advancements in technology, discussions with stakeholders
Chemicals and pharmaceuticals	ASI, Primary survey	Historical trends in employment, output, productivity, discussions with stakeholders
Education & skill development	Department of Education, Maharashtra, MHRD – GoI, DISE	Historical trends, number of teachers, students, pupil-teacher ratio, GER, population in different age-groups, discussions with stakeholders
Electronics and IT hardware	ASI, Primary survey	Historical trends in employment, output, productivity, discussions with stakeholders
Food processing	ASI, Primary survey	Historical trends in employment, output,

Sector	Data sources	Factors considered
		productivity, discussions with stakeholders
Furniture & furnishings	ASI, Primary survey	Historical trends in employment, output, productivity, discussions with stakeholders
Gems & jewellery	ASI, Primary survey	Historical trends in employment, output, productivity, discussions with stakeholders
Healthcare	Centre for Enquiry into Health and Allied Themes, Central Bureau of Health Intelligence and Statistical Abstract of Maharashtra	Historical trends, availability of medical personnel such as allopathic doctors, dental surgeons, ayush doctors, nurses, pharmacists, health assistants and health workers, number of hospitals, number of hospital beds, discussions with stakeholders
IT & ITES	NASSCOM, Economic Survey of Maharashtra	Historical trends, upcoming investments, number of IT parks, discussions with stakeholders
Leather & leather products	ASI, Primary survey	Historical trends in employment, output, productivity, discussions with stakeholders
Media & entertainment	FICCI Frames, Primary survey and discussions with industry stakeholders	Historical trends, employment elasticity in TV, films, print media, animation, and gaming, both production and distribution sides, upcoming investments and industry growth rates, discussions with stakeholders
Organised retail	IMaCS estimates	Historical trends, upcoming retail capacity and employment elasticity, discussions with stakeholders
Textiles & clothing	ASI, Textile Commissioner of India	Historical trends in employment, output, productivity, discussions with stakeholders
Transportation, logistics, warehousing and packaging	NSSO 55 th round, 61 st round and 66 th round, Economic Survey of Maharashtra	Historical trends, employment elasticity, discussions with stakeholders
Tourism, travel, and hospitality	NSSO 55 th round, 61 st round and 66 th round, Economic Survey of Maharashtra	Historical trends, tourist inflow, number of hotel beds, discussions with stakeholders
Unorganised sector (domestic workers, security guards, facility management, handloom, handicrafts, beauty culture)	IMaCS estimates	Historical trends, income wise availability of households, number of enterprises, women in a particular age bracket, per capita income, discussions with stakeholders
Other manufacturing (Included manufacturing of basic metals, fabricated metal products and other transport equipment.	ASI, Primary survey	Historical trends in employment, output, productivity, discussions with stakeholders

Supply side estimation

The current stock of labour force is estimated by applying labour force participation rate (LFPR) to the population. The stock of labour force is divided into different skill levels based on the level of educational attainment.

The addition to the labour force (incremental supply to labour) is estimated based on the following:

- **Gross out-turn:** Out-turn of students at different levels of educational attainment. Out-turn is based on student enrolment, adjusted for drop-out rates and pass rates.
- **Net out-turn:** Adjust the out-turn for voluntary unemployment (i.e. students who are not interested in joining the job market).
- **Supply adjusted for retirees:** Adjust the net out-turn for population that will be retiring from the work-force, to arrive at net additions to the workforce.
- **Migration adjusted supply:** Maharashtra attracts a number of people from outside the State as well. They add to the existing labour force of people looking for jobs in the State. Thus, the number of out-migrants is subtracted and the number of in-migrants is added to reach the migration adjusted supply numbers.

1.1.4. Key definitions used in the report

- **Skill in formal sectors:** Skill levels for formal sectors have been assessed based on the level of education attainment in combination with experience, as follows:
 - **Minimally-skilled workforce:** Literate but below Xth standard
 - **Semi-skilled workforce:** Xth +2 years of education
 - **Skilled workforce:** Xth + 5 years of education
- **Skill in informal sectors:** Skill levels for informal sectors have been assessed mainly based on the experience and number of years spent in a particular trade. Number of years for which experience is counted varies from sector to sector.

1.1.5. Study limitations

- **Data availability:** In some of the cases, it was a challenge conducting analysis based on secondary data, as some of the data (especially at the district level) was unavailable – especially on the time series basis. In some cases, there was also discrepancy in the data obtained from the district level vis-à-vis the State level. Therefore, we used data sources which we deemed reliable. Data for some indicators was even out-dated (e.g. Census 2001), as latest data is still not available / published. Wherever, data availability was an issue, we have used proxy indicators along with our own estimations.
- **Unavailability of key personnel:** In some of the districts, some key stakeholders were unavailable for meetings. However, we tried to establish contacts with as many key stakeholders as possible.
- **Employment numbers:** For certain sectors, number of people currently employed is not available in public domain. Thus, we have relied on industry interactions and our approximations in those cases. This is especially true for unorganised sectors.

1.2. Socio-economic profile of Maharashtra

Maharashtra is situated in the western and central parts of India and has a long coastline stretching about 720 km along the Arabian Sea. It is surrounded by Gujarat to the north-west, Madhya Pradesh to the north, Chattisgarh to the east, Andhra Pradesh to the south east, Karnataka to the south and Goa to the south west.

The State is divided into six revenue divisions viz. Konkan, Pune, Nashik, Aurangabad, Amravati and Nagpur. The six divisions are further divided into 35 districts. Mumbai is the capital of Maharashtra and is also known as the financial capital of India. It houses the headquarters of most of the major corporate and financial institutions. India's main stock exchanges (BSE / NSE.) and capital market and commodity exchanges are located in Mumbai.

1.2.1. Demography

Maharashtra is the second largest State in India (after Uttar Pradesh) in terms of population contribution – 9.3 per cent. As of 2011 Census, the State has a population of 11.24 crore persons. In the last ten years, the State's population has grown at a CAGR of 1.5 per cent, as compared to 1.6 per cent All-India growth rate.

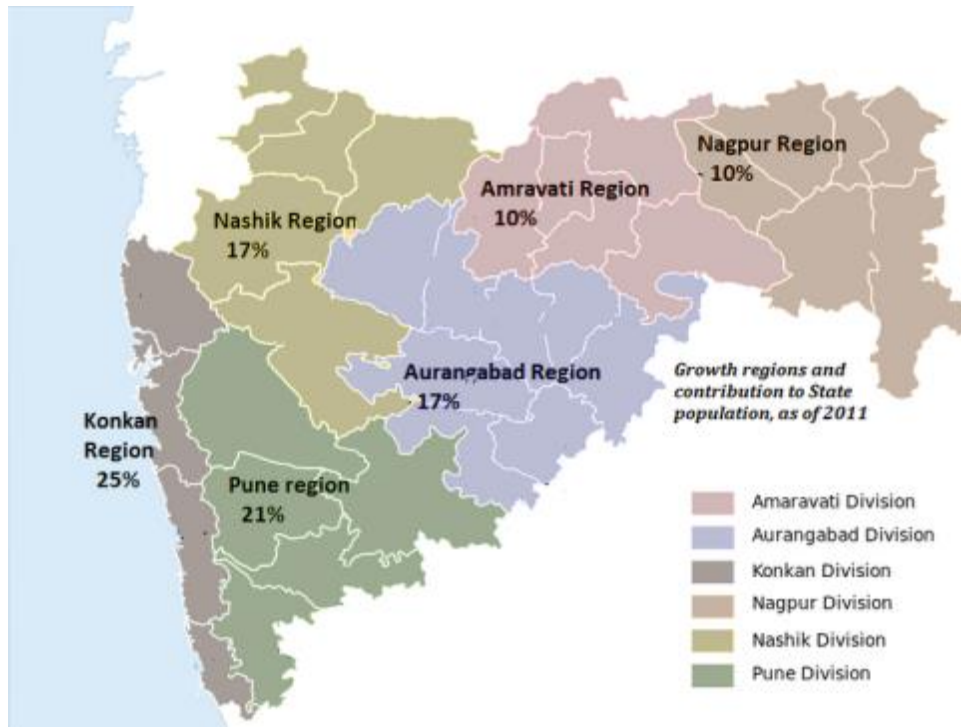
Table 1: Key demographic indicators

Indicator	Year	Maharashtra	India
Population, No.	2011	11,23,72,972	1,210,193,422
Decadal growth rate of population, %	2001-11	16.00%	17.64%
Urban population as a percentage of total population, %	2011	45.2%	31.2%
SC population, %	2001	10.2%	16.2%
ST population, %	2001	8.8%	8.2%
Sex ratio, No. of females per 1000 males	2011	925	940
Population density, per sq. km.	2011	365	382
Literacy rate, %	2011	83%	74%
Working age population* as a percentage of total population, %	2001	59%	57%
Work participation rate [^] , %	2001	44%	39%

**Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population.*

When compared across the six regions, the biggest population concentration is in the Konkan, Pune and Nashik regions - 63 per cent of Maharashtra's population. The three regions also have the highest population density in the State. In terms of district wise population, Thane has the biggest population in Maharashtra at 11,054 thousand (9.8 per cent of State total), followed by Pune (8.4 per cent) and Mumbai Suburban (8.3 per cent) districts.

Figure 1: Region wise population concentration of Maharashtra, as of 2011



Source: Census 2011, IMaCS Analysis

As of Census 2011, the State has a literacy rate of 83 per cent, which is higher than the All-India average of 74 per cent. Compared across districts, Mumbai Suburban district has the highest literacy rate in the State at 90.9 per cent, while Nandurbar district has the lowest literacy rate at 63.04 per cent.

Figure 2: Population comparison – India versus Maharashtra, in crore

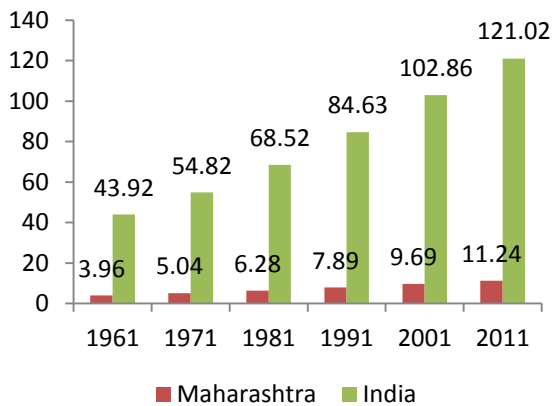
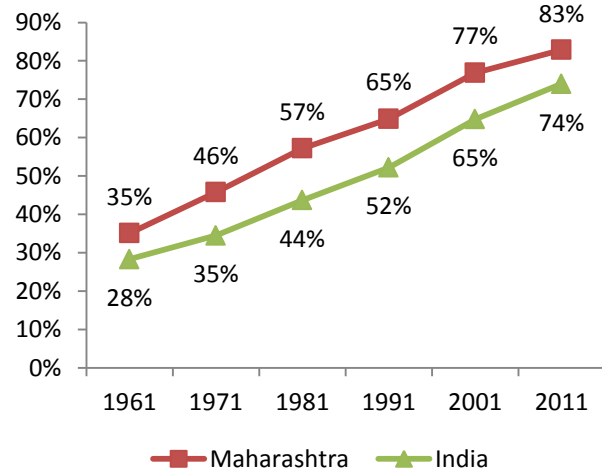


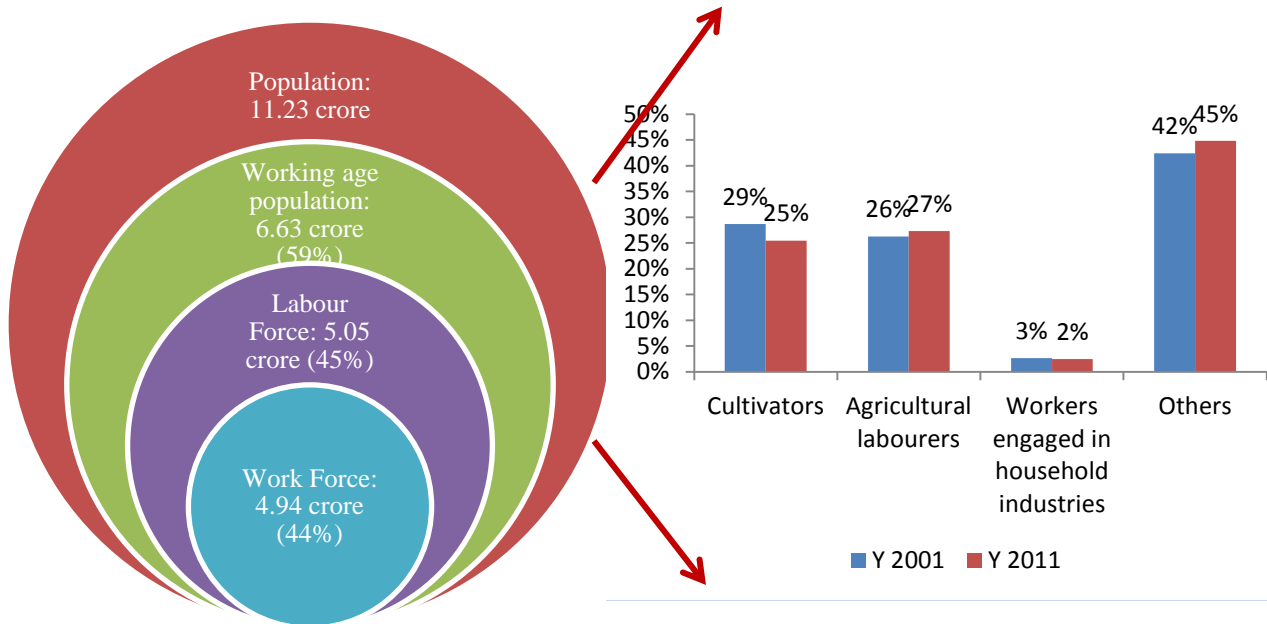
Figure 3: Literacy comparison – India versus Maharashtra, in %



Source: Economic Survey of Maharashtra 2012-13

As of 2011, the State’s workforce is estimated at 4.94 crore persons. Majority of these are employed in agriculture at 52 per cent as either cultivators or agricultural labourers. The remaining 48 per cent are employed in non-agricultural activities.

Figure 4: Demographic and worker profile of Maharashtra

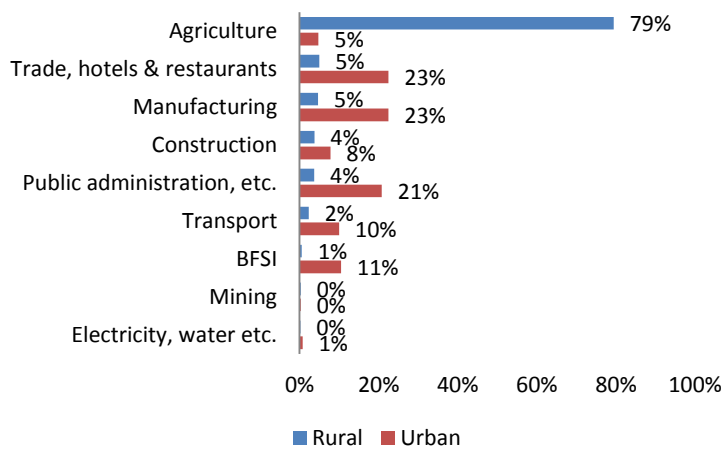


HHI: Household Industry; Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers, are 'Other Workers'.

Source: Census 2001, Census 2011, NSSO 66th Round

According to NSSO 66th round on 'Employment and Self-Employment' conducted in 2009-10, majority of the workers in Maharashtra in rural areas at 79 per cent are in agriculture and allied activities. While in urban areas, majority of the workers are in 'manufacturing' at 23 per cent and also in 'trade, hotels and restaurants' at 23 per cent.

Figure 5: Distribution of usually working persons in the principal status and subsidiary status by broad industry division



Source: NSSO 66th Round

1.2.2. Migration

Being one of the biggest economies in India, Maharashtra attracts a lot of migrants. The State not only sees intra-district and inter-district migration, but it also witnesses net immigration of human resources. As per NSSO estimates, net immigration in Maharashtra is to the extent of 4.1 per cent of its population. This results in about 46 lakh people as of 2011-12. Key source States of migrants include Uttar Pradesh, Bihar, Karnataka and Gujarat.

Majority of the migration in Maharashtra at 54 per cent is attributed to marriage, followed by 19 per cent due to movement of parent / partner, 17 per cent due to employment, four per cent due to studies and remaining due to other reasons (such as forced migration).

Close to 70 per cent of the migration involves persons with education less than primary or middle schools (includes illiterates as well).

Looking at intra-State migration, the trends show that migration predominantly happens in two-levels: Migration from interior regions to Tier 2 cities – Nashik, Nagpur (from interior Vidarbha), Aurangabad (from Marathwada) and skilled workforce from these regions migrating to Pune and Mumbai.

1.2.3. Economy

Maharashtra's Gross State Domestic Product (GSDP) at current prices for 2011-12 is estimated at Rs. 11.99 lakh crore, contributing to 14.4 per cent of India's Gross Domestic Product (GDP). This is the largest contribution made by any State to India's GDP. Maharashtra's GSDP at constant prices has increased at a CAGR of 8.1 per cent in the last five years (2006-07 to 2011-12) slightly higher than the GDP growth of India at 7.9 per cent.

Figure 6: GSDP of Maharashtra, in '000 Rs. Crore

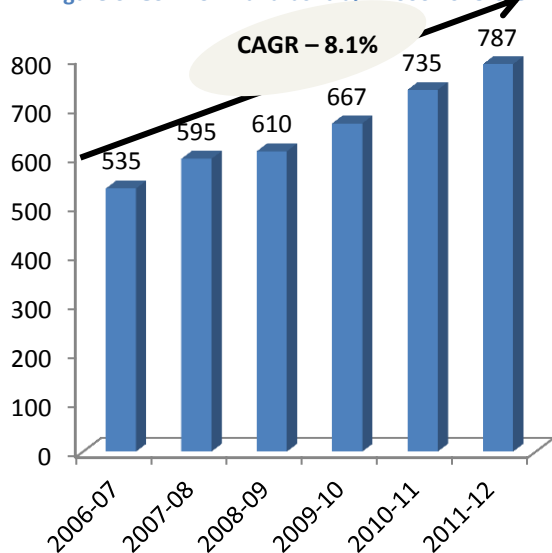
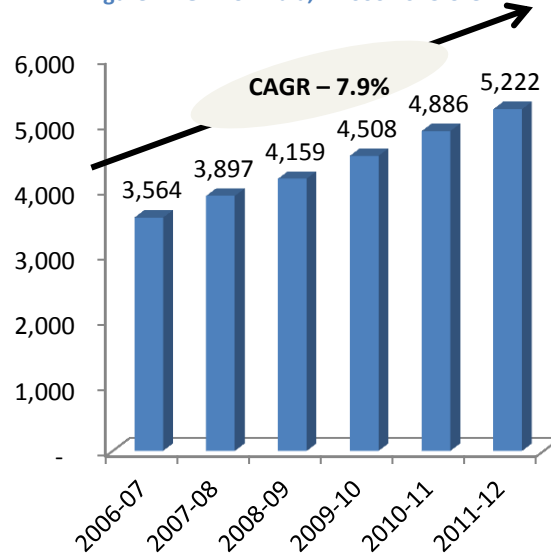


Figure 7: GDP of India, in '000 Rs. Crore

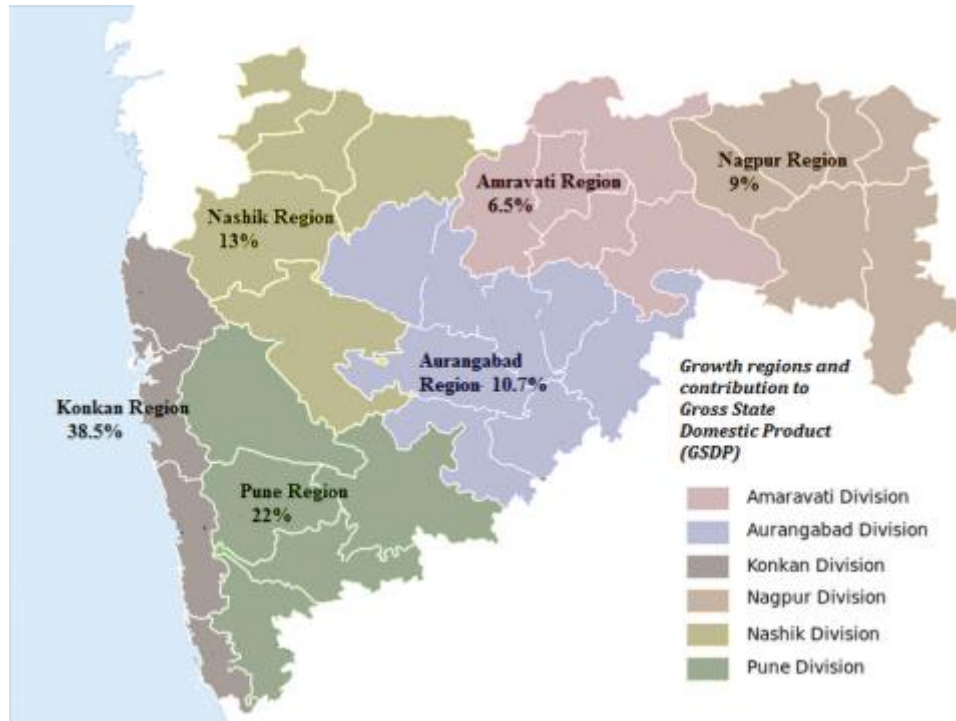


GSDP – Gross State Domestic Product; Numbers given at constant prices (base year: 2004-05).

Source: Central Statistical Organisation, Economic Survey of Maharashtra 2012-13

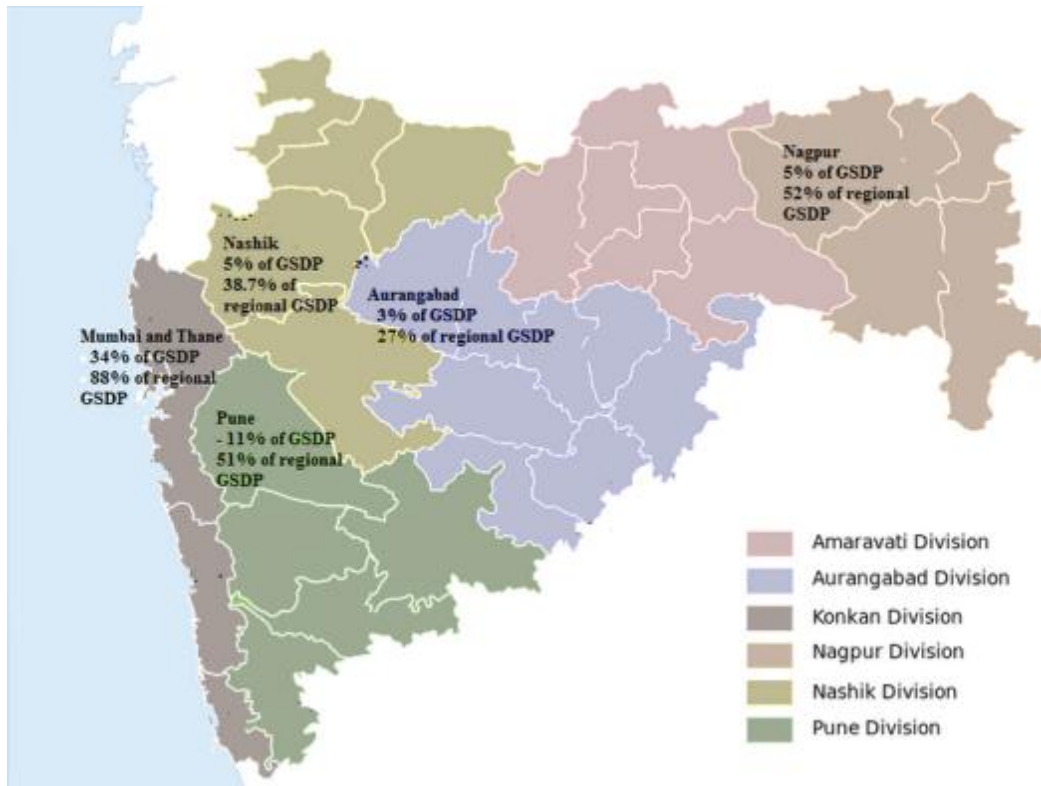
The growth in Maharashtra's Economy is concentrated in regions of Konkan (primarily Mumbai + Thane), Pune, Nashik, Nagpur, and Aurangabad. These account for over 93.5 per cent of the GSDP. Mumbai (City and suburb), Pune, Thane, Nashik and Nagpur districts contribute 55.6 per cent to GSDP.

Figure 8: Contribution of different Regions to Maharashtra's GSDP



Source: Economic Survey of Maharashtra 2011-12, Directorate of Economics and Statistics, Government of Maharashtra, Gross Domestic Product at current prices

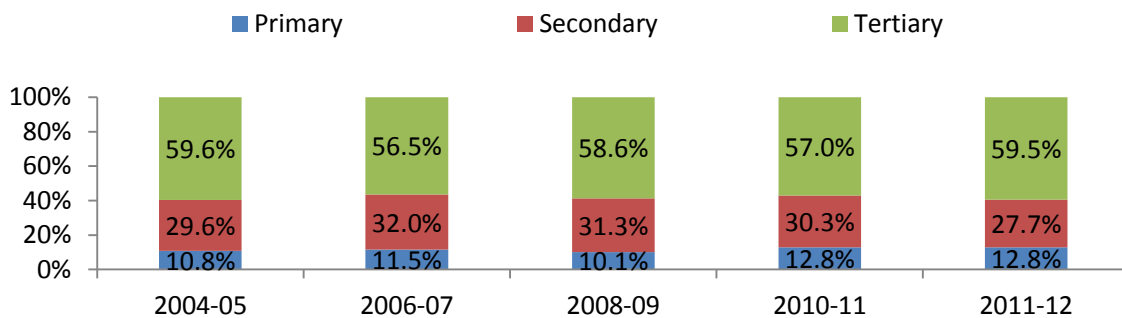
Figure 9: Contribution of key districts to State and regional GSDP



Source: Economic Survey of Maharashtra 2011-12, Directorate of Economics and Statistics, Government of Maharashtra, Gross Domestic Product at current prices

The state economy is pre-dominantly service based, with service sector's share in GSDP at close to 60 per cent in 2011-12. This is followed by secondary sector and primary sector.

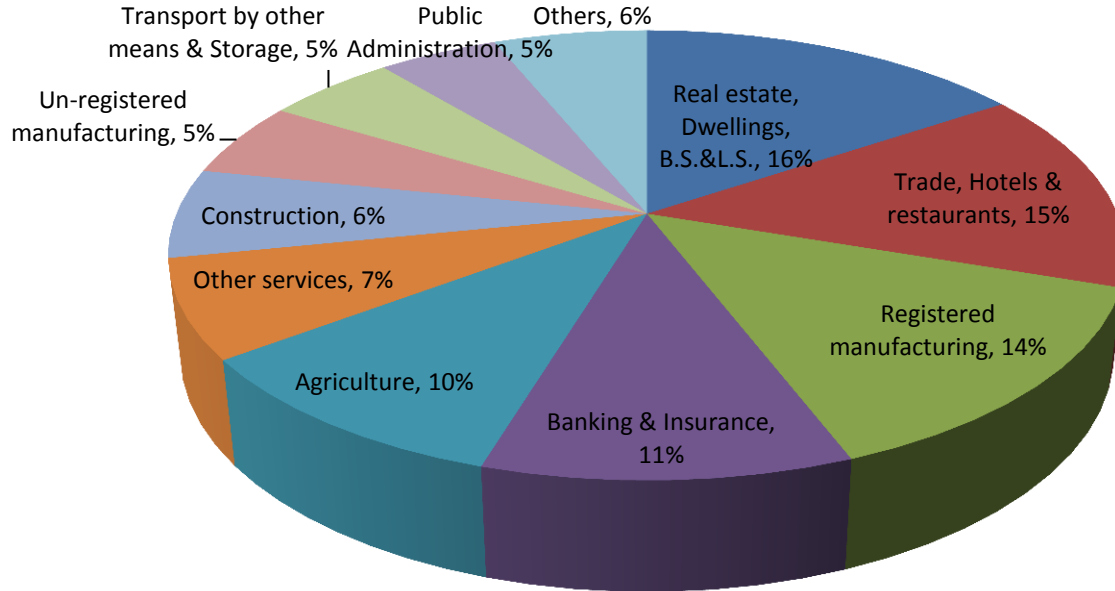
Figure 10: Share of primary, secondary and tertiary sectors in Maharashtra's GSDP



Source: Economic Survey of Maharashtra 2012-13, IMAcS analysis

At a more granular level, we see that 'real estate, ownership of dwelling, business and legal services' make the biggest contribution to GSDP at 16 per cent, followed by 'trade, hotels and restaurants' at 15 per cent and registered manufacturing at 15 per cent.

Figure 11: Sector wise composition on Maharashtra's GSDP, as of 2011-12, 100% = 1,199 thousand crore



Source: Economic Survey of Maharashtra, 2012-13. Others include forestry, electricity, gas & water supply, communications, railways, mining & quarrying and fishing.

1.2.4. Agriculture and allied activities

As of 2011-12, agriculture and allied activities make a 13 per cent contribution to Maharashtra's GSDP. Of this 13 per cent, agriculture is the main contributor at 10 per cent, while forestry, fishing, mining and quarrying account for the remaining three per cent.

On the other hand, the sector's contribution to total employment in the State is around 52 per cent (as cultivators or agricultural labourers). Thus, despite a small contribution to the GSDP, agriculture and allied sector continues to remain a significant sector for the economy.

Some of the key facts about the sector are:

- ❖ **Area:** Maharashtra has a total gross cropped area (GCA) of 23,175 thousand hectare, which is 73 per cent of the total State area, as compared to 59 per cent for India average. However, gross irrigated area is only 17.8 per cent as compared to 45 per cent for India average, showing very high dependence on rainfall.
- ❖ **Crops:** Principal crops grown in the State (in terms of area under crops) are cotton (18 per cent of GCA), jowar (14 per cent of GCA), rice and sugarcane. The area under jowar in Maharashtra is about 53.7 per cent of total area under jowar in India. While the area under cotton is about 33.6 per cent of total area under cotton in India.

- ❖ **Fruits:** The area under various fruit crops during 2011-12 was estimated to be 15.60 lakh ha of which, the area under mango was 5.21 lakh ha, orange 1.64 lakh ha, sweet orange 1.44 lakh ha, pomegranate 1.63 lakh ha, banana 0.82 lakh ha, sapota 0.84 lakh ha and grapes 0.92 lakh ha.
- ❖ **Fishery:** Fishery is an important source of income for the people. It generates employment, especially in the coastal areas (720 km coastal line). During 2012-13 (upto December), estimated marine and inland fish production was 3.15 lakh MT and 1.10 lakh MT respectively. During 2011-12, it was 4.34 lakh MT and 1.45 lakh MT respectively.
- ❖ **Animal husbandry:** Animal husbandry is an important agriculture related activity. The State's share in livestock and poultry population in India is about 7 per cent and 10 per cent respectively. As of 2007 (latest numbers available), the total livestock in the State was at 3.59 crore and total poultry was at 6.47 crore.
- ❖ **Dairy:** The State ranks sixth in India in milk production. During 2011-12, there were 73 milk processing plants and 141 milk chilling centres with capacity of 74.73 lakh litres and 25.17 lakh litres per day respectively under Government and co-operative sectors together. The average daily collection of milk by the Government and co-operative dairies taken together was 38.57 lakh litres during 2011-12 and 39.22 lakh litres during 2012-13 (upto November).

Table 2: Agriculture and allied sector – at a glance

Indicator	Description
Gross Cropped Area	23,175 thousand hectare
GCA as a % of State area	73%
Key crops	Cotton, jowar, rice, sugarcane, soyabean (number 1 in jowar and cotton in India)
Key fruits	Mango, orange, pomegranate, banana, sapota, grapes
Fishery	Marine fish production: 4.34 lakh MT Inland fish production: 1.45 lakh MT
Animal husbandry	7% of India's livestock and 10% of India's poultry. Number six in India in milk production.

Source: Economic Survey of Maharashtra 2012-13

Figure 12: Key agricultural and allied sector products in Maharashtra



1.2.5. Industry

Maharashtra has the distinction of being the most industrialised State in the country. It is also the pioneer in Small Scale Industries. It attracts industrial investments from both, domestic as well as foreign institutions. It also boasts of a large number of special export promotion zones in the country.

Since 1991 to September 2012, the State has attracted industrial investments worth Rs.950,972 crore, which has provided employment to over 40 lakh persons. The industrial investments are to the extent of 9.6 per cent of total industrial investments proposed in India and the employment they have generated is to the extent of 19.8 per cent of that of India.

Table 3: Industry – at a glance

Indicator	Description
Industrial investments (August 1991 to September 2012)	Rs.950,972 crore (9.6% of India)
FDI projects approved (August 1991 to September 2012)	4,246 (20.6% of India)
No. of factories*	20,448 (13.2% of India)
No. of MSMEs^	1.62 lakh
No. of large enterprises^	4,900
No. of unorganised manufacturing enterprises@	10.98 lakh
No. of Khadi and Village Industrial (KVI) units	2.17 lakh

Source: Economic Survey of Maharashtra 2012-13; *As of 2008; ^As of December 2011; @As of 2005

From August 1991 to March 2012, the State has approved 4,246 FDI projects (20.6 per cent of India), which amounted to total investment of Rs.97,799 crore (22.9 per cent of India). Of the total approved FDI projects in Maharashtra, 45 per cent have been commissioned and 10 per cent are under execution, with a share of investment of 51 per cent and eight per cent respectively.

Based on Annual Survey of Industries (ASI – 2008), Maharashtra has 20,448 factories, employing 10,32,625 workers. The State had a share of 13.2 per cent of the total registered industries in India during 2008-09. The contribution of the State in total value of output was 18.4 per cent while that in the gross value added was about 21.4 per cent during the same period.

Figure 13: Large enterprises

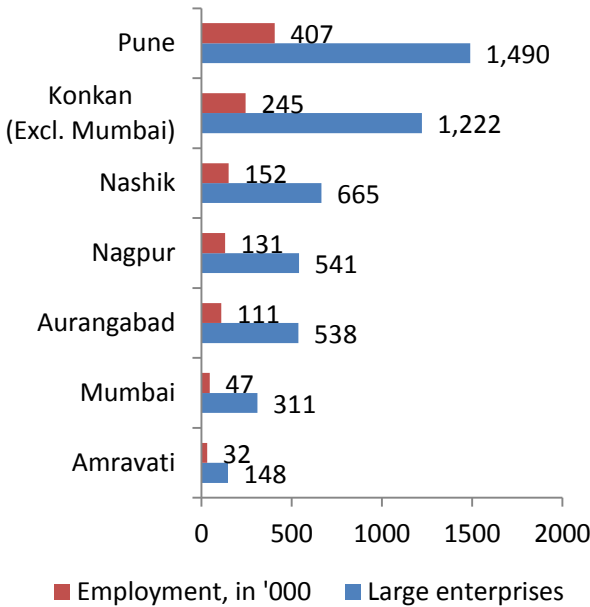
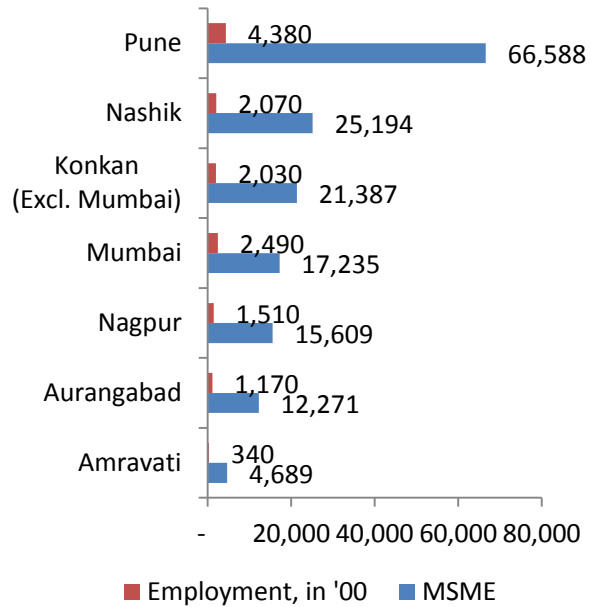


Figure 14: Micro, small and medium enterprises



Source: Economic Survey of Maharashtra 2011-12; IMAcS analysis

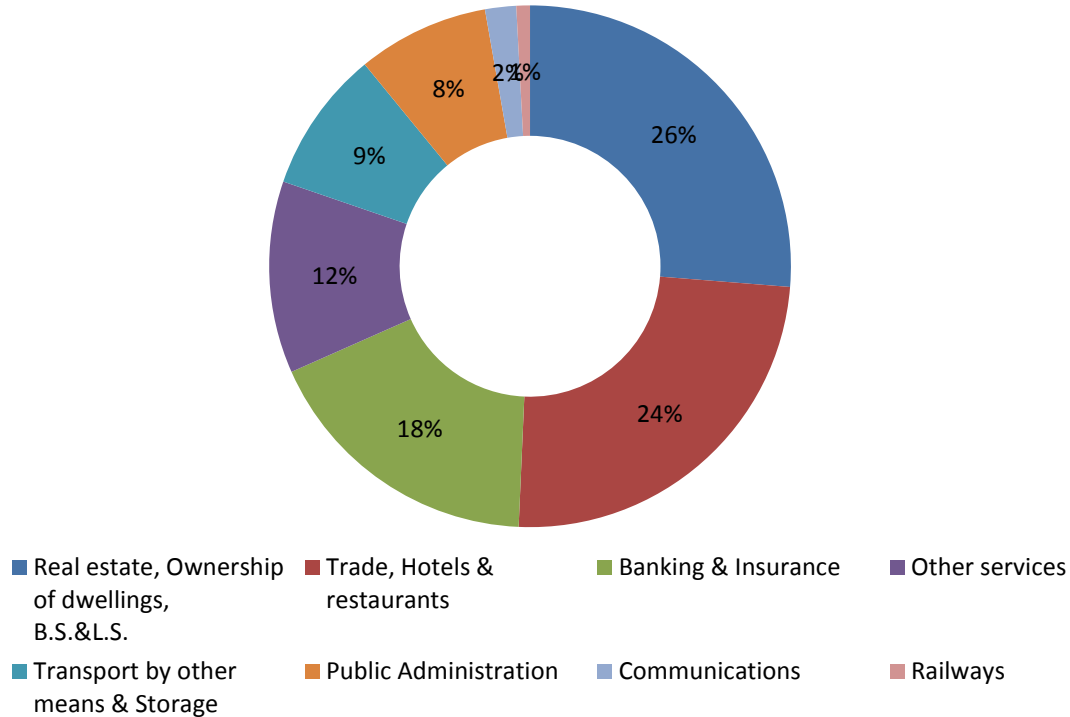
Figure 15: Snapshot of high growth industries in Maharashtra



1.2.6. Services

As of 2011-12, service sector contributes to about 60 per cent of GSDP in Maharashtra. The biggest contributor to services is 'real estate, ownership of business dwelling, business and legal services' followed by 'trade, hotels and restaurants'. These two together accounts for about 50 per cent of service sector GSDP in Maharashtra.

Figure 16: Percentage share of services in service sector GSDP,
As of 2011-12, 100% = 714,168 crore



Source: Economic Survey of Maharashtra 2012-13; IMaCS Analysis. Other services include education, healthcare etc.

1.3. Education and training profile

Maharashtra's education infrastructure consists of 20 universities, over 3,277 higher education institutions, 102,054 primary schools and 23,449 secondary and higher secondary schools. The state has 1,004 engineering colleges (Diploma, Graduate and Post-Graduate) with a seating capacity of over 323,533 students.

The State is also home to IIT at Powai in Mumbai. It has 13 departments and various centres for R&D. Internationally reputed firms including Intel, Texas Instruments and Analog Devices have collaborated with IIT Mumbai to set up world class laboratories in the areas of digital signal processing and microprocessors.

Some of the other leading R&D institutes in the State are the Centre for Development of Advanced Computing (C-DAC), the Bhabha Atomic Research Centre, the National Environmental Engineering Research Institute, and the National Chemical Laboratories and the Tata Institute of Fundamental Research.

Table 4: School education infrastructure in Maharashtra, as of 2012-13

Sl. No.	Category	No. of schools	Enrollment, in '000	No. of teachers, in '000	Pupil-Teacher Ratio
1	Primary (I to VIII)	102,054	16,128	669	24.11
2	Secondary & Higher Secondary (IX to XII)	23,449	5,591	135	41.54
3	Total Schools	125,503	21,719	804	27.01

Source: Maharashtra Economic Survey 2012-13. Provisional data

There are 20 universities in the State of which four are agriculture universities, one university for health science course, one university for veterinary science, one for technology and 13 other general universities, including Shreemati Nathibai Damodar Thackersey University, Mumbai which is exclusively for women, Yashwantrao Chavan Open University, Nashik for non-formal education and Kavi Kulguru Kalidas University, Nagpur for conduct of studies, research, development and spread of Sanskrit language. In addition to these, there are 21 deemed universities in the State.

Table 5: Institutions and their intake capacity in higher education in Maharashtra, as of 2012-13

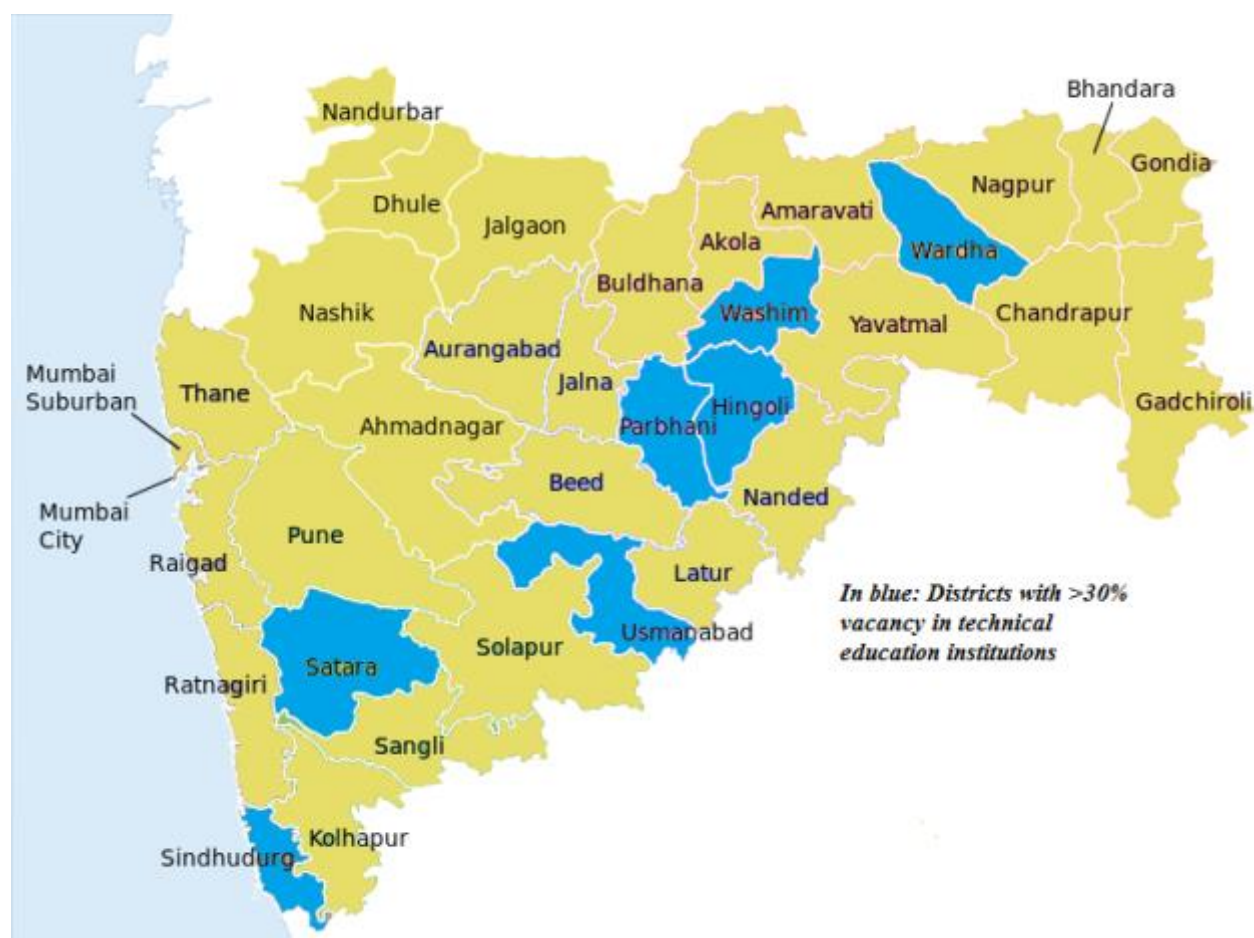
Stream	No. of institutions	Intake capacity
General education		
Arts, Science, Commerce & Law	2,387	120 per division
B.Ed/M.Ed.	468	100 per division
Other Non-Agricultural Courses (Incl. Non-AICTE)	422	100 per division
Technical education		
Engineering (Diploma, Degree, PG)	1,004	3,23,533
Architecture (Degree, PG)	68	3,937
Management Science (MBA/MMS & PGDM)	508	60,100
Hotel Management & Catering Technology (Diploma, Degree, PG)	27	1,554
Pharmacy (Diploma, Degree, PG)	465	27,198
Master in Computer Application	145	13,350
Industrial Training Institute	766	1,54,710

Stream	No. of institutions	Intake capacity
Medical Education		
Allopathy	43	5,692
Ayurvedic	60	3,651
Dental	29	2,495
Homeopathy	45	3,557
Unani	6	335
D.M.L.T.	24	383
Physiotherapy	41	1,245
Occupational Therapy	9	190
Audiology and Speech Language Pathology	5	113
Prosthetics and Orthotics	1	34
B.Sc. Nursing	47	3,233
Veterinary & Fishery Science		
Veterinary Science	6	573
Dairy Technology	2	80
Fishery Science	2	72
Agriculture and related		
Agriculture	89	8,413
Horticulture	19	590
Forestry	4	85
Fishery Science	3	77
Agriculture Engineering	17	818
Food Technology	17	1,136
Home Science	3	54
Bio-Technology	19	915
Agriculture Business Management	13	615
Post-Harvest Technology	1	30

Source: Directorate of Higher Education, Pune, Directorate of Technical Education and Directorate of Vocational Education & Training, Mumbai, Maharashtra University of Health Sciences, Nashik, Maharashtra Animal & Fishery Sciences University, Nagpur, Maharashtra Agriculture Education & Research Council, Pune. Provision data

As per a survey conducted by the Directorate of Technical Education in Maharashtra, on an average about 25 per cent of the seats in engineering colleges in the State are vacant, indicating underutilization of the existing infrastructure. Maximum vacancy is seen in districts such as Washim (52 per cent), Hingoli (49 per cent), and Parbhani (40 per cent).

Figure 17: Underutilization of capacity in engineering colleges in Maharashtra



Source: Directorate of Technical Education of Maharashtra, IMaCS Analysis

In addition to the school and higher education infrastructure mentioned above, the district is also home to 796 Industrial Training Institutes (ITI), with a seating capacity of 148,045. However, as of 2011-12, student enrolment was to the extent of 136,468 only (92 per cent of the seating capacity).

Table 6: Key ITI indicators in Maharashtra, as of March 2012

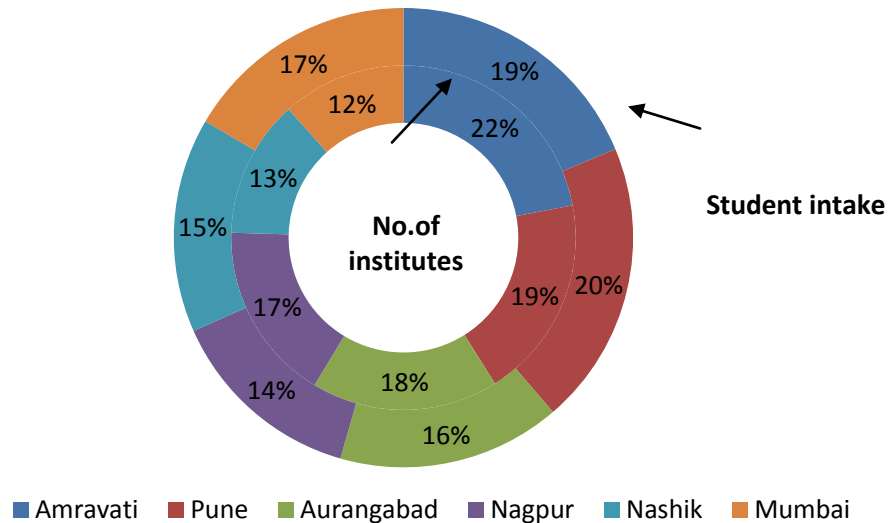
Indicator	No. of institutes	Seating capacity	Enrolment
Total	796	148,045	136,468
Government ITI	446	107,101	96,506
Private ITI	350	40,944	39,962

Source: Department of Employment and Self-Employment, Maharashtra

In addition to the above, the State has several training institutes for vocational training run by both Government and private sectors. As of 2012-13, number of private training institutes registered with Maharashtra State Board of Vocational Education Examinations (MSBVVEE) was at 2,860. These had a total student intake of 139,010. These institutes offer varied courses such as tailoring and cutting,

embroidery, computer operation, beauty culture, information technology, auto-CAD, electrical wireman etc.

Figure 18: District wise private training institutes registered with MSBVEE, as of 2012-13 (as of November 2012), 100% = 2,860

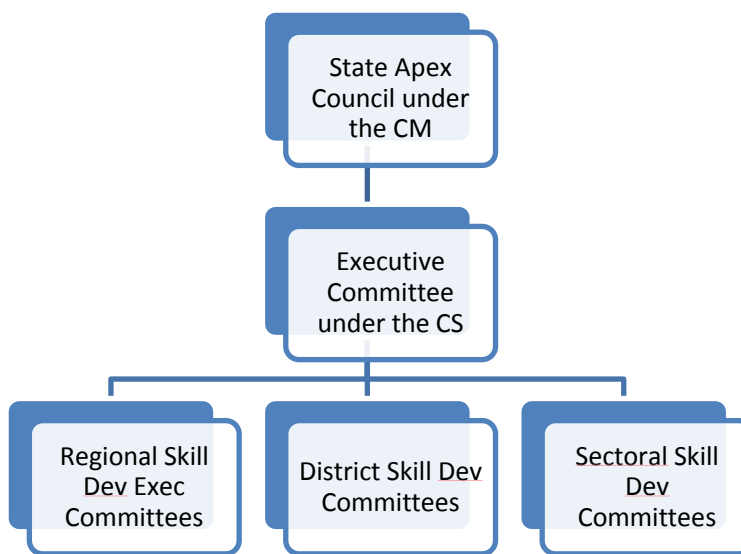


Source: Maharashtra State Board of Vocational Education Examinations

1.4. Skill development initiatives

Government of Maharashtra has put in place an institutional structure for skill development in the State up to the district level. It has set itself up a target of generating 4.5 crore skilled manpower by 2022. It has formed the State Management Committee of Skill Development Initiative for Maharashtra and Sectoral Skill Committees under the Department of Higher and Technical Education.

Figure 19: Skill development infrastructure set up by the State Government in Maharashtra



Key skill development initiatives taken by the Government so far include:

- Sectoral Skill Development Committees have identified **11 high demand trades** in the State: Construction, Production & manufacturing; textile; automobile; hospitality; healthcare; BFSI; retail; pharmaceuticals and chemicals; IT / ITeS and agro processing
- Of these, sector skill reports have been released for nine sectors so far
- **Maharashtra State Skill Development Society** has been established as a Single Nodal Agency for skill development initiative with the objective of preparation and continuous updating of 'State Skill Gap Assessment Report' and 'State Skill Development Plan'. It is also responsible for empanelling and grading training providers; and to provide support to district and division level committees and sectoral / territorial skill mission officers in the state for the preparation and effective implementation of 'Annual Action Plans'
- **Knowledge Management Centre** on Skill Development has been proposed to be established at Yashada, Pune
- Directorate of Establishment & Self Employment has set up a dynamic **Labour Market Information System (LMIS)**

Labour Market Information System

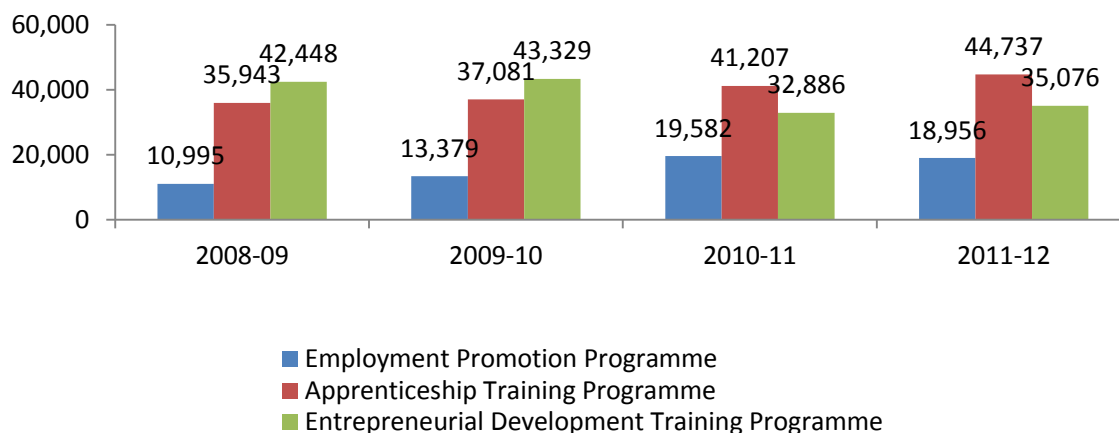
Maharashtra has taken a one of its kind initiative in developing an LMIS system in the State. The initiative has been taken by the Directorate of Employment and Self-Employment. The web portal for the system aims at bringing job seekers, industry and skill development institutes on one single platform. The system has already been launched on the Directorate website on a pilot basis. Formal inauguration is expected to take place in June 2013. The system will have real-time information on jobs available in the State, number and type of unemployed youth looking for jobs as well as availability of skill development institutes for training of the unemployable youth.

Various skill development programmes are run by many Government Departments as well. Some of these are as follows:

- **Employment Promotion Programme (EPP):** On-the-job training or other practical training to educated unemployed persons. The programme is run by Department of Employment & Self-Employment, Maharashtra. EPP is a stipend based scheme. The stipend paid to persons varies between Rs.300 to Rs.1000 per month, based on their educational qualification. Duration of each training programme is six months. On completion of training, the candidates may get absorbed.
- **Apprenticeship Training Programme:** Supply of skilled manpower to the industry through apprenticeship training. The programme is run by Directorate of Vocational Education & Training, Maharashtra. About 238 trades relating to both engineering and non-engineering industries have so far been designated under the programme. Duration of training varies from 6 months to 4 years. Stipend is also paid as a part of the training programme.
- **Entrepreneurial Development & Training Programme:** Motivate and train the educated unemployed youth for self-employment. It is run by Directorate of Industries, Maharashtra. The programme is run by recognized training institutions such as MITCON Consultancy Services Ltd. and Maharashtra Centre for Entrepreneurship Development (MCED). Under this scheme, the aspects such as the Entrepreneurship Development and Technical Training are covered.

Number of people who have benefitted from these three programmes is given in the figure below.

Figure 20: Beneficiaries of various skill development programmes in the State



Source: Economic Survey of Maharashtra, 2012-13

1.5. Developmental concerns

While the State is on the path of development and has also been taking several initiatives for skill development, there are certain developmental concerns which need attention. Based on our primary survey, we have identified the key concerns facing the State today.

1.5.1. Economy

- **Inequitable development:** The State's economic dividend has not originated equally from all the districts and sub-districts. Some of the districts have high penetration of naxal activity, while some are prominent tribal areas. These kinds of places have not seen much economic growth and lack in terms of availability of education and skilling infrastructure as well. Thus, the State is faced with the challenge of creating equitable and sustainable development for all.
- **Better incentives offered by other States:** The stakeholders' discussions revealed that many industries are preferring to close down their industrial units in Maharashtra and move to other States (such as Gujarat), where they feel that the incentives are better, taxes are lower and infrastructure availability is also better. In addition, the increasing cost of real estate in prominent cities of Maharashtra such as Mumbai and Thane is also adding to the problem.
- **Naxalism:** Districts such as Gadchiroli, Gondia, Chandrapur, Bhandara, Yavatmal and Nanded are some of the naxal affected districts in Maharashtra. Due to these naxal activities, the development and progress of these districts has been affected to a certain extent. Industries are not willing to take a chance and set up shop in these districts. Skilled manpower also shows the unwillingness to move to such districts for work.

1.5.2. Infrastructure

- **Water scarcity:** The State has been facing shortages in rainfall, which has been leading to decline in growth of agriculture sector especially. During 2012, overall food production in the State is estimated to decline by 18 per cent as compared to 2011 (as per Economic Survey of Maharashtra 2012-13). Even forestry and fishery sectors have been estimated to have negative growth during the year. Water scarcity is reported as an issue faced by the industry as well.
- **Inadequate infrastructure development:** Based on our surveys, we found that interiors of many districts (especially tribal districts) do not have good all-weather roads, civic amenities, and sewage drainage in addition to having erratic power supply. Bad road connectivity especially hinders the movement of youth from interiors to cities where quality educational infrastructure is located.

1.5.3. Education

- **Mismatch between curriculum and industry requirements:** Throughout IMaCS primary survey, the repetitive feedback we received from the industry was that the curriculum followed in the technical training institutes such as engineering colleges, ITI and polytechnics needs to be updated to reflect the current market needs. This would enable the students to fit in quickly in the organisations they are placed in. Currently, students who are placed are not able to cope with the shop-floor requirements as well as not able to apply the skills in the practical scenario. Majority of the youth passing out from the educational institutions are reported to be unemployable.
- **Inadequate focus on soft skills and personality development of students:** Majority of the youth we surveyed felt that they lack the soft skills and personality to compete and land the best of

jobs in organisations of repute. The industry stakeholders also echo this perception of students. The development of soft skills, language skills – especially English language – and personality development has thus become a necessity.

1.5.4. Workforce related issues

- **Preference for white collared jobs:** Based on the stakeholder feedback in the districts, we found that though the industry does have job openings for the youth (mainly in manufacturing sector), in a majority of cases, they do not prefer working on the factories as there is the perception in their minds that blue collared jobs are not socially accepted. This has created acute shortage of people for blue collared jobs such as welders, masons, construction workers etc.
- **Low motivation levels and attitudinal issues:** Based on our primary survey, we have found that many companies reported of low motivational levels and attitudinal issues in workers. Stakeholders reported that the locals are complacent, have indifferent attitude and unwilling to mould as per employer’s needs. They also exhibit frequent unexplained absenteeism from work.
- **Lack of skilled manpower in backward districts:** Based on the stakeholder feedback, we found that youth, especially the educated youth have very high lure for city life and prefer to work only in the city centres such as Mumbai, Pune, Nagpur, Nashik Aurangabad etc. This results in unavailability of skilled workforce for the companies set up within their own districts. The problem becomes more acute in backward districts, where as it is the availability of skilled manpower is low and the outward migration of the educated youth further worsens the situation.
- **Low inclination for self-employment:** Even in places where opportunities are available, people do not have the required entrepreneurial mind-set to start something of their own. They are reported to be contented and risk averse. Majority just want to get into either the Government jobs or private multinational companies (MNCs). Even in our interactions with the other stakeholders in the State, we found out that youth in the district lack entrepreneurial spirit. Most of the youth prefer service sector jobs as compared to manufacturing jobs. The desire to work hard has been replaced by the desire to have easy office jobs. This is leading to shortage of manpower in the manufacturing sector, while there is surplus of people willing to work in air conditioned malls and retail stores.
- **Unionism:** Based on our industry discussions, we found that some of the industries are facing issues on the labour front. They reported strong labour unionism, which is hindering industrial production. Many stakeholders revealed that they have put their expansion plans on hold due to the existence of strong, politically backed labour unions which have time and again affected the productivity of these companies.

1.6. Mapping of high growth sectors

Based on the entire diagnostic analysis above and our discussions with the key stakeholders in the district, we have identified sectors which will be the development and employment growth engines in the State in the next ten years and will have skill training requirements. The training requirements could be for the new manpower entering these sectors or up-skilling of the existing manpower in the sectors.

The sectors which have been identified for the districts are presented in the table below, while the detailed description of the district wise opportunities is given in the respective district profiles only. Following the table, we have given brief overview of the some of the key high growth sectors of Maharashtra.

Table 7: District wise mapping of high growth sectors

District	Agri & allied	Auto & Auto component	BFSI	Bldg. & Construction	Chemicals & Pharma	Education & Skill Dev	Food Processing	Furniture	Gems & Jewellery	Health-care	IT/ITES	Organised Retail	Textile & Clothing	Transport & logistics	Tourism & Hospitality	Unorganised	Other manufacturing
Ahmadnagar	Green	Orange	Green	Green	Red	Green	Green	Red	Red	Green	Red	Red	Red	Green	Green	Yellow	Yellow
Akola	Green	Yellow	Green	Green	Red	Green	Orange	Red	Red	Green	Red	Red	Yellow	Green	Yellow	Red	Yellow
Amravati	Green	Yellow	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Red	Green	Yellow	Red	Yellow
Aurangabad	Yellow	Green	Green	Green	Red	Yellow	Red	Red	Red	Yellow	Red	Green	Red	Yellow	Green	Yellow	Green
Bhandara	Green	Yellow	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Red	Yellow	Yellow	Red	Yellow
Bid	Green	Orange	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Orange	Green	Green	Red	Yellow
Buldana	Green	Orange	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Yellow	Green	Green	Red	Yellow
Chandrapur	Green	Orange	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Red	Green	Yellow	Red	Yellow
Dhule	Green	Yellow	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Green	Green	Red	Red	Yellow
Gadchiroli	Green	Yellow	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Red	Yellow	Yellow	Red	Yellow
Gondiya	Green	Red	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Red	Yellow	Green	Red	Yellow
Hingoli	Green	Yellow	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Yellow	Yellow	Green	Red	Yellow
Jalgaon	Green	Orange	Green	Green	Red	Green	Yellow	Red	Orange	Green	Red	Red	Red	Green	Green	Red	Green
Jalna	Green	Yellow	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Orange	Green	Green	Yellow	Yellow
Kolhapur	Green	Orange	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Green	Green	Green	Yellow	Yellow
Latur	Green	Orange	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Yellow	Yellow	Red	Red	Yellow
Mumbai	Yellow	Yellow	Green	Green	Red	Yellow	Red	Orange	Yellow	Green	Green	Green	Red	Green	Green	Green	Yellow
Nagpur	Yellow	Orange	Green	Green	Red	Yellow	Red	Red	Red	Green	Red	Green	Orange	Green	Yellow	Green	Yellow
Nanded	Green	Orange	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Orange	Green	Green	Red	Yellow
Nandurbar	Green	Red	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Red	Green	Green	Red	Yellow
Nashik	Green	Yellow	Green	Green	Red	Green	Orange	Red	Red	Yellow	Red	Green	Red	Yellow	Yellow	Red	Green
Osmanabad	Green	Red	Green	Green	Red	Green	Yellow	Red	Red	Green	Red	Red	Yellow	Green	Green	Red	Orange
Parbhani	Green	Yellow	Green	Green	Red	Green	Red	Red	Red	Green	Red	Red	Yellow	Green	Green	Red	Yellow

District	Agri & allied	Auto & Auto component	BFSI	Bldg. & Construction	Chemicals & Pharma	Education & Skill Dev	Food Processing	Furniture	Gems & Jewellery	Health-care	IT/ITES	Organised Retail	Textile & Clothing	Transport & logistics	Tourism & Hospitality	Unorganised	Other manufacturing
Pune	Orange	Yellow	Yellow	Green	Red	Yellow	Red	Red	Red	Orange	Green	Green	Red	Yellow	Yellow	Green	Yellow
Raigarh	Yellow	Orange	Green	Green	Yellow	Yellow	Red	Red	Red	Yellow	Red	Red	Yellow	Green	Yellow	Yellow	Green
Ratnagiri	Green	Orange	Green	Green	Orange	Yellow	Yellow	Red	Red	Yellow	Red	Red	Red	Yellow	Yellow	Red	Yellow
Sangli	Green	Orange	Green	Green	Red	Yellow	Yellow	Red	Red	Yellow	Red	Red	Yellow	Yellow	Orange	Red	Yellow
Satara	Green	Yellow	Green	Green	Red	Yellow	Yellow	Red	Red	Yellow	Red	Red	Red	Yellow	Yellow	Red	Yellow
Sindhudurg	Green	Orange	Green	Green	Red	Yellow	Red	Red	Red	Yellow	Red	Red	Yellow	Yellow	Green	Red	Yellow
Solapur	Green	Orange	Green	Green	Red	Yellow	Yellow	Red	Red	Yellow	Red	Red	Orange	Yellow	Green	Yellow	Yellow
Thane	Orange	Orange	Yellow	Green	Red	Yellow	Red	Red	Red	Yellow	Green	Yellow	Red	Green	Red	Green	Yellow
Wardha	Green	Orange	Green	Green	Red	Yellow	Red	Red	Red	Green	Red	Red	Yellow	Yellow	Yellow	Red	Yellow
Washim	Green	Yellow	Green	Green	Red	Yellow	Red	Red	Red	Yellow	Red	Red	Orange	Yellow	Yellow	Red	Yellow
Yavatmal	Green	Orange	Green	Green	Red	Yellow	Yellow	Red	Red	Yellow	Red	Red	Orange	Yellow	Yellow	Red	Yellow

Source: IMAcS Analysis; Note: Shades from red to green indicate low growth to high growth (red = lowest growth; green = highest growth, colours in between = medium growth). Note: We have mapped only those sectors for each of the districts where new skills or skill up-gradation is required. Over and above these, there may be other sectors which will lead high employment but might not require skill interventions.

1.6.1. Auto and auto components

Maharashtra accounts for approximately 33 per cent of the country's output of automobile by value. It is the largest base for local Original Equipment Manufacturer (OEM) players. It is the leading producer of heavy and commercial vehicles in the country. Between August 1991 and September 2010, total FDI attracted in State's automobile sector was Rs.895 crore. Auto and auto ancillaries contribute to nine per cent of Maharashtra's manufacturing GSDP.

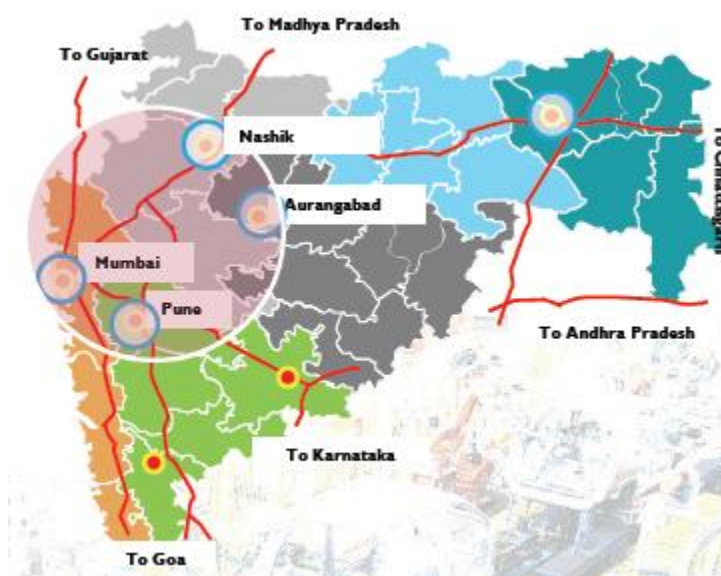
Major automobile hubs in the State are in Pune, Nashik, Aurangabad and Nagpur. Pune is the largest auto hub of India with over 4,000 manufacturing units only in Pimpri-Chinchwad region. Pimpri-Chinchwad is an auto cluster, established under Industrial Infrastructure Upgradation Scheme (IIUS).

Many big companies which have their manufacturing facilities present in the State include Tata Motors, Bajaj Auto, Force Motors, Mahindra & Mahindra, Mercedes-Benz, General Motors, Volkswagen, Hyundai, Fiat, etc. Many of these companies also have their R&D centres in the State.

The sector has further growth opportunities in the State due to:

- A large consumer pool: domestic demand and export potential
- A low cost manufacturing base: low cost labour force, skilled workforce, cost effective supplier base
- Emerging opportunities such as design centres, vehicle retailing, auto financing, R&D, diversification in two wheeler segment and low cost vehicles

Figure 21: Maharashtra automotive hub



Source: Maharashtra Industrial Development Corporation (MIDC)

The State has witnessed setting up of a few key institutes for skilling of manpower in the sector. India's premier automotive R&D, testing and certification organisation – Automotive Research Association of

India (ARAI) is present in Pune. India's first Auto Cluster Development and Research Institute is also present in Pune.

1.6.2. Banking, financial services and insurance (BFSI)

BFSI sector is the fourth largest contributor to the GSDP of Maharashtra at 11 per cent. Mumbai – the capital city of Maharashtra enjoys the distinction of being the financial capital of India. A sizable part of the business of commercial and investment banks, exchanges, securities firms, private equity and other financial services operates from Mumbai as the base. In fact, as of 2010-11, banking and insurance was the third largest contributor to the GDDP of Mumbai and Mumbai Suburban districts at 15 per cent of the total.

Several innovations in the Indian financial markets originated in Mumbai, which include stock market culture, Financial markets regulation, Spot, futures and other derivatives trading, Electronic and online trading, National Stock Exchanges (NSE/BSE/MCX-SX), Credit rating agencies (CRISIL/CARE), Self-regulatory institutions (IBA, AMFI, FIMDA, FEDAI, etc.), Dematerialization and depositories (NSDL/CDSL), Multi-asset-class trading platforms (Financial Technologies Group), Modern commodities markets (MCX/NCDEX), Growth of currency derivatives (MCX-SX), Biggest private sector collateral management for agricultural markets (NBHC) and Spot market for agricultural commodities (NSEL).

The sector has now grown outside Mumbai also and spread across all districts of Maharashtra starting from key cities such as Pune, Nashik, Nagpur and Aurangabad to other smaller districts also where BFSI penetration has increased with increased economic output and population.

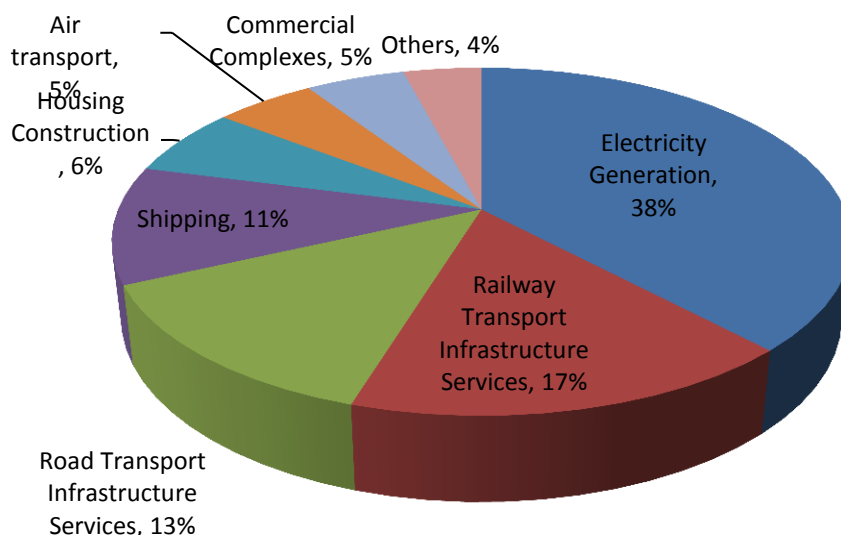
1.6.3. Building, construction and real estate

'Real estate, ownership of dwellings and business services' and 'construction' together account for the biggest proportion of Maharashtra's GSDP at 22 per cent. In the last few years, the sector has emerged as a booming sector in Maharashtra (especially in Mumbai) contributing significantly to the GSDP as well as employment. The sector has boomed not just due to commercial construction, but also high levels of residential construction taking place in the State.

Based on the data available from CMIE on up-coming infrastructure projects in Maharashtra between 2013 and 2016, projects worth Rs. 2,631 billion will come up in the State. Majority of these investments will be around electricity generation at 38 per cent, followed by railways at 17 per cent, and road transport at 13 per cent. About 50 per cent to 60 per cent component in infrastructure projects can be attributed to construction activity alone.

Majority of these projects at 30 per cent will be concentrated in Mumbai alone, followed by Raigad at 14 per cent, Nagpur at 12 per cent, Pune at 12 per cent and remaining in other districts.

Figure 22: Up-coming infrastructure projects in Maharashtra – scheduled to be completed between 2013 and 2016, 100% = Rs.2,631 billion



Source: CMIE. Note: List of projects is not exhausted and includes prominent projects only.

1.6.4. Chemicals and pharmaceuticals

Maharashtra has strong presence in chemical, petrochemical, oil and gas and pharmaceuticals sectors. The State contributes 27.4 per cent of total chemicals, petrochemicals, and oil and gas output and around 15 per cent of the total production of basic petrochemical products in India. As per data available from Annual Survey of Industries (ASI), as of 2010-11, Maharashtra had 2,706 units engaged in the manufacturing of chemical and chemical products.

Mumbai, Nagothane, Rabale and Patalganga are major petrochemical hubs while Thane, Mumbai, Pune and Wardha are chemical hubs. The total FDI in chemicals and fertilisers sector from August 1991 to September 2010 was Rs.2,666 crore. Key players include Lubrizol, Monsanto, NOCIL Limited, Jai Biotech, Excel India, Clariant, Manali Chemicals etc.

The major pharmaceutical hubs in the State include Mumbai, Thane, Tarapur, Aurangabad and Pune. Drugs and pharmaceuticals contribute to 2.9 per cent of the State FDI project proposals (Rs.1,012 crore between August 1991 to September 2010). Key players include Abbott, Pfizer, Lupin, Cipla, P&G, Sun Pharmaceutical, Aventis, Piramal Healthcare, Bayer, GSK, Wockhardt, and Elder.

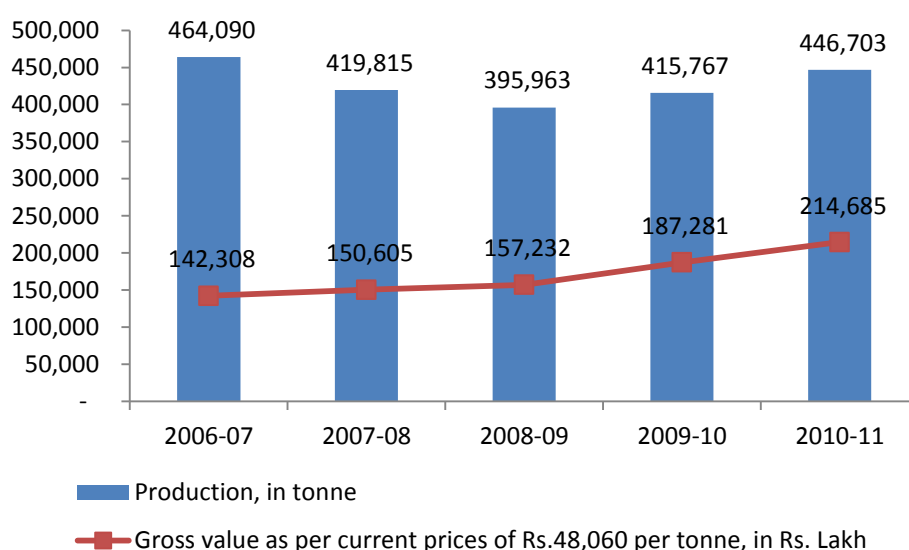
1.6.5. Fishery

Maharashtra has five maritime districts, viz. Thane, Mumbai and Suburban, Raigad, Ratnagiri and Sindhudurg. The continental shelf area up to 40 fathoms (55,529 sq. km. – 50 per cent of the total continental shelf) is being exploited. There are 25 fishing zones in the five districts and 162 landing centres.

The fish potential of the State is estimated at 6.3 lakh tonnes. As of 2010-11, fish production was 4.47 lakh tonnes (71 per cent of the potential). About 70 per cent of the estimated catch is used for consumption in fresh form and 29 per cent is used for sundrying. Remaining one per cent is used for salting. The actual fish catch activity provided employment to about 82,242 fishermen in 2009-10 and the number increased to 86,676 in 2010-11 (does not include other allied activities).

The fishing fleet operating along the coast during 2010-11 was 12,154 mechanised boats and 2,292 non-mechanised boats. Trawl fishing, bagnet fishing, gillnet fishing and purseine fishing are the principal methods of fishing in Maharashtra.

Figure 23: Fish production in Maharashtra and its gross value



Source: Department of Fisheries, Government of Maharashtra

As of 31st March, 2012, the State had 3,113 primary fisheries co-operative societies, 37 fisheries co-operative unions and two federations working in the State. Number of members in these institutions are 2.8 lakhs with working capital of Rs.139.68 crore. These societies sold fish and fish products worth Rs. 520.04 crore in 2011-12, as against Rs. 399.73 crore in 2010-11.

1.6.6. Food processing

Maharashtra is a bio-diverse State with nine agro climatic zones and varying soil types, suitable for agricultural development. The State is one of the major horticulture States in India, with more than 13.66 lakh hectares under horticulture and 4 lakh hectares under vegetables. The State is largest producer of seedless grapes (78 per cent), banana (75 per cent), mandarin orange (75 per cent), onion (63 per cent) and tomatoes (42 per cent). It also leads the sugar industry sector with 200 sanctioned and 150 productive cooperative sugar mills.

As of 2012, Maharashtra has 6,512 MSME and 322 large scale food processing units. The export from Maharashtra for fresh vegetables and fruits accounts for 30 per cent and for processed food products is almost 50 per cent of India numbers. The total FDI in the food processing sector from August 1991 to September 2010 was Rs.1,039 crore. Mumbai Port (MbPT) and Jawaharlal Nehru Port (JNPT) are major ports used for exporting processed food products. Major food processing hubs in the State are Pune, Nashik, Ratnagiri, Sindhudurg, and Nagpur.

The State also has eight Agriculture Export Zones spread across the State for grapes and grape wine, mangoes, kesar mango, flowers, onions, pomegranate, banana and oranges. It also has additional five crop clusters for cashew, sapota, sweet orange, fig and custard apple.

Figure 24: Regional distribution of key crops in Maharashtra presenting opportunity for food processing



Source: IMAcS Analysis

1.6.7. IT/ITES

Maharashtra contributes to almost 23 per cent of the country's total exports of software. It houses more than 1,500 software units. Mumbai, Pune and Thane are the key destinations which house majority of the IT / ITES companies in Maharashtra. The State also has Software Technology Parks of India (STPI) at Nagpur, Nashik, Aurangabad and Kolhapur.

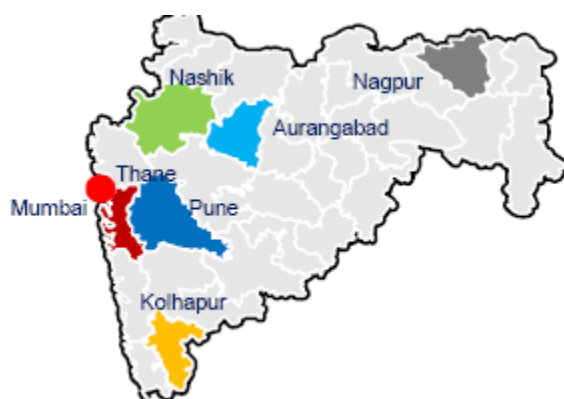
According to a NASSCOM - AT Kearney report, 90 per cent of the IT-BPO industry in India is concentrated in and around seven cities in India, including Mumbai and Pune in Maharashtra. The report has

identified Aurangabad, Nagpur and Nashik as the emerging new areas with high potential for the IT sector.

For promotion of the IT / ITES sector, the State announced its IT/ITES Policy in 2009. The Policy has been instrumental in creating IT hubs in the cities such as Pune, Pimpri-Chinchwad and New Mumbai. It is valid till August 2014.

Maharashtra Industrial Development Corporation (MIDC) and City Industrial Development Corporation of Maharashtra (CIDCO) have developed 37 public IT parks. For getting private participation in creating world-class infrastructure for IT industry, 479 private IT parks have been approved, out of which 122 have started functioning with an investment of Rs. 2,712 crore, thereby creating employment for about 3.2 lakh persons. The remaining 357 IT parks with proposed investment of Rs. 11,994 crore have been given Letters of Intent (LoI) and are expected to generate 16.0 lakh employment opportunities in future. The private IT parks are mainly concentrated in Greater Mumbai (176) followed by Pune (168) and Thane (125) districts.

Figure 25: Key IT locations in Maharashtra



Source: MIDC

1.6.8. Organised retail

With the rise of the middle class and increasing disposable incomes of the people, cities such as Mumbai, Thane, Pune, Nagpur, Nashik and Aurangabad have witnessed / beginning to witness a boom in organized retail. Many malls, departmental stores, super markets and hyper markets have mushroomed up.

The organised retail sector has found it easier to attract labour force due to the easy (perceived) nature of the work involved and the air conditioning environment offered by most stores and malls. In fact, based on our stakeholders' discussions, we have found that it's not just the sales and marketing personnel, but also the technical personnel which are getting attracted towards the organised retail sector. Other industries are beginning to feel the shortage of skilled people such as electricians and RAC, as these prefer to work in malls rather than factories. However, the key challenge faced by the

organised retail industry is its capacity to retain people. The attrition rates are very high and people switch jobs for even a few thousand Rupees of increments.

1.6.9. Textile and clothing

Maharashtra accounts for about 10.4 per cent of India's textiles and apparel output. Over the period of August 1991 to September 2010, the State witnessed FDI in 122 major textile projects with an investment of Rs.1,051 crore. Key players in the textile sector in the State include Raymond, Bombay Dyeing, Indian Rayon, Vimal, S Kumars, Fibro, Karmatex etc. The major textile hubs in Maharashtra are Bhiwandi, Malegaon, Mumbai, Amaravati & Solapur.

Cotton is available in bulk in Maharashtra which is one of the key factors that have enabled it to establish a competitive edge. Vidarbha region has a predominant cotton production, while western region is famous for spinning mills.

As of 31st March, 2012, the State had 161 co-operative cotton ginning and pressing societies, of which 143 were in operations. These had a total membership of 215,100 persons. About 76.4 per cent of these were in loss (as per Economic Survey of Maharashtra 2012-13). Total raw cotton ginned in the year was 157 MT. There were 166 co-operative spinning mills, of which only 59 were in operations. About 33.7 per cent of these were in loss. They had a total membership of 678,500 persons. These had 13.16 lakh spindles and produced yarn worth Rs.1,199 crore.

There were also 670 co-operative handloom and 1,471 powerloom societies, employing 88,700 and 52,600 persons respectively. About 46.3 per cent of handloom and 39 per cent of powerloom societies were loss making.

The State has institutes which are dedicated to the core textile sector. There are textile engineering courses offered by IIT Mumbai, VJTI Mumbai, NIFT Mumbai etc.

1.6.10. Transportation, logistics, warehousing and packaging

Maharashtra has a 720 km long coastline – 10 per cent of India's coastline. It has five districts (Mumbai, Thane, Raigad, Ratnagiri and Sindhudurg) along the coast. There are two major ports: MbPT located in Mumbai and JNPT in Raigad district. JNPT is the largest container port in India while MbPT is natural deep-water harbour of 400 km. JNPT and MbPT account for the largest share of exports-imports and trans-shipment in the country. MbPT with 18,700 employees is the biggest employer among the major ports in India. In addition, the State has 48 minor ports and 14 operational ports. Key players include Simatech Shipping, PIL, Yang Ming, Hapag-Llyod, Contship, Maersk etc.

Presence of JNPT and MbPT ports in Maharashtra has made the logistic industry a very strong sector. Multi Nodal International Cargo Hub (MIHAN) at Nagpur has brought Maharashtra as an emergent cargo hub. Logistic hubs are being developed as a part of DMIC related development as well, with a Multi Modal Logistic Park developed at Karla in Pune. Free Trade and Warehousing Zone (FTWZ) is being set

1.7. Clusters in Maharashtra

As a key strategy for enhancing the productivity and competitiveness of MSMEs, GoI has announced scheme for development of potential clusters in March, 2006. As a part of this initiative, it has promoted many clusters in Maharashtra. District wise list of clusters is given in the table below.

Clusters can greatly assist in the success and development of individual MSME units by providing economies of scale, reduced transaction costs, information spill overs, development of market place, adequate supply of raw materials at stable prices, skill development, technical know-how and access to latest technologies, thereby improving the competitiveness of these units. The new Industrial Policy 2013 of Maharashtra has special incentive packages for the development of clusters.

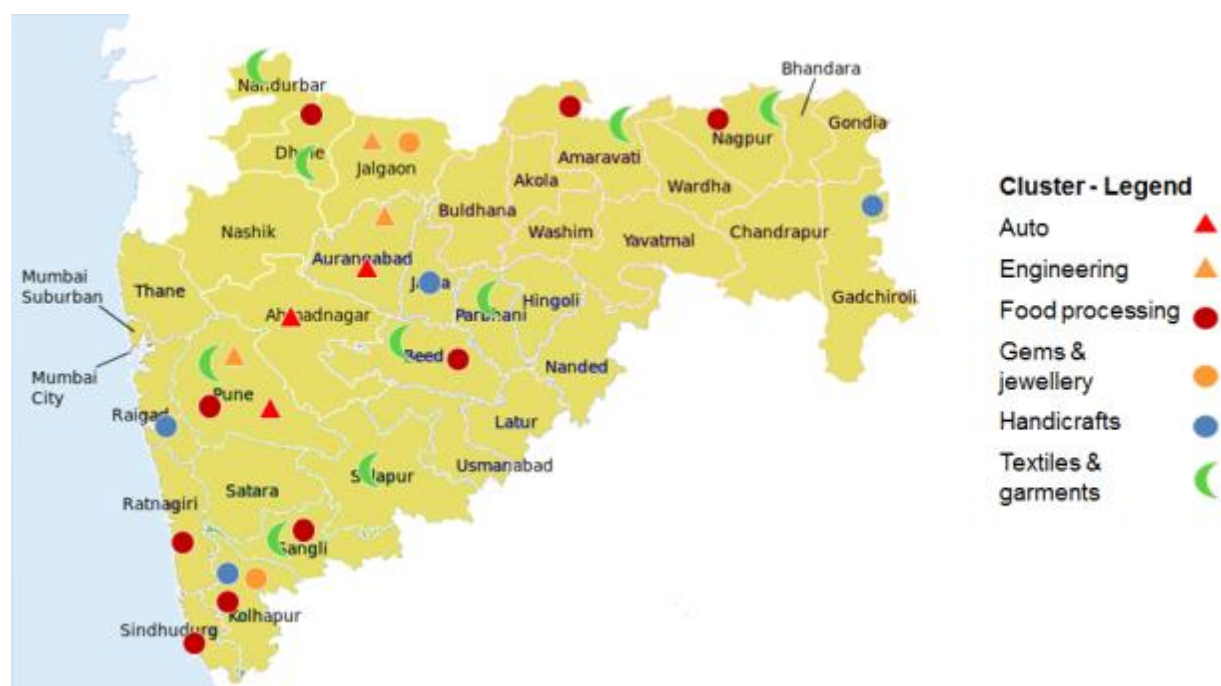
Table 8: MSME clusters in Maharashtra

Sl. No.	District	Name of the cluster	Employment
1	Ahmednagar	Auto & engineering cluster	11,002
2	Aurangabad	Auto cluster	75,000
3		Auto components	20,000
4		Printing cluster	4,000
5		Tiny engineering & allied industries	490
6	Beed	Oil mill cluster	750
7		Integrated textiles cluster	2,200
8		Cotton cluster	1,200
9	Dhule	Fiber to fabrics cluster	5,000
10		Edible oil cluster	n/a
11		Powerloom cluster	n/a
12	Jalna	Ganesh idol cluster	500
13	Jalgaon	Plastic mat cluster	9,000
14		Gold ornament cluster	5,000
15		Engineering cluster	1,200
16	Kolhapur	Foundry & engineering cluster	1,800
17		Silver ornaments	n/a
18		Jaggery cluster	n/a
19		Chappal cluster	350
20	Mumbai	Leather goods cluster	1,000
21	Nanded	Precast RCC pipe & cement allied articles	1,500
22	Nandurbar	Textile cluster	1,290
23	Parbhani	Cotton cluster	1,500
24	Pune	Garment cluster	1,000
25		Auto-ancillary	800
26		Auto machine components, press tools & parts, die and mould	11,500
27		Electronic cluster	1,500
28		Agro processing cluster for women	250
29		General engineering & allied industries cluster	7,000
30	Raigad	Ganesh idol cluster	600

Sl. No.	District	Name of the cluster	Employment
31	Ratnagiri	Mango processing	1,100
32	Sangli	Raisin making	2,000
33		Textile cluster	1,000
34		Turmeric cluster	900
35	Sindhudurg	Cashew cluster	1,800
36	Solapur	Terry towel	40,000
37	Thane	Paint, enamel and varnish cluster	3,775
38	Amravati	Oil mill	1,578
39		Readymade garments	1,000
40	Gadchiroli	Bamboo articles cluster	2,500
41	Nagpur	Readymade garments cluster	8,000
42		Dal mill cluster	598

Source: Ministry of Micro, Small & Medium Enterprises

Figure 27: District wise cluster representation



Source: Ministry of Micro, Small & Medium Enterprises; IMaCS analysis

1.8. Skill gaps

Based on our discussions with key stakeholders in all districts, we have identified skill gaps across all high growth sectors. The district specific skill gaps are mentioned in the respective district profiles. In this section, we are presenting a broad summary of skill gaps across sectors, which are faced more or less across all districts. This section focuses mainly on qualitative skill gaps. The quantitative skill gaps (demand – supply gap) are mentioned in the next section on ‘employment potential’.

Table 9: Key skill gaps – by sector

Sector	Key skill gaps in Maharashtra
Auto and auto components	<ul style="list-style-type: none"> ▪ Inadequate awareness of modern production techniques like lean production, Just In Time, etc. ▪ Inadequacy in softer aspects of management like leadership and team guiding skills ▪ High rate of absenteeism, attrition and lack of discipline to put in required number of hours, especially at the shop floor level ▪ Inadequate understanding of the quality standards of the industry ▪ Shortage of personnel with knowledge on instrumentation ▪ Limited understanding of machine tool maintenance ▪ Inadequate customer handling skills ▪ Shortage of good quality mechanics with vehicle and parts knowledge
Banking, financial services and insurance	<p>Banking</p> <ul style="list-style-type: none"> ▪ Since qualified graduates are recruited thus the skill gaps are not observed to be very high. Periodical training is provided by banks whenever required ▪ Shortage of good quality sales staff / executives, with acute gaps in communication and soft skills <p>Insurance</p> <ul style="list-style-type: none"> ▪ Inadequate knowledge of structuring products as per customer needs ▪ Just like banking, shortage of good quality sales staff / executives, with acute gaps in communication and soft skills
Building, construction and real estate	<ul style="list-style-type: none"> ▪ Key skill gaps and shortage of quality workers are observed at the minimally skilled and semi-skilled levels ▪ Inadequate number of locals willing to work in the sector, thus high reliance on workers coming from States like Bihar, UP, etc. ▪ Inadequate number of people available due to lack of esteem attached with the sector ▪ Inadequate skill sets available for bar bending, masonry, shuttering, façade building, carpentry etc. ▪ At the skilled level, inadequate numbers of civil engineers, surveyors and architects
Chemicals and pharmaceuticals	<ul style="list-style-type: none"> ▪ Inadequate knowledge of regulations and IPRs ▪ Insufficient knowledge of quality management ▪ Inadequate knowledge of global standards like USFDA ▪ Lack of quality observed in people hired from trades such as Attendant Operator in Chemical Plant (AOCP), MMCP, boiler attendant and wireman ▪ Skills in shortage: R&D, BD managers, technical skills etc. For managerial skills also, people are hired from Mumbai, as such

Sector	Key skill gaps in Maharashtra
	skills are in shortage in other districts
Fishery	<ul style="list-style-type: none"> ▪ Lack of awareness of latest scientific methods of fish breeding ▪ Shortage of personnel at the managerial level ▪ Lack of knowledge on fish storage and warehousing ▪ Inadequate knowledge of fish processing
Food processing	<p>Organised</p> <ul style="list-style-type: none"> ▪ Inadequate knowledge of modern packaging material like Tetra, TCA, TBA etc. ▪ Inadequate knowledge of operating packaging machinery ▪ Shortage of food technologists and micro-biologists ▪ Shortage of managerial staff in most districts. Mostly, they are hired from Mumbai, Pune etc. ▪ Inadequate knowledge on safety hazards ▪ Inadequate focus on R&D ▪ Lack of discipline in shop floor workers <p>Unorganised</p> <ul style="list-style-type: none"> ▪ Maharashtra has high potential of providing employment to people in food processing sector due to availability of raw materials. However, processing skills and entrepreneurial skills are lacking in the people ▪ Inadequate understanding of marketing and branding ▪ Lack of skills to produce value added products ▪ Inadequate hygiene, safety and quality practices
IT / ITES	<ul style="list-style-type: none"> ▪ Very high skill gaps observed in graduates / diploma holders hired from educational institutions. Thus, most of them have to be re-trained on the job ▪ Shortage of technical skills as well as soft skills and communication skills has been reported ▪ Lack of practical knowledge and use of latest machinery and equipment
Organised retail	<ul style="list-style-type: none"> ▪ There is abundance of youth wanting to work in the sector. However, most of them are untrained and have to be trained on the job on all the skill sets required ▪ Attrition rates and absenteeism is observed to be very high especially at the shop floor ▪ Major gaps observed in soft and communication skills; English speaking skills are also reported to be lacking, especially in youth coming from the interiors of Maharashtra
Textiles and clothing	<ul style="list-style-type: none"> ▪ Most of the work is mechanised ▪ On-the-job training is provided as youth coming out of institutes are reported to be short on practical exposure due to lack of latest machinery and equipment available in the educational / training institutes ▪ Many districts have high potential due to availability of raw material – especially cotton. However, there is lack of skill set for the entire value chain

Sector	Key skill gaps in Maharashtra
Transportation, logistics, warehousing and packaging	<ul style="list-style-type: none"> ▪ Inadequate knowledge of hygiene, safety and first aid ▪ Lack of knowledge of tax regimes, permit rules etc. ▪ Inadequate exposure to handle increasing tonnage and higher capacity trucks ▪ Inadequate knowledge of Bill of Lading and Letter of Credit (LCs) ▪ Inadequate knowledge of procedures related to Container Freight Stations (CFS) and Inland Container Depots (ICD) ▪ In case the customer is internally using an advanced inventory management system, the ability to facilitate information in a compliant format is inadequate ▪ Shortage of skilled workers operating Material Handling Vehicles (MHV)
Tourism, travel and hospitality	<p>Travel and tourism</p> <ul style="list-style-type: none"> ▪ Inadequate knowledge of English speaking ▪ Inadequate soft skills and communication skills ▪ Lack of knowledge of new concepts such as adventure tourism, religious tourism, experiential tourism etc. ▪ Lack of professionally trained adventure sports teachers ▪ Shortage of good quality trained guides ▪ Inadequate knowledge of local attractions and tour planning <p>Hospitality</p> <ul style="list-style-type: none"> ▪ Shortage of managerial staff in most districts, and thus this staff has to be brought from Mumbai, Pune etc. ▪ Insufficient understanding of hotel offerings ▪ Insufficient knowledge on client etiquette except for in bigger cities ▪ Inadequate customer relationship management

Source: IMACS Analysis

1.9. Employment potential

Based on the entire diagnostic analysis above and our discussions with the key stakeholders in the districts, we have identified sectors which will be the development and employment growth engines in the State in the next ten years and will have skill training requirements. We have forecasted both the incremental demand and supply side of human resources from 2012 to 2022. We have mainly forecasted the numbers for 20 high growth sectors identified by NSDC. In addition, we have identified 'other manufacturing', as a prominent sector for Maharashtra.

1.9.1. Demand side numbers

Based on our forecasts, we estimate that between 2012 and 2022, an incremental demand (cumulative for 10 years) for 1.55 crore persons will be generated in the State of Maharashtra. Maximum demand will be generated from sectors such as 'building, construction and real estate', 'organised retail', and 'banking, financial services and insurance'.

District wise demand numbers are available in the respective district profiles.

Table 10: Incremental demand in Maharashtra, 2012 to 2022

Sectors	2012-17	2018-22	2012-22
Building, Construction industry and Real Estate	1,131,068	1,569,722	2,700,789
Organised Retail	655,565	1,631,255	2,286,820
Banking, financial services and insurance	581,917	935,419	1,517,337
Agriculture and allied	572,431	291,702	864,132
Education and Skill Development	498,637	220,909	719,546
IT & ITES	487,108	745,846	1,232,954
Media and Entertainment	399,570	701,005	1,100,576
Transportation, Logistics, Warehousing and Packaging	378,925	429,549	808,474
Tourism, Travel, Hospitality & Trade	296,149	431,221	727,370
Healthcare Services	250,364	342,629	592,993
Other manufacturing*	240,938	396,630	637,569
Auto and Auto component	138,976	216,061	355,038
Food Processing	66,867	86,273	153,139
Textile and Clothing	54,665	69,283	123,948
Gems & jewellery	17,613	23,550	41,163
Chemicals & Pharmaceuticals	10,117	10,656	20,773
Other sectors^	7,914	9,192	17,106
Unorganised@	705,217	917,242	1,622,460
Total	6,494,041	9,028,144	15,522,185

*Source: IMAcS Analysis; * Other manufacturing includes manufacturing of basic metals, fabricated metal products and other transport equipment (building of ships and boats, manufacture of railway locomotives and rolling stock, manufacture of air and spacecraft and related machinery, manufacture of military fighting vehicles etc.)*

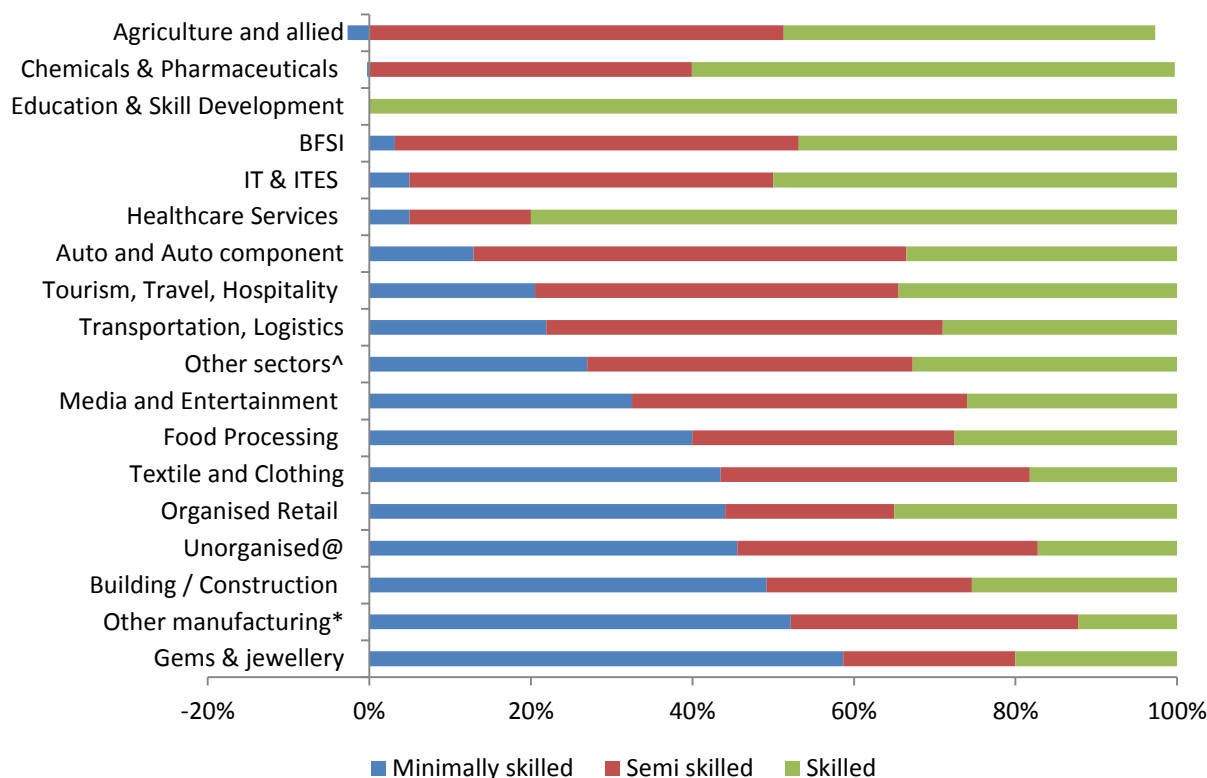
^ Other sectors include furniture and furnishings, electronics and IT hardware, and leather and leather products'. These do not have significant employment generation, but have scope for up-skilling.

@ In unorganized sector, we have included domestic workers, handloom and handicrafts, facility management, security guards and beauticians.

Note: *Current employment numbers for different sectors sourced from sources such as ASI, NSSO, CSO, Census 2001 and 2011, RBI, IRDA, MHRD, Department of Education, etc. Wherever numbers were not available from Government sources, we relied on industry interactions and our own analysis.*

In the next ten years, maximum demand is expected to be for skilled workers at 37 per cent of the total incremental demand. This is expected to be followed by semi-skilled workers at 35 per cent, and minimally skilled workers at 28 per cent.

Figure 28: Skill wise incremental demand in Maharashtra – 2012 to 2022



Source: IMAcS Analysis; * Other manufacturing includes manufacturing of basic metals, fabricated metal products and other transport equipment (building of ships and boats, manufacture of railway locomotives and rolling stock, manufacture of air and spacecraft and related machinery, manufacture of military fighting vehicles etc.)

^ Other sectors include furniture and furnishings, electronics and IT hardware, and leather and leather products'. These do not have significant employment generation, but have scope for up-skilling.

@ In unorganized sector, we have included domestic workers, handloom and handicrafts, facility management, security guards and beauticians.

The incremental demand for minimally skilled workers is concentrated in sectors such as building and construction, followed by organised retail. Demand for semi-skilled workers is concentrated in sectors such as BFSI, building and construction and IT / ITES as well as in unorganised sector. Demand for skilled workers is expected to be driven by sectors such as organised retail, education and skill development, and BFSI.

Table 11: Skill wise incremental demand in Maharashtra, 2012 to 2022

Sectors	Minimally skilled	Semi skilled	Skilled
Agriculture and allied	(24,597)	468,682	420,047
Auto and Auto component	45,877	190,084	119,077
BFSI	48,242	758,668	710,426
Building / Construction	1,328,828	685,981	685,981

Sectors	Minimally skilled	Semi skilled	Skilled
Chemicals & Pharmaceuticals	(59)	8,339	12,493
Education and Skill Development	-	-	719,546
Food Processing	61,187	49,805	42,148
Gems & jewellery	24,143	8,787	8,233
Healthcare Services	29,650	88,949	474,394
IT & ITES	61,648	554,829	616,477
Media and Entertainment	357,715	456,722	286,138
Organised Retail	1,007,045	479,388	800,387
Textile and Clothing	53,927	47,405	22,616
Transportation, Logistics	177,048	396,851	234,575
Tourism, Travel, Hospitality	149,377	327,316	250,677
Other manufacturing*	332,646	226,908	78,015
Other sectors^	4,616	6,893	5,597
Unorganised@	738,913	604,019	279,528
Total	4,396,207	5,359,626	5,766,352

*Source: IMaCS Analysis; * Other manufacturing includes manufacturing of basic metals, fabricated metal products and other transport equipment (building of ships and boats, manufacture of railway locomotives and rolling stock, manufacture of air and spacecraft and related machinery, manufacture of military fighting vehicles etc.)*

^ Other sectors include furniture and furnishings, electronics and IT hardware, and leather and leather products'. These do not have significant employment generation, but have scope for up-skilling.

@ In unorganized sector, we have included domestic workers, handloom and handicrafts, facility management, security guards and beauticians.

1.9.2. Supply side numbers

As of 2011, Maharashtra has a total population of 11.23 crore persons. Of this, labour force is estimated at 5.05 crore persons. Each year, people from different educational institutions join the workforce at different skill levels. We have estimated that between 2012 and 2022 (cumulative / incremental), about 1.06 crore persons will join labour force and will be available in the job markets looking for jobs. These are the locals only. However, Maharashtra being a net employment generator, it attracts and will continue to attract migrants from other States as well. When supply of net migrants from other States is also added, we see that the supply numbers swell up to 1.99 crore persons.

Supply of local labour force is split across different skill levels as: 73.2 per cent at minimally skilled, 24.4 per cent at semi-skilled, two per cent at skilled and only 0.4 per cent at highly skilled. Looking at the skill profile of migrant workers, we see that most of the migrants are minimally-skilled only at 89.5 per cent and the remaining are semi-skilled and above.

Table 12: Incremental supply in Maharashtra, 2012 to 2022

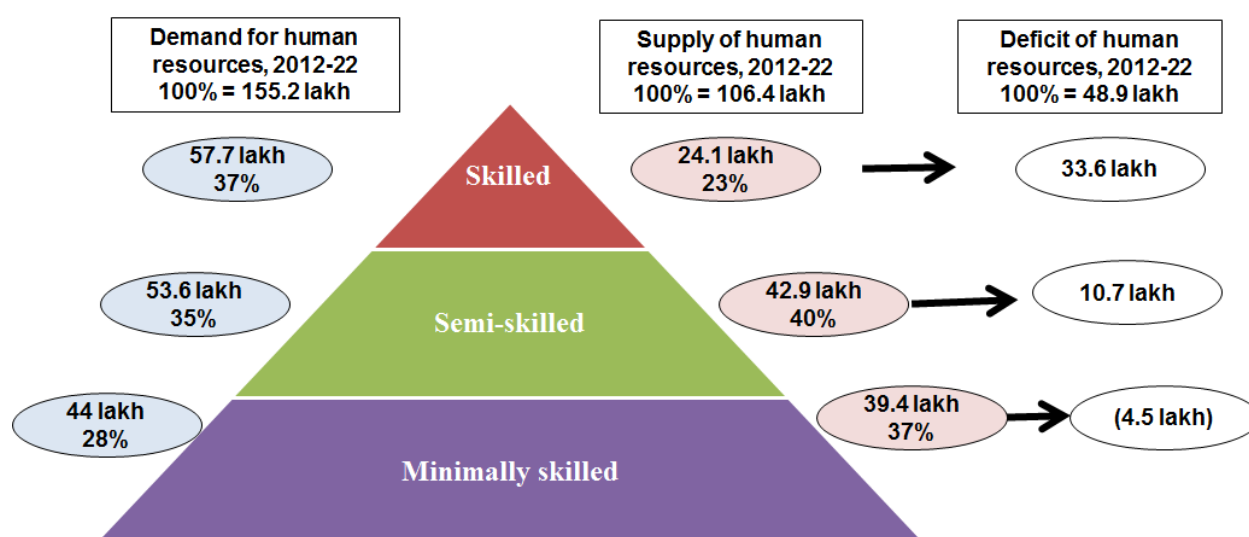
Skill levels	Incremental supply, 2012-22
Incremental supply of locals (adjusted for voluntary unemployment)	10,636,813
Migrant workers likely to be available for jobs in Maharashtra	9,282,841
Incremental supply inclusive of migrant workers	19,919,654

Source: IMaCS Analysis, Voluntary unemployment ratio derived from Census and NSSO round on Employment and Self-Employment; Migrant data derived from NSSO report on 'Migration in India'. Supply numbers for locals assume that additional capacity will be created in the State.

1.9.3. Demand-supply gap

As discussed above, we have estimated that between 2012 and 2022, Maharashtra is likely to have an incremental demand for 1.55 crore persons and incremental supply (consisting of locals only) of 1.06 crore persons. This leads to a shortage of supply at 0.49 crore persons. The shortage is most acute at the skilled level, while there is a small surplus at the minimally skilled level.

Figure 29: Demand-supply gap in Maharashtra, 2012 to 2022 (accounting for local labour force only)

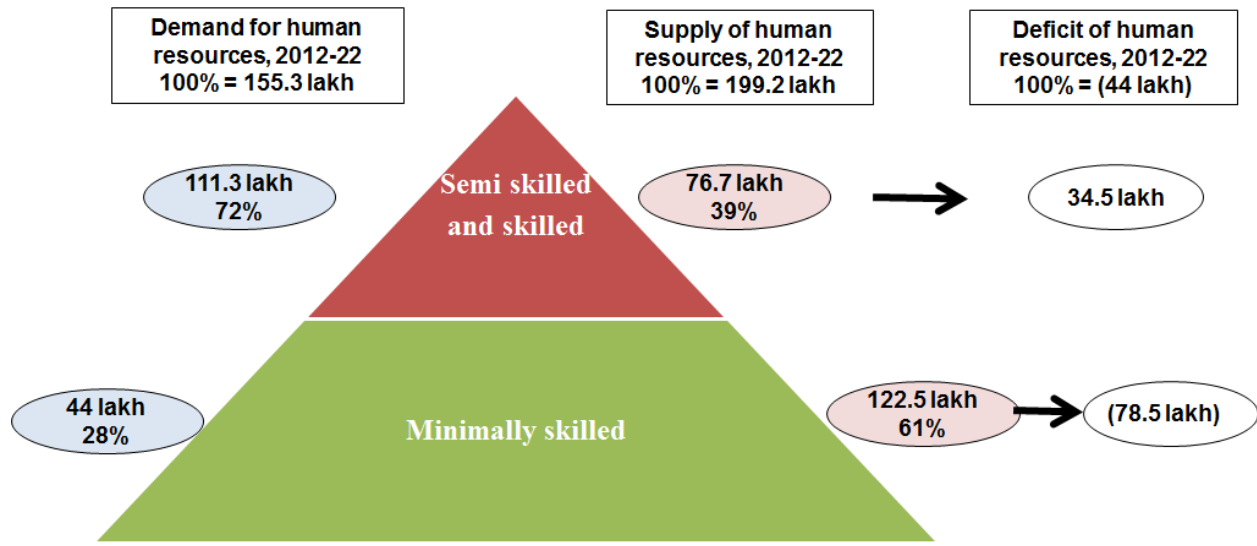


Source: IMaCS Analysis

However, when we include the supply of migrants who are likely to enter Maharashtra looking for jobs, then the total supply (locals and migrants combined) is estimated to be greater than demand, leaving a supply surplus of 0.44 crore persons.

However, looking at supply at different skill levels, we see that most of the supply is likely to be concentrated at the minimally skilled level, while most demand is for semi-skilled and above. Thus, there is a need for up-skilling of the workforce, so that the demand supply mismatch at higher skill levels is met. Once the minimally skilled people are provided with adequate skills, a big part of the excess supply at the lowest level will be absorbed at the upper skill levels.

Figure 30: Demand-supply gap in Maharashtra, 2012 to 2022 (accounting for local labour force and migrants)



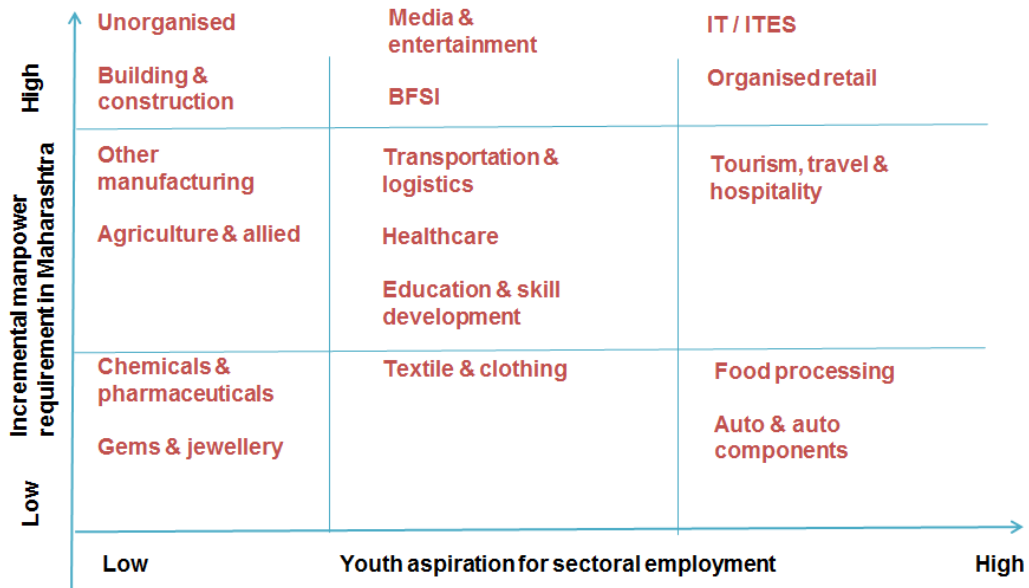
Source: IMAcS Analysis

1.10. Youth aspirations

As a part of the study, we held youth group discussions across the State to understand the youth aspirations and to capture whether they are in line with the high growth sectors in the State. The same has been captured in the Figure below. The figure shows that sectors such as IT / ITES and organized retail are the high demand sectors both in terms of employment generation potential as well as youth aspirations. However, for sectors such as building and construction, where job growth potential is high, youth have very low aspirations to work in. Presently also, very few locals want to work in this industry. Most of the construction workers are brought from other States such as Uttar Pradesh, Bihar etc.

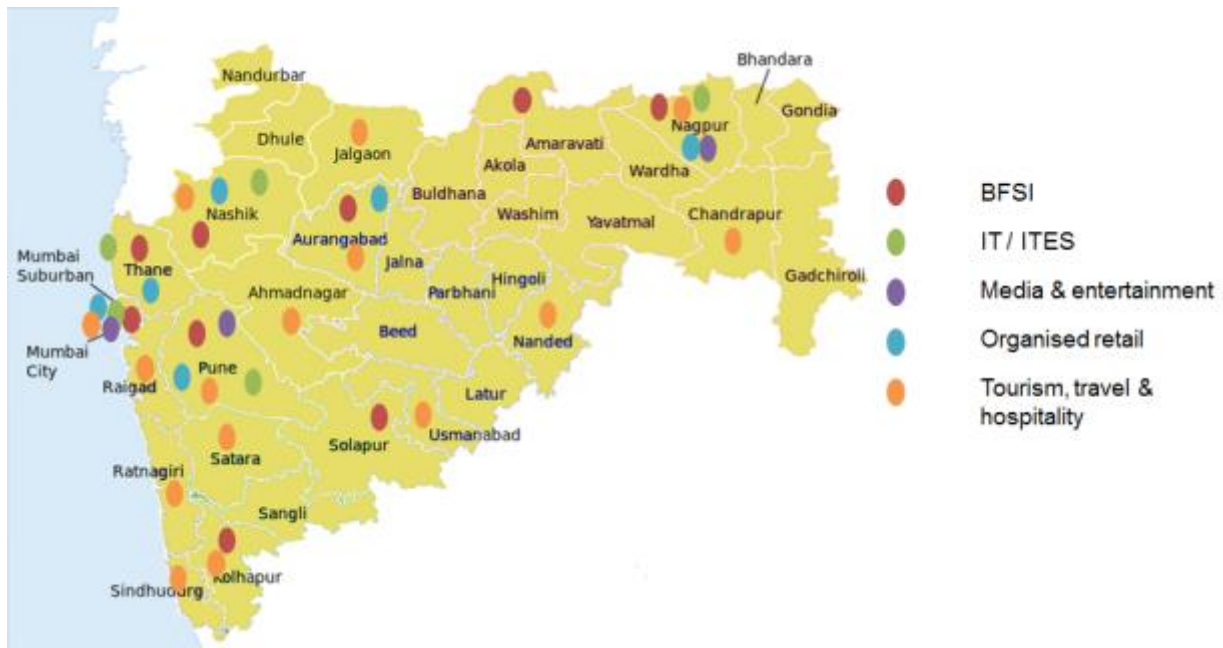
Some of the other preferred sectors by youth are 'food processing' and 'auto and auto components'. However, the employment generation potential of these sectors is relatively low, as going forward they are expected to become more technology intensive and will not require as many jobs.

Figure 31: Youth aspirations – mismatch between industry demand and aspirations of the youth



We have also identified sectors which are high both on employment generation potential as well as youth aspirations. These sectors – by district – are indicated in the figure below. As can be seen, most opportunities are available in Konkan and Pune regions.

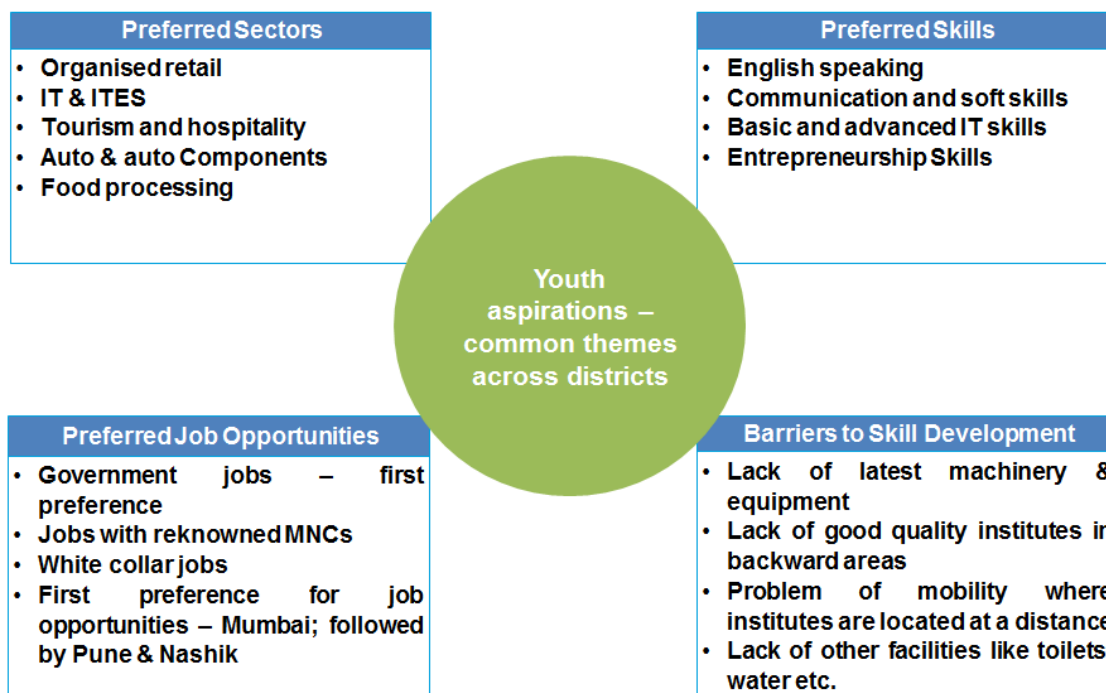
Figure 32: District wise, sector wise skilling opportunities



Note: Only those sectors have been identified in this map, which are high on potential employment generation as well as youth aspirations.

While the detailed youth group discussions have been presented in the respective district profiles, we have captured some of the common these in the figure below.

Figure 33: Youth aspirations – common themes across districts



Common themes on youth aspirations across districts:

- Preferred sectors:** Youth aspire to be in service sector jobs (preferably white collar). These include sectors such as organized retail, IT&ITES, tourism and hospitality. Some of the industrial jobs are also preferred in sectors such as auto and auto components, and food processing. However, the jobs preferred in industrial sectors are white collar in nature. There is less inclination to work in blue collar jobs. Jobs requiring hard manual work (such as building and construction) are a necessity and not a choice.
- Preferred skills:** Some of the basic skills which are considered as a necessity by most youth are English speaking, communication and soft skills and basic IT skills. These skills are considered a necessity irrespective of the sector of work. Youth with a preference for self-employment are also interested in learning entrepreneurship skills.
- Preferred jobs:** Most youth have Government jobs as their first priority. This is followed by jobs with renowned multi-national companies (MNCs). Traditional and unorganized sectors such as handloom and handicrafts etc. and agriculture are considered as un-remunerative sectors and youth do not prefer to work on those. Also, jobs are preferred over self-employment.
- Preferred locations:** First preference for youth in Maharashtra is Mumbai. Even the ones residing in close by areas such as Thane, Ratnagiri etc. prefer to work in Mumbai only (despite availability of work in their own districts). After Mumbai, other cities which are preferred for work in Maharashtra include Pune, Nashik, Nagpur and Aurangabad. Thus, there is high rate of

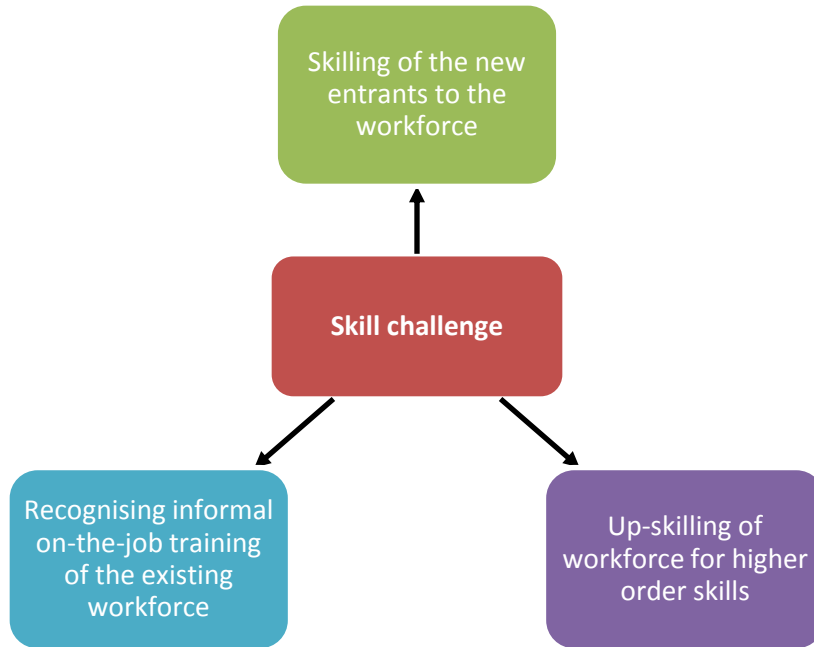
migration for jobs. Migration is prominent not only for jobs, but for education as well, as the educational institutions in these cities are considered to be of better quality as compared to those located elsewhere.

1.11. Recommendations

Maharashtra is the second most populous State in India after Uttar Pradesh. It is also the most industrialised State in the country, generating significant employment opportunities not just for its locals but also for people from outside the State. The State has set up good educational infrastructure to meet the demands of skilled manpower. However, our analysis shows that going forward, there is likely to be a shortage of skilled human resources at all skill levels except at minimally skilled. Thus, the State needs to gear up its machinery to focus better on the skill development initiatives so that the demand-supply gap for skilled manpower is narrowed down and the economy is able to get the skilled people that it needs.

The three fold skilling challenge that needs to be addressed is depicted in the figure below. The first challenge is to provide skills to the new entrants to the workforce. For this, the existing educational institutions need to be up-graded and new institutions also need to be created. Secondly, up-skilling of the existing workforce needs to be done for providing them higher order skills. This is especially true for sectors such as agriculture and allied, handloom, handicraft, etc. One of the reasons for the decline of these sectors is the outdated skills. Modern and sophisticated skills need to be provided to the workforce to make these sectors sustainable. Thirdly, there is the challenge of recognising the informal on-the-job training of the existing workforce. This is more crucial for the workers in the informal sectors who gain mastery in skills by working on-the-job over many years. However, their skills currently go unrecognised. There is a need to devise a mechanism where their skills are recognised and even certified, to make these people a part of the recognised skilled workforce.

Figure 34: Three fold skill challenge



To address the above challenges, all the stakeholders – State Government, industry, training providers and NSDC need to work in conjunction to ensure that the skill gap issues are addressed comprehensively. Given below is a brief description of the kind of roles that have been envisaged for all the four stakeholders.

Figure 35: Roles envisaged for the stakeholders

Government	Industry	Training providers	NSDC
<ul style="list-style-type: none"> • Role of a facilitator for private intervention. • Many training programmes are currently run by the Government Departments as well. It can continue to strengthen those and add more training programmes in its role as a training / skill provider. 	<ul style="list-style-type: none"> • Providing inputs to training providers for alignment of the training programmes with the industry requirements • On-the-job training • Focused group trainings through collaboration in industry associations / clusters 	<ul style="list-style-type: none"> • Role of a standalone training provider based on the opportunities identified in the districts • Collaboration with Govt / Industry / NSDC to facilitate broader training programmes 	<ul style="list-style-type: none"> • Overarching and guiding role in skill development in the State and its various regions. • Role of a facilitator for private training providers.

1.11.1. Government

Presently, the responsibility of education and skill development in Maharashtra lies with the following Departments: Directorate of Primary Education, Directorate of Higher Education (DirHE), Directorate of Technical Education (DTE), and Directorate of Vocational Education & Training (DVET). In addition, there are skill development programmes organised at the other Department levels as well, including District Industries Centre, Department of Tourism, Department of Agriculture, District Rural Development Agency etc. As discussed earlier in the report, the State Government has also set up its Skill Development Mission for skill development and up-gradation in all districts of Maharashtra.

The detailed sector wise and district wise recommendations are presented in the district reports for each of the 35 districts in Maharashtra. In this section, we are only presenting the broad themes which are required.

Figure 36: Broad framework of recommendations for the Government



Broad recommendations for Government

Based on our primary survey, we have found that following steps, if taken, will address the skill gap issues of many sectors:

1. **Focus on scaling up the State Skill Development Mission:** The Government of Maharashtra has been a pioneer in setting up an institutional mechanism for skill development in the State – up to the District level. It has also set up sectoral Skill Development Committees for 11 sectors, which includes high growth sectors such as construction, retail, BFSI, and IT /ITES. There is a need to strengthen the mechanism further by taking the following steps:
 - a. *Setting up of more Sectoral Skill Development Committees:* Presently, the committees cover most of the high growth sectors except for the following. The Government can consider setting up of the committees for these sectors as well. These include:
 - i. Education and skill development
 - ii. Media and entertainment
 - iii. Unorganised sector (domestic workers, facility management and security guards)
 - b. The Sectoral Skill Development Committees should also seamlessly align with the national level Sector Skill Councils (SSCs) set up by the NSDC.
 - c. *Strengthening of District level skill development executive committees:* District level committees have also been set up under the chairmanship of District Collectors. There is a need to leverage upon these to achieve the skill development objectives faster. Some of the initiatives that can be taken up for this are:

- compliance, it will be important to hold workshops at least at the industrial association levels in all districts to ensure maximum industry participation.
- ii. The Directorate is already taking steps to ensure that all job seekers in the State are registered on the LMIS website. It is planning to take initiatives even at the village level to ensure that all job seekers (above 8th standard) are registered. It plans to achieve this through involvement of all Government institutions such as ITI, polytechnics, Common Service Centres etc. who will ensure that all students registered with them are also registered on the LMIS website. The same needs to be ensured for school going children also (at least above 10th standard) and for private education institutions as well by making registrations compulsory.
 - iii. While all Government educational institutions will be brought under the ambit of the system, incentives need to be designed for registration of all private educational institutions as well.
 - iv. All the skill development programmes organised and held in the State by different Central and State Government departments should also be updated in the system.
- d. Once the system is fully developed, it can be used as a very useful tool for conducting real-time skill gap analysis in the State. With full compliance from industry, job seekers and educational institutions, it will be possible to assess what kind of skills are demanded by the industry vis-à-vis the skills available with the job seekers and the skills taught by the educational institutions. This kind of analysis can be used to generate skill gap reports on regular intervals (quarterly or half-yearly) and the same can be used for making policy level decisions in the State about the availability and development of educational institutions. This can be used as an effective tool for eliminating all skill gaps that the State is facing or is likely to face in future.
3. **Introduction of 'Trade Specialisation Centres' (TSCs):** The objective of this initiative is to develop TSCs at hubs around key centres of demand and this will enable students to work on latest machinery/equipment at the identified centres. The system can be implemented in Maharashtra in the following manner:
- a. Identifying ITI / ITCs, which can be called as 'Hub ITI / ITCs', to host highly specialised equipment relevant to high demand trades in the area
 - b. Identifying specialised equipment required for such trades
 - c. Such ITI / ITCs as well as equipment identification to be based on key demand areas / high growth sectors identified for a particular district
 - d. These ITI / ITCs would serve as 'hubs' whereas other ITI / ITCs in the region ('Spokes', located around the hub ITI / ITCs) would be able to make use of such equipment for lab-work and modules requiring exposure to such specialised equipment
 - e. These specialised equipment can also be shared with neighbouring small/medium industries for a) trials and testing, and b) training on a rental/'fee-per-use' basis, thereby making such Hub/TSC self-sustaining and revenue-generating.

- f. The initial funding for the project can be arranged by the Government alone or in collaboration / PPP with leading industrial units.
- g. List of sectors and locations, where TSCs can be set up are given in the table below.

Table 13: Proposed sectors and locations for setting up of Trade Specialisation Centres

Proposed Sectors	Proposed locations for TSCs
Auto and auto components manufacturing	Ahmadnagar, Akola, Aurangabad, Nashik
Building and construction	Can be considered for all districts located in Marathawada and Vidarbha regions (due to availability of manpower that can be trained and used all over Maharashtra in the construction industry)
Food processing	Ahmadnagar, Akola, Amravati, Aurangabad, Beed, Bhandara, Buldhana, Chandrapur, Dhule, Gondia, Hingoli, Jalgaon, Kolhapur, Latur, Nanded, Nandurbar, Osmanabad, Ratnagiri, Sangli, Satara, Sindhudurg, Solapur, Washim, Yavatmal
Textiles (spinning and weaving)	Akola, Amravati, Aurangabad, Buldhana, Dhule, Hingoli, Jalna, Kolhapur, Latur, Nanded, Nandurbar, Osmanabad, Parbhani, Sangli, Solapur, Wardha, Yavatmal
Other manufacturing (fabrication, general engineering)	Ahmadnagar, Aurangabad, Chandrapur, Jalgaon, Jalna, Kolhapur, Ratnagiri, Solapur, Kolhapur

Note: Districts such as Mumbai, Thane and Pune have not been proposed in the above list as these already have good access to machinery and equipment. Source: IMAcS Analysis

4. **Introduction of sandwich programme for practical exposure:** Currently, the focus of educational system (colleges, ITI, VTPs etc.) is on theoretical knowledge, which doesn't reflect industry needs. Youth after passing out from educational institutions have to be provided mandatory induction or on-the-job training to bring them up to speed on what skills are expected of them. This is attributed to lack of practical knowledge as a part of course curriculum. In some engineering courses, students are given industry exposure in one semester. Even in ITI courses, apprenticeship system is in place for industry exposure. However, both of these have been reported to be insufficient. Thus, the DTE, DirHE and DVET need to change the course curriculums to incorporate higher industry exposure. This can be incorporated through the 'sandwich system', wherein the theoretical learning in institutes is sandwiched between 'industry visits'. The industry visits could be in the form of internships / apprenticeships etc. Some of the sectors where this should be made mandatory are:
 - a. Auto & auto components
 - b. Building & construction
 - c. Chemicals & pharmaceuticals

- d. Food processing
 - e. Healthcare
 - f. IT & ITES
 - g. Textiles & clothing
 - h. Tourism and hospitality
 - i. Other manufacturing
5. **Inclusion of guest lecturers from industry:** There is a need to apprise the students of the latest technology / applications used in different sectors (both industry and services). Guest lecturers invited from the industry for the same have been reported to be rich sources of such skill repository. Thus, more focus needs to be placed on that and can even be made mandatory in all colleges and institutions of higher education. For instance, for engineering courses, experts from the industries such as Godrej, Siemens, etc. can be invited from time and again for delivering guest lectures. This can also be achieved by greater integration of the industry on the Sectoral Skill Development Committees of the State. The industry members on the committees can be assigned an additional responsibility of being part time guest faculty on Universities.
6. **Tie ups between Government and industry:** Various types of tie ups can be worked out. Some of these are:
- a. **More focus on adoption of ITI:** Many ITI in Maharashtra have already been upgraded under the scheme of adoption of ITI. This has been done by setting up of COEs or by complete adoption of a Government ITI. The scheme needs to be strengthened further by close monitoring of the ITI which have already been adopted to assess whether proper work has been done by the industry player. Secondly, more ITI can be put up for adoption. The same needs to be focussed upon in the tribal and naxalite regions wherein availability of good quality training providers is less.
 - b. **Greater focus on MES:** Government needs to place a greater focus on the Modular Employable Skills (MES) programme, wherein industry participation is required for imparting skills. Industry participation can be increased by making them more aware of the scheme.
7. **Recognising informal on-the-job training:** Many workers in the informal sectors are classified as minimally skilled due to their low qualification (below Xth pass in most cases). However, once they are on-the-job, they tend to acquire skills simply through experience. However, there is no certification which is provided for such skills acquired. When these workers move from one unit to another, they have no proof of the skills acquired. Thus, there is a need to recognise such skills also, for the benefit of the workers in the informal sector. The Government can introduce certification programmes, wherein such workers can sit for examinations (with greater focus on practical) and get certified for their skills, if they pass the exam. The infrastructure of Maharashtra State Board of Vocational Education Examination (MSBVEE) can be leveraged for the same.

8. **Incentivising private training in priority sectors:** The high growth sectors in the State (such as building and construction, organised retail, BFSI, unorganised sectors) need intensive training and the same cannot be met by Government machinery alone. Private training providers need to be party to the same. However, in certain sectors, private training partners might be hesitant to intervene due to lack of economic feasibility. In such cases, the Government can consider helping them in various ways. These could include: help with the initial seed capital, making Government educational infrastructure available for private training (such as in ITI / colleges / schools etc., wherein such infrastructure is not used for second shift etc.). Some of the sectors where incentives need to be provided are as follows:

Table 14: High growth sectors where Government incentives are required for private training

Sectors	Districts
Agriculture & allied	All districts except Mumbai
Building & construction	All districts, especially Mumbai, Mumbai Suburban, Thane, Nagpur, Nashik, Pune and Aurangabad
Education & skill development	All districts
Food processing	Mainly for small scale food processing in rural areas of Ahmednagar, Gondia, Amravati, Bhandara, Beed, Buldhana, Chandrapur, Gadchiroli, Hingoli, Jalgaon, Jalna, Kolhapur, Latur, Nanded, Nandurbar, Osmanabad, Ratnagiri, Sangli, Satara, Solapur, Yavatmal
Healthcare (mainly for para-medics and nurses)	All districts
Tourism & hospitality	Mumbai, Raigad, Ratnagiri, Sindhudurg, Pune, Satara, Kolhapur, Nashik, Ahmednagar, Aurangabad, Jalgaon, Osmanabad, Nanded, Nagpur, Chandrapur
Unorganised sector (domestic workers, beauty culture, security guards, facility management)	Ahmednagar, Aurangabad, Kolhapur, Mumbai, Mumbai Suburban, Pune, Nagpur, Nashik, Raigad, Thane

The list is indicative. For details, please refer to the district profiles.

1.11.2. Private training providers

Maharashtra presents many opportunities for private training providers. The opportunities become all the more significant since the State is placing very high focus on skill development and there is demand for private training. In addition, in 2012, vocational courses/training providers have been included in the negative list of service tax to provide greater benefit. This further acts as an incentive for private training providers.

Detailed sector wise and course wise opportunities available in the districts for training providers are mentioned in the district profiles. Here, we are presenting broad contours of the same.

Figure 37: Broad contours of recommendations for private training providers



1. **Focus on training in English as well as local languages:** Based on the interactions with the stakeholders, in the districts, one common feedback which we received both from the industry as well as the students was that the training programmes need to be provided in English. This was highlighted as one of the key skill gaps. This becomes all the more important in districts such as Mumbai, Mumbai Suburban, Thane, Nagpur, Nashik, Pune and Aurangabad. In terms of sectors, it is more pertinent for organized and formal sectors, where English is the main mode of communication. In terms of informal sectors and also in case of smaller districts, training will have to continue to be provided in the local languages as the youth who join training programmes are not well-educated and do not have the acumen to pick up English-speaking skills fast. Also, the industry in smaller districts (especially MSME) also uses local language as mode of communication. However, English can be introduced as one of the subjects, which can hone the skills of the youth over time.
2. **Communication skills and soft skills:** This is another common concern which has been voiced by both the industry and the youth. Thus, all training providers need to introduce communication skills and soft skills as a compulsory subject in their course curriculum. This holds true for all types of courses and all districts. However, some of the sectors where these skills are a must are:
 - a. Auto & auto components
 - b. BFSI
 - c. Chemicals & pharmaceuticals
 - d. Education & skill development
 - e. Food processing (in large organized units)
 - f. Healthcare services
 - g. IT & ITES

- h. Organised retail, and
 - i. Tourism and hospitality
3. **Industry exposure:** Presently, ITI have apprenticeship programs, wherein students are given industry exposure. Similarly, some of the engineering courses also involve industry exposure for a few months up to a semester. However, the industry exposure is to its minimal when it comes to vocational education. Based on our interactions with the industry also, we found that the students passing out from vocational institutes are not industry-ready as they have never had any industrial exposure. Thus, industry exposure in form of industry visits / internship with the industry needs to become a compulsory part of every training program.
4. **Proper placement linkages:** Many a stakeholders during the stakeholder discussions revealed that even though various training institutes have come up in the market, many of them are not able to even fill up the seats due to problems in student mobilization. The key reason attributed for the same was lack of placement linkages. Students do not have motivation to join the training programs till the time placement guarantee on successful completion of course is ensured (even if it is not 100%). Thus, there has to be stronger ties between training providers and the industry to ensure that proper placement linkages are established.
5. **Collaboration with Government Departments:** Currently, training programs are offered by various Government departments as well. These programs can be offered with help of the private training providers as well. Some of the sectors wherein training providers can collaborate with the Government Departments are:
- a. Agriculture and allied
 - b. Food processing
 - c. Textiles & clothing, and
 - d. Tourism & hospitality
6. **Collaboration with NSDC:** Certification of training programmes can be done in collaboration with NSDC. Also, affiliation to the respective SSCs set up by NSDC will also help.
7. **Collaboration with industry:** Private training providers can collaborate with industry. Some ways in which collaboration can be achieved are as follows:
- a. *Having the industry fund the training program:* Such a model is already in place for sectors such as BFSI (practiced by some private banks), wherein banks collaborate with training providers to meet their skill requirements (especially for sales staff). The bank communicates its training program to the training provider, who frames its curriculum in consultation with the bank. Students on successful completion of the program are guaranteed placement and their fee is refunded by the bank. Such a model can be explored in other sectors as well.

- b. *Partner with industry players to develop trade / skill specific courses:* There has to be better integration between training providers and the industry to ensure that the course curriculum is directly in line with what the industry expects.
- c. *Partner with local industry associations:* The same holds true for MSME sectors, wherein industry associations can help in framing of course curriculum as well as in ensuring placement arrangements.

An indicative sample list of courses along with districts where they need to be implemented is given in the table below. However, note that the list is not exhaustive and is only a representative sample of what is provided in the individual district profiles. For details, please refer to the respective district profiles.

Table 15: Indicative list of training programs for private training providers

Sectors	Courses	Focus districts
Agriculture & allied	Multi cropping, inter cropping, horticulture crop training, Products made out of forest resources such as bamboo, medicinal plants, aromatic plants etc., Deep-see fishing, fish processing, Honey extraction and processing etc.	All districts except Mumbai
Building, construction & real estate	Plumbing, painting, welding, wireman, electrician, masonry, carpentry, bar bending, Geology, hydrology, hydraulics, electrical etc.	All districts
Chemicals & pharmaceuticals	Chemical synthesis and fermentation, Instrumentation, Maintenance Mechanical Chemical Plant (MMCP), Attendant Operator Chemical Plant (AOC), Chemical plant operator, CNC milling, Petrochemical related courses etc.	Raigad, Thane
Food processing	Oil extraction (mainly soyabean), Boiler attendant (used in mills), Sortex machine operators (for rice mills), Milling machine operation, Product diversification (such as rice bran oil), Preservation and processing of fruits and vegetables into jams, fruit squashes, pickles etc., Dairy technology and micro biologists etc.	Ahmednagar, Gondia, Amravati, Bhandara, Beed, Buldhana, Chandrapur, Gadchiroli, Hingoli, Jalgaon, Jalna, Kolhapur, Latur, Nanded, Nandurbar, Osmanabad, Ratnagiri, Sangli, Satara, Solapur, Yavatmal
Media & entertainment	Content creation, editing, data visualisation, multimedia reporting, 2D animation, 3D animation, introduction to VFX, voice effects, etc.	Mumbai, Mumbai Suburban, Pune, Nagpur
Textiles & clothing	Use of design software (such as ned graphics, jacqCAD master etc.), sampling the colour effects, higher order skills like jardosi, appliqué and akoba, stitching, finishing,	Akola, Buldhana, Dhule, Hingoli, Kolhapur, Latur, Osmanabad, Parbhani, Raigad, Wardha, Mumbai, Thane, Pune

Sectors	Courses	Focus districts
	sampling, pattern making, etc.	
Transportation & logistics	Material handling, cold storage management, documentation in logistics and warehousing, routing and fleet optimisation, inventory optimisation, 3PL, 4PL and 5PL management etc.	All districts (especially in coastal districts)

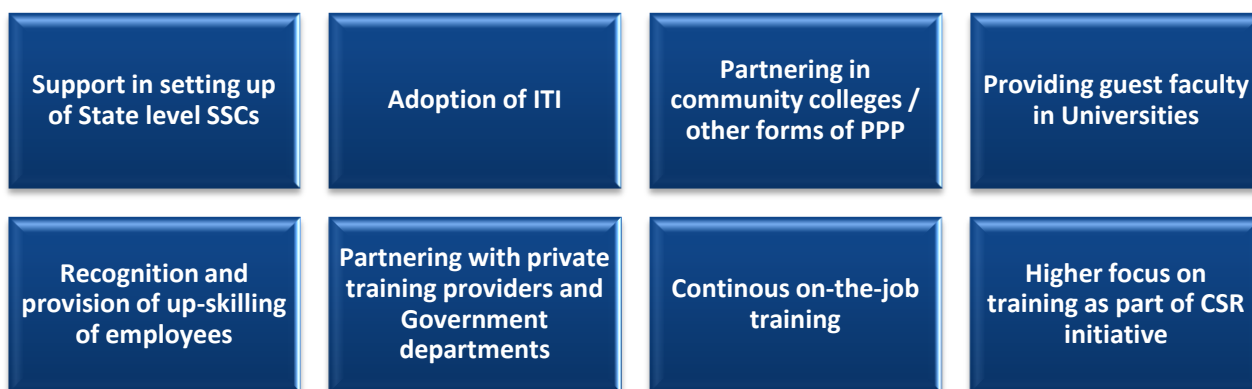
Source: IMACS analysis

1.11.3. Industry

Based on the stakeholders' discussions, we found out that industry's biggest concern pertaining to skill development is the lack of job-ready people. A big percentage of the people passing out from the educational institutions are considered unemployable. Therefore, several large companies have started in house training initiatives. The same, though, is unviable for smaller companies and they believe in the model of 'on-the-job' learning.

In this light, bridging the gap between industry and academic and vocational education system becomes an important area for industry engagement. Adoption of ITIs, partnering in community colleges, providing faculty in Universities that offer job related training and recognition and provision of up-skilling of employees to suit dynamic needs of industry are some of the ways to participate actively.

Figure 38: Broad contours of recommendations for industry



1. **Support in setting up of State level Sector Skill Committees:** The Maharashtra Government has already put in place an institutional mechanism for skill development in the State. It has set up Sector Skill Committees for 11 sectors. The work done by the committees is in preliminary stages and there is a need on the part of the industry to support these committees so that exhaustive skill development initiatives can be taken up in the State. The 11 committees which are already in place in the State and where the industry can collaborate are:
 - a. Construction
 - b. Production & manufacturing

- c. Textile
 - d. Automobile
 - e. Hospitality
 - f. Healthcare
 - g. BFSI
 - h. Organised retail
 - i. Pharmaceutical and chemicals
 - j. IT & ITES
 - k. Agro processing
2. **Adoption of ITI:** Many ITI in Maharashtra have already been up-graded by the Government in collaboration with the industry. Collaboration has been in terms of setting up of COEs, installation of new machinery and equipment, and provision of guest faculty from the industry. Continuous focus needs to be placed on this going forward as well.
3. **Partnering in community colleges:** India is planning to introduce community colleges in all States wherein there will be greater community engagement in terms of collaboration between the students, industry and the colleges. The programme needs close industry participation for it to be a success. Industries in Maharashtra, which are facing skill shortage needs to participate actively in this programme. Some of the industries which are facing critical skill shortages are:
- a. Building, construction and real estate
 - b. Food processing (unorganised sector)
 - c. Gems & jewellery
 - d. Tourism and hospitality
 - e. Unorganised sector (domestic workers, facility management, security guards)
 - f. BFSI (especially sales personnel)
 - g. Organised retail (especially sales personnel)
4. **Providing guest faculty in Universities:** Based on our discussions with the industry in the State, we found out that even though the industry is facing skill shortages; it is not able to actively participate in skill development due to shortage of time with experts. The experts in the industry are not able to take time out for such initiatives. However, it is important that this be done more proactively, as this is for the benefit of industry alone. This is most important for engineering related and other technical courses.
5. **Partnering with private training providers and Government departments:** Based on our industry interactions, we have found that there is a mis-match between the skill requirements which the industry has versus the skills which are taught by the training providers (both Government and private). Thus, there is a greater need for the industry to collaborate with the training providers and help them especially in setting up of course curriculum. The collaboration could also be in form of funding the training programmes as well as providing placement

linkages. Funding of training programmes is the key in many areas because while the industry needs the skilled personnel, the students do not have the capacity to pay. Once funding is in place, it will be easier to mobilise the students.

6. **Accessibility to students for industry exposure:** Industry needs to collaborate with educational institutions and open itself wider to the idea of providing greater industry exposure to the students through site visits / internships etc. This holds true for all sectors.
7. **Continuous on-the-job training and recognition & up-skilling of employees:** The industry needs to continue to focus on on-the-job training. It needs to provide training programmes not just for the new hires, but also for the existing employees at regular intervals for their up-skilling. This is more pertinent for industries which are organised and are more formal in nature. Some of such industries in the State include :
 - a. Auto & auto components
 - b. Building, construction and real estate
 - c. Chemicals & pharmaceuticals
 - d. Food processing (large; organised)
 - e. Healthcare services
 - f. IT / ITES
 - g. Organised retail
 - h. Textiles and clothing (mainly garments), and
 - i. Hospitality
8. **Higher focus on training as part of CSR initiatives:** Skill development can be made a compulsory part of the Corporate Social Responsibility (CSR) initiatives held by the companies. For instance, Raymond Industries provides skill development programmes in the interior districts of Maharashtra under the umbrella of J.K. Trust. Similarly, all companies need to make skill development a mandatory component of their CSR. This needs to be done to especially provide training to youth in the rural areas (especially tribal and naxal areas). Some of the sectors which need to be focused in such training are:
 - a. Agriculture
 - b. Animal husbandry
 - c. Poultry
 - d. Fishing
 - e. Honey extraction
 - f. Handloom and powerloom
 - g. Handicrafts: articles made of bamboo, idol making, pottery making etc.
 - h. Food processing using local produce like cashew, oranges, bananas, pomegranate, raisins etc.
 - i. Basic construction activity
 - j. Basic furniture making

- k. Training youth to work in unorganised sectors in the cities such as domestic workers, security guards, facility management personnel etc.

1.11.4. NSDC

As a part of the study, we have identified sectors wherein NSDC can intervene in the State, either by way of funding the private training institutes or through its Sector Skill Councils (SSCs). The sectors where NSDC can intervene have been divided into high-priority, medium-priority and low-priority, depending on their employment generation potential in the next 10 years. The same has been presented in the table below.

Table 16: Sectors where NSDC intervention is required in Maharashtra

Sector	Focus districts
High priority	
Building & construction	All districts
Organised retail	Aurangabad, Mumbai, Mumbai Suburban, Pune, Nashik, Nagpur, Thane
Unorganised sector (domestic workers, beauty culture, security guards, facility management)	Ahmednagar, Aurangabad, Kolhapur, Mumbai, Mumbai Suburban, Pune, Nagpur, Nashik, Raigad, Thane
BFSI	All districts
IT & ITES	Mumbai, Mumbai Suburban, Pune, Nashik, Nagpur, Thane
Media & entertainment	Mumbai, Mumbai Suburban, Pune, Nagpur
Medium priority	
Agriculture & allied (including dairy, fishery, animal husbandry, poultry etc.)	All districts except Mumbai
Transportation, logistics, warehousing & packaging	All districts
Tourism, travel & hospitality	Mumbai, Raigad, Ratnagiri, Sindhudurg, Pune, Satara, Kolhapur, Nashik, Ahmednagar, Aurangabad, Jalgaon, Osmanabad, Nanded, Nagpur, Chandrapur
Education & skill development	All districts
Other manufacturing (basic metals, fabricated metals and transport equipment)	Thane, Pune, Kolhapur, Aurangabad, Jalgaon, Nashik, Raigad, Solapur
Healthcare services	All districts
Low priority	
Auto & auto components	Aurangabad, Pune, Akola, Mumbai, Thane, Nashik, Satara,
Food processing) cashew, raisins, grapes, oranges, banana, pomegranate etc.)	Ahmednagar, Gondia, Amravati, Bhandara, Beed, Buldhana, Chandrapur, Gadchiroli, Hingoli, Jalgaon, Jalna, Kolhapur, Latur, Nanded, Nandurbar, Osmanabad, Ratnagiri, Sangli, Satara, Solapur, Yavatmal
Textiles & clothing (mainly cotton ginning, pressing, spinning and weaving)	Akola, Buldhana, Dhule, Hingoli, Kolhapur, Latur, Osmanabad, Parbhani, Raigad, Wardha, Mumbai,

Sector	Focus districts
	Thane, Pune
Gems & jewellery (gold, diamond, silver and artificial)	Mumbai, Jalgaon, Kolhapur
Chemicals & pharmaceuticals	Raigad, Thane

Source: IMaCS Analysis

2. District wise skill gap assessment

2.1. AHMEDNAGAR

1. Introduction

Ahmednagar district is a part of the Nashik division. It has a total land area of 17,048 sq. km., which is 5.54 per cent of the total State area. It is sub-divided into 15 sub-districts and has 1,578 villages. Majority of the population at 80 per cent lives in rural areas. Agriculture is the main occupation, employing 69.69 per cent of the labour force (as of Census 2001). The remaining is in household industry (2.91 per cent) and other workers¹ at 27.39 per cent.

Sugarcane, bajra, jawar and wheat are the major crops grown in the district and account for about 65 per cent of the gross cropped area of the district. Availability of such raw materials, has led to setting up of many agro based units in the district. Most of these are small scale in nature.

Table 17: Comparison of Ahmednagar district with Maharashtra – key indicators

Indicator	Year	Ahmednagar	Maharashtra
Area, in sq.km.	2001	17,048	307,713
Percentage share in State geographical area, %	2001	5.54%	100%
No. of sub-districts	2011	15	353
No. of inhabited villages	2001	1,578	41,095
No. of households	2001	77,6,787	19,576,736
Forest area as a % of total geographical area	2001	7.89%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Ahmednagar district has a population of 45.43 lakh persons –4.04 per cent of the State population. About 60 per cent of the population in the district is in working-age group (15 to 59 years), while about 46 per cent is actually working i.e. work participation rate.

The district's literacy rate is 80.22 per cent, which is slightly lower than the State average of 82.91 per cent, and higher than All-India average of 74 per cent. Male literacy at 88.81 per cent is higher than female literacy rate at 71.15 per cent.

¹Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers are 'Other Workers'.

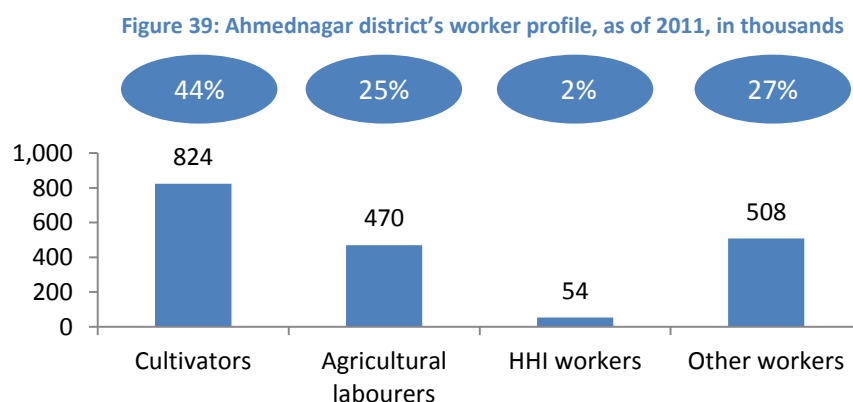
Most of the population (80 per cent) lives in rural areas. In fact, as mentioned earlier, agriculture is also the main occupation of the people of the district, employing 69 per cent of the labour force as either cultivators or agricultural labourers.

Table 18: Key demographic indicators

Indicator	Year	Ahmednagar	Maharashtra
Population, No.	2011	4,543,083	112,372,972
Decadal growth rate of population, %	2001-11	12.43%	15.99%
District's share in State's population, %	2011	4.04%	100%
Urban population as a percentage of total population, %	2011	20.10%	45%
SC population, %	2001	12%	8.79%
ST population, %	2001	7.51%	15%
Sex ratio, No. of females per 1000 males	2011	934	925
Population density, per sq. km.	2011	266	365
Literacy rate, %	2011	80.22%	82.91%
Main workers, No.	2001	1,611,061	34,748,053
Marginal workers, No.	2001	245,985	6,425,298
Working age population* as a percentage of total population, %	2001	60%	59%
Work participation rate^, %	2001	46%	42.50%
HDI Index	2000	0.57	0.58

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011

The district has a total workforce of about 18.57 lakh persons. Of this, 44 per cent are cultivators, 25 per cent are agricultural labourers, 2 per cent is workers in household industry and 27 per cent are other workers.



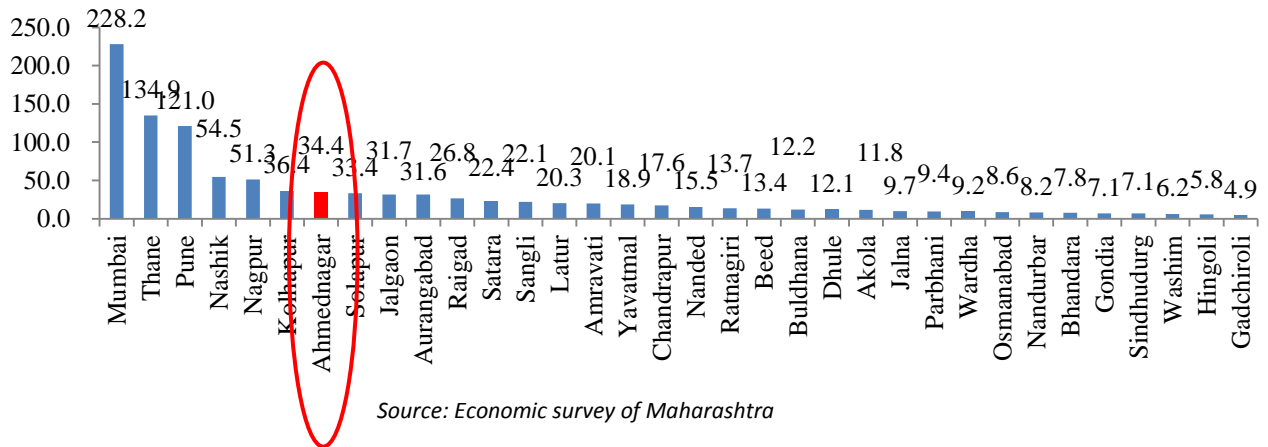
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

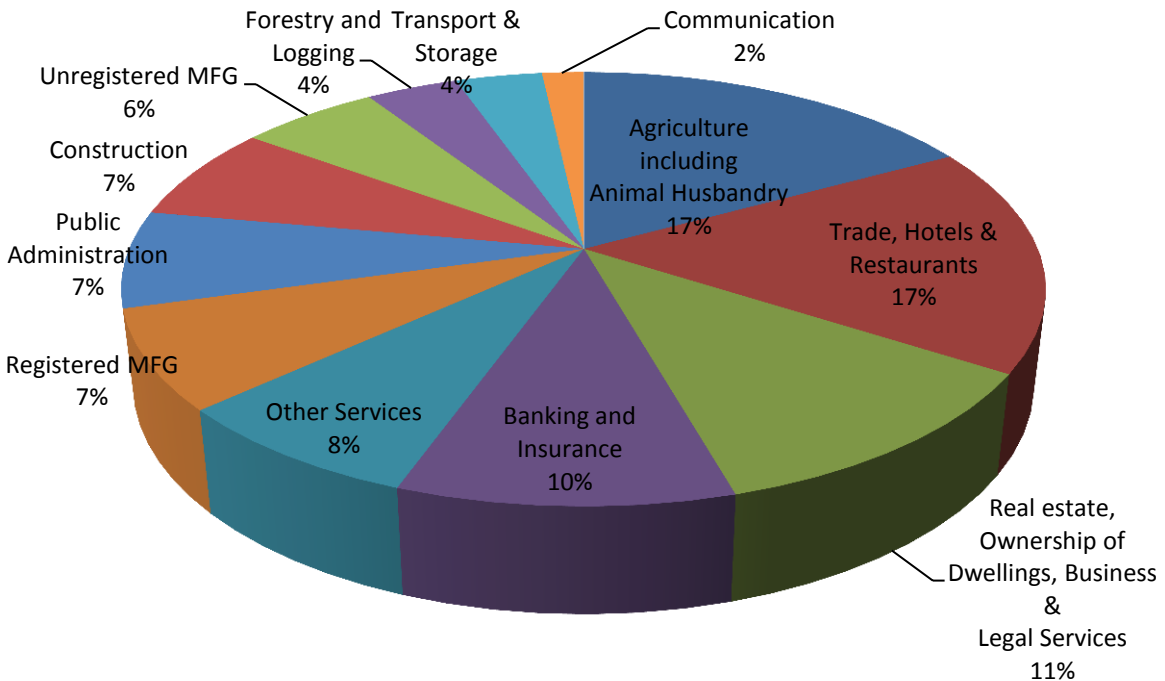
As of 2010-11, Ahmednagar district had the seventh largest Gross District Domestic Product (GDDP) in Maharashtra at Rs 34,432 crore (3.22 per cent of the Gross State Domestic Product).

Figure 40: Gross District Domestic Product, in Rs thousand Crores, as of 2010-11



The district economy is pre-dominantly service based, with service sector’s share in GDDP at 60 per cent in 2009-10. This is followed by secondary sector at 20 per cent and primary sector at 20 per cent.

Figure 41: Sector wise distribution of Ahmednagar GDDP, as of 2009-10, 100% = Rs 24,630 crores



Source: District Socio Economic Review of Ahmednagar

Agriculture: Of the total area of 17,048 sq. km. in the district, 14 per cent is the net sown area (cultivated land). Agriculture is mainly dominated by cultivation of sugarcane, bajra, jawar, and wheat under food crops and sunflower, mango, sapota, amla under commercial crops. For details of crops grown in Ahmednagar district, refer to annexures.

Industry: As of August 2012, Ahmednagar district had 46 large and medium scale industrial units, employing 23,032 persons. These included companies such as L&T Ltd., Kinetic Engineering, Sai Krupa Sakhar Karkhana Ltd., Crompton Greaves Ltd. etc. (Refer to annexures for complete list). End products manufactured include electronic protection equipment, auto and auto components, sugar, electric motors and generators etc.

Ahmednagar has 4,510 Micro, Small and Medium Enterprises (MSME), employing 56,609 persons. As of August 2012, the prominent MSME industries in the district were 'Food products and Beverages', 'Non-metallic Minerals', and 'Manufacturing of Machinery and Equipment' etc. Refer to the table in annexures for complete list of MSME industries and employment details. The district has five industrial areas totalling 1,624.36 hectares of land.

Services: As mentioned above, services account for 60 per cent of GDDP in Ahmednagar district for the year 2009-10. Of all the services, the key services in the district are of 'trade, hotels and restaurants' at 17 per cent of GDDP, followed by 'real estate, ownership of dwellings, business and legal services' at 11 per cent, 'banking and insurance' at 10 per cent, other services at 8 per cent and 'public administration' at 7 per cent.

2.3. State of education

As of 2011-12, Ahmednagar district had 5,026 schools. Of this, 50 per cent were primary schools, 29 per cent were upper primary schools and the remaining 21 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 6,75,637 while the student-teacher ratio was at 30 students per teacher. The student-teacher ratio is at par with State's average which is also about 30 students per teacher.

Table 19: School education infrastructure in Ahmednagar district

Particular	Value, as of 2011-12
Number of schools	5,026
Number of students	6,75,637
Number of teachers	22,302
Student-teacher ratio	30

Source: IMaCS Primary Survey, Department of Education, Ahmednagar

Table 20: Higher education infrastructure in Ahmednagar district, as of

Colleges	No.
General Colleges	77
Medical/ Dental	15
Polytechnic	25
Engineering	9

Source: IMaCS Primary Survey, Department of Education, Ahmednagar

For vocational training, Ahmednagar district had a total of 29 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, 15 were Government ITIs, and remaining 14 were private unaided ITIs. All the 29 ITIs together have a seating capacity of 6,548.

Table 21: Key ITI indicators in Ahmednagar district, as of March 2012

Indicator	Value
Total Number of ITI	29
Number of Government ITI	15
Number of Private unaided ITI and ITCs	14
Total Seating capacity	6,548

Source: Source: Department of Employment & Self Employment, Government of Maharashtra

Based on our discussions with the key stakeholders in Ahmednagar district, we have found that on an average, of all the students that pass out from an ITI in each year, only around 50 per cent find jobs in the market. For details on courses offered by ITIs in Ahmednagar, refer to annexures.

In addition to the above, the district has training infrastructure for different trades set up by both Government and private Institutions.

The Government departments offer courses in trades such as agriculture, textiles, education, etc. District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship Development) and MITCON Consultancy and Engineering Services Ltd. Self-employment promoting training programs such as mobile repairing, two wheeler repairing, home appliance repairing, etc. are also conducted through this scheme. Department of Agriculture, Krishi Vigyan Kendra, Babhaleshwar offers training to farmers through Agricultural Training and Management Agency (ATMA). Several other organizations like Anna Sahib Patil Arthik Magas Vikas Manhamandal, Lokshir Anna Bhau Sathe Arthik Vikas Mandal etc. are also providing self-employment promoting training programs.

There is also a program named Employment Promotion Programme for Educated Unemployed (EPP) under Local Employment Exchange which aims to provide training for acquisition and up gradation of skills in private sector establishments and public sector undertaking. The educated unemployed persons provided with on-the-job training or other practical training to upgrade their skills or to stand on their own feet. The trainees under Employment Promotion Programme are appointed for a specified period of six months only and get stipend accordingly.

The success rate of these trainings provided by these Governmental agencies is observed to be low (below 30 per cent). Based on the discussions with the key stakeholders in the Government departments and the trainers, the major reason for low success rate of most of these training programs is observed to be there is a lack of interest among the trainees. Since majority of these programs are sponsor based, most of the trainees attend them to attain the benefits (such as stipend) and do not show any interest to learn and use these training as a career progressive mechanism.

Majority of the private training centres in Ahmednagar district offers computer related courses. Some of the courses offered by them include MS-CIT, C++, Java, DTP, Oracle, Tally, etc. MS-CIT course is preferred among the students/youth in the district as this course is a pre-requisite for getting a Government job in the State. The other training areas provided by private training institutes include beauty culture, handicrafts, embroidery and fancy work, tailoring and cutting, etc. For details of training institutes and courses offered, refer to annexures.

2.4. Youth aspirations

In the process of identifying the growth engines for the Ahmednagar district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Preference for ITI's:** When it comes to vocational education, students (especially in interiors) prefer ITI certification because it helps in obtaining Government and private jobs. The factors behind selection of ITI by students were also low fee, proximity to their hometown and bus connectivity.
- **Migration trends:** Most students prefer getting placed out of Ahmednagar because of better employment opportunities, higher pay, better career growth prospects and lifestyle. Preferred destinations are Aurangabad, Nashik, Nagpur and Pune.
- **Demand for skill enhancement course:** During our primary survey, it is estimated that, around 50 per cent of the students' group was willing to do skill enhancement course after they pass out.
- **Interest areas of training:** Their interest areas for training were mobile hardware and networking, animation and accounting.
- **Preference for Government jobs:** Students want to get employed in Government sector mainly because it is seen as a status symbol in the society. Job security, less work pressure, permanent nature of work and better pay scale are the other perceived advantages attached to Government jobs.

3. Developmental concerns

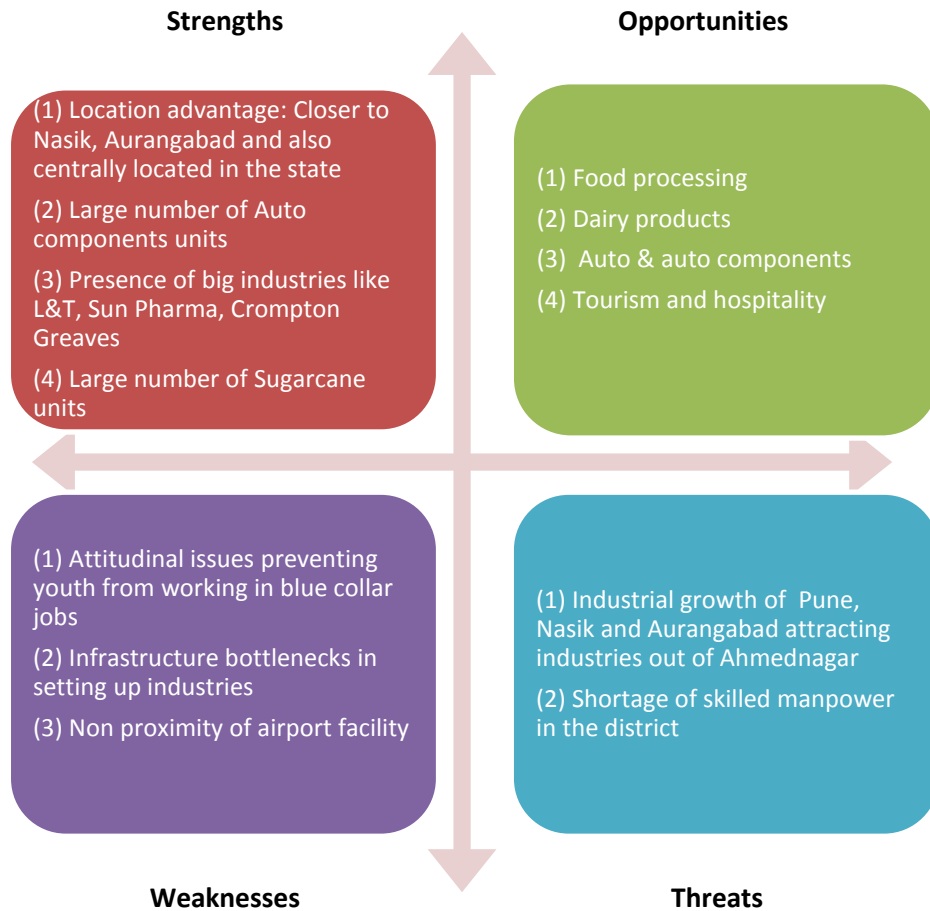
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Shortage of skilled manpower within the district:** The district has many educational institutions providing education and training to the locals. However, locals, especially youth after gaining education, are more prone to moving to larger cities for better job opportunities, due to the lure of better city life along with higher compensation packages and standard of living. This has created a shortage of skilled labour within the district. Thus, industry located in the district has to import skilled labour from outside.
- **Attitudinal issue of employees and employers:** Existing labour pool is not willing to work within the district and at the same time local industries do not find them employable. The reason as described by the employers is that locals are complacent, have indifferent attitude and unwilling to mould as per employer's needs. They also exhibit frequent unexplained absenteeism from work. However the same work force works hard in other places and remains very punctual. On the other hand employees complain about the employer's arrogance, apathy to their problems and disrespectful ways of management the main reason for not preferring to work in the district. Thus these attitudinal issues are acting as a big bottleneck for the district industry.
- **Infrastructure Bottlenecks:** The districts have multiple infrastructure issues including availability of bad roads, poor civic amenities, poor sewage drainage and inadequate water supply. The water management system of the district is very poor; the lines running for water supply are leaked and old.
- **Unfavourable industrial ecosystem:** Based on our survey, we found that industrialists mentioned unavailability of land for expansion of units as one big constraint. Bigger units have already moved to Gujarat for expansion.

SWOT analysis

Based on the diagnostics of the Ahmednagar district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented in the figure below.

Figure 42: SWOT Analysis of Ahmednagar district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 3.6 lakhs persons between 2012 and 2022. Sectors which will drive demand are expected to be ‘building, construction and real estate’ and tourism, ‘travel, hospitality & trade’. The requirements for skilled personnel are likely to increase, as the maximum demand will be generated for semi-skilled and skilled workers.

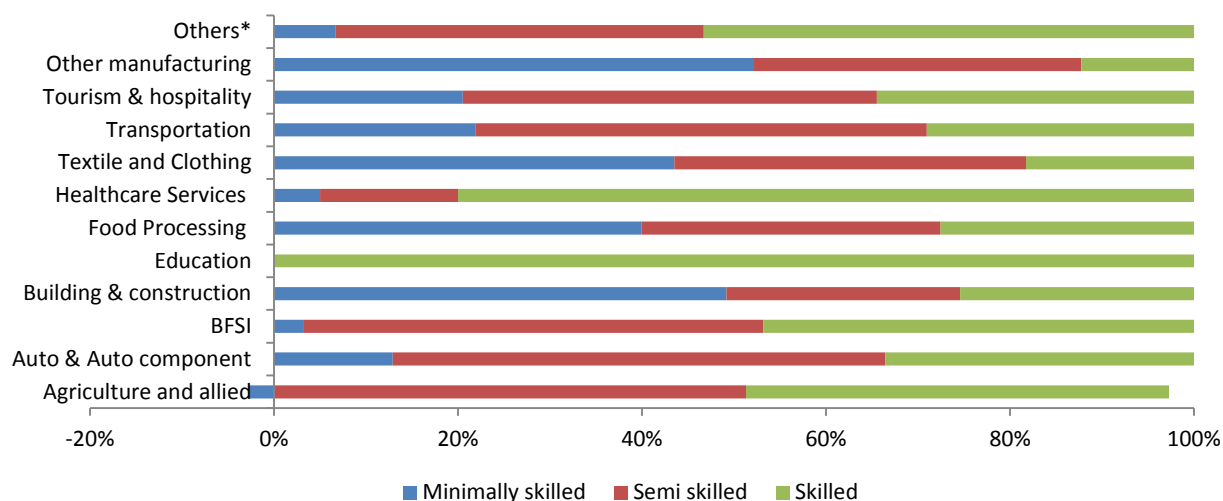
Table 22: Incremental demand of human resources in Ahmednagar – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	32,742	16,685	49,427
Auto and Auto component	2,046	3,254	5,300
BFSI	17,340	27,873	45,213
Building, Construction industry and Real Estate	30,761	42,691	73,452
Education and Skill Development	17,088	8,864	25,952
Food Processing	11,791	15,213	27,003
Healthcare Services	9,531	13,044	22,575
Textile and clothing	105	103	239
Transportation, Logistics, Warehousing and Packaging	7,736	8,769	16,504
Tourism, Travel, Hospitality & Trade	33,361	48,576	81,937
Other manufacturing [^]	4,060	6,684	10,744
Others*	490	530	1,019
Total	167,050	192,316	359,366

Source: IMaCS Analysis

*Others include Chemicals & Pharmaceuticals, electronics and furniture and furnishings ^ Other manufacturing includes manufacturing of fabricated metals and products and manufacture of other transport equipment

Figure 43: Incremental demand of human resources in Ahmednagar – by skill level



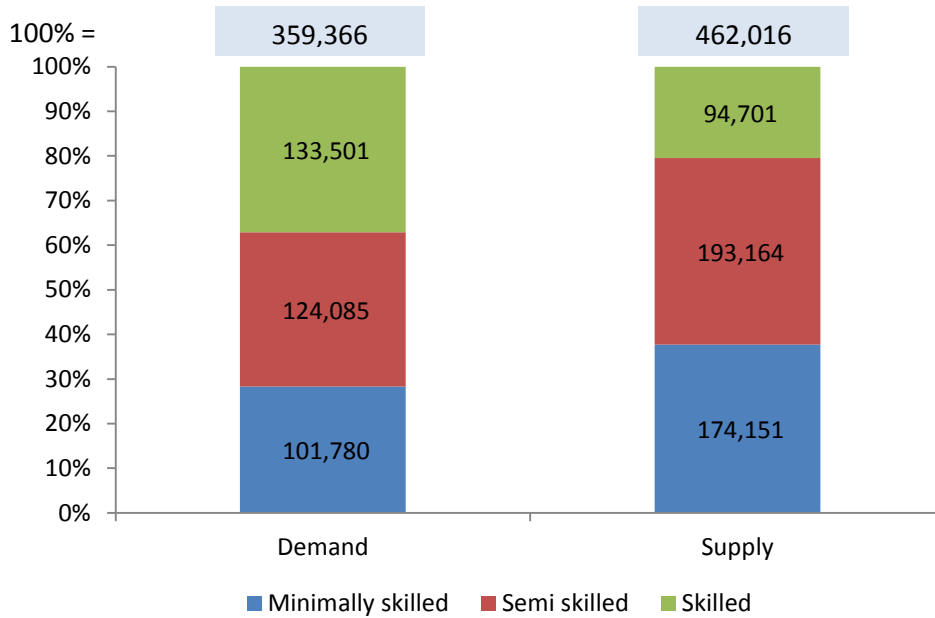
Source: IMaCS Analysis

*Others include Chemicals & Pharmaceuticals, electronics and furniture and furnishings

We have estimated incremental supply of human resources in the district at 4.62 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be more than incremental demand in the district. However, incremental supply is concentrated more towards the semi-skilled and minimally skilled workers, while incremental demand is more towards the

skilled workers (where a shortage is expected) Therefore, it is imperative to up-scale the workers, so that they are able to meet the demand of skilled manpower in the district.

Figure 44: Demand supply gap of human resources in Ahmednagar – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

As discussed in the section above, while employment will be generated across many sectors, in this section, we have identified especially those sectors which require skilling interventions in the district. Identification of such sectors has been based on the diagnostics above, our observations during the primary survey and discussions with the key stakeholders in the district.

Ahmednagar district has 80 per cent population residing in rural area and engaged in agriculture. Most of them are still relying on archaic agricultural practices and not adopting new techniques and methods like use of genetically modified crops, to increase their yield. Thus, skill up-gradation is required.

Within non-agricultural sectors, Ahmednagar district is home to many units viz sugar; auto and auto component units, machinery and equipment units etc., These are the sectors which too will require skilling interventions. Additionally, the district also has small scale businesses in hosiery & readymade garment manufacturing, metal working, fitting, welding, auto repair shop, service stations, wood based & general manufacturing and handicraft. These do not have significant employment generation potential but are confronting the challenge of skill gaps in the employed human resource, for which they

are importing the skills from other districts / states at extra cost or providing training to them as per the job requirements.

Table 23: Sectors where interventions are required in Ahmednagar district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Ahmednagar	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing (mainly sugar processing)		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		
Others (fabrication and general engineering)		

Source: IMaCS Analysis.

For the sectors identified above, we have mapped the skill requirements and the gaps faced by the sector in the section below.

5.1. Agriculture and allied industries

Close to 70 per cent of workers in the district are involved in agriculture and its allied activities. A large number of sugar mills are present in Ahmednagar; also various food processing and beverages units are present. However at present food processing and beverages units are present mostly in smaller units and as unorganized sector and it has not taken the shape of an industry. So there is a big scope for agriculture and allied industries like dairy, food, horticulture, poultry and their supply chain.

For training purposes, Ahmednagar district is home to one of the Agriculture Universities in the State. The Krishi Vidyapeeth has been playing a pivotal role in investing alternate methods of farming and cultivation.

The skill gaps in the agriculture domain are:

- Lack of knowledge about high quality seeds and genetically modified crops
- Lack understanding of cultural practices like crop rotation, inter cropping, double cropping etc.
- Lack of knowledge on new techniques in agriculture
- Lack understanding of best practices of sorting, grading and packaging
- Lack of understanding of organic farming
- Lack of understanding of correct dosage of pesticides to protect fertility of the soil
- Lack of knowledge on productive cultivation in poly houses
- Lack of precision farming techniques and tissue culture

5.2. Food Processing Industry

Currently sugar mills and manufacturing of food products & beverages are functional under this segment in Ahmednagar district. Distillery units are not covered as they are few in number and are mechanised to a larger extent.

Sugar industry

Ahmednagar district is also called as the 'Sugar Bowl of Maharashtra'. The district economy is mainly dependent on co-operative sector. Late Padmashree Dr. Vitthalrao Vikhe Patil started the first co-operative sugar factory in the district at Pravaranagar during the year 1949, which was the first of its kind in the Asian continent. Ahmednagar is a pioneer district in co-operative development and in upliftment of sugarcane cultivators through the sugar factories. At present 17 co-operative sugar factories are operating with full capacity. Sugar units are located at Agastinagar, Sangamner, Kolpewadi, Takli, Rahata, Pravaranagar, Karegaon, Rahuri, Bhende, Sonai, Pathardi, Shrigonda, Shevgaon, Bodhegaon, Rashin etc.

The skills gaps faced by the sugar industry are:

- Inability to use latest equipment
- Inability to calculate the required cane for desired output level
- Inability to use latest machines
- Inability to follow supervisors' instruction
- Inadequate knowledge about heating the sugar juice at desired temperature level at different stages of processing
- Inadequate knowledge about various types of sugar and processes for each type
- Inability to consistently follow standard safety procedures

Food Products & Beverages

Ahmednagar is a pioneer district in co-operative development and in upliftment of dairy co-operatives for the benefit of the dairy farmers. About 9,310 co-operative societies, 1,281 co-operatives dairy societies and four fruit and vegetable co-operative societies are the backbone of the district providing impetus to the rural economy. This has resulted in development of several manufacturing units of food products and beverages. At present food processing and beverages units are present in smaller sizes and as unorganized sector and it has not taken the shape of an industry.

5.3. Auto/Auto Ancillary Sector

Ahmednagar district is clustered with auto ancillary industry owing to its rich heritage of engineering and manufacturing industry. These auto ancillary industries support the automotive Original Equipment Manufacturers (OEM) and auto manufacturers such as Suzuki, Hero Honda, BMW, Hyundai, Tata, etc, whereas in non-auto segment, it supports Indian Railways, JCB, etc. In addition to this they also provide their service to the auto companies located out of India including Hyundai Fairfield Atlas (USA), King Automotive Systems Ltd (USA) and Zelter GmbH (Germany) etc. These auto ancillary industries apart from servicing the auto industry are also working with general manufacturing, commercial goods, machine tools, electrical industry etc. The service functions/operations in an auto component industry will be broadly similar including machining, fitting, welding, forming, forging, component assembly etc., but they are governed by different set of industry guidelines.

Vehicles Research & Development Establishment (VRDE) is a laboratory of the Defence Research & Development Organization (DRDO) located in Vahannagar, Ahmednagar and its primary function is research and development of various light tracked, wheeled & specialised vehicles for defence applications.

As a part of Auto ancillary sector we have also included after sales and service of two wheelers and four wheelers, Ahmednagar District has more than 50 new car dealerships, and 80 new two wheeler dealerships; and this number is on the rise. This apart there are several-used car and two wheeler dealership which offer sales, service and resale works; this sector also provides tremendous employment opportunities for the aspiring youth. Several ITIs in Ahmednagar offer MMV (Mechanic Motor Vehicle) as a part of their training course.

The skill gaps of the work profiles which offer majority of the employment in auto components industry is listed below:

Manager / supervisor / floor in-charge (Graduate Engineer/ Experienced Diploma)

- Insufficient understanding of the process
- Limited knowledge in quality requirements and international standards
- Insufficient ability to co-ordinate activities within and between production lines and departments
- Inadequate knowledge of materials and resource management

- Inadequate knowledge of labour laws

Operators / (Turner/Machinist - ITI)

- Inadequate knowledge in understanding geometry, dimensions, and tolerances
- Inadequate materials knowledge
- Inadequate knowledge of quality control
- In sufficient instrumentation knowledge
- Limited knowledge of machine tool maintenance
- Conformance to HR guidelines including time management, attendance, cleanliness, work place neatness etc

Operator/ (Welder - ITI)

- Inadequate technical knowledge
- Knowledge of dimensioning and tolerances
- In sufficient understanding of weld testing techniques
- Inadequate quality concepts
- Conformance to HR guidelines including time management, attendance, cleanliness, work place neatness etc

Operator/ (Fitter - ITI)

- Inadequate comprehension of assembly/fitting SOP
- Inability to use the machine tools for assemble
- Inadequate quality inspection methods
- Conformance to HR guidelines including time management, attendance, cleanliness, work place neatness etc

Operator/ (Quality Inspection – Diploma/Experienced ITI)

- Inadequate quality inspection knowledge
- Limited knowledge in using multiple quality control equipments and tools
- Inadequate understanding of the quality standards of the industry
- Inadequate comprehension of drawings, dimensioning and tolerance

Operator/ (Tool room – Diploma/ITI)

- Inadequate knowledge of quality management
- Clarity in comprehending dimensions, tolerance and drawings
- Limited knowledge or latest material forming/machining techniques

Executive (Materials Management – Graduate/Diploma/ITI)

- Limited understanding of materials and their properties
- Inadequate knowledge in material handling

- Limited soft skills
- Limited negotiation skills

**Design and Development/ Product development and Industrial Engineering/Technical services
(Engineering Degree/**

- Inadequate understanding of the customer requirements
- Inadequate materials knowledge

Sales and Marketing (Graduate/Engineering Degree/ Experienced Diploma)

- Inadequate understanding of the technical requirements
- Inability to understand the criticality of technical and delivery deadlines
- Inadequate communication skills

Service (Diploma as supervisor / ITI as service person)

- Inability to identify the problems in operation of the equipment/assembly/component
- Inadequate ability to understand the criticality of the role played by their component in the overall system design

The skill gaps of the work profiles which offer majority of the employment in new/used auto dealership and service industry is listed below:

Sales executive (Graduates/ Diplomas)

- Inability to understand the customer requirements
- Inadequate product knowledge
- Inadequate communication skills
- Inadequate sales skills

Purchase facilitation (Graduate/Diploma/ITI)

- Inability to process the customer documents due to Inadequate knowledge
- Inadequate communication skills

Spares management (Graduate/Diploma/ITI)

- Inability to convert the sales
- Inadequate inventory management skills
- Inadequate communication skills

Service Manager / Service Advisor (Graduate Engineer/ Experienced Diploma)

- Inability to diagnose the problems of the vehicle
- Inadequate general failures mode analysis techniques
- Weak interpersonal skills

- Weak communication skills

Service Supervisor (Diploma)

- Limited employee management skills
- Limited understanding of the vehicle dynamics
- Poor communication and supervisory skills

Mechanics (ITI)

- Inadequate vehicle and parts knowledge
- Inadequate safety management and workspace management
- Tendency to rely on judgements rather than specific tools/instruments

5.4. Tourism and Hospitality

The Ahmednagar Fort is one of the major attractions in the city. The fort held a lot of noteworthy figures as prisoners including Jawaharlal Nehru, during the Quit India Movement. The Salabat Khan's Tomb, the Bagh Rauza and the Kot Bagha Nizam are a few other historical sites. Ahmednagar also proves to be an excellent religious destination. The Mohata Devi Temple, the Siddheshwar Temple, the Shri Vishal Ganpati Temple and the Sant Dyaneshwar Temple are a few brilliant pilgrim spots. The Shani Shinganapur village nearby is a major attraction, with the pious village of Shirdi – the abode of Sai Baba – a few kilometers away.

The Historical Museum and Research Centre is also present in the district. The Tank Museum is a marvelous spot to learn more about the different kinds of tanks used during different iconic wars through the chapters of world history.

Ahmednagar has a steady influx of tourists due to its vicinity to Shirdi. Mostly groups/travellers visit for 6-8 days and cover primary and secondary sites. The Shani Shinganapur temple has 30,000 –40,000 visitors a day, which swells to around three lakhs on amavasya (the new moon day). There are few hotels available in the district., which cater to the high-end tourists, many of them, lack facilities like, travel desk, restaurants, in house laundry, ironing, etc. Most of the hotels are located in Ahmednagar city itself. Given the scenario, the district faces a supply demand gap in both in number of hotels as well as competent staff to cater to the visitors.



Ahmednagar Fort



Shani Shingapur Temple

The skills gaps for the work profiles in tourism and hospitality industry are:

Front office manager

- Inadequate skills in interaction with guests
- Inadequate ability to proactively review occupancy and promote Sales
- Skill up-gradation in people management techniques

Front office assistant

- Special skills required to understand billing software and stay updated
- Inadequate communication skills
- Inadequate customer Orientation

Bell Captain

- Guest etiquette
- People management skills
- Works allocation skills

Bell Boys

- Inadequate courtesy level
- Communication skills
- Lack of discipline & hygiene

Travel desk

- Inadequate awareness of local tourist spots

5.5. Other Manufacturing (fabrication and general engineering)

In addition to the sectors mentioned above, Ahmednagar district is also home to many small-scale metal based (iron and steel) based fabrication and engineering based industries. While most of them don't have any employment generation or expansion plans in the next few years, they have reported shortage of skilled manpower in some of the key functions like mechanics, plumbers, electricians, masons, welders, metallurgy (diploma / engineer) etc.

The skill gaps for the work profiles reported in these professions are:

Operators / (Turner/Machinist - ITI)

- Inadequate knowledge in understanding geometry, dimensions, and tolerances
- Inadequate materials knowledge
- Inadequate knowledge of quality control
- In sufficient instrumentation knowledge
- Limited knowledge of machine tool maintenance
- Conformance to HR guidelines including time management, attendance, cleanliness, work place neatness etc.

Operator/ (Welder - ITI)

- Inadequate technical knowledge
- Knowledge of dimensioning and tolerances
- In sufficient understanding of weld testing techniques
- Inadequate quality concepts
- Conformance to HR guidelines including time management, attendance, cleanliness, work place neatness etc.

Operator/ (Fitter - ITI)

- Inadequate comprehension of assembly/fitting SOP
- Inability to use the machine tools for assemble
- Inadequate quality inspection methods
- Conformance to HR guidelines including time management, attendance, cleanliness, work place neatness etc.

Operator/ (Tool room – Diploma/ITI)

- Inadequate knowledge of quality management
- Clarity in comprehending dimensions, tolerances and drawings
- Limited knowledge or latest material forming/machining techniques

6. Recommendations

Recommendations for Ahemdnagar district mainly focus on agriculture and allied activities, auto and auto components, food processing, tourism and hospitality and other manufacturing. While the detailed recommendations follow, summary is given in the table below.

Table 24: Key recommendations for Ahemndnagar district – summary

Sector	Government players	Private training institutes	Industry	NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Focus on training for improving productivity ▪ Focus on allied sectors 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a
Auto & auto components	<ul style="list-style-type: none"> ▪ Improve practical exposure of the youth getting trained in the ITIs ▪ Make better machinery and equipment available to students in ITIs 	<ul style="list-style-type: none"> ▪ Improve practical exposure of the youth getting trained in private ITIs ▪ Make better machinery and equipment available to students in ITIs 	<ul style="list-style-type: none"> ▪ Continue to focus on in-house training 	<ul style="list-style-type: none"> ▪ Intervention required through funding private training as well as through SSC
Food processing	<ul style="list-style-type: none"> ▪ Focus on trades such as dairy processing, fruit plantation and processing etc. 	<ul style="list-style-type: none"> ▪ Training can be provided in collaboration with different Govt departments 	<ul style="list-style-type: none"> ▪ On the job training as well as collaboration with Govt departments for training 	<ul style="list-style-type: none"> ▪ Intervention required through funding private training as well as through SSC
Tourism & hospitality	<ul style="list-style-type: none"> ▪ Focus on promoting the district as a key tourism destination 	<ul style="list-style-type: none"> ▪ Can provide training on entire value chain of tourism and hospitality, especially with IATA certification 	<ul style="list-style-type: none"> ▪ Training in collaboration with VTPs, especially for hospitality, tour guides, tour operators, cab drivers etc. 	<ul style="list-style-type: none"> ▪ Intervention required through funding private training as well as through SSC
Other manufacturing (fabrication and general engineering)	<ul style="list-style-type: none"> ▪ Create awareness of the schemes offered by the Govt for the MSME sector 	<ul style="list-style-type: none"> ▪ Focus on better training for welders, fitters, turners, machinist etc. 	<ul style="list-style-type: none"> ▪ Closer collaboration with the VTPs 	<ul style="list-style-type: none"> ▪ Intervention required through funding private training as well as through SSC

6.1. Government

- ❖ **Agriculture and allied:** Close to 60 per cent of the workers in the district are involved in agriculture and allied activities as either cultivators or agricultural labourers, while contribution of agriculture and allied activities to the district’s GDDP is only about 17 per cent. Thus, there is a need to either mobilise people out of agriculture into more gainful employment or increase

their work productivity. And since most of the people involved in agriculture do not have the capacity to pay for private training, Government departments (particularly Department of Agriculture) will have to play a larger focus on their skill up-gradation. Key focus needs to be placed on modern and advanced methods of cultivation. In addition, some of the allied activities, where focus can be placed are:

- Dairy
 - Food processing
 - Horticulture
 - Poultry
- ❖ **Auto & auto components:** The role of Government in training for auto and auto components industry is mainly focused on the role played by the Department of Vocational Education and Training, which provides training to youth for the industry through the ITIs in the district. However, based on the stakeholders discussions held in the district, we have found that industry is not very happy with the practical knowledge of the ITI pass-outs and they have to spend a lot of time and resources in re-training these people. Thus, the Department can place greater focus on providing more practical training to the ITI students, in addition to giving them better exposure to new types of machinery and equipment which is used in the industry.
- ❖ **Food processing:** The Department of Agriculture can place increased focus on some of the following trades:
- Dairy processing
 - Fruit plantation and processing
 - Small processing such as pickle making, jam making etc.
- ❖ **Tourism & hospitality:** Some of the key areas where Department of Tourism can place focus in the district are as follows:
- Training of manpower for hospitality sector
 - Focus on better marketing and branding of tourism of the district
 - Developing the district as a central hospitality destination as this is the central point for travelling to districts such as Pune and Aurangabad
- ❖ **Other manufacturing (fabrication and general engineering):** Training is provided to small unorganised units by the Department of MSME. However, many players are not aware of the schemes and programs offered by the Departments. Thus, steps need to be taken for better awareness and up-dation of training programs.

6.2. Private training institutes

- ❖ **Auto and auto components:** Mostly skill gaps are faced in the ITI pass outs who work in the sector. Private players running private ITI need to place greater focus on betterment of courses as well as machinery and equipment provided in the ITI. Direct tie-ups can also be explored with the existing and up-coming auto and auto component units in the district.
- ❖ **Food processing:** The district has high potential for the development of food processing industry. However, most of the people involved in such sectors are in unorganised sector and do not have sufficient capacity to pay for the training. Private sector can participate in such training

programs along with Government players such as Department of Agriculture, Department of MSME, Zilla Gram Udyog Committees etc. In such partnerships, funding can be provided by the Government and the private sector can help in bringing in its expertise.

- ❖ **Tourism and hospitality:** Private training providers can play an active role in the promotion of tourism related skills in the district by setting up of training institutes. Presently, the district doesn't have any training institute which has IATA certification. Such certified training can help in the promotion of tourism industry in the district. Some of the areas where training can be provided are:
 - Taxi operators
 - Customer relationship managers
 - Training on safety protocols
 - Marketing and branding
 - Tourist guides
 - Hospitality industry etc.
- ❖ **Other manufacturing (fabrication and general engineering):** Mostly skill gaps are faced in the ITI pass outs who work in the sector. These include welders, turners, fitters, machinists etc. Private players running private ITI need to place greater focus on betterment of courses as well as machinery and equipment provided in the ITI. Direct tie-ups can also be explored with the existing and up-coming units in the district.

6.3. Industry

- ❖ **Auto & auto components:** Most of the training is provided in-house by the industry. Wherever expert training is required, experts are invited from outside institutes such as the Vehicles Research and Development Establishment (VRDE). Most of this training is need-based only. There has to be continuous focus on on-the-job training.
- ❖ **Food processing:** Due to availability of sugarcane, sugar industry had come up in the district. However, it is a dying industry in the district now. Thus, for revival of the industry, more focus can also be placed on allied industries of sugar such as:
 - Bagasse, which can be used for power generation, paper manufacturing etc.
 - Molasses, which can be used for production of acetone and ethanol etc.There is also scope for setting up of new industries in the food processing sector such as dairy processing.
- ❖ **Tourism and hospitality:** Training in collaboration with VTPs, especially for hospitality, tour guides, tour operators, cab drivers etc.
- ❖ **Other manufacturing (fabrication and general engineering):** Focus on closer collaboration with private training providers for meeting the demands of skilled manpower for the industry.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Auto & auto components
- ❖ Food processing (sugar, dairy and other food products)
- ❖ Tourism and hospitality (hotels, tour operators, tour guides and cab drivers)
- ❖ Other manufacturing including fabrication and general engineering

2.2. AKOLA

1. Introduction

Akola district headquartered by Akola city lies in the eastern portion of Maharashtra. It has a total land area of 5,676 sq. km., which is 1.84 per cent of the total State area. It is bordered by Amravati district from the North, Amravati and Washim districts on the East, Washim district on the South and Buldhana district on the West.

It is sub-divided into eight sub-districts and has 862 villages. Majority of the population at 60 per cent lives in rural areas. Agriculture is the main occupation, employing 67.3 per cent of the work force (as of Census 2001). The remaining is in household industry (1.4 per cent) and other workers² at 31.3 per cent.

Table 25: Comparison of Akola district with Maharashtra – key indicators

Indicator	Year	Akola	Maharashtra
Area, in sq.km.	2011	5,676	307,713
Percentage share in State geographical area, %	2011	1.84%	100%
No. of sub-districts	2011	8	353
No. of inhabited villages	2011	862	41,095
No. of households	2011	319,947	19,576,736
Forest area as a % of total geographical area	2011	5.97	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Akola district has a population of 18.1 lakh persons – 1.62 per cent of the State population. While 57 per cent of the population in the district is in working-age group (15 to 59 years), about 40 per cent is actually working i.e. work participation rate.

The district's literacy rate is 87.55 per cent, which is more than the state average of 82.91 per cent and even higher than the All-India average of 74 per cent. Male literacy at 92.89 per cent is significantly higher than female literacy rate at 81.91 per cent.

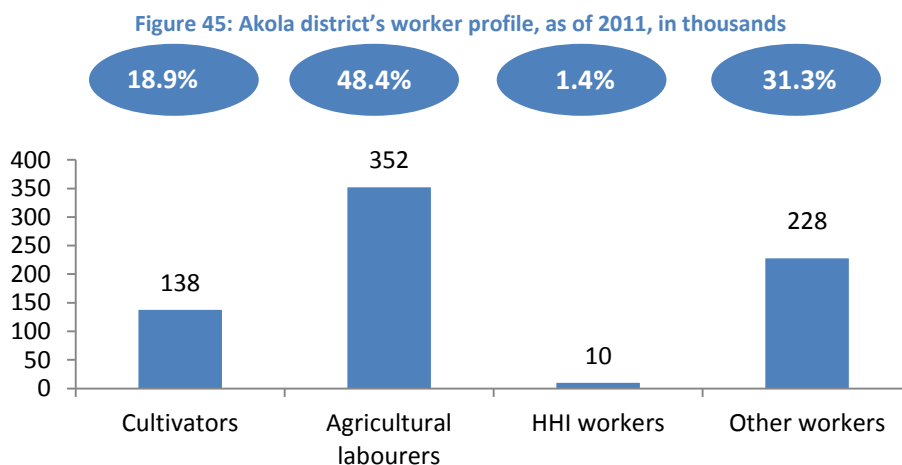
²Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers are 'Other Workers'.

Table 26: Key demographic indicators

Indicator	Year	Akola	Maharashtra
Population, No.	2011	1,818,617	112,372,972
Decadal growth rate of population, %	2001-11	11.60%	15.99%
District's share in State's population, %	2011	1.62%	100%
Urban population as a percentage of total population, %	2011	40%	45%
SC population, %	2001	10.33%	8.79%
ST population, %	2001	6.13%	15%
Sex ratio, No. of females per 1000 males	2011	942	925
Population density, per sq. km.	2011	321	365
Literacy rate, %	2011	87.55%	82.91%
Main workers, No.	2001	582,264	34,748,053
Marginal workers, No.	2001	65,979	6,425,298
Working age population* as a percentage of total population, %	2001	57%	59%
Work participation rate^, %	2001	40%	42.50%
HDI Index	2000	25	0.58

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011, Maharashtra Human Development Report 2005

The district has a total workforce of about 6.4 lakh persons. Of this, 18.9 per cent are cultivators, 48.4 per cent are agricultural labourers, 1.4 per cent is workers in household industry and 31.3 per cent are other workers.



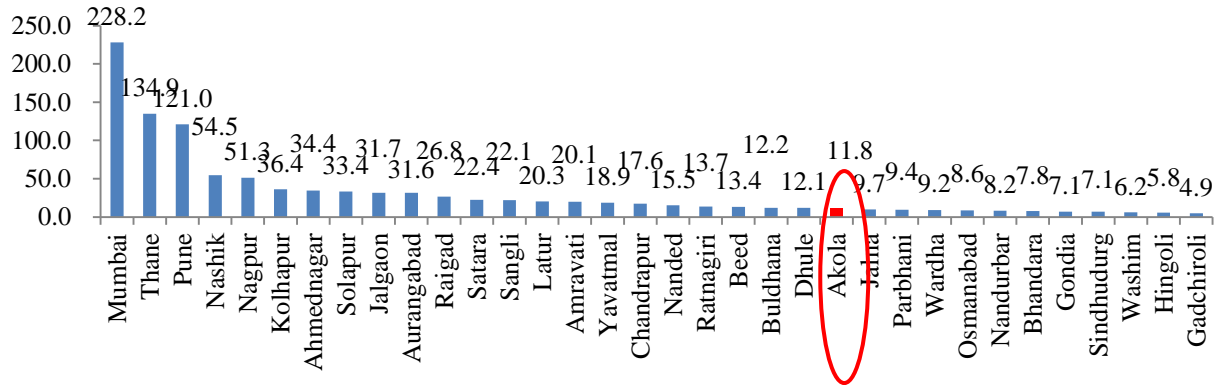
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Akola district had the 23rd highest Gross District Domestic Product (GDDP) in Maharashtra at Rs 11,766Crores (1.10 per cent of the Gross State Domestic Product). In terms of per capita NDDP though, it ranked 21th amongst all districts at Rs 58, 627. This was lower than the State average of Rs87,686.

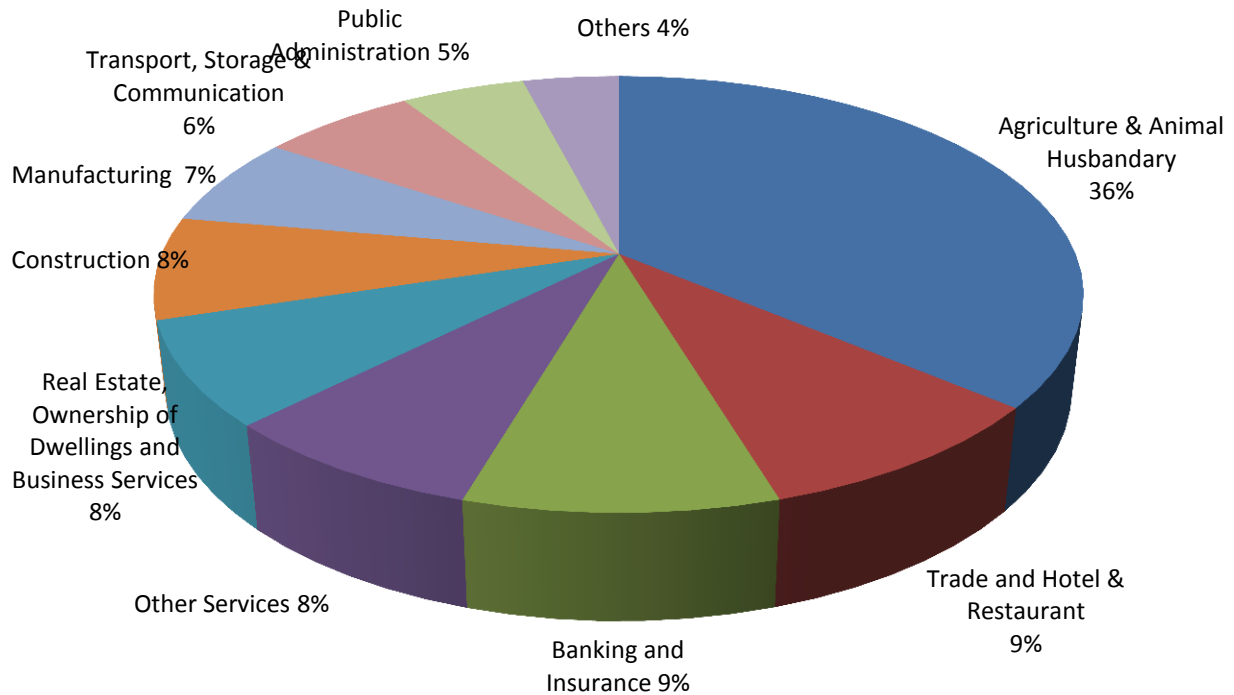
Figure 46: Gross District Domestic Product, In Rs thousand Crore, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly service based, with service sector’s share in GDDP at 45.5 per cent in 2009-10. Secondary sector is at 16.3 per cent and primary sector at 38.2 per cent.

Figure 47: Sector wise distribution of Akola’s GDDP



Source: District Socio Economic Review of Akola

Agriculture: Agriculture is mainly dominated by cultivation of crops like wheat, gram, cotton, oilseeds and pulses.

Industry: As of August 2012, Akola district had 18 large scale industrial units, employing 2,101 persons. These included companies such as ADM Agro Industries Kota & Akola PVT.LTD, Simplex Mills Company PVT.LTD, etc. (Refer to annexures for complete list). End products manufactured included cotton yarn, solvent extraction of soya bean, etc.

Akola district also has 1,403 Micro, Small and Medium Enterprises (MSME), employing 12,663 persons. As of August 2012, the prominent MSME industries in the district were 'Food products and Beverages', 'Textiles', and 'Non-metallic Minerals'. Refer to annexures for details.

Services: As mentioned above, services account for 45.5 per cent of GDDP in Akola district for the year 2009-10. Of all the services, the key services in the district are of 'trade, hotels and restaurants' at nine per cent of GDDP, 'real estate, ownership of dwellings, business and legal services' at eight per cent, 'Banking and Insurance' at nine per cent, other services at eight percent 'Public Administration' at five per cent.

2.3.State of education

As of 2011-12, Akola district had 1,675 schools, which includes primary schools, upper primary secondary and higher secondary schools. Total student enrolment in all the schools was 263,805 while the student-teacher ratio was at 29 students per teacher. The student-teacher ratio is slightly better than the State's average which is about 30 students per teacher.

Table 27: School and higher education infrastructure in Akola district

Particular	No. Of institutes	No. Of students
Schools	1,675	263,805
General colleges	45	23,802
Technical education*	9	1464

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *Excluding non-AICTE diploma courses*

For general higher education, the district has 45 general colleges, while for technical education; the district has nine colleges. For vocational training, Akola district had a total of 10 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, eight were Government ITIs, and remaining two were private unaided ITIs. All the 10 ITIs together have a seating capacity of 2,532.

Table 28: Key ITI indicators in Akola district, as of March 2012

Indicator	Value
Total Number of ITIs	10
Number of Government it is	8
Number of Private unaided ITIs	2
Total Seating capacity	2,532

Source: IMAcS Primary Survey

Based on our discussions with the key stakeholders in Akola district, we have found that on an average, of all the students that pass out from an ITI in each year, only around 70 per cent find jobs in the market. For details on courses offered by ITIs in Akola, refer to annexures.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. Majority of the private training centres in Akola district offers computer related courses. Some of the courses offered by them include MS-CIT, C++, Java, DTP, Oracle, Tally, etc. MS-CIT course is preferred among the students/youth in the district as this course is a pre-requisite for getting a Government job in the State. The other training areas provided by private training institutes include beauty culture, handicrafts, embroidery and fancy work, tailoring and cutting, etc. For details of training institutes and courses offered, refer to annexures.

2.4. Youth aspirations

In the process of identifying the growth engines for the Akola district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Demand for placement cell:** Students believe that institutions should have placement cell with placement officer that helps them to get jobs in their related field.
- **Demand for extracurricular activities and amenities:** Students reported that there should be cultural and sports activities with studies which helps boost their confidence. Youth also have a preference for hostel and canteen arrangements, which are currently not available in many institutions.
- **Introduction of new trades/courses:** Students believe that there should be introduction of new trades like steel welder, mobile repairing, hair cutting, digital photography, animation etc.
- **Migration trends:** Most of the youth are willing to shift from Akola, if they are offered a job outside the district at a decent salary. Preferred destinations are Aurangabad, Nagpur, Pune and Mumbai.
- **Salary expectations:** The starting salary expectation of a vocational education trainee after completion of their studies is Rs. 12,000 to 15,000 per month.

- **Preference towards Government training institutes/jobs:** Students prefer Government training institutions rather than private because of low fees, better infrastructure and adequate facilities. Students prefer Government jobs rather than private jobs.

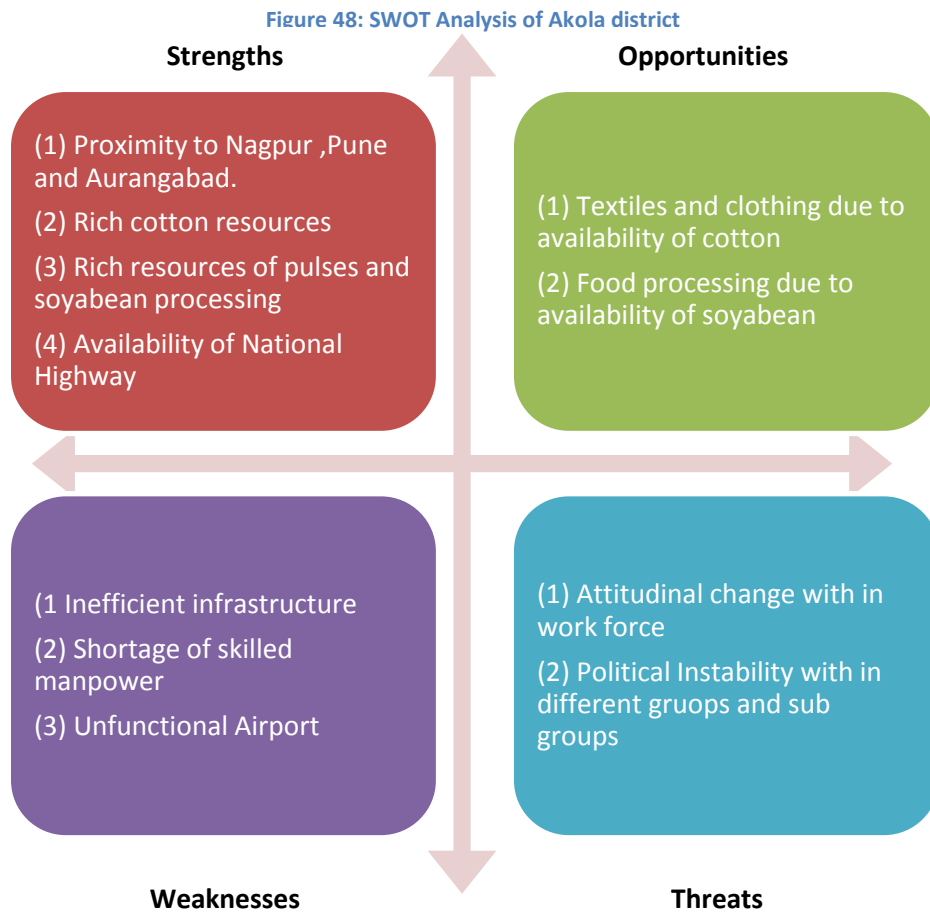
3. Developmental concerns

Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Lack of skilled manpower within the district:** It has been observed that in Akola district especially cotton spinning and solvent extraction industries are facing shortage of skilled labour, leading to delays in production, which is hampering the growth of the district.
- **Lack of infrastructure:** The district has multiple infrastructure issues including unavailability of good roads, lack of civic amenities, water supply and frequent power outages. Apart from above mentioned infrastructure bottlenecks, a vibrant urban outlook and amenities are required to encourage establishment of industries.
- **Inefficient use of available resources:** During our primary survey, some stakeholders reported that, Akola district has rich resources but use of the same is not efficient. It has been reported that Akola district has ample raw resources like honey, teak (category of wood) etc., which are currently not optimally utilised.
- **Lack of finance for industrial units:** During our primary survey, it has been observed that industries are facing financial problems due to lack of finance from the financial institutions. In addition, it has been reported that the interest paid on finance is too high. It is reported by some stakeholders that due to high rate of interest on loans, they are not able to increase their production and other operations of business.

SWOT analysis

Based on the diagnostics of the Akola district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented in figure below.



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 1.13 lakhs persons between 2012 and 2022. Sectors which are likely to generate employment are mainly 'building, construction and real estate' and 'BFSI'. These are supporting sectors which generate employment as an economy grows.

However, sectors which are unique to Akola are 'food processing' and 'textiles and clothing'. The forecasts for these sectors are low, as current and past trends have been used for forecasting. However, these two sectors have immense potential due to availability of raw materials. If adequate investments materialise in these sectors (both from Government and private), then these sectors will generate employment much more than what has been forecasted as of now.

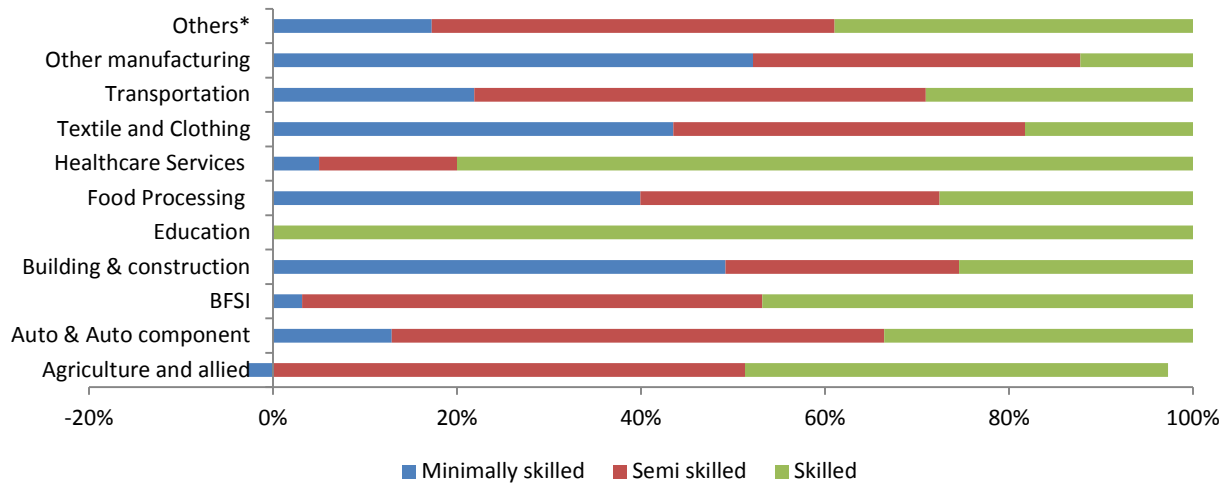
Table 29: Incremental demand of human resources in Akola – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	11,040	5,626	16,666
Auto and Auto component	477	764	1,241
BFSI	9,147	14,704	23,851
Building, Construction industry and Real Estate	15,238	21,147	36,385
Education and Skill Development	7,402	3,547	10,949
Food Processing	203	262	465
Healthcare Services	4,650	6,364	11,014
Textile and Clothing	303	384	687
Transportation, Logistics, Warehousing and Packaging	4,182	4,741	8,923
Other manufacturing	749	1,234	1,983
Others*	377	510	887
Total	53,769	59,283	113,052

Source: IMAcS Analysis

*Others include Chemicals & Pharmaceuticals, electronics, furniture and furnishings and Tourism, Travel, Hospitality & Trade

Figure 49: Incremental demand of human resources in Akola – by skill level

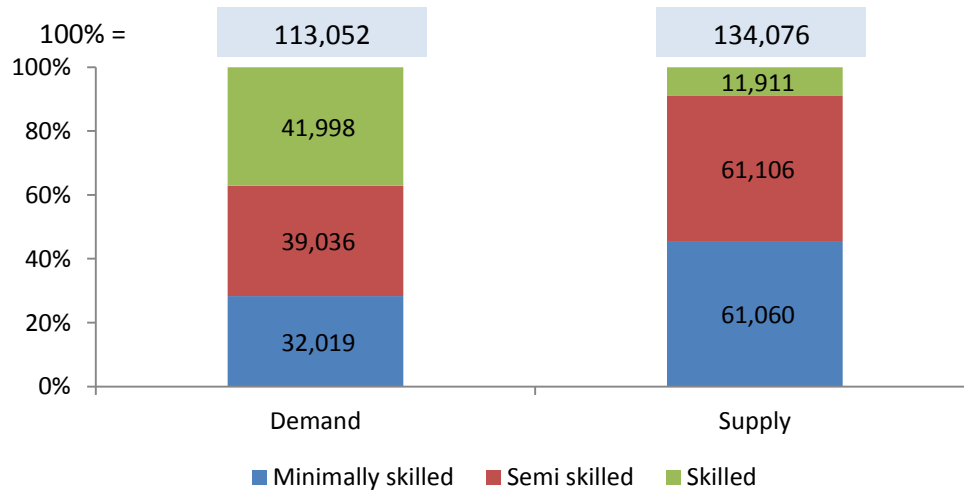


Source: IMAcS Analysis

*Others include Chemicals & Pharmaceuticals, electronics, furniture and furnishings and Tourism, Travel, Hospitality & Trade

We have estimated incremental supply of human resources in the district at 1.34 lakh for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply is expected to be more than the incremental demand in the district. However, the incremental supply is leaning more towards minimally skilled workers, whereas there will be higher demand for skilled workers, leading to a shortage of workers for the same. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward.

Figure 50: Demand supply gap of human resources in Akola – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

As discussed in the section above, while employment will be generated across many sectors, in this section, we have identified especially those sectors which require skilling interventions in the district – mainly food processing and textiles & clothing. Identification of such sectors has been based on the diagnostics above, our observations during the primary survey and discussions with the key stakeholders in the district.

Table 30: Sectors where interventions are required in Akola district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Akola	Maharashtra
Agriculture and allied		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMaCS Analysis.

5.1. Textile and Clothing industry

The district currently has two large textile based units with an investment of around Rs. 20 crore and providing permanent employment for around 500 people. Majority of the workforce (More than 90 per cent) are from Akola district. The district also has few MSMEs in textiles sector.

Based on our discussion with industry players in the district, the textile units (Ginning and Spinning) are unable to get skilled manpower from the district. Therefore, the units provide various trainings to fit the employees according to their requirements. Majority of the recruitment happens at the operator/worker level. People recruited at this level are either 8th pass/ 10th pass/ ITI pass outs.

The textile based units in the district are able to source qualified personnel at the level of assistant manager or above. These units face fewer skill gaps in the supervisor and operator/worker level. However, continuous need based training are provided by these units.

The skill gaps in the Textile and clothing sector are:

- Inadequacy in managing people/teams
- Inadequacy in improving the performance of people
- Inadequacy in managing effective flow of communication
- Inadequate ability to constantly monitor the workflow (can result to damage in machines and business interruption)
- Inadequate knowledge about the entire spinning process
- Other issues include non-skill related such as absenteeism, work – related behaviour, non-co-operation with supervisors, etc.

5.2. Food Processing Industry-Soybean Edible oil

Akola district is rich in the production of soybean crop, which has led to establishment of soybean oil extraction units. The district currently has three food processing units of soybean refined oil namely ADM Agro Industries Kota & Akola PVT.LTD, Ambika solvex LTD, Nobel Grain India PVT LTD with an investment of around Rs. 140 crores and providing permanent employment for around 400 people. Majority of the workforce (More than 90 per cent) are from Akola district. The district also has few MSMEs in food processing.

The skill gaps in the food processing industry-soybean edible oil sector are:

- Time Management Skills
- Effective communication skills
- Team Working Skills
- In efficient in handling pressure situations
- Lack in Time management of different operations
- Lacks in communication skills with production manager
- Decision making skills in specific circumstances.
- In efficient in handling pressure situations.

6. Recommendations

Recommendations for Akola district focus on textile and clothing and food processing industries. In addition to these, agriculture and allied sectors also contribute significant number of employment generation in the district and need up-skilling efforts to increase farmer productivity and income.

Table 31: Key Recommendations for Akola-Summary

Sector	For Government	For private players	NSDC	For Industry
Agriculture	<ul style="list-style-type: none"> Conduct training programs for farmers in areas of new development, strengthening & modernising the existing agriculture techniques Create awareness programs to use available resources 	<ul style="list-style-type: none"> Provide modern training on honey extraction Encourage local self-help groups to process honey 	<ul style="list-style-type: none"> Intervention required through funding private training as well as through SSC 	<ul style="list-style-type: none"> n/a
Textile and clothing – cotton ginning, pressing and spinning	<ul style="list-style-type: none"> Encourage modernisation and technological up gradation Create awareness of existing schemes 	<ul style="list-style-type: none"> Provision of technical training Provide assistance in training programs of Government departments Bridging gap of basic skills of communication and soft skills 	<ul style="list-style-type: none"> Intervention required through funding private training as well as through SSC 	<ul style="list-style-type: none"> Create place:ment linkages with training institutes Coordinate and make tie ups with private training agencies for training of work force
Food processing industry- Soybean edible oil	<ul style="list-style-type: none"> Provide training facilities to agricultural labors Encourage modernisation and technological up gradation Spread awareness on subsidies and loans 	<ul style="list-style-type: none"> Provision of technical training on food processing Can provide training of communication and soft skills to the workforce Provide assistance in training programs of Government departments 	<ul style="list-style-type: none"> Intervention required through funding private training as well as through SSC 	<ul style="list-style-type: none"> Can tie up with training providers for training of employees

6.1. Government Players

❖ **Agriculture and Allied:** The Department of Agriculture can facilitate the training program provided in agriculture and allied activities. Some of the ways it can aid the training for agriculture are as follows:

- It can aid quality training provider by providing subsidy for the training through various skill development schemes

- Providing stipend to the trainees
- Help in sourcing trainees
- Facilitate the training by providing class rooms and infrastructural facilities for training
- Monitor the performance of training providers and feedback from farmers
- ❖ **Textile and clothing industry:** Department of Agriculture can align specific training programs to the agricultural labours through training on cotton seed production, encourage modernisation and technological up gradation for cotton production. While the Department of Textiles can focus on providing training on utilisation of the cotton produced into textiles. Presently also there are a few schemes run by the Government which are focusing on these sectors, however, the awareness of these schemes is lacking. Thus, awareness creation campaigns need to be held.
- ❖ **Food processing industry-soybean edible oil:** The Department of Agriculture should provide training facilities to the agricultural labours on soybeans seed production. Government should encourage modernisation and technological up gradation for soybean extraction industries. Even though Government financial institutions have several schemes for providing financial assistance to the farmers and processors, the local players are not aware of those. Thus, awareness creation programs also need to be held for the same.

6.2. Private training providers

- ❖ **Agriculture and Allied:** The district is known for quality honey production. But the activity needs to be strengthened and commercialised further. Thus, local NGOs and SHGs can work together in creating awareness on honey processing and how it can be a source of income generation for the people. Training programs can be organised on modern methods of honey extraction and processing. Additionally, training can also be provided on sorting, grading, packaging, marketing and branding of processed honey.
- ❖ **Textile and clothing industry:** The private players can also play an important role for the growth of the cotton and textile sector. The key interventions are: provision of training for the work force of cotton and textile industries, assisting in training provided by the Government departments, bridging gaps of basic skills of communication and soft skills to work force for cotton and textile sector to overcome the skills gaps prevailing in the district.
- ❖ **Food processing industry-soybean edible oil:** Private training providers can also take part in providing technical training to the work force of the soybean extraction industries in collaboration with Government departments and the industry. Training programs specifically need to focus on having separate modules for soft skills and communication skills.

6.3. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Agriculture and Allied
- ❖ Textile and clothing industry – cotton ginning, pressing, spinning and weaving

- ❖ Food processing industry-soybean edible oil manufacturing

6.4. Industry

- ❖ **Textile and clothing industry:** The industry needs to focus on creating placement linkage opportunities along with the training institutes.
- ❖ **Food processing industry-soybean edible oil:** In Akola district most of the soybean industries, depends on agriculture crop of soybean, so going forward industries can work out direct relationship with farmers. These industries can coordinate training program to farmers with Government departments. This is also beneficial to the industries as it could improve the productivity of farmers and yield would be high. For the employees in the soybean industry, industries should coordinate with private training providers for the workforce training, in addition to setting up of new industries and expansion of existing industries as the Akola district has high potential in the soybean extraction.

Others

- ITI's and polytechnics will have to play a central role in the human resource development of the potential sectors like cotton and textile and soybean processing sectors by targeting these sectors specifically.
- Government focus on solving infrastructural issues for the district, mainly availability of good roads, streamlined traffic regulation, civic amenities, water supply and frequent power outages, making functional airport etc.
- There also has to be a focus on updation of the syllabus of ITI's. The ITI's syllabus should be in line with industry requirements. For instance, Akola district ITI's has the trades of welder with basic syllabus of welding, there should be introduction of steel welding module in the welder trade.
- Soft speaking and communication skills should be a part and parcel of any training programme which is introduced in the district.

2.3. AMRAVATI

1. Introduction

Amravati district headquartered by Amravati city lies in the eastern portion of Maharashtra. It has a total land area of 12,210 sq. km., which is 3.97 per cent of the total State area. It is bordered by Betul district of the Madhya Pradesh on the North, Nagpur on the Northeast, Wardha on the East, Yavatmal on the South, Washim on the Southwest and Akola and Buldhana on the West.

It is sub-divided into 15 sub-districts and has 1,679 villages. Majority of the population at 64 per cent lives in rural areas. Agriculture is the main occupation, employing 70.4 per cent of the labour force (as of Census 2001). The remaining is in household industry (1.8 per cent) and other workers³ at 27.8 per cent.

Table 32: Comparison of Amravati district with Maharashtra – key indicators

Indicator	Year	Amravati	Maharashtra
Area, in sq.km.	2011	12,210	307,713
Percentage share in State geographical area, %	2011	3.97%	100%
No. of sub-districts	2011	15	353
No. of inhabited villages	2011	1679	41,095
No. of households	2011	526,230	19,576,736
Forest area as a % of total geographical area	2011	26.1%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Amravati district has a population of 28.8 lakh persons – 2.57 per cent of the State population. While 58 per cent of the population in the district is in working-age group (15 to 59 years), about 42 per cent is actually working i.e. work participation rate.

The district's literacy rate is 88.23 per cent, which is higher than the state average of 82.91 per cent and higher than the All-India average of 74 per cent as well. Male literacy at 92.70 per cent is significantly higher than female literacy rate at 83.52 per cent.

³Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers are 'Other Workers'.

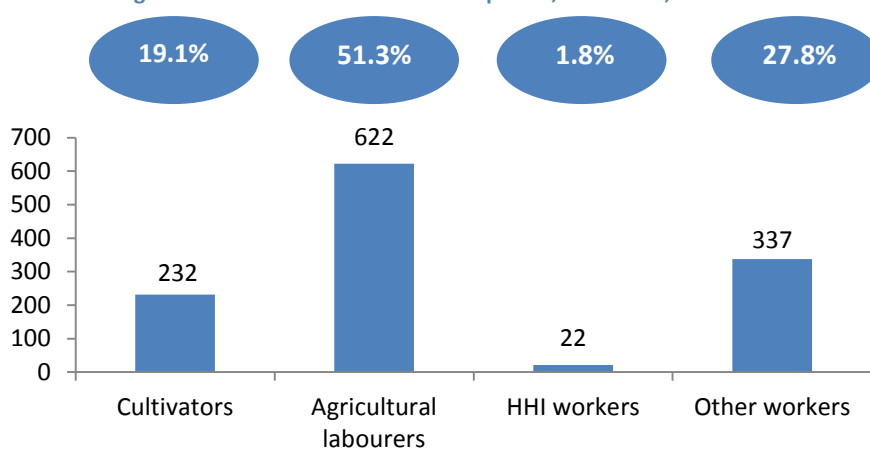
Table 33: Key demographic indicators

Indicator	Year	Amravati	Maharashtra
Population, No.	2011	28,87,826	112,372,972
Decadal growth rate of population, %	2001-11	10.77%	15.99%
District's share in State's population, %	2011	2.57%	100%
Urban population as a percentage of total population, %	2011	36%	45%
SC population, %	2001	17.13%	8.79%
ST population, %	2001	13.68%	15%
Sex ratio, No. of females per 1000 males	2011	947	925
Population density, per sq. km.	2011	273	365
Literacy rate, %	2011	88.23%	82.91%
Main workers, No.	2001	908,363	34,748,053
Marginal workers, No.	2001	187,259	6,425,298
Working age population* as a percentage of total population, %	2001	58%	59%
Work participation rate^, %	2001	42%	42.50%
HDI Index	2000	0.48	0.58

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011, Maharashtra Human Development Report 2005

The district has a total workforce of about 10.9 lakh persons. Of this, 19.1 per cent are cultivators, 51.3 per cent are agricultural labourers, 1.8 per cent is workers in household industry and 27.8 per cent are other workers.

Figure 51: Amravati district's worker profile, as of 2011, in thousands



HHI: Household Industry

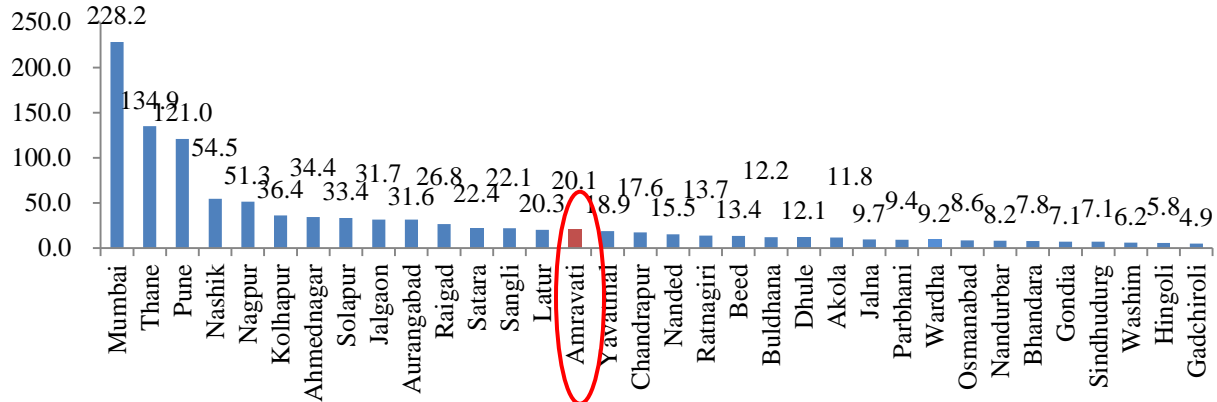
Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Amravati district had the 15th highest Gross District Domestic Product (GDDP) in Maharashtra at Rs 20,129Crores (1.88 per cent of the Gross State Domestic Product). In terms of per

capita NDDP though, it ranked 19th amongst all districts at Rs 63,270. This was lower than the State average of Rs 87,686.

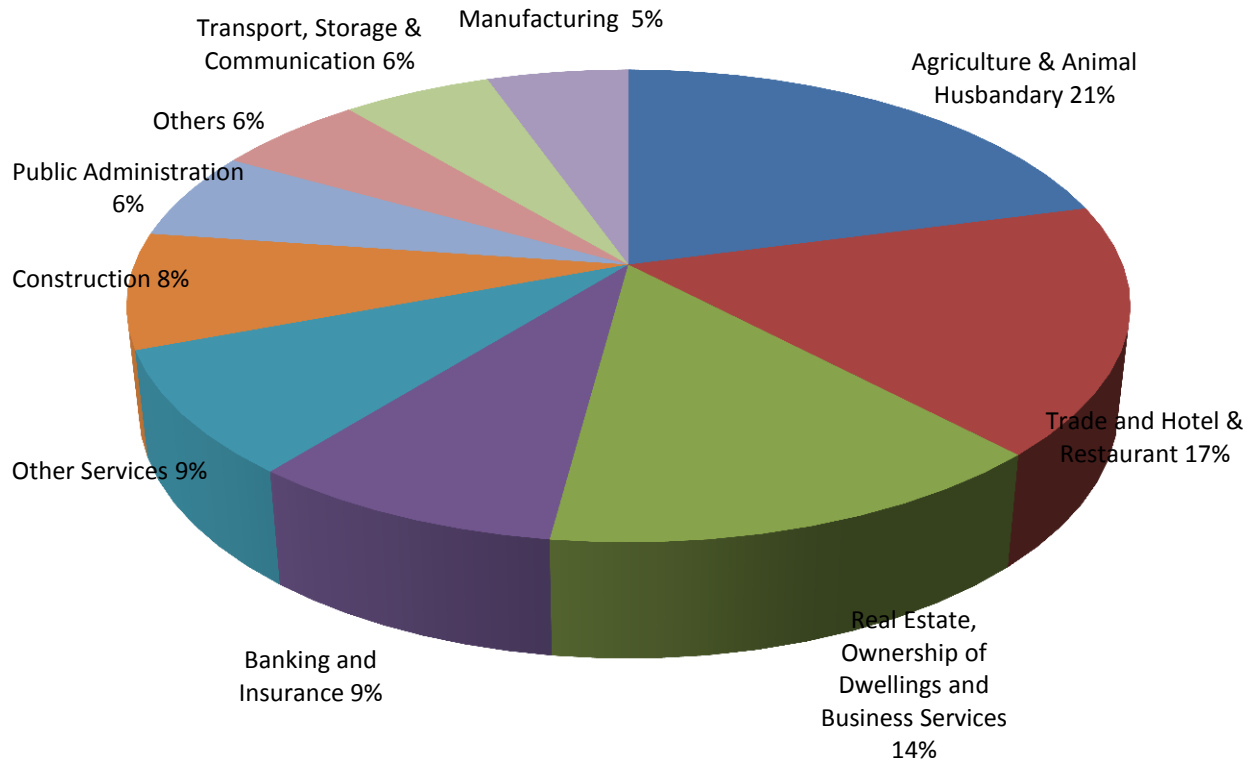
Figure 52: Gross District Domestic Product, In Rs thousand Crore, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly service based, with service sector's share in GDDP at 60.2 per cent in 2009-10. Secondary sector is at 15.6 per cent and primary sector is at 24.2 per cent.

Figure 53: Sector wise distribution of Amravati's GDDP



Source: District Socio Economic Review of Amravati

Agriculture: Agriculture is mainly dominated by cultivation of crops like wheat, gram cotton, oilseeds and pulses.

Industry: As of August 2012, Amravati district had 17 large scale industrial units, employing 3500 persons. These included companies such as Degee cotsyn Pvt Ltd; Narendra solvex Pvt Ltd etc. (Refer to annexures for complete list). End products manufactured included cotton yarn, solvent extraction of soya bean, etc. Amravati district also has 2,527 Micro, Small and Medium Enterprises (MSME), employing 19,979 persons. As of August 2012, the prominent MSME industries in the district were 'Food products and Beverages', 'Textiles', and 'Non-metallic Minerals'. Refer to annexures for details.

Services: As mentioned above, services account for 60.2 per cent of GDDP in Amravati district for the year 2009-10. Of all the services, the key services in the district are of 'trade, hotels and restaurants' at 17 per cent of GDDP, followed by 'real estate, ownership of dwellings, business and legal services' at 14 per cent, 'Banking and Insurance' and other services at nine per cent each and 'Public Administration' at six per cent.

2.3.State of education

As of 2011-12, Amravati district had 2,742 schools, which includes primary schools, upper primary secondary and higher secondary schools. Total student enrolment in all the schools was 409,841 while the student-teacher ratio was at 28 students per teacher. The student-teacher ratio is better than the State's average which is about 30 students per teacher.

Table 34: School and higher education infrastructure in Amravati district

Particular	No. Of institutes	No. Of students
Schools	2,742	409,841
General colleges	87	48,988
Technical education*	36	8,696

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *Excluding non-AICTE diploma courses*

For general higher education, the district has 87 general colleges, while for technical education; the district has 36 colleges. For vocational training, Amravati district had a total of 25 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, 17 were Government ITIs, and remaining eight were private unaided ITIs. All the 25 ITIs together have a seating capacity of 6080.

Table 35: Key ITI indicators in Amravati district, as of March 2012

Indicator	Value
Total Number of ITIs	25
Number of Government ITIs	17
Number of Private unaided ITIs	8

Indicator	Value
Total Seating capacity	6080

Source: IMAcS Primary Survey

Based on our discussions with the key stakeholders in Amravati district, we have found that on an average, of all the students that pass out from an ITI in each year, only around 60 per cent find jobs in the market. For details on courses offered by ITIs in Amravati, refer to annexures.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. Majority of the private training centres in Amravati district offers computer related courses. Some of the courses offered by them include MS-CIT, C++, Java, DTP, Oracle, Tally, etc. MS-CIT course is preferred among the students/youth in the district as this course is a pre-requisite for getting a Government job in the State. The other training areas provided by private training institutes include beauty culture, handicrafts, embroidery and fancy work, tailoring and cutting, etc. For details of training institutes and courses offered, refer to annexures.

2.4. Youth aspirations

In the process of identifying the growth engines for the Amravati district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Demand for placement cell:** Students believe that institutions should have placement cell with placement officer that helps them to getting job in their related field. In spite of this it helps them in developing their goals, and plan and execute their coursework to meet those goals and requirements.
- **Demand for extracurricular activities and amenities:** Students reported that there should be cultural and sports activities with studies which helps boost their confidence. They also want bus facility to pick and drop as most of the students are from villages from the nearby talukas of the Amravati district. Youth also have a preference for hostel and mess arrangements, which are currently not available in many institutions.
- **Increase in stipend:** In Government training institutes such as ITI's, youth want that there should be increment in stipend they receive. As they reported that currently, they getting very low stipends.
- **Introduction of new trades/courses:** Students believe that there should be introduction of new trades like stream turbine operator, diamond cutting, boiler attendant & steel welder.
- **Preference for government VTPs:** Students prefer Government VTPs rather than private because of low fees, better infrastructure and adequate facilities.
- **Migration trends:** Most of the youth are willing to shift from Amravati, if they are offered a job outside the district at a decent salary. Preferred destinations are Aurangabad, Nagpur, Pune and Mumbai.

3. Developmental concerns

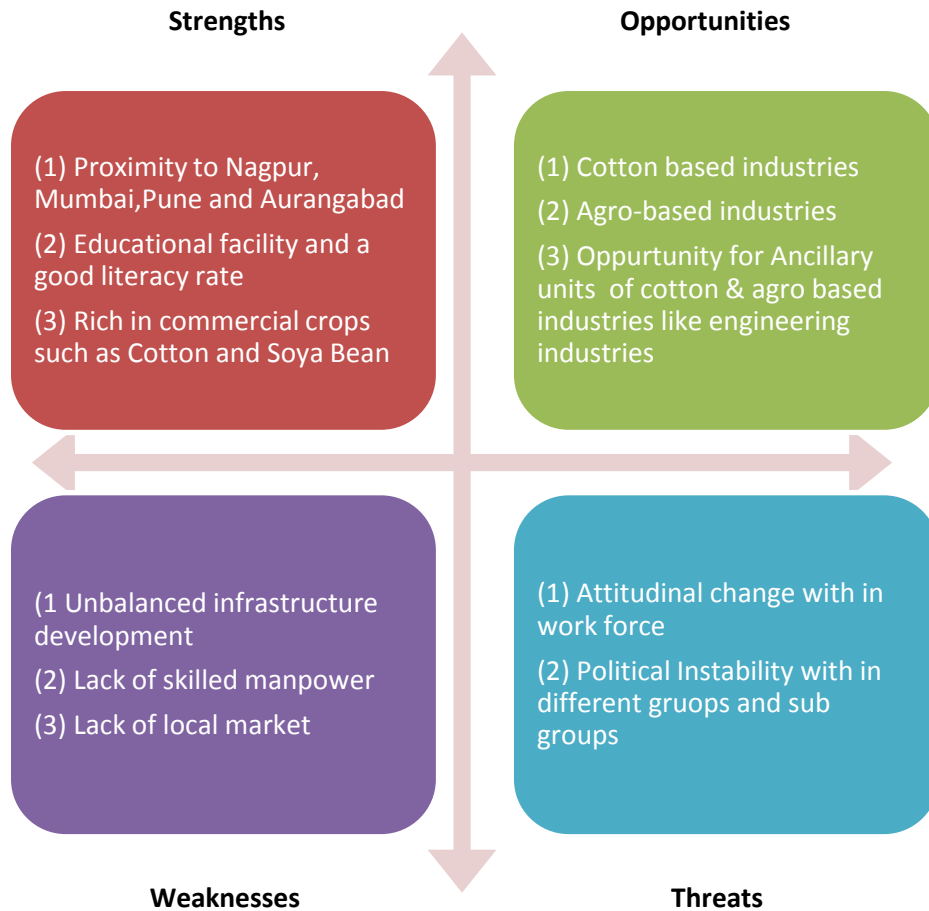
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Shortage of skilled manpower within the district:** During our primary survey it is observed that many industries within the district are facing shortage of skilled manpower. Shortage of skilled manpower is a vital issue for the industries, leads to low productivity for the industries.
- **Lack of infrastructure:** Amravati districts also lacks in infrastructure as there is no facility of water lodging, security of industries, streets lights with in the industrial estates etc. In addition of this city also lacks in hospitals, malls, roads etc.
- **Lack of local Market:** During our primary survey some industrials reported that they have insufficient local market to sell their products.
- **Lack of finance for industrial units:** During our primary survey it has been observed that industries are facing financial problems as lack of finance by the financial institutions. In addition, it has been reported that the interest paid on finance is too high. It is reported by some stakeholders that due to high rate of interest on loans, they lack in production and other operations of business.

SWOT analysis

Based on the diagnostics of the Amravati district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented in below.

Figure 54: SWOT Analysis of Amravati district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 1.75 lakhs persons between 2012 and 2022. Sectors which are likely to generate employment are mainly 'building, construction and real estate' and 'BFSI'. These are supporting sectors which generate employment as an economy grows.

However, sectors which are unique to Amravati district are 'food processing', 'textiles and clothing' and 'other manufacturing (mainly machine manufacturing for the textiles sector)'. The forecasts for these sectors are low, as current and past trends have been used for forecasting. However, these two sectors have immense potential due to availability of raw materials. If adequate investments materialise in these sectors (both from Government and private), then these sectors will generate employment much more than what has been forecasted as of now.

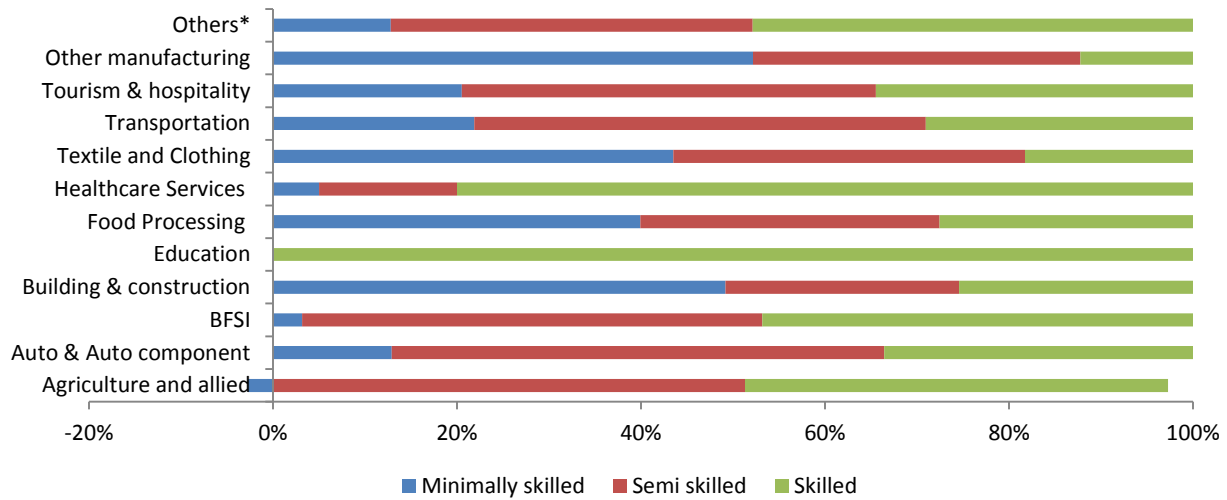
Table 36: Incremental demand of human resources in Amravati – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	19,517	9,946	29,463
Auto and Auto component	832	1,333	2,165
BFSI	12,011	19,307	31,317
Building, Construction industry and Real Estate	23,274	32,300	55,575
Education and Skill Development	11,734	5,716	17,450
Food Processing	1,083	1,398	2,481
Healthcare Services	6,117	8,371	14,487
Textile and Clothing	264	335	599
Transportation, Logistics, Warehousing and Packaging	5,419	6,143	11,563
Tourism, Travel, Hospitality & Trade	2,903	4,226	7,129
Other manufacturing	1,132	1,863	2,995
Others*	73	81	155
Total	84,359	91,019	175,378

Source: IMAcS Analysis

**Others include Chemicals & Pharmaceuticals, electronics and furniture and furnishings.*

Figure 55: Incremental demand of human resources in Amravati – by skill level

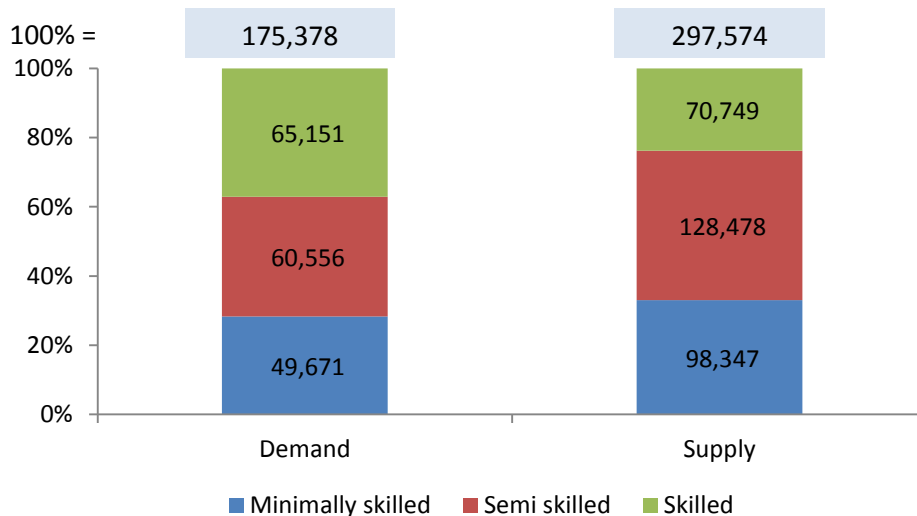


Source: IMAcS Analysis

*Others include Chemicals & Pharmaceuticals, electronics and furniture and furnishings.

We have estimated incremental supply of human resources in the district at 2.97 lakh for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be higher than the incremental demand in the district. This is due to lack of job opportunities in the district, which are not sufficient to absorb the manpower coming out of the educational institutions. If sufficient jobs are not generated in the district, then the manpower will continue to move to other districts / States where job opportunities are available.

Figure 56: Demand supply gap of human resources in Amravati – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

As discussed in the section above, while employment will be generated across many sectors, in this section, we have identified especially those sectors which require skilling interventions in the district – mainly agriculture and allied, food processing textiles & clothing and other manufacturing. Identification of such sectors has been based on the diagnostics above, our observations during the primary survey and discussions with the key stakeholders in the district.

Table 37: Sectors where interventions are required in Amravati district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Amravati	Maharashtra
Agriculture and allied		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		
Additional sectors	Amravati	Maharashtra
Other Manufacturing (mainly machine manufacturing for the textiles sector)		

Source: IMaCS Analysis.

For the sectors identified above, we have mapped the skill requirements and the gaps faced by the sector in the section below.

5.1. Textile and Clothing industry

The district currently has four large textile based units with an investment of around Rs. 140 crores and providing permanent employment for around 1000 people. Majority of the workforce (More than 90 per cent) are from Amravati district. The district also has few MSMEs in textiles sector (Micro, Small and Medium Enterprises). Based on our discussion with industry players in the district, the textile units (Ginning & Spinning) are unable to get skilled manpower from the district. Therefore, the units provide various trainings to fit the employees according to their requirements. Majority of the recruitment happens at the operator/worker level. People recruited at this level are either 8th pass/ 10th pass/ ITI pass outs.

The textile based units in the district are able to source qualified personnel at the level of assistant manager or above. These units face fewer skill gaps in the supervisor and operator/worker level. However, continuous need based training are provided by these units.

The skill gaps in the Textile and clothing sector are:

- Inadequacy in managing people/teams
- Inadequacy in improving the performance of people.
- Inadequacy in managing effective flow of communication.
- Inadequate ability to constantly monitor the workflow (can result to damage in machines and business interruption)
- Inadequate knowledge about the entire spinning process
- Other issues include non-skill related such as absenteeism, work – related behaviour, non-cooperation with supervisors, etc

5.2. Food Processing Industry-Soybean Edible oil

The district currently has food processing units of soybean refined oil like Bhaskar Food Pvt Ltd and Narendra solvex Pvt Ltd etc. With an investment of around Rs. 100 crore and providing permanent employment for around 200 people. Majority of the workforce (More than 90 per cent) are from Amravati district. The district also has few MSMEs in food processing sector (Micro, Small and Medium Enterprises).

The skill gaps in the food processing industry-soybean edible oil sector are:

- Lack of time Management Skills
- Lack of effective communication skills
- Lack of decision making skills

5.3. Other Manufacturing industries –Ginning and Spinning machines manufacturing sector

During our primary survey in Amravati district it has been observed that only one ginning and spinning machines manufacturing industry is exists i.e. Jadhao Gears Pvt Ltd, a unit of Jadhao Group of companies. However, given the potential of the cotton ginning and spinning industry in the district (due to availability of raw materials), there is also potential for setting up of such ancillary units, providing

machinery for use in the sector. Currently, no skill gaps are reported as the industry is yet to take shape. However, once the industry comes up, end to end training will be required for the manpower.

6. Recommendations

Recommendations for Amravati district focus on 'textiles & clothing (cotton ginning and spinning), food processing, and agriculture and allied sectors.

Table 38: Key Recommendations for Amravati-Summary

Sector	Government	Private training institutes	NSDC	Industry
Agriculture and allied sector	<ul style="list-style-type: none"> Empowering farmers through information, capacity building and organizing Introduce and encourage quality guidelines for cotton and soybean seed production Strengthening linkages and interaction between farmers and industries players 	n/a	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a
Textiles & clothing (cotton ginning and spinning)	<ul style="list-style-type: none"> Facilitate modernisation and technological up gradation Create awareness among industry players on financial schemes Spread awareness on subsidies and loan 	<ul style="list-style-type: none"> Training on technical know how Development of soft skills, communication and time management 	<ul style="list-style-type: none"> Intervention required through funding private training as well as SSC 	<ul style="list-style-type: none"> n/a
Food processing industry-Soyabean edible oil	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Provide technical training to the workforce Develop soft and communication skills Introduction of training centers 	<ul style="list-style-type: none"> Intervention required through funding private training as well as SSC 	<ul style="list-style-type: none"> Tying up with training providers for training of employees Can train farmers on modern farming methods ,various irrigation techniques

6.1. Government Players

- ❖ **Agriculture and Allied:** Department of Agriculture can participate in empowering farmers through information, capacity building, introducing and encourage quality guidelines for cotton and soybean seed production, extending technical support through technical training on

modern farming practices, and promoting effective and efficient use of technology. Department of Agriculture can also focus on increasing yield of cotton and soybean as these crops are the raw material for the district industries.

❖ **Textile and clothing industry:** Government can play a significant role for the cotton and textile sector in Amravati district as district industries facing shortage of skilled workforce. The key interventions are required for:

- Ginning operator
- Mixing Operator – Cotton mixing
- Blow room fitter
- Card fitter
- Comber fitter
- Warper
- Weaver

The above mentioned are some indicative courses and industry participation is essential in deciding the courses and curriculum for training. There should be a tie up with industries for placement of eligible trainees.

❖ **Food processing:** The Department of Agriculture can provide training facilities to the agricultural labours on soybeans seed production. Government can encourage modernisation and technological up gradation for soybean extraction industries. Even though Government financial institutions have several schemes for providing financial assistance to the farmers and processors, the local players are not aware of those. Thus, awareness creation programs also need to be held for the same.

6.2. Private training providers

❖ **Textile and clothing industry:** Private training centres should provide training according to the local industry requirements. Most of the textile related units in the district are involved in spinning and weaving process. Therefore, appropriate course needs to be designed and delivered to the trainees which could help them to get a job in the local units. There is also a requirement of up-skilling training for the existing employees in the industries. So refresher and supervisory development courses may also be provided. Some of the training courses which can be provided in the sector (spinning and weaving) are as follows:

- Certificate programme for spinning operator
- Certificate programme for weaving machine operator
- Refresher training for operators (short term course for experienced operators)
- Supervisory training program (covering aspects such as costing, inventory control, measures to improve productivity and quality, quality check methods, judging performance, maintenance, etc)

Private training providers need to have a tie-up with the local industry players to understand their requirement and provide training accordingly. They can also participate in designing the curriculum of the training as they are much aware about the latest advancement in the sector

and the same can be implemented in the training. This would also ensure placement of the trainees as they are trained as per the industrial standards.

Training providers need to register with the NSDC and the relevant Sector Skill Council (SSC) to avail the benefits as a part of skill development initiative. Also, associating with these bodies enhances the recognition of training providers by industries (through certificates provided).

- ❖ **Food processing industry-soybean edible oil:** As the Amravati district has good potential in the soybean processing sector; private training providers can play a crucial role by providing technical training to the workforce of soybean industries. In addition to this, they can also train workforce to develop soft and communication skills as an important part of training. Introduction of training centres for the work force within the district will also be helpful for filling skills gaps for the soybean industries.

6.3. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Agriculture and Allied
- ❖ Textile and clothing industry – cotton ginning, pressing, spinning and weaving
- ❖ Food processing industry-soybean edible oil manufacturing

6.4. Industry

- ❖ **Food processing industry-soybean edible oil:** In Amravati district most of the soybean industries, depends on agriculture crop of soybean, so going forward industries have direct relationship with farmers. These industries can conduct training program to farmers. This is also beneficial to the industries as it could improve the productivity of farmers and yield would be high. For the employees in the soybean industry, industries should coordinate with private agencies for the workforce training. There are some of the best practices followed and should be followed across the players in the industry.

2.4. AURANGABAD

1. Introduction

Aurangabad district is a part of the Aurangabad division. It has a total land area of 10,107 sq. km., which is 3.28 per cent of the total State area. Aurangabad district is mainly located in Godavari Basin and some of its parts are towards North West of Tapi River Basin.

It is sub-divided into 10 sub-districts and has 1,300 villages. Majority of the population at 56 per cent lives in rural areas. Agriculture is the main occupation, employing 62 per cent of the labour force (as of Census 2001). The remaining is in household industry (2 per cent) and other workers⁴ at 36 per cent. Sugarcane, bajra, jawar and wheat are the major crops grown in the district and account for about 65 per cent of the gross cropped area of the district. This has led to setting up of many agro based small scale industries in the district.

Table 39: Comparison of Aurangabad district with Maharashtra – key indicators

Indicator	Year	Aurangabad	Maharashtra
Area, in sq.km.	2001	10,107	307,713
Percentage share in State geographical area, %	2001	3.28%	100%
No. of sub-districts	2011	10	353
No. of inhabited villages	2001	1,300	41,095
No. of households	2001	5,49,898	19,576,736
Forest area as a % of total geographical area	2001	9.03%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Aurangabad district has a population of 36.95 lakhs persons – 3.29 per cent of the State population. About 54 per cent of the population in the district is in working-age group (15 to 59 years), about 41 per cent is actually working i.e. work participation rate.

⁴Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers are 'Other Workers'.

The district's literacy rate is 80.40 per cent, which is slightly lower than the State average of 82.91 per cent, and higher than All-India average of 74 per cent. Male literacy at 89.31 per cent is higher than female literacy rate at 70.81 per cent.

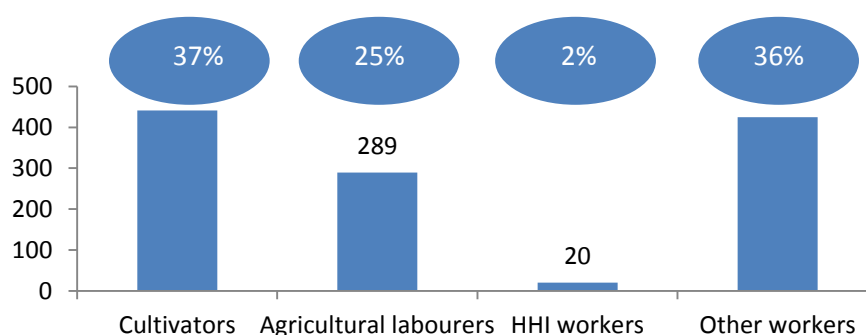
Table 40: Key demographic indicators

Indicator	Year	Aurangabad	Maharashtra
Population, No.	2011	3,695,928	112,372,972
Decadal growth rate of population, %	2001-11	27.33	15.99%
District's share in State's population, %	2011	3.29%	100%
Urban population as a percentage of total population, %	2011	44%	45%
SC population, %	2001	12.99%	8.79%
ST population, %	2001	3.47%	15%
Sex ratio, No. of females per 1000 males	2011	917	925
Population density, per sq. km.	2011	365	365
Literacy rate, %	2011	80.40	82.91%
Main workers, No.	2001	1,025,531	34,748,053
Marginal workers, No.	2001	151,326	6,425,298
Working age population* as a percentage of total population, %	2001	54%	59%
Work participation rate^, %	2001	41%	42.50%
HDI Index	2000	0.56	0.58

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011, Maharashtra Human Development Report 2005

The district has a total workforce of about 11.76 lakhs persons. Of this, 37 per cent are cultivators, 25 per cent are agricultural labourers, 2 per cent is workers in household industry and 36 per cent are other workers.

Figure 57: Aurangabad district's worker profile, as of 2011, in thousands



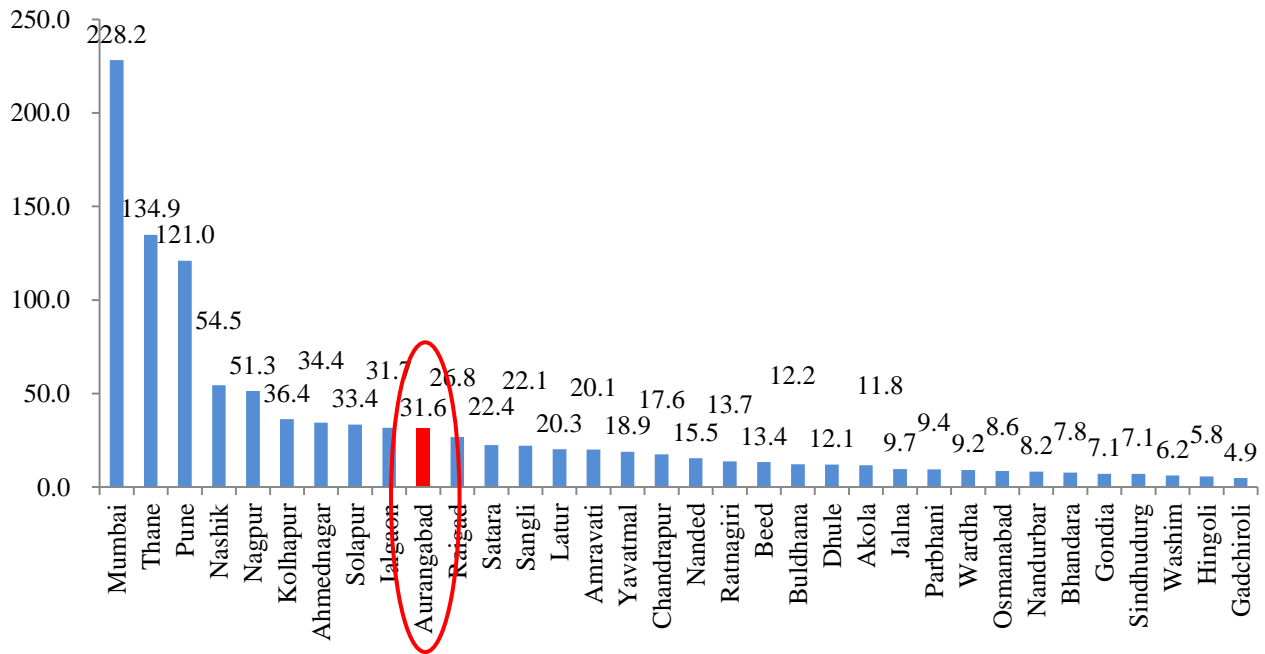
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated

2.2. Economy

As of 2010-11, Aurangabad district had the tenth largest Gross District Domestic Product (GDDP) in Maharashtra at Rs 31,563 crores (2.95 per cent of the Gross State Domestic Product). In terms of per capita NDDP though, it ranked 25th amongst all districts at Rs 52,177. This was lower than the State average of Rs 87,686.

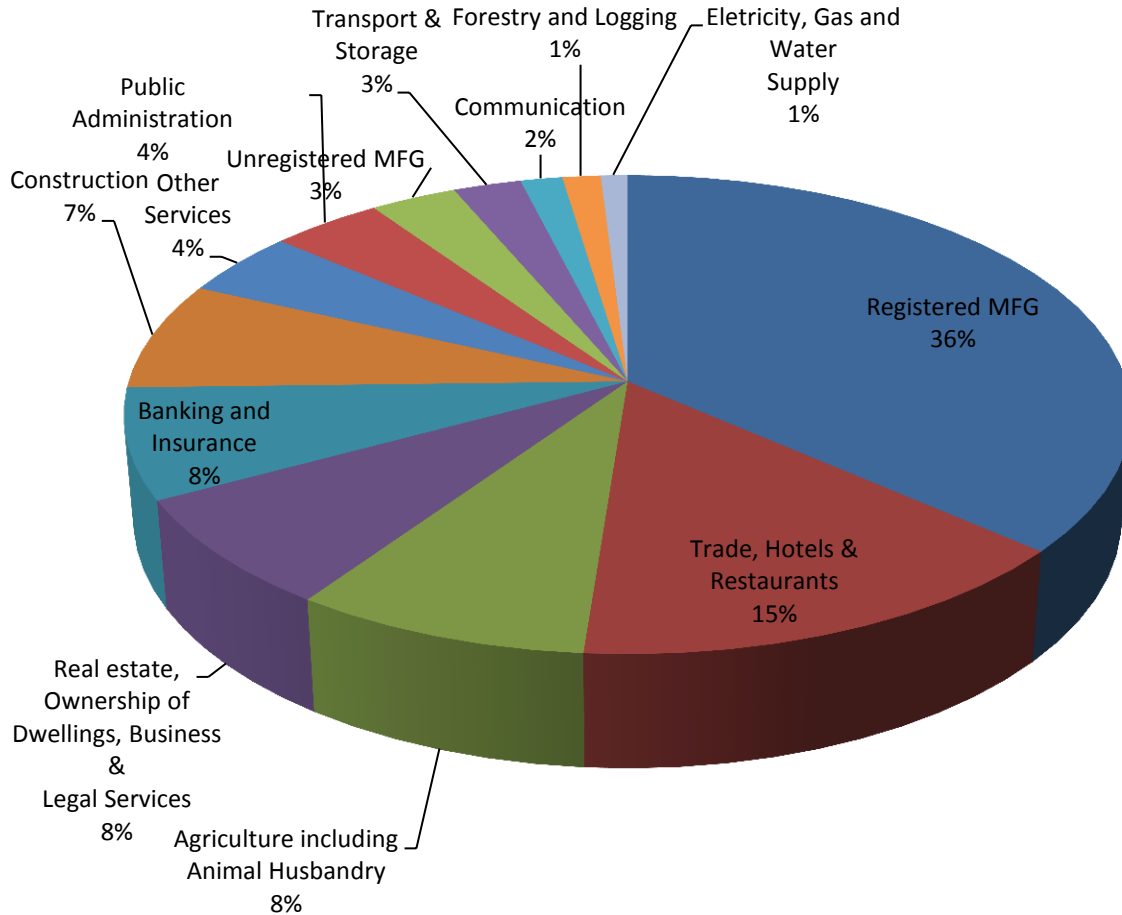
Figure 58: Gross District Domestic Product, in Rs thousand Crores, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly secondary sector based, with secondary sector's share in GDDP at 47 per cent in 2009-10. This is followed by tertiary sector at 43 per cent and primary sector at nine per cent.

Figure 59: Sector wise distribution of Aurangabad GDDP, as of 2009-10, 100% = Rs 24,630 crores



Source: District Socio Economic Review of Aurangabad

Agriculture: Of the total area of 10,107 sq. km. in the district, over 71 per cent is the net sown area (cultivated land). Agriculture is mainly dominated by cultivation of bajra, jawar, wheat, cotton and sugarcane under food crops and mango, sweet orange, banana, sapota etc. under commercial crops.

Industry: As of August 2012, Aurangabad district had 214 large and medium scale industrial enterprises, employing 80,500 persons. These included companies such as Bajaj Auto Ltd., Johnson and Johnson Ltd., Wockhart Ltd., Videocon Ltd., Siemens Ltd., Mahindra and Mahindra Auto Industries etc. (Refer to **Error! eference source not found.** the annexures for complete list). End products manufactured include electronic equipment, auto and auto components, electric motors and pharmaceuticals etc.

Aurangabad has 4,424 Micro, Small and Medium Enterprises (MSME), employing 110, 225 persons. As of August 2012, the prominent MSME industries in the district were 'Food products and Beverages', 'Fabricated Metal Products', and 'Manufacturing of Machinery and Equipment' 'Electronic Machinery'

etc. Refer to the table in annexure for complete list of MSME industries and employment details. The district has four industrial areas (of which three are large), totalling 3,179.5 hectares of land.

Services: As mentioned above, services account for 43 per cent of GDDP in Aurangabad district for the year 2009-10. Of all the services, the key services in the district are of 'trade, hotels and restaurants' at 15 per cent of GDDP, followed by 'real estate, ownership of dwellings, business and legal services' at 8 per cent, 'Banking and Insurance' at 8 per cent, other services at 4 per cent and 'Public Administration' at 4 per cent.

2.3.State of education

As of 2011-12, Aurangabad district had 3,025 schools. Of this, 48 per cent were primary schools, 34 per cent were upper primary schools and the remaining 16 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 5,68,647 while the student-teacher ratio was at 30 students per teacher. The student-teacher ratio is at par with State's average which is about 30 students per teacher.

Table 41: School education infrastructure in Aurangabad district

Particular	Value, as of 2011-12
Number of schools	3,025
Number of students	5,68,647
Number of teachers	18,705
Student-teacher ratio	30

Source: IMaCS Primary Survey, Department of Education, Aurangabad

Table 42: Higher education infrastructure in Aurangabad district, as of

Colleges	No.
General	66
Medical	2
Polytechnic	15
Engineering	12
Dental	2

Source: IMaCS Primary Survey, Department of Education, Aurangabad

For vocational training, Aurangabad district had a total of 16 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, 11 were Government ITIs, and remaining 5 were private unaided ITIs. All the 16 ITIs together have a seating capacity of 2,089.

Table 43: Key ITI indicators in Aurangabad district, as of March 2012

Indicator	Value
Total Number of ITIs	16
Number of Government ITIs	11
Number of Private unaided ITIs and ITCs	5
Total Seating capacity	2,089

Source: Department of Employment & Self Employment, Government of Maharashtra

Based on our discussions with the key stakeholders in Aurangabad district, we have found that on an average, of all the students that pass out from an ITI in each year, only around 50 per cent find jobs in the market. For details on courses offered by ITIs in Aurangabad, refer to the table in annexure.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The Government departments offer courses in trades such as agriculture, textiles, education, etc. District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship Development) and MITCON Consultancy and Engineering Services Ltd. Self-employment promoting training programs such as mobile repairing, two wheeler repairing, home appliance repairing, etc. are also conducted through this scheme.

There is also a program named Employment Promotion Programme for Educated Unemployed (EPP) under Local Employment Exchange which aims to provide training for acquisition and up gradation of skills in private sector establishments and public sector undertaking. The educated unemployed persons provided with on-the-job training or other practical training to upgrade their skills or to stand on their own feet. The trainees under Employment Promotion Programme are appointed for a specified period of six months only and get stipend accordingly.

The success rate of these training programmes provided by these Governmental agencies is observed to be low. Based on the discussions with the key stakeholders in the Government departments and the trainers, the major reason for low success rate of most of these training programs is observed to be lack of interest among the trainees. Since majority of these programs are sponsor based, most of the trainees attend them to attain the benefits (such as stipend) and do not show any interest to learn and use these training as a career progressive mechanism.

Majority of the private training centres in Aurangabad district offers computer related courses. Some of the courses offered by them include MS-CIT, C++, Java, DTP, Oracle, Tally, etc. MS-CIT course is preferred among the students/youth in the district as this course is a pre-requisite for getting a Government job in the State. The other training areas provided by private training institutes include beauty culture, handicrafts, embroidery and fancy work, tailoring and cutting, etc. For details of training institutes and courses offered, refer to table in annexure.

2.4. Youth aspirations

In the process of identifying the growth engines for the Aurangabad district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Preference towards ITI's courses:** Students prefer ITI certification because it helps in obtaining Government and private jobs. The factors behind selection of ITI by students were Government institution, low fee, availability of hostel facility.
- **Migration Trends:** Most students prefer getting placed out of Aurangabad because of better employment opportunities, higher pay, better career growth prospects and lifestyle. Preferred destinations are Mumbai, Nasik, Nagpur and Pune.
- **Preferred courses in ITI's training institutes:** Most preferred courses in the ITI are Maintenance Mechanic Chemical Plant (MMCP), Motor mechanic, RAC, Tools and dye maker, Electrician, Welder and Fitter.
- **Demand for teachers and instructors:** During our primary it is reported that, many vacancies of teachers and instructors were unfilled and take long time to get filled. According to students there should be more teachers and instructors in the training institutes.
- **Preference towards Government jobs:** Students want to get employed in Government sector mainly because it is seen as a status symbol in the society. Job security, less work pressure, permanent nature of work and better pay scale are the other perceived advantages attached to Government jobs.

3. Developmental concerns

Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

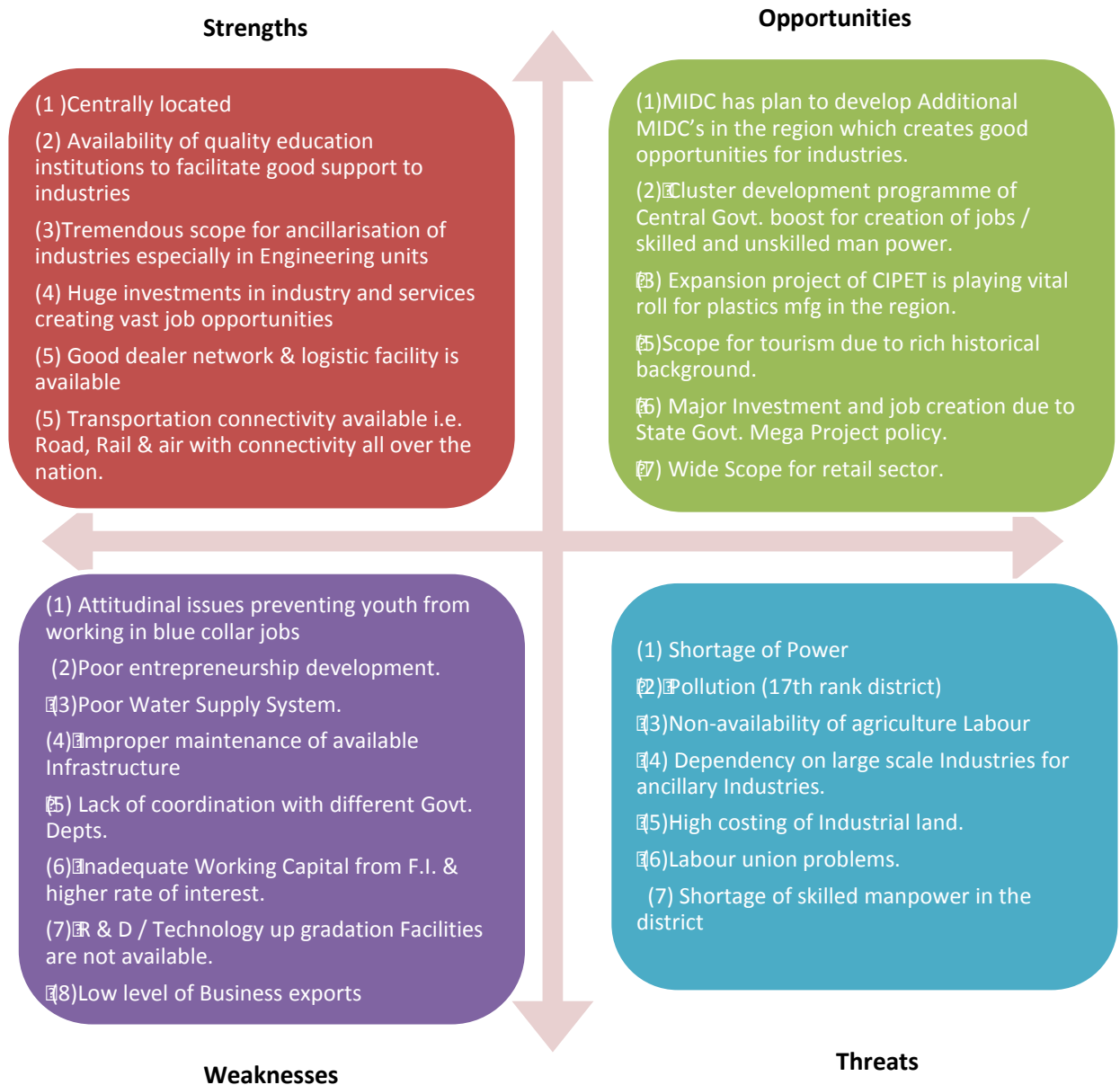
- **Attitudinal issue of district human resource:** Aurangabad district is one of the district of Maharashtra which is the 'Headquarter of Marathawada and Labour hub' for many metros and developing cities of India. But this pool is not willing to work within the district and at the same time local industries do not find them employable. The reason as described by the employers is that they are complacent, indifferent attitude of locals and their unwillingness to mould as per employer's needs. They lack sense of ownership at jobs and want to have gentlemen's attire at work are not willing to work in factory/field and also exhibit frequent unexplained absenteeism from work. However the same work force does hard work in other places and remains very punctual. Thus the attitudinal issues of the human resource are acting as a big bottleneck for the district industry.

- **Infrastructure Bottlenecks:** The district has multiple infrastructure issues including unavailability of four lane roads for trade, poor traffic regulation, civic amenities, water supply, sewage drainage and frequent power outages. The water management system of the district is very poor; the lines running for water supply are leaked and old.
- **Shortage of skilled manpower within the district:** The district has many educational institutions providing education and training to the locals. However, locals, especially youth are more prone to moving out of Aurangabad district for better job opportunities, due to the lure of better life along with higher compensation packages and standard of living. This has created a shortage of skilled manpower within the district.
- **Unfavourable industrial ecosystem:** Survey highlighted the problems and challenges local industrialists are facing in Aurangabad. Stakeholders mentioned poor infrastructure, lack of clear vision for local industry development, uneducated labour which makes them gullible to destructive elements resulting in unionization, frequent labour strikes and insufficient support from the Government as factors that are making environment hostile for the industry. Though local entrepreneurs are interested in investing in the district, they are moving out to Gujarat, Bihar and Uttarakhand because of the above reasons
- **Inadequate working capital from financial institutes and higher rate of interest:** Local industries are facing severe financial crunch which hinders the industrial growth in the district. Industrialists quoted lengthy and tedious paperwork, high rate of interest for loans and non-transparency in the bank functioning for granting the loan as a reason for not getting the financial assistance from banks.
- **Labour union issues:** Based on our industry discussions, we found that some of the industries such as textiles and engineering services are facing issues on the labour front. They reported strong labour unionism, which is hindering industrial production.

SWOT analysis

Based on the diagnostics of the Aurangabad district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 60: SWOT Analysis of Aurangabad district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 4.15 lakh persons between 2012 and 2022. Sectors which will drive demand are expected to be 'Building, construction and real estate', 'organised retail', 'auto and auto component' and 'tourism, travel, hospitality & trade'.

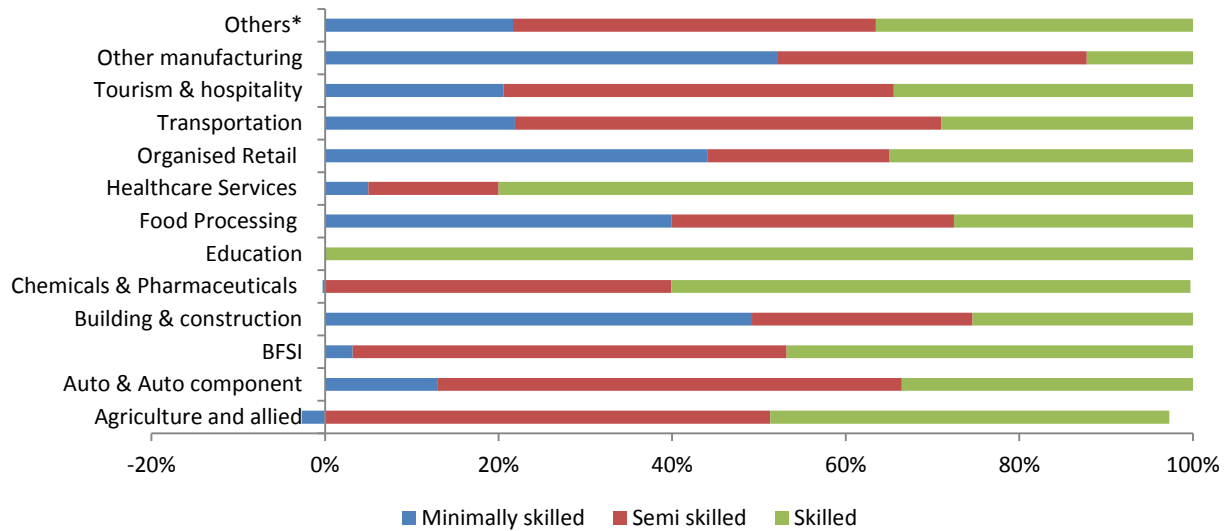
Table 44: Incremental demand of human resources in Aurangabad – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	18,489	9,422	27,911
Auto and Auto component	21,220	32,671	53,891
BFSI	14,476	23,270	37,747
Building, Construction industry and Real Estate	40,572	56,307	96,880
Chemicals & Pharmaceuticals	1,135	1,195	2,329
Education and Skill Development	11,459	6,760	18,218
Food Processing	1,330	1,716	3,046
Healthcare Services	6,685	9,149	15,835
Organised Retail	16,508	41,077	57,585
Textiles and clothing	839	1,064	1,903
Transportation, Logistics, Warehousing and Packaging	6,528	7,401	13,929
Tourism, Travel, Hospitality & Trade	19,925	29,012	48,937
Other manufacturing	13,793	22,707	36,500
Others*	498	570	1,068
Total	173,458	242,321	415,779

Source: IMAcS Analysis

**Others include electronics and furniture and furnishings*

Figure 61: Incremental demand of human resources in Aurangabad – by skill level

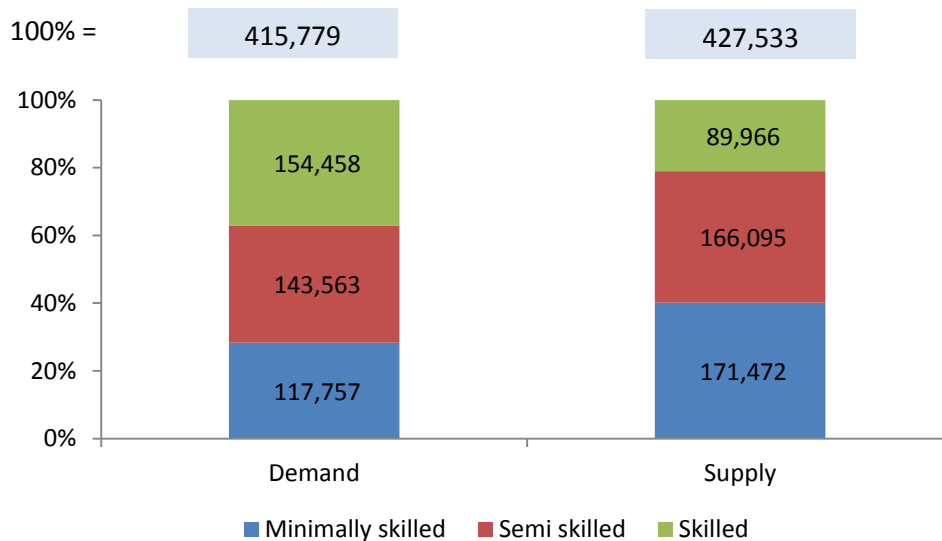


Source: IMAcS Analysis

*Others include electronics and furniture and furnishings

We have estimated incremental supply of human resources in the district at 4.27 lakh for the period 2012-22. The incremental supply almost matches the incremental demand in the district. However, there is likely to be shortage of workers at the skilled level, while there will be surplus of workers at minimally skilled and semi-skilled levels, thus indicating a need to upgrade the skills of the workers at the lower levels to meet the demand for skilled workers.

Figure 62: Demand supply gap of human resources in Aurangabad – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on the diagnostics above, our observations during the primary survey and discussions with the key stakeholders in the district, we have identified sectors which will be having skill training requirements. Aurangabad district has 56 per cent population residing in rural areas and engaged in agriculture. Most of them are still relying on archaic agricultural practices and not adopting new techniques and methods like use of genetically modified crops, to increase their yield.

Within non-agricultural sectors, Aurangabad district is home to many units viz auto and auto component units, machinery and equipment units etc. Additionally, the district also has small scale businesses in manufacturing, metal working, fitting, welding, auto repair shop, service stations, wood based & general manufacturing and handicraft. These existing industries and businesses are confronting the challenge of skill gaps in the employed human resource, for which they are importing the skills from other districts / states at extra cost or providing training to them as per the job requirements.

Table 45: Sectors where interventions are required in Aurangabad district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Aurangabad	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMAcS Analysis.

For the sectors identified above, we have mapped the skill requirements and the gaps faced by the sector in the section below.

5.1. Agriculture and allied industries

Aurangabad district has 56 per cent of rural population which is involved in the field of agriculture and its allied activities. A large number of sugar mills are present in Aurangabad; also various food processing and beverages units are present. However at present food processing and beverages units present in smaller units and as unorganized sector and it has not taken the shape of an industry. So there is a big scope for agriculture and allied industries like dairy, food, horticulture, poultry and their supply chain.

The skill gaps in the agriculture domain are:

- Lack of knowledge about high quality seeds and genetically modified crops
- Lack understanding of cultural practices like crop rotation, inter cropping, double cropping etc.
- Lack of knowledge on new techniques in agriculture
- Lack understanding of best practices of sorting, grading and packaging
- Lack of understanding of organic farming
- Lack of understanding of correct dosage of pesticides to protect fertility of the soil
- Lack of knowledge on productive cultivation in poly houses
- Lack of precision farming techniques and tissue culture

5.2. Food Processing Industry

Currently sugar mills and manufacturing of food products & beverages are functional under this segment in Aurangabad district. Distillery units are not covered as they are few in number and are mechanised to a larger extent.

5.2.1. Sugar industry

Aurangabad is a pioneer district in co-operative development and in up-liftment of sugarcane cultivators through the sugar factories. At present eight co-operative sugar factories but only two are operating with full capacity.

The key skills gaps in sugar industry are:

- Inability to use latest equipment
- Inability to calculate the required cane for desired output level
- Inability to use latest machines
- Inability to follow supervisors' instruction
- Inadequate knowledge about heating the sugar juice at desired temperature level at different stages of processing
- Inadequate knowledge about various types of sugar and processes for each type
- Inability to consistently follow standard safety procedures

5.2.2. Manufacturing of Food Products & Beverages

Aurangabad District has multiple food products and beverages units involved in primary, secondary and tertiary processing. Some of the leading food processing and beverages companies which have established their presence in the districts are PepsiCo India Holding Pvt. Ltd., Frigorifico Allna Ltd., Tayo Lubrisky Pvt. Ltd., Indo European Braveried Ltd, Parvathi Distilleries Ltd. etc. At present there are 316 units of Food Products & Beverages in Aurangabad district employing 9,845 workers with total investments of 2481 lakhs.

The organised food products and beverages industry is highly mechanised owing to the various global healthcare and food processing norms including HCAAP, ISO 9000 series etc. This high reliability on mechanisation has reduced the dependence on human capital and hence the number of employment generated. Majority of the employment in these industries are in packing, loading and unloading, machine monitoring, machine maintenance, electrical and electronics management in the factory.

Thus, the employment generation capacity of the sector is limited; most of the employees in these sectors are trained by the employers themselves as suited to their mechanisation and process involved. In addition the industries being well established, players do not find difficulty in hiring and training eligible candidates for their vacancies.

The general skills in which the employees get trained are,

- Industry standards as applicable to the product
- Mechanisation employed in the industry
- Food safety norms and quality control
- Material handling and safety procedures
- Personal safety management
- Machine maintenance

5.3. Auto/Auto Ancillary Sector

Aurangabad district is clustered with auto ancillary industry owing to its rich heritage of engineering and manufacturing industry. These auto ancillary industries support the automotive Original Equipment Manufacturers (OEM) and auto manufacturers. The most dominant among the auto industry in Aurangabad is the presence of Bajaj Auto Ltd. producing two wheelers. In fact Bajaj Auto, which initiated its production in 1970s, was responsible for changing the industrial climate of Aurangabad city due its huge investments and employment generation. A number of ancillary units were established in Aurangabad catering to the spare-parts needs of the Bajaj Auto. These ancillary units have evolved into large organisations themselves. Some of the other major names related to the automotive sector are Good Year South Asia Tyre Pvt.Ltd., Balkrishna Tyres Ltd. and Skoda India. Recently Siemens India has set up its rolling stock factory which manufactures high performance and superior quality bogies for locomotives, passenger coaches, electric multiple units and metros.

Figure 63: Auto/Auto Ancillary units in Aurangabad district



These auto ancillary industries apart from servicing the auto industry are also working with general manufacturing, commercial goods, machine tools, electrical industry etc. The service functions/operations in an auto component industry will be broadly similar including machining, fitting, welding, forming, forging, component assembly etc., but they are governed by different set of industry guidelines.

As a part of Auto ancillary sector we have also included after sales and service of two wheelers and four wheelers, Aurangabad District has more than 60 new car dealerships, and 80 new two wheeler dealerships (Source: Department of Employment & Self Employment, Aurangabad, Government of Maharashtra); and this number is on the rise. This apart there are several-used car and two wheeler dealership which offer sales, service and resale works; this sector also provides tremendous employment opportunities for the aspiring youth. Several ITIs in Aurangabad offer MMV (Mechanic Motor Vehicle) as a part of their training course.

The skill gaps of the work profiles which offer majority of the employment in auto components industry are listed below,

Manager / supervisor / floor in-charge (Graduate Engineer/ Experienced Diploma)

- Insufficient understanding of the process
- Limited knowledge in quality requirements and international standards
- Insufficient ability to co-ordinate activities within and between production lines and departments
- Inadequate knowledge of materials and resource management
- Inadequate knowledge of labour laws

Operators / (Turner/Machinist - ITI)

- Inadequate knowledge in understanding geometry, dimensions, and tolerances

- Inadequate materials knowledge
- Inadequate knowledge of quality control
- In sufficient instrumentation knowledge
- Limited knowledge of machine tool maintenance
- Conformance to HR guidelines including time management, attendance, cleanliness, work place neatness etc

Operator/ (Welder - ITI)

- Inadequate technical knowledge
- Knowledge of dimensioning and tolerances
- In sufficient understanding of weld testing techniques
- Inadequate quality concepts
- Conformance to HR guidelines including time management, attendance, cleanliness, work place neatness etc

Operator/ (Fitter - ITI)

- Inadequate comprehension of assembly/fitting SOP
- Inability to use the machine tools for assemble
- Inadequate quality inspection methods
- Conformance to HR guidelines including time management, attendance, cleanliness, work place neatness etc

Operator/ (Quality Inspection – Diploma/Experienced ITI)

- Inadequate quality inspection knowledge
- Limited knowledge in using multiple quality control equipments and tools
- Inadequate understanding of the quality standards of the industry
- Inadequate comprehension of drawings, dimensioning and tolerance

Operator/ (Tool room – Diploma/ITI)

- Inadequate knowledge of quality management
- Clarity in comprehending dimensions, tolerance and drawings
- Limited knowledge or latest material forming/machining techniques

Executive (Materials Management – Graduate/Diploma/ITI)

- Limited understanding of materials and their properties
- Inadequate knowledge in material handling
- Limited soft skills
- Limited negotiation skills

**Design and Development/ Product development and Industrial Engineering/Technical services
(Engineering Degree/**

- Inadequate understanding of the customer requirements
- Inadequate materials knowledge

Sales and Marketing (Graduate/Engineering Degree/ Experienced Diploma)

- Inadequate understanding of the technical requirements
- Inability to understand the criticality of technical and delivery deadlines
- Inadequate communication skills

Service (Diploma as supervisor / ITI as service person)

- Inability to identify the problems in operation of the equipment/assembly/component
- Inadequate ability to understand the criticality of the role played by their component in the overall system design

The skill gaps of the work profiles which offer majority of the employment in new/used auto dealership and service industry is listed below:

Sales executive (Graduates/ Diplomas)

- Inability to understand the customer requirements
- Inadequate product knowledge
- Inadequate communication skills
- Inadequate sales skills

Purchase facilitation (Graduate/Diploma/ITI)

- Inability to process the customer documents due to Inadequate knowledge
- Inadequate communication skills

Spares management (Graduate/Diploma/ITI)

- Inability to convert the sales
- Inadequate inventory management skills
- Inadequate communication skills

Service Manager / Service Advisor (Graduate Engineer/ Experienced Diploma)

- Inability to diagnose the problems of the vehicle
- Inadequate general failures mode analysis techniques
- Weak interpersonal skills
- Weak communication skills

Service Supervisor (Diploma)

- Limited employee management skills

- Limited understanding of the vehicle dynamics
- Poor communication and supervisory skills

Mechanics (ITI)

- Inadequate vehicle and parts knowledge
- Inadequate safety management and workspace management
- Tendency to rely on judgements rather than specific tools/instruments

5.4. Textile and Clothing industry

The city was a major silk and cotton textile production centre. A fine blend of silk with locally grown cotton was developed as Himroo textile. Mashru and Himroo fabrics made of cotton and silk with the luster of satin. Much of the silk Industry has vanished over time, but some manufacturers have managed to keep the tradition alive. Paithani silk saris are also made in Aurangabad. The name of this cloth is derived from Paithan town. The yarn used is of pure silk and the zari or gold threads drawn from pure gold.



Paithani Saree



Himroo Shawls

As of March 2011, Aurangabad district had 77 small scale enterprises of textile and clothing (wearing apparel, dressing and dyeing) having a total investment of Rs. 667 lakhs and employing 2,229 persons. However at present all this is present as unorganized sector and it has not taken the shape of an industry.

The skills gap for the work profiles in textile and clothing industry are as follows:

Supervisor (Graduate and/or experienced)

- Inadequate formal education for skilled supervisors
- High investment in training and development
- Quality control skills
- High attrition of skilled supervisors

Silk weavers

- Ability to transform from traditional looms to automated looms
- Limited understanding of the 52 steps in silk weaving
- Limited formal training apart from the employed company
- Training is required on usage of computers in designing
- Ability to create diversified products – new varieties, silk by jute / silk by cotton products
- Export market awareness
- Dying techniques
- Processing techniques in terms of finishing and packaging
- Embroidery training

5.5. Tourism and Hospitality

Aurangabad is named after the Mughal Emperor Aurangzeb. The city is a tourist hub, surrounded with many historical monuments, including the Ajanta Caves and Ellora caves, which are UNESCO World Heritage Sites, as well as Bibi Ka Maqbara. Recently, Aurangabad has been declared as Tourism Capital of Maharashtra.

The major tourist attractions in the city are Bibi Ka Maqbara, Panchakki (water mill), Gates in Aurangabad, Naukhanda palace, Himayat Baugh Aurangabad, Salim Ali Lake & Bird Sanctuary, Aurangabad Caves, Quila-E-Ark, Kali Masjid, Jama Masjid, Shahganj Masjid, Chowk Masjid, Pir Ismail Mausoleum, Sunehri Mahal, Ajanta Caves, Ellora Caves, Daulatabad fort, Khuldabad garden, Grishneshwar Temple, Jayakwadi Dam, Dnyaneshwar Udyan, Pitalkhora Caves, Gautala Sanctuary, Kaghzipura, Mhaismal

There are few hotels available in the district, which cater to the high-end tourists. Many of them lack facilities like travel desk, restaurants, in house laundry, ironing, etc. Most of the hotels are located in Aurangabad city itself. Given the scenario, the district faces a supply demand gap in both in number of hotels as well as competent staff to cater to the visitors.



Bibi ka Maqbara



Daulatabad Fort



Paintings in Ajanta Caves



Kailash Temple in Ellora Caves

The key investment potential for Aurangabad district is in the Hospitality sector owing to the heavy influx of tourists for business and leisure. Aurangabad has 2000+ rooms in the business and luxury category and plans are in pipeline to add another 1000 rooms in the next five years. The position of number of tourists arrival at Aurangabad, refer to the table in annexure.

The skills gaps for the work profiles in tourism and hospitality industry are:

Front office manager

- Inadequate skills in interaction with guests
- Inadequate ability to proactively review occupancy and promote Sales
- Skill up-gradation in people management techniques

Front office assistant

- Special skills required to understand billing software and stay updated
- Inadequate communication skills
- Inadequate customer Orientation

Bell Captain

- Guest etiquette
- People management skills
- Works allocation skills

Bell Boys

- Inadequate courtesy level
- Communication skills
- Lack of discipline & hygiene

Travel desk

- Inadequate awareness of local tourist spots

5.6. Chemicals and Pharmaceutical Sector

Aurangabad has emerged as a major pharmaceutical production centre in India. Ajanta Pharma Ltd., Innotech Pharma Ltd., Johnson and Johnson Ltd., M/s Wockhardt, Lupin Ltd. are some of the major multinational units in Aurangabad city. Among the pharmaceutical there is Recombinant Insulin Manufacturing plant of Wockhardts (Wockhardt Biotech Park) in Aurangabad, which is largest Biopharmaceutical plant in India. Aurangabad region ranked among top 20 pharma hubs of the nation. The dry climate of the region is very conducive to pharmaceutical manufacturing. As per the Central Government SEZ Policy, the MIDC has allotted 107 Hectors Land in MIDC Shendra Aurangabad to M/s. Wockhardt Ltd. for Pharmaceutical SEZ.

The skill gaps for the work profiles observed in the pharmaceutical sector are:

Production Manager (Experienced Engineering Graduate)

- Inadequate project management skills
- Inadequate conflict management and communication skills
- Inadequate knowledge of regulatory process and IPR

Production Supervisor (Graduate)

- Insufficient knowledge of quality management
- Inadequate safety management skills
- In sufficient conflict resolution skill
- Inadequate planning skills

Factory Workmen (Graduate/Diploma/Experienced ITI)

- Inadequate knowledge of Clean room, air handling units and GMP
- In sufficient knowledge of chemicals and compounds involved
- In sufficient safety standards adherence
- Lack of motivation due to physical labour involved
- High attrition due to marginal salary differences

Lab Technician

- In sufficient documentation skills
- Cleanliness, and sanitation management
- Knowledge of IPR and drug approval process
- Inadequate knowledge of global standards including USFDA

Sales, Marketing and Medical Assistance

- Convincing skills and objection management
- Relationship management

- Knowledge of competitor products
- Legal and commercial aspects

5.7. Organised Retail

Aurangabad district has over 10 operational malls which currently employ over 5,000 people. The footprint of organised retail has spread across clothing, fashion accessories, jewellery, watches, foot wear, health and beauty care, pharmaceuticals, consumer durables, home furnishings, groceries, books, music, entertainment, mobiles, computer, electronics and household articles. The major retailers with presence in Aurangabad are Big Bazaar, AMC Mall, Hypercity mall, PVR Gallery, Shoppers stop, Sidhart Plaza, Tapadiya mall, Spencers hyper, Vishal mega mart, west pioneer mall, etc.

Prozone Mall is one of the largest and the first horizontally designed shopping mall in India. It has over 1 million square feet of retail space and ushers in the concept of modern retailing in Aurangabad. It has more than 150 retail stores selling top local and international brands, a five-screen cinema complex, 40,000 square foot family entertainment centre and 3000 parking bays. There are also plans to build an office complex above the centre. A business class hotel will be constructed to complement the precinct. Also, high rise apartments and row bungalows are constructed parallel to the mall.

Bharti Walmart, a joint venture between Bharti Enterprises and Walmart, for wholesale cash-and-carry and back-end supply chain management operations in India, also launched Bharti Walmart Training Centre at Aurangabad, Maharashtra, in a Public Private Partnership (PPP) with the Government of Maharashtra. The centre will provide free-of-cost training to people and equip them with requisite skills sets to bridge existing gap, for cash-and-carry and organized retail formats. This is the 2nd Bharti Walmart Training Centre launched in Maharashtra.



Prozone Mall in Aurangabad

The skills gaps for the work profiles in purchase operation of organised retail sector are:

Purchase Manager/ Category Manager (Graduate/MBA)

- Limited negotiation skills
- Limitations in supply chain optimisation
- Limitations in supply chain costing

Purchasing executive (Graduate)

- Limited knowledge of supply chain implications
- Limited negotiation skills

The skills gaps for the work profiles in logistics and warehouse management of organised retail sector are:

Logistics Manager/ Logistics Executive (Graduate)

- Logistics chain costing and optimisation, the mind-set to stick with known logistics provider rather than optimising as per organisation requirements
- Restrictions in co-ordination between different levels of logistics provider and warehouse operations

Warehouse Manager / Executive (Graduate)

- Restrictions in managing warehouse as per norms
- Limited knowledge in legal norms and requirements
- Limited preventive maintenance of warehouse equipments

Warehouse Operator (Any ITI / Diploma/ Unskilled)

- Limited knowledge in checking and inspecting goods
- Limited knowledge in accounting goods

The skills gaps for the work profiles in merchandising management of organised retail sector are:

Merchandising Manager (Graduate)

- Understanding the perceived and unstated needs of the customer
- Predicting customer behaviour
- Assessing customer buying behaviour
- Analytical evaluation skills

Merchandising Executive (Graduate)

- Understanding customer behaviour
- Assessment of different store layouts and displays
- Customer interaction skills

The skills gaps for the work profiles in store operations of organised retail sector are:

Store Manager (Graduate)

- Understanding customer needs and changes in buying behaviour
- Knowledge of competitors and their offers
- Workforce management and relationship management

Sales Executive/ Associate (Any Graduate/ Diploma/ ITI)

- Customer relationship skills
- Knowledge of latest product promotion
- Inadequate product knowledge
- In sufficient oral communication skills

Billing Executive (Graduate/ Diploma/ ITI)

- Inadequate queue management skills
- Inadequate knowledge in managing the cash box, billing system, credit card, debit card and other coupons/cards
- Limitations in communication systems

5.8. Un Organised Sector

Aurangabad district are one of the economic nerve centres of the State besides Mumbai, Pune and hence provide tremendous potential for un-organised sector employment. Almost every sector including textiles & clothing, manufacturing, agriculture, food processing, IT, pharmaceuticals, construction, hospitality etc. provide un-organised employment and this sector supports the smooth functioning of the organised sector. The un-organised sector could be either in the form of self-employment (Eg. pressing clothes, laundry, electrician, domestic worker etc.) or in the form of employment with an organisation (e.g. helper, assistant etc). The significant employment generators out of the above for Aurangabad are,

1. Building, Construction and Real estate
2. Furniture and Furnishings
3. Domestic Workers
4. Beauticians
5. Facility Management
6. Security Guard

The skill gaps for the work profiles in un-organised employment of building, construction and real estate are:

Skilled workmen (Plumber, Electrician, Mason, Bar Bender, Carpenter, Painter – Formally educated/ experienced)

- Inadequate knowledge in their specific area of skill
- Time management and target management
- Co-ordination skills with other skilled teams
- **Co-ordination skills with other skilled teams**
- Limited safety orientation

- Work place discipline management
- High attrition

The skill gaps for the work profiles in Un-organised employment of furniture and furnishing sector are:

Carpenter (Un skilled/ Diploma/ ITI)

- Operation of all types of wood working machine tools
- Knowledge of variety of wood and their properties
- Advanced skill in different wood working techniques

Metal Worker (Un Skilled/ Diploma/ ITI)

- Knowledge of metal working techniques
- Punctuality and safety management

Helpers (illiterate to 10th pass)

- Basic skills required for this profile, for which no / minimal training required. Mostly provided easily on the job.

The skill gaps for the various roles in Un-organised employment of domestic worker sector are:

Food preparation /Kitchen work

- Inadequate ability to perform multiple functions
- Inadequate knowledge of kitchen machines / equipment
- Inadequate ability to follow basic safety and hygiene practices
- Inadequate ability to prepare different cuisines
- Inadequate basic reading / writing knowledge
- Inadequate ability to prepare food with different amounts of spices

Cleaning

- Inadequate knowledge of cleaning specific types of utensils / crockery – e.g. glassware, non-stick cookware, etc
- Inadequate ability to handle fragile items with care
- Inadequate ability to place things back in the proper places / in the correct orientation after cleaning / dusting
- Inadequate ability to use the right soap / right quantity of soap for cleaning
- Inadequate ability to wash different types of clothes separately, as required
- Inadequate ability to ensure thorough fast cleaning of utensils – for e.g. all cleaning material is not cleaned off well and some remains on the utensils

Child Care and elderly Care

- Inadequate knowledge and ability to manage child care and take care of elderly people
- Inadequate empathy towards children and elderly people
- Inadequate ability to bond with the child

- Inadequate consciousness of time

Outside Work (work requiring interface with persons/parties outside of the household)

- Inadequate knowledge and competency to undertake outside work
- Lack of knowledge of English and Hindi

The skill gaps for the work profiles in Un-organised employment of beauticians sector are:

Hair Stylist

- Insufficient knowledge on latest techniques and styles
- Inadequate creativity
- Inadequate knowledge in using modern tools for hair styling
- Insufficient knowledge of safety methods and procedures
- Inadequate ability to analyse and help the customer in selecting suitable hair style, leading to the tendency to suggest basic hair styles such as like U cut, straight cut or step cut
- Inadequate communication skills

Beautician

- Inadequate communication skills
- Insufficient analytical skills to understand the skin type and giving suggestions accordingly
- Inadequate ability to undertake different types of makeup – e.g. natural makeup, evening makeup, bridal makeup etc.
- Inadequate ability to understand the chemical combinations that are being used and its reactions
- Insufficient knowledge of first aid

Reflexologist

- Inadequate scientific knowledge of reflexology
- Self-trained experts in the market

Counsellors

- Inadequate knowledge of variety of treatment
- Inability to assess the biological nature of the client resulting in advising the wrong care

The skill gaps for the work profiles in Un-organised employment of facility management sector are:

Experienced personnel

- Inadequate customer orientation and interaction skills
- Inadequate understanding of AMC
- Inadequate documentation skills
- Insufficient of managing people involved in delivering services
- Inadequate experience in building maintenance, equipment maintenance (such as electrical, etc.)
- Inadequate understanding of energy audits, energy efficiency, and compliance.

Entry Level personnel

- Inadequate orientation towards customer service
- Inadequate ability to multitask and coordinate with multiple agencies and vendors
- Inadequate understanding of energy audits, energy efficiency, and compliance.

The skill gaps for the work profiles in Un-organised employment of security sector are:

Security Guards

- Lack of knowledge of disaster management protocols
- Lack of customer service orientation and being arrogant
- Maintenance of records
- Lack of knowledge of basic civil and criminal laws
- Being physically fit

6. Recommendations

Recommendations for Aurangabad district mainly focus on agriculture and allied activities, auto and auto components, food processing, chemicals & pharmaceuticals, textiles & clothing, tourism and hospitality, organised retail and unorganised sector. While the detailed recommendations follow, summary is given in the table below.

Table 46: Key recommendations for Aurangabad district – summary

Sector	Government players	Private training institutes	Industry	NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Focus on training for improving productivity ▪ Focus on allied sectors 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a
Auto & auto components	<ul style="list-style-type: none"> ▪ Improve practical exposure of the youth getting trained in the ITIs ▪ Make better machinery and equipment available to students in ITIs 	<ul style="list-style-type: none"> ▪ To work in collaboration with industry 	<ul style="list-style-type: none"> ▪ Continue to focus on in-house training 	<ul style="list-style-type: none"> ▪ Intervention required through funding private training as well as through SSC
Chemicals and pharmaceuticals	<ul style="list-style-type: none"> ▪ Focus on increasing seating capacity of trades such as MMCP and AOCP in the ITIs 	<ul style="list-style-type: none"> ▪ Focus on increasing seating capacity of trades such as MMCP and AOCP in the ITIs 	<ul style="list-style-type: none"> ▪ Continue to focus on in-house training 	<ul style="list-style-type: none"> ▪ Intervention required through funding private training as well as through SSC
Food processing	<ul style="list-style-type: none"> ▪ Focus on trades such as dairy processing, fruit plantation and processing etc. 	<ul style="list-style-type: none"> ▪ Training can be provided in collaboration with different Govt departments 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Intervention required through funding private training as well as through SSC
Organised retail	<ul style="list-style-type: none"> ▪ Incentivise training programs 	<ul style="list-style-type: none"> ▪ Open training institutes in collaboration with 	<ul style="list-style-type: none"> ▪ Tie up with training institutes for sourcing manpower 	<ul style="list-style-type: none"> ▪ Intervention required through funding private

Sector	Government players	Private training institutes	Industry	NSDC
		the industry		training as well as through SSC
Textiles and clothing	<ul style="list-style-type: none"> ▪ Work towards revival of Paithani saree sector 	<ul style="list-style-type: none"> ▪ Provide training in cluster format 	<ul style="list-style-type: none"> ▪ Collaborate with Govt for revival of the sector 	<ul style="list-style-type: none"> ▪ Intervention required through funding private training as well as through SSC
Tourism & hospitality	<ul style="list-style-type: none"> ▪ Focus on promoting the district as a central tourism destination and provide training through Department of Tourism 	<ul style="list-style-type: none"> ▪ Can provide training on entire value chain of tourism and hospitality, especially with IATA certification 	<ul style="list-style-type: none"> ▪ Tie up with Department of Tourism and VTPs for sourcing skilled manpower 	<ul style="list-style-type: none"> ▪ Intervention required through funding private training as well as through SSC
Unorganised sector	<ul style="list-style-type: none"> ▪ Create awareness of the schemes offered by the Govt for promotion of unorganised sector 	<ul style="list-style-type: none"> ▪ Provide training in unorganised sector trades identified for the district 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Intervention required through funding private training as well as through SSC

6.1. Government

- ❖ **Agriculture and allied:** Close to 60 per cent of the workers in the district are involved in agriculture and allied activities as either cultivators or agricultural labourers, while contribution of agriculture and allied activities to the district's GDDP is only about 8 per cent. Thus, there is a need to either mobilise people out of agriculture into more gainful employment or increase their work productivity. And since most of the people involved in agriculture do not have the capacity to pay for private training, Government departments (particularly Department of Agriculture) will have to play a larger focus on their skill up-gradation. Key focus needs to be placed on modern and advanced methods of cultivation. In addition, some of the allied activities, where focus can be placed are:
 - Dairy
 - Food processing
 - Horticulture
 - Poultry
- ❖ **Auto & auto components:** The role of Government in training for auto and auto components industry is mainly focused on the role played by the Department of Vocational Education and Training, which provides training to youth for the industry through the ITIs in the district. However, based on the stakeholders discussions held in the district, we have found that industry is not very happy with the practical knowledge of the ITI pass-outs and they have to spend a lot of time and resources in re-training these people. Thus, the Department can place greater focus on providing more practical training to the ITI students, in addition to giving them better exposure to new types of machinery and equipment which is used in the industry.
- ❖ **Chemicals and pharmaceuticals:** Based on our stakeholders discussions, we have found that the industry is facing shortage of people with the two trades which are taught in ITIs - Maintenance Mechanical Chemical Plant (MMCP) and Attendant Operator Chemical Plant (AOCP). Thus, the

Department of Vocational Training and Education can consider increasing the seating capacity of these programs.

- ❖ **Food processing:** The Department of Agriculture can place increased focus on some of the following trades:
 - Dairy processing
 - Fruit plantation and processing
 - Small processing such as pickle making, jam making etc.
- ❖ **Organised retail:** The district is witnessing boom of organised retail in terms of many departmental stores, supermarkets and even malls. Government has already started taking steps to meet the skill requirements of the sector by way of facilitating Bharti Walmart to open a retail institute in collaboration with the Government ITI of Aurangabad. More such initiatives need to be promoted for the encouragement of the industry.
- ❖ **Textiles and clothing:** Aurangabad district is known for its traditional Paithani sarees. However, it's a dying art now due to quantum of labour involved and other more remunerative options available for the industry. However, these sarees are the tradition of the region and are also in demand in the market due to their unique work. Thus, the Department of Textiles can take steps for promotion of this industry by way of assisting the industries involved in this business. The Government can help not just by providing financial assistance, but also by way of providing market linkages, branding knowledge and capacity building of the manpower for making the sector modern and remunerative.
- ❖ **Tourism & hospitality:** Some of the key areas where Department of Tourism can place focus in the district are as follows:
 - Streamlining tourism related transport infrastructure and ensuring better availability of buses, cabs etc.
 - Better marketing and branding of tourism of the district
 - Incentivising setting up of good hotels and guest houses
 - Facilitating training of tourist guides, housekeeping staff, cab drivers and travel agents. Government certification can help them with better placement.
- ❖ **Unorganised sector:** Training is provided to small unorganised units by the Department of MSME. However, many players are not aware of the schemes and programs offered by the Departments. Thus, steps need to be taken for better awareness and up-dation of training programs.

6.2. Private training institutes

- ❖ **Food processing:** The district has high potential for the development of food processing industry. However, most of the people involved in such sectors are in unorganised sector and do not have sufficient capacity to pay for the training. Private sector can participate in such training programs along with Government players such as Department of Agriculture, Department of MSME, Zilla Gram Udyog Committees etc. In such partnerships, funding can be provided by the Government and the private sector can help in bringing in its expertise.

- ❖ **Chemicals and pharmaceuticals:** Focus on providing training in Maintenance Mechanical Chemical Plant (MMCP) and Attendant Operator Chemical Plant (AOCP).
- ❖ **Organised retail:** Tap the growing organised market in Aurangabad by opening retail training institutes, preferably in collaboration with the industry. Training can be provided in entire supply chain management as well as shop-floor operations.
- ❖ **Tourism and hospitality:** Private training providers can play an active role in the promotion of tourism related skills in the district by setting up of training institutes. Presently, the district doesn't have any training institute which has IATA certification. Such certified training can help in the promotion of tourism industry in the district. Some of the areas where training can be provided are:
 - Taxi operators
 - Customer relationship managers
 - Training on safety protocols
 - Marketing and branding
 - Tourist guides
 - Hospitality industry etc.

6.3. Industry

- ❖ **Auto & auto components:** Most of the training is provided in-house by the industry. Wherever expert training is required, experts are invited from outside institutes such as the Vehicles Research and Development Establishment (VRDE). Most of this training is need-based only.
- ❖ **Chemicals and pharmaceuticals:** Continued focus needs to be placed on in-house training. The industry can also collaborate with ITIs for procuring the required manpower. It can also assist the ITIs with its expert faculty and guest lecturers.
- ❖ **Food processing:** Due to availability of sugarcane, sugar industry had come up in the district. However, it is a dying industry in the district now. Thus, for revival of the industry, more focus can also be placed on allied industries of sugar such as:
 - Bagasse, which can be used for power generation, paper manufacturing etc.
 - Molasses, which can be used for production of acetone and ethanol etc.There is also scope for setting up of new industries in the food processing sector such as dairy processing (badam milk, other dairy products etc.)
- ❖ **Organised retail:** The industry needs to collaborate directly with the private training institutes for procuring its manpower.
- ❖ **Tourism and hospitality:** Need to collaborate with Department of Tourism and private training institutes for sourcing of skilled manpower.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Agriculture and allied
- ❖ Auto and auto components

- ❖ Chemicals and pharmaceuticals – mainly pharmaceuticals
- ❖ Food processing – sugar processing, dairy processing, fruit plantation and processing
- ❖ Organised retail
- ❖ Textiles and clothing – traditional Paithani sarees
- ❖ Tourism and hospitality

2.5. Beed

1. Introduction

Beed is a district in the Marathwada region of Maharashtra. It was included in the State of Maharashtra in 1960. It is situated in the Deccan black basalt stone region, ranges of Balaghat that constitutes main range from Ahmednagar in the west, to the border of district Beed in the East. This range divides the district into two parts. The plain area in the North is called as Gangathadi (bank of Ganga-Godavari) and the higher part is called as Ghat at Balaghat. The district is agriculture dependent, which is largely dependent on monsoons. Due to lack of industrial activity in the district, it is a surplus manpower district, which supplies manpower to other parts of the State as well as the country.

Table 47: Comparison of Beed district with Maharashtra – key indicators

Indicator	Year	Beed	Maharashtra
Area, in sq.km.	2001	10,693	307,713
Percentage share in State geographical area, %	2001	3.47%	100%
No. of sub-districts	2011	12	353
No. of inhabited villages	2001	1,354	41,095
No. of households	2001	414,973	19,576,736
Forest area as a percentage of total geographical area	2001	2.47 %	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Beed district has a population of 25.85 lakh persons – 2.3 per cent of the State population. About 52 per cent of the population is in the working age while work participation happens to be only 35 per cent which is below the state average of 42 per cent. The district's literacy rate is 73.53 per cent, which is lower than the State average of 82.91 per cent and also lower than the All-India average of 74 per cent.

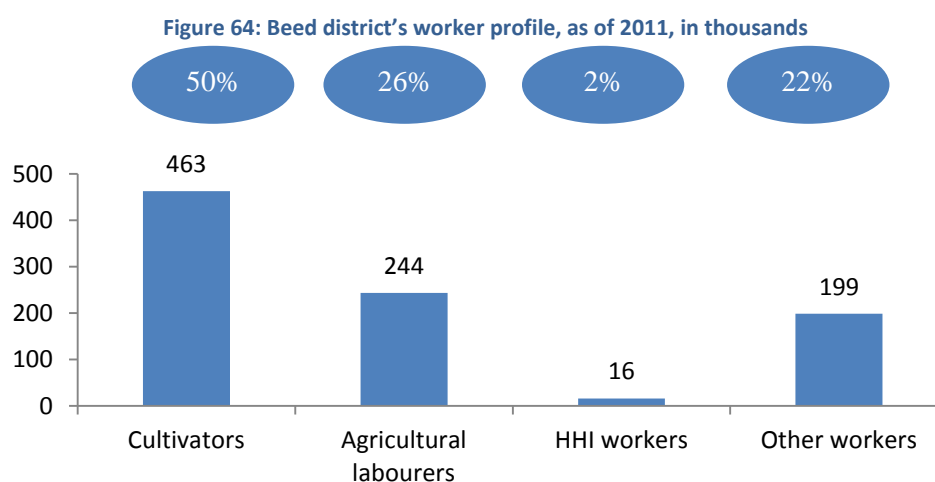
Table 48: Key demographic indicators

Indicator	Year	Beed	Maharashtra
Population, No.	2011	2,585,962	112,372,972
Decadal growth rate of population, %	2001-11	19.65%	15.99%
District's share in State's population, %	2011	2.30%	100%
Urban population as a percentage of total population, %	2011	20%	45%
SC population, %	2001	13.01%	8.79%
ST population, %	2001	1.12%	15%

Indicator	Year	Beed	Maharashtra
Sex ratio, No. of females per 1000 males	2011	912	925
Population density, per sq. km.	2011	242	365
Literacy rate, %	2011	73.53%	82.91%
Main workers, No.	2001	830,658	34,748,053
Marginal workers, No.	2001	126,926	6,425,298
Working age population* as a percentage of total population, %	2001	52%	59%
Work participation rate^, %	2001	35.62%	42.50%

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011

The district has a total workforce of about 8.30 lakh persons. Of this, 50 per cent are cultivators, 26 per cent are agricultural labourers, two per cent are workers in household industry and 22 per cent are other workers.



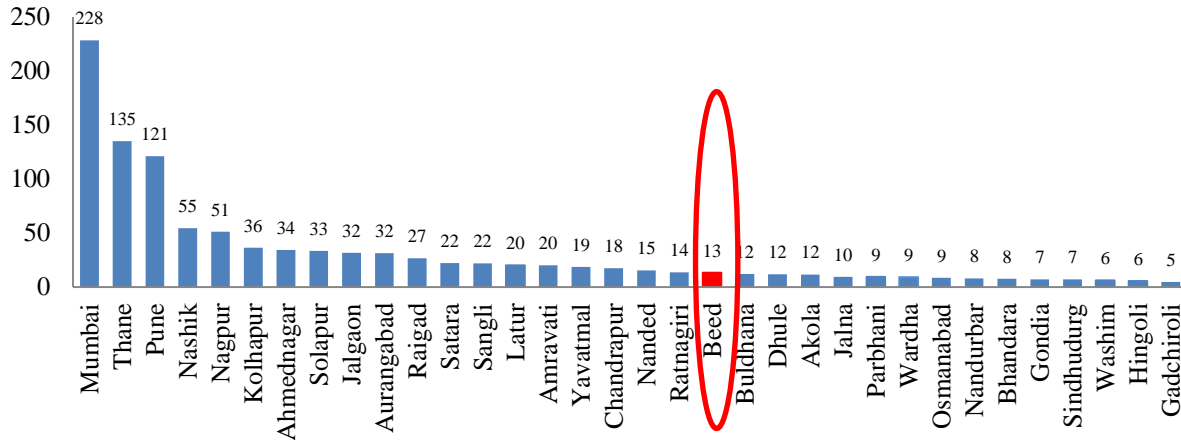
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2011-12, Beed district had Gross District Domestic Product (GDDP) in Maharashtra at Rs 13,382 crore (2.29 per cent of the Gross State Domestic Product). Beed ranks as 20th out of the total 35 districts in the state.

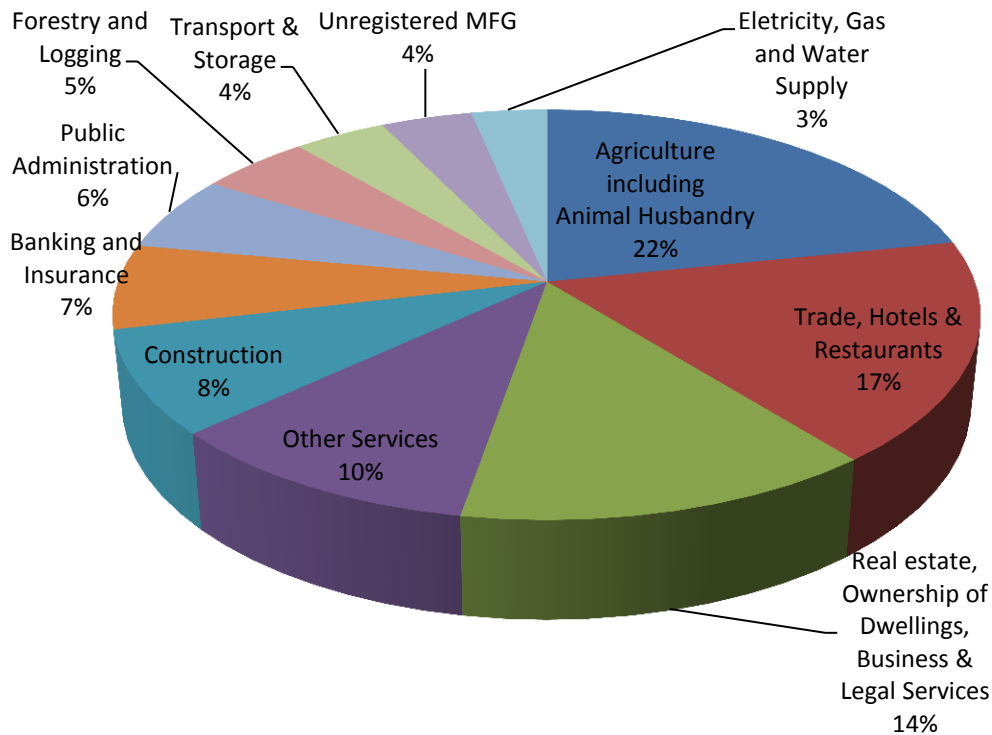
Figure 65: Gross District Domestic Product, in Rs 13,382 crores, as of 2011-12



Source: Economic Survey of Maharashtra

Despite the fact that primary sector employs about 76 per cent of the workforce, the sector contributes to only 27 per cent to the GDDP of the district. The secondary sector's contribution is at 18 per cent and tertiary sector's contribution is at 54 per cent.

Figure 66: Sector wise distribution of Beed's GDDP, as of 2009-10, 100% =10,235 crores



Source: Directorate of Economics and Statistics, Government of Maharashtra

Agriculture: Beed is primarily an agrarian district where agriculture and allied activities provides means of livelihood to 76 per cent of the workforce. In Kharif, the crops are jawar, bajra, tur, udid, cotton and ground-nut while in rabi the crops grown are jawar, wheat, harbara, kardai etc.

Industry: In an around Beed district, sugar mills, breweries, cotton yarn & spinning, edible & crude oil & paper bard/craft paper mill etc. are present. There is a growth possible in the agriculture related industries like sugar, cotton etc. due to availability of the raw materials. Presently, agro based industries employ 4,993 people in 284 units. There is an investment of Rs. 92 crore in totality in these units. Second largest number of units being cotton based employing 2,251 people and having 113 units. The investment in cotton based units has been to the tune of Rs. 54 crore.

Services: Services account for 58 per cent of GDDP in Beed district. Of all the services, the key services in the district are of 'Trade, Hotels and Restaurants' accounting for 17 per cent followed by 'real estate, ownership of dwellings, business and legal services' accounting for 14 per cent.

2.3.State of Education

As of 2011-12, Beed district had 3,174 schools. Of this, 53 per cent were primary schools, 27 per cent were upper primary schools and the remaining 20 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 4,32,958 while the student-teacher ratio was high at 27 students per teacher. The student-teacher ratio was better as compared to the average ratio for the State at about 30 students per teacher.

Table 49 : School and higher education infrastructure in Beed district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	3,174	4,32,958
General colleges	101	45,178
Technical institutes*	19	4,644

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

The number of Industrial Training Institutes (ITIs) is 18 with a seating capacity of 2,954. The quality of Government ITI is not up to the mark in this district.

Table 50 : Key ITI indicators in Beed district, as of October 2012

Indicator	Value
Total Number of it is	18
Number of Government ITIs	12
Number of Private ITIs	6
Total Seating capacity	2954

Source: Department of Employment & Self Employment, Government of Maharashtra

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The Government Departments offer courses in multiple trades some of which are Automotive (COE), welder, carpenter, plumber, mason, wireman, cutting and sewing, hair and skin care, mechanical diesel, pump mechanic etc. Private institutes offer courses in IT, desktop publishing, handcraft and work experience teacher, welder cum fabricator, beauty culture, construction supervisor, wireman, diesel mechanic, fitter, basic fashion designing etc.

2.4. Youth Aspiration

In the process of identifying the growth engines for the Beed district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Willingness to pursue higher education:** As per our interaction most of the students want to pursue higher education in Aurangabad but are constrained by finances.
- **Entrepreneurial zeal:** Youth are not inclined towards risk taking as they are looking for jobs to sustain themselves and not self-employment. Based on our youth group discussions, we found that only one to two per cent students want to start some business of their own.
- **Migration trends:** Based on our interaction, we found that almost all students want to work in Aurangabad.

3. Developmental concerns

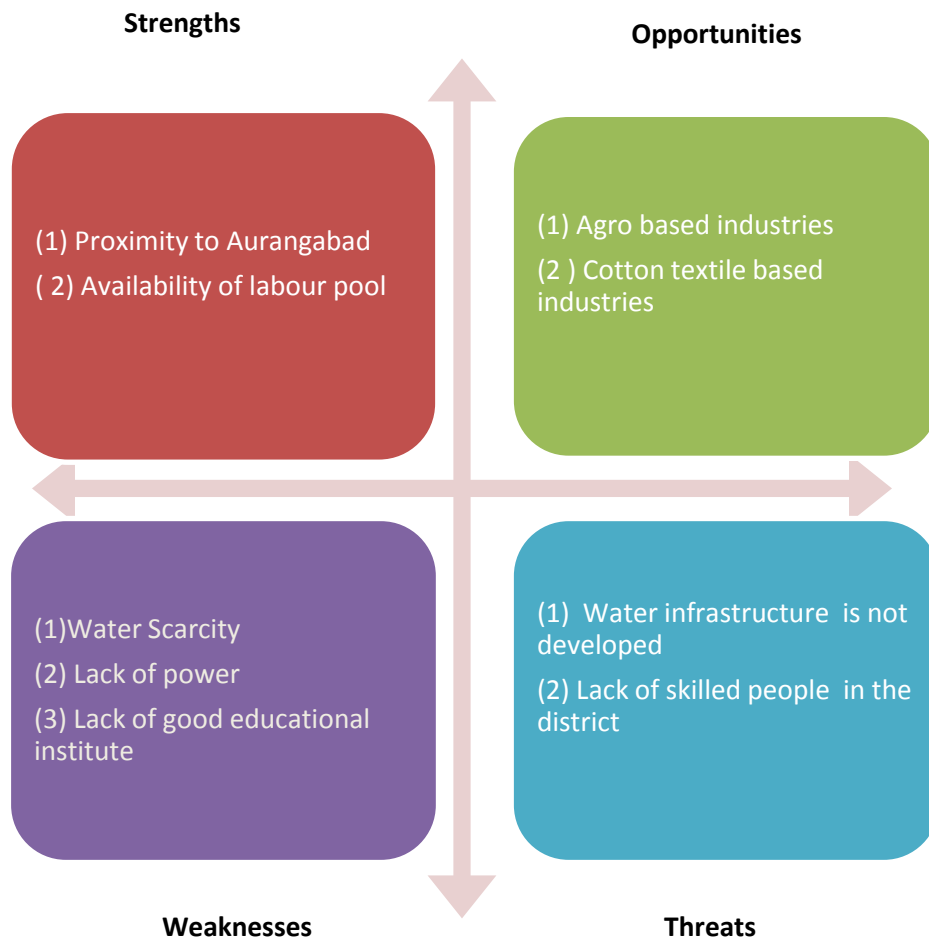
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Lacking in entrepreneurship spirit:** The youth lack any vision and do not want to take any kind of risk. There is a clear mindset towards getting a job and being employed.
- **Water Scarcity:** There is severe scarcity of water in Beed. The same thing was demonstrated in ITI where the students do not have water to drink. The tankers are not enough and need to be considerably increased by the Government. Due to water scarcity production of crops is also very low. The dependence of crops on monsoons is very high

SWOT analysis

Based on the diagnostics of the Beed, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 67 : SWOT Analysis of Beed District



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 1.15 lakh persons between 2012 and 2022. Sectors which are likely to generate employment are mainly 'building, construction and real estate', 'agriculture and allied' and 'BFSI'.

However, sectors which are unique to Beed are ‘food processing’ and ‘textiles and clothing’. The forecasts for these sectors are low, as current and past trends have been used for forecasting. However, these two sectors have immense potential due to availability of raw materials. If adequate investments materialise in these sectors (both from Government and private), then these sectors will generate employment much more than what has been forecasted as of now.

Table 51: Incremental demand of human resources in Beed– by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	18,797	9,579	28,376
Banking, Financial Services and Insurance	7,954	12,786	20,740
Building, Construction industry and Real Estate	14,202	19,710	33,912
Education and Skill Development	8,958	5,255	14,214
Food Processing	712	919	1,632
Healthcare Services	2,670	3,654	6,325
Textile and Clothing	403	511	914
Transportation, Logistics, Warehousing and Packaging	2,883	3,269	6,152
Others	1,186	1,927	3,114
Total	57,767	57,610	115,377

Source: IMAcS Analysis

* Other sector include auto and auto component, furniture and other manufacturing

Figure 68: Incremental demand of human resources in Beed – by skill level



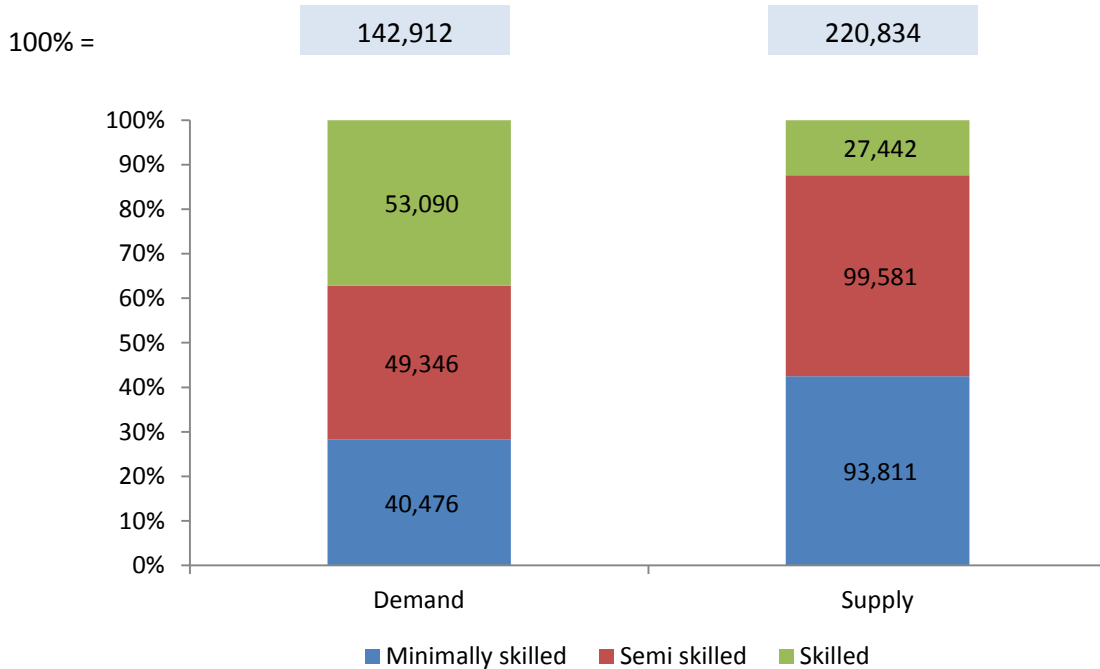
Source: IMAcS Analysis

*Other sector include auto and auto component, furniture and other manufacturing

We have estimated incremental supply of human resources in the district at 2.20 lakh for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be more

than the incremental demand in the district. Thus, indicating that all the people will not get absorbed in the district and will have to migrate out to other districts / States (as is reflected by current trends also). However, the incremental supply is leaning more towards minimally skilled workers, as against high demand for skilled workers in the district. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward.

Figure 69: Demand supply gap of human resources in Beed – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

As discussed in the section above, sectors where skilling interventions are required in Beed district are agriculture and allied sectors as more than 75 per cent of the population is dependent on agriculture and service based industries. In addition, we have identified food processing and textiles and clothing has high growth sectors for the district.

Table 52 : Sectors where interventions are required in Beed– comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Beed	Maharashtra
Agriculture and allied		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing – Sugar		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing – Cotton Ginning and Spinning		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMAcS Analysis.

The shortlisted sectors are at different stages of development and market evolution. Based on that, each one of them has separate skill requirements. While some require only skill up-gradation, some require new skills and even speciality skills.

5.1. Agriculture and allied

The largest area is under pearl millet (35 per cent) cultivation and following closely behind is area under cotton (33 per cent) cultivation. Some kind of horticulture crops are also grown in very small cultivable areas like mango , sweet orange , lemon , sapota , guava , grape , banana , custard apple etc . Based on our stakeholders’ discussions, we found out that the farmers are:

- Unable to use the most productive seeds due to lack of knowledge and finance
- Unaware of the different uses for a crop
- Unable to use the most advanced machinery because of lack of knowledge about their capability to increase productivity

5.2. Food Processing – Sugar

There are many sugar based industries in the region. There are 4,061 people employed in sugar based industries in Beed. Some of the sugar units worth mentioning are Ambajogai, Vaijinath, Jai Bhavani etc. There is a huge scope for sugar based industries in Beed in the future due to availability of sugarcane in the district. Based on our stakeholders’ discussions, we found out that:

- There is no dearth of people for this job although the companies find it difficult to retain them. The absenteeism is high as the work culture is not good.
- It is difficult to find diploma holders in the district. People with good experience at handling the same kind of machinery do not prefer to stick in this district and move to Aurangabad.

5.3. Textile and Clothing – Cotton Ginning and Pressing

There is a cluster called Beed Cotton Cluster Private Limited where the turnover is Rs. 1,500 crore and employment is around 1200 people. The Central Institute for Research on Cotton technology (CIRCOT), Mumbai is associated with it. There are two more clusters associated with cotton. First one is Cotton Seed Oil Mill Association of Beed where there are 80 units in the cluster. Turnover of the cluster is Rs. 240 crore and employment is 750 people. Oil is extracted out of the cotton seeds in this cluster. The second cluster is called Ramling Textile Cotton Association where there are 70 units with a turnover of Rs. 72 crore and employing 2,200 number. The major issues faced by the clusters are as follows:

- Lack of testing facilities
- Absence of cluster branding
- Lack of common marketing facility

6. Recommendations

Recommendations for Beed district focus on textile and clothing and food processing industries. In addition to these, agriculture and allied sectors also contribute significant number of employment generation in the district and need up-skilling efforts to increase farmer productivity and income.

Table 53 : Key Recommendation for Beed District

Sector	Government	Private training providers	Industry	NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Department of Agriculture needs to focus on making the marginal laborers self-employable through alternate means of employment 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a

Sector	Government	Private training providers	Industry	NSDC
	<ul style="list-style-type: none"> Promote allied activities 			
Food processing – Sugar	<ul style="list-style-type: none"> Provide training for marginal workers The training must be to ensure an alternate means of earning livelihood 	<ul style="list-style-type: none"> Collaborate with industry to provide training 	<ul style="list-style-type: none"> Provide latest machineries to ITI for training 	<ul style="list-style-type: none"> Interventions required through funding private training as well through SSC
Textiles & clothing - Cotton ginning and pressing	<ul style="list-style-type: none"> Cluster based training 	<ul style="list-style-type: none"> Collaborate with industry to provide training The training can be subsidized by the Government 	<ul style="list-style-type: none"> Provide the latest machinery to ITI for training 	<ul style="list-style-type: none"> Interventions required through funding private training as well through SSC

6.1. Government

- ❖ **Agriculture and allied:** The Department of Agriculture needs to focus on making the marginal labourers self-employed during the lean season. For this the department can skill them in the following allied activities (list in indicative):
 - Diversified farming which includes horticulture, dairy and animal husbandry
 - Soap and spice manufacturing
 - Carpentry
 - Pottery
 - Bee- keeping, honey extraction and processing
- ❖ **Food Processing – Sugar:** It needs to provide training in collaboration with NSDC so that the workers can sustain themselves in alternate means of employment. The training can be provided on allied activities as discussed above.
- ❖ **Textiles and clothing: Cotton ginning and pressing:** There needs to be increased focus of the Government on this sector as this is an employment incentive sector.
 - It can establish training institutes in collaboration with NSDC and industry. Industry can bring the latest technology while the Government can give the land and building.
 - It must also incorporate special courses in ITI focussed on textile sector.
 - Promotion of cluster training and branding programmes
 - Help the cluster market its products through collaboration
 - It can also assist in setting up of testing facilities required in the cluster for testing strength and length of the fibre, percentage of moisture etc.
 - It can expedite setting up of the Common Facility Centre (CFC), which is not present in the cluster as of now. The CFC can also house the testing facilities which we talked about above, in addition to housing common processing facility for surgical cotton

6.2. Private training providers

- ❖ **Agriculture and allied** : There is little scope for private training providers due to low per capita income in the rural areas and lack of any disposal income to pay for such training.
- ❖ **Food Processing – Sugar**: They can collaborate with industry to provide training.
- ❖ **Textiles and clothing - Cotton ginning and pressing**: It can collaborate with industry to provide training to the workers. The training can be on the lines of NSDC guidelines and the same can be subsidised by the Government

6.3. Industry

- ❖ **Food Processing – Sugar**: They can tie up with ITI for their recruitment. Some big firms can adopt an ITI. This can create a win-win situation for the industry as they can focus on their core activities and the training requirement can be taken care of by ITI.
- ❖ **Textiles and clothing - Cotton ginning and pressing**: The units in the industrial cluster should join hands with the private training institutes as well as the Government for setting up of CFC for the cluster. It can also collaborate with NSDC to provide training. They could also collaborate with ITIs in the district where the land and building is already provided by the Government. This land and building can be used for training the new recruits.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Food Processing – Sugar
- ❖ Textiles & clothing - Cotton ginning and pressing

2.6. BHANDARA

1. Introduction

Bhandara district is situated in the eastern part of the Maharashtra state and has a total land area of 4,087 sq. km., which is 1.33 per cent of the total State area. It is bordered on north by the Balaghat and Seoni districts of Madhya Pradesh, on the east by the Gondia district, on the south by Chandrapur district and on the west by Nagpur district.

It is sub-divided into eight sub-districts and has 778 villages. Majority of the population at 81 per cent lives in rural areas. Agriculture is the main occupation, employing 70 per cent of the work force (as of Census 2001). The remaining is in household industry (five per cent) and other workers⁵ at 25 per cent.

Paddy is the major crop grown in Bhandara district. Other crops grown are tur, wheat, groundnut, soyabean and gram. Availability of abundance of rice has led to setting up of number of rice mills in the district. Wainganga is the important river in the district and major source for water resource. The district is also endowed with various valuable mineral resources. Some of the important minerals found in the district include Manganese Ore, Chromite, Corundum, Sillimanite, etc.

The district has a forest area of around 36 per cent of its total area which is very high as compared to the state's average (around 17 per cent) and the forest resources contribute to the economy of the district. Some of the forest resources found in the district are teakwood, moha flower, lac, gum, tendu leaves, bamboo, etc.

The district was classified as one of the country's 250 most backward districts in 2006 by the Ministry of Panchayat Raj.

Table 54: Comparison of Bhandara district with Maharashtra – key indicators

Indicator	Year	Bhandara	Maharashtra
Area, in sq.km.	2001	4,087	307,713
Percentage share in State geographical area, %	2001	1.33%	100.00%
No. of sub-districts	2011	8	353
No. of inhabited villages	2001	778	41,095
No. of households	2001	244,531	19,576,736
Forest area as a % of total geographical area	2001	36.15%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

⁵ Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers are 'Other Workers'.

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Bhandara district has a population of 11.9 lakh persons – 1.07 per cent of the State population. Majority of the population (23 per cent) is concentrated in Bhandara sub-district, followed by Tumsar sub-district at 19 per cent and Mohadi and Pauni sub-districts at 13 per cent each, Sakoli and Lakhani sub-districts at 11 per cent each and Lakhandur sub-district at 10 per cent respectively. While 61 per cent of the population in the district is in working-age group (15 to 59 years), about 47 per cent is actually working i.e. work participation rate.

The district's literacy rate is 85.1 per cent, which is slightly higher than the State average of 82.9 per cent, and also higher than All-India average of 74 per cent. Male literacy at 93.17 per cent is significantly higher than female literacy rate at 77 per cent.

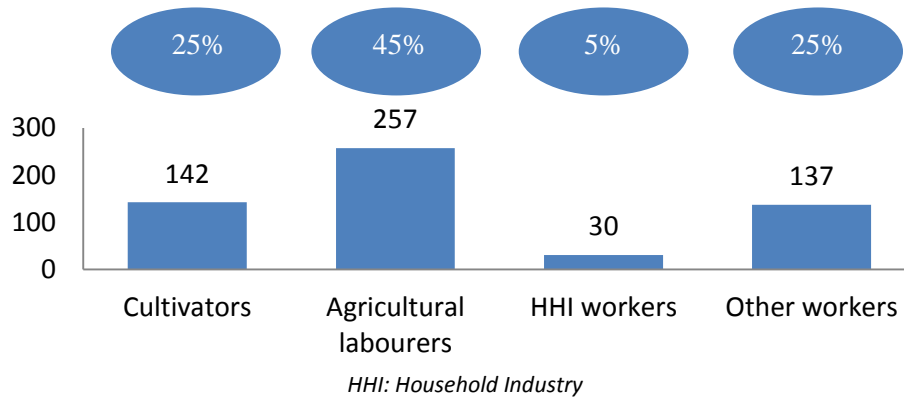
Table 55: Key demographic indicators

Indicator	Year	Bhandara	Maharashtra
Population, No.	2011	1,198,810	112,372,972
Decadal growth rate of population, %	2001-11	5.52%	15.99%
District's share in State's population, %	2011	1.07%	100.00%
Urban population as a percentage of total population, %	2011	19%	45.23%
SC population, %	2001	17.77%	8.79%
ST population, %	2001	8.60%	14.84%
Sex ratio, No. of females per 1000 males	2011	984	925
Population density, per sq. km.	2011	293	365
Literacy rate, %	2011	85.14%	82.91%
Main workers, No.	2001	365,464	34,748,053
Marginal workers, No.	2001	171,421	6,425,298
Working age population* as a percentage of total population, %	2001	61%	59.05%
Work participation rate^, %	2001	47.25%	42.50%
HDI Rank	2000	19	--
HDI Index	2000	0.46	0.58

**Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011*

The district has a total workforce of about 5.7 lakh persons. Of this, 25 per cent are cultivators, 45 per cent are agricultural labourers, five per cent are workers in household industry and 25 per cent are other workers.

Figure 70: Bhandara district's worker profile, as of 2011, in thousands

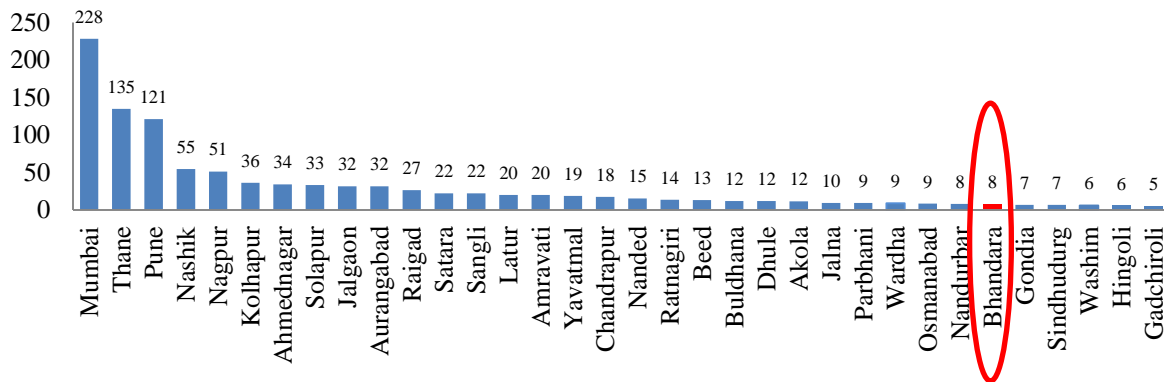


Source: Census 2001, Census 2011. Numbers are estimated

2.2. Economy

As of 2010-11, Bhandara district had the sixth smallest Gross District Domestic Product (GDDP) in Maharashtra at Rs 7,754 crore (0.73 per cent of the Gross State Domestic Product). In terms of per capita NDDP though, it ranked 23rd amongst all the districts at Rs 57,094. This was lower than the State average of Rs 87,686.

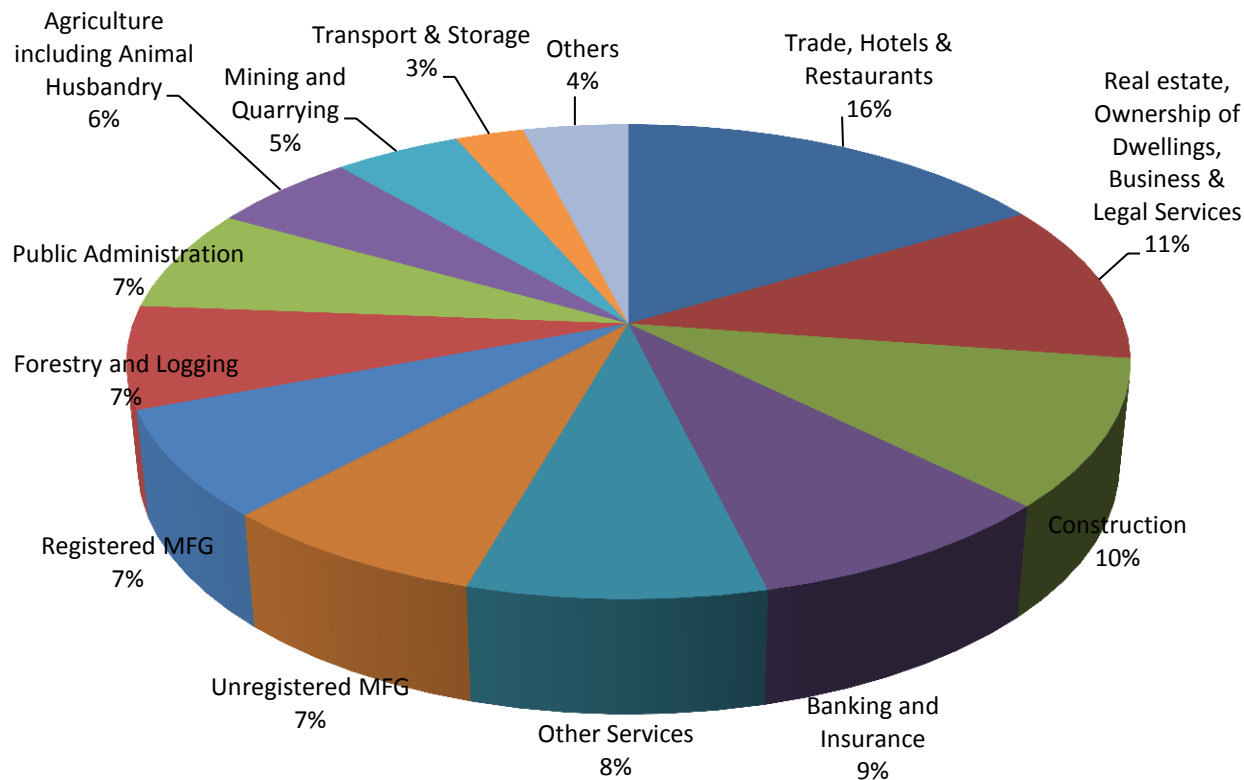
Figure 71: Gross District Domestic Product, in Rs thousand Crore, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly service based, with service sector's share in GDDP at 56 per cent in 2009-10. This is followed by secondary sector at 26 per cent and primary sector at 18 per cent.

Figure 72: Sector wise distribution of Bhandara's GDDP, as of 2009-10, 100% = Rs 6,317 crore



Source: District Socio Economic Review of Bhandara

Agriculture: Paddy is the major crop in the district. Out of total area under net crop cultivation, area attributed to paddy was 76.97 per cent in the year 2007-2008. Other major crops of the district include Tur, Wheat, Groundnut, Soyabean and Gram. Total area under cereals was 81.50 per cent and 16.17 per cent under pulses. Horticulture crops such as banana, mango, orange, lemon, etc. and spices such as chilly, ginger, turmeric, etc. are also grown in the district. The important forest produce are timber, fuel wood, bamboo, gum, tendu leaves and lac.

Industry: As of September 2012, Bhandara district had five large scale industrial units, employing 2,691 persons. These included popular companies such as Ashok Leyland, Sunflag Iron & Steel Company, Hindustan Composites Ltd, etc. End products manufactured included automobile parts, sponge iron, aluminium powder and paper.

The district has 795 Micro, Small and Medium Enterprises (MSME), employing 5,549 persons. As of April 2012, the prominent MSME industries in the district were 'Food products and Beverages', 'chemical and chemical products', 'Repair of personal & household goods', 'Non-metallic Minerals', and 'other service activities'. Refer to the table in annexure for complete list of MSME industries and employment details. The district has five industrial areas, totalling 184 acres of land as of August 2012.

Services: As mentioned above, services account for 56 per cent of GDDP in Bhandara district. Of all the services, the key services in the district are of ‘trade, hotels and restaurants’ at 16 per cent, ‘real estate, ownership of dwellings, business and legal services’ at 11 per cent, ‘banking and insurance’ at nine per cent, other services at eight per cent, and ‘public administration’ at seven per cent each of GDDP, followed by ‘transport and storage’ at three per cent each and ‘communication’ at one per cent.

2.3.State of education

As of 2011-12, Bhandara district had 1,282 schools. Of this, 50 per cent were primary schools, 26 per cent were upper primary schools and the remaining 24 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 166,351 while the student-teacher ratio was at 26 students per teacher. The student-teacher ratio was better than the average ratio for the State at about 30 students per teacher.

Table 56: School education infrastructure in Bhandara district

Particulars	No. of institutes	No. of students
Schools	1,282	166,351
General colleges	57	32,420
Technical education*	13	2,131

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

For general higher education, the district has 57 general colleges and 13 technical education institutes. For vocational training, Bhandara district had a total of 20 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, eight were Government ITIs and remaining 12 were private ITIs. All the 20 ITIs together have a seating capacity of 2,564.

Table 57: Key ITI indicators in Bhandara district, as of March 2012

Indicator	Value
Total Number of ITIs	20
Number of Government ITIs	8
Number of Private ITIs	12
Total Seating capacity	2,564

Source: Department of Employment & Self Employment, Government of Maharashtra

Based on our discussions with the key stakeholders in Bhandara district, we have found that on an average, of all the students that pass out from an ITI in each year, only around 40 to 50 per cent find jobs in the market. The average pass rate observed is around 75 per cent and the drop-out rate is around five to ten per cent. For details on courses offered by ITIs in Bhandara, refer to the table in annexure.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The Government departments offer courses in trades such as computer basics, job oriented trades (such as two wheeler repairing, electrical appliances repairing, inverter repairing, etc.), food processing, etc. District Agricultural office provides various training to farming community such as crop demonstration, dairy processing, food processing, etc. Also, they provide modern farming equipment to the farmers at a subsidised rate and also train them on how to use them effectively. Modern farming method such as System of Rice Intensification (SRI) cultivation practice is also taught to the farmers.

District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship Development) and MITCON Consultancy and Engineering Services Ltd. The stakeholders mentioned that there are facilities for the people to get trained in various courses offered by different Government departments. However, there is no good interest shown by the public towards these programs and the seats are not getting filled up. This states the need for awareness program among the public on importance of vocational education and career progression through training.

There are some private training centres in Bhandara district offering computer related courses. Some of the courses offered by them include MS-CIT, C++, Java, DTP, Tally, etc. MS-CIT course is preferred among the students/youth in the district as this course is a pre-requisite for getting a Government job in the state. Few other private training institutes provide courses on beautician, fashion designing, etc. For details of training institutes and courses offered, refer to table in annexure.

2.4. Youth aspirations

In the process of identifying the growth engines for the Bhandara district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Satisfaction with existing educational infrastructure:** Youths in Bhandara believe that there are adequate educational institutions available in the district. However, they added that the quality of these educational institutes is not equal to that of the nearby district (Nagpur). Therefore, some students transfer to Nagpur for better education. Quality of infrastructure in the educational institutes in the district needs improvement and believes they require practical exposure to industries.
- **Preferred courses:** Students prefer Government institutes (especially for ITI education) than private because of low fees, better infrastructure and adequate facilities. In vocational training institutes, the trades that are in demand are fitter and electrician as the scope of job opportunity is high for these trades. The important criteria for choosing any trade/course are the job opportunity for that trade and their interest in a particular field.

- **Demand for additional training / courses:** Some students along with their main academic course pursue additional training courses such as typing to increase their job opportunity. MS-CIT course, which aids in getting a Government job, is also preferred by the students.
- **Migration trends:** Most of the youth are willing to migrate to other places in search of job opportunity. Their preferred destination is Nagpur which is only about 60 kms away. However, they are willing to transfer to places such as Aurangabad, Pune and Mumbai if there are better job opportunities.

3. Developmental concerns

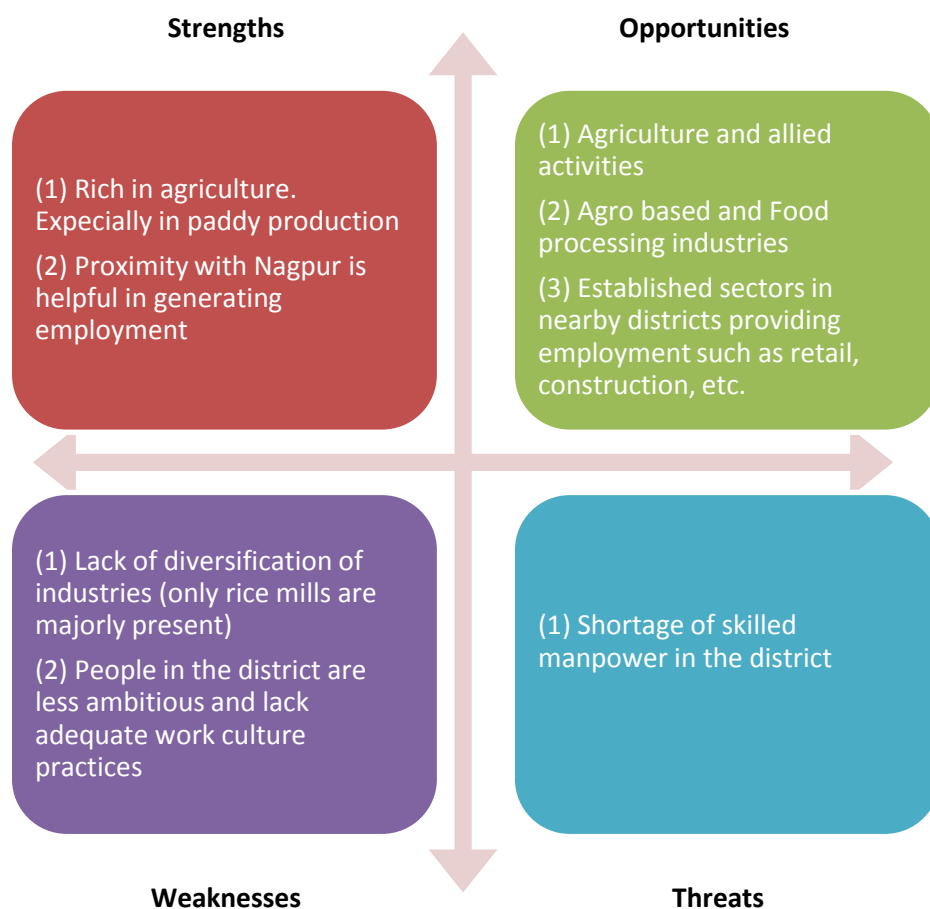
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Shortage of skilled manpower in the district:** The district lacks adequate skilled and qualified manpower. Based on our interactions with the industrial stakeholders of the district, it is to be noted that the industries in the region is not able to get skilled manpower required. The employability rate is quiet low. Technical persons who are recruited from educational institutes from the district lack adequate skill and practical exposure to operate the machines. The industries need to deploy an intensive training program internally to match their requirement. They believe it is an additional cost to them. Not only in the industry, people in the farming community are also following only traditional farming practices and are not improving their skill and capabilities for a better yield.
- **The people are contented and less ambitious:** Based on our interaction with various stakeholders of the district (industry players, academicians, government officers, etc), it is to be noted that the people in the district are contented with minimal things they possess and are ambition less to make a progressive living. This is reflected in their work culture as well. People in the industries (especially in rice mills) do not want to involve in hard work, not willing to work in shift, being casual in the workplace and high absenteeism are observed. Most of these units are now employing people from other states such as Madhya Pradesh to perform their work.

SWOT analysis

Based on the diagnostics of the Bhandara district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented in below.

Figure 73: SWOT Analysis of Bhandara district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 81,531 persons between 2012 and 2022. Sectors which will drive demand are expected to be agriculture and allied and building, construction and real estate. Also, there will be demand for human resources in the sectors such as banking and financial services, education and skill development and healthcare services. These sectors are expected to grow alongside the district's economic growth. The requirements for skilled personnel are likely to increase, as the maximum demand will be generated for semi-skilled and skilled workers.

Table 58: Incremental demand of human resources in Bhandara – by sector

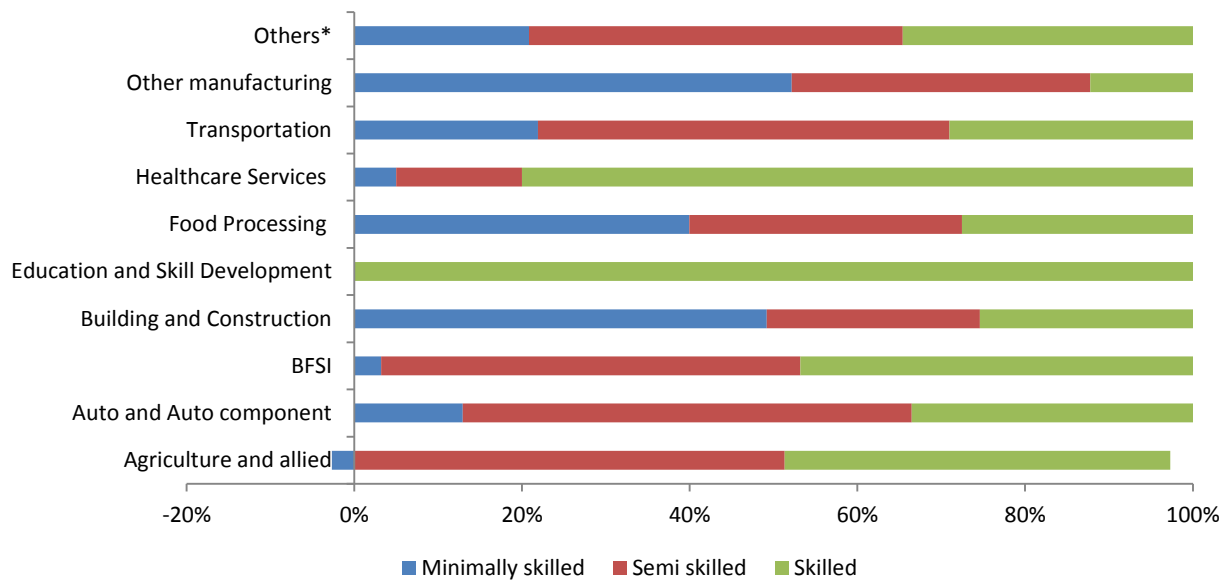
Sector	2012-17	2018-22	2012-22
Agriculture and allied	9,574	4,879	14,452

Sector	2012-17	2018-22	2012-22
Auto and Auto component	1,422	2,199	3,621
BFSI	5,170	8,311	13,481
Building, Construction industry and Real Estate	11,097	15,401	26,498
Education and Skill Development	4,372	2,436	6,808
Food Processing	890	1,148	2,038
Healthcare Services	2,459	3,365	5,823
Transportation, Logistics, Warehousing and Packaging	1,459	1,654	3,114
Other manufacturing	1,167	1,922	3,089
Others*	1,071	1,536	2,606
Total	38,681	42,850	81,531

Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, Furniture and Furnishings, Textile and Clothing and Tourism, Travel, Hospitality and Trade

Figure 74: Incremental demand of human resources in Bhandara – by skill level

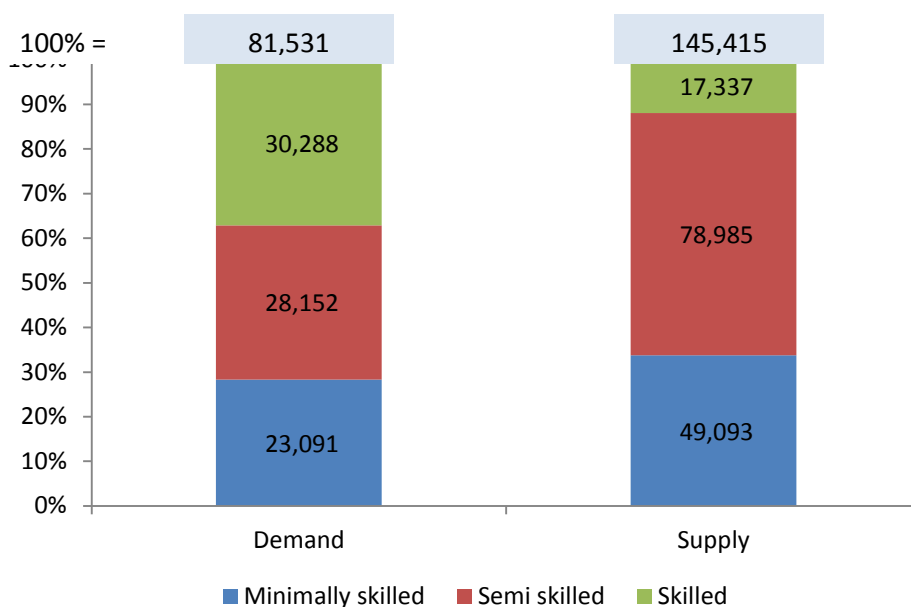


Source: IMAcS Analysis

* Others include chemicals and pharmaceuticals, Furniture and Furnishings, Textile and Clothing and Tourism, Travel, Hospitality and Trade

We have estimated incremental supply of human resources in the district at 145,415 for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be adequately sufficient to meet the incremental demand in the district. The excess of human resources is likely to migrate to other districts where there is a high demand for workforce. However, the incremental supply is leaning more towards minimally skilled workers, as against skilled workers. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward.

Figure 75: Demand supply gap of human resources in Bhandara – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on our field surveys in Bhandara district, we have found out that sectors where skilling interventions are required are mainly agriculture and allied activities and food processing (rice milling) industry. Also, there are some manufacturing units in the districts such as Sunflag Steel, Ashok Leyland, etc. However, as per our discussions with these units, there are no significant expansion plans in the near future, which could lead to employment creation. In addition to these existing sectors in the district, we have also found areas where the district can act as a supplier of manpower to other progressive districts which are close by. Migration for employment is a general phenomenon in India and skilling interventions are possible in these sectors as well.

Table 59: Sectors where interventions are required in Bhandara district – comparison with Maharashtra

(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Bhandara	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		

High Growth Sectors identified by NSDC	Bhandara	Maharashtra
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMAcS Analysis

5.1. Agriculture and allied activities

Bhandara district's economy is basically agrarian based. Majority of the workforce in the district are agricultural based (25 per cent cultivators and 45 per cent agricultural labourers). The net cultivated area in the district is around 2.54 lakh hectares and the net irrigated area is 1.39 lakh hectares (about 57 per cent of the land is under irrigation). Paddy is the major crop grown in the district. Around 91 per cent of the total crop produced in the district is paddy at 1.95 lakh ton per year. Also, abundance availability of paddy has led to several rice milling industries in the district.

Even though farming has been carried out by the people for so many years, there are some skill based issues observed. They have not updated with the advancement and latest changes in the agricultural world and continue to perform as they were doing it for years. Some of the major skill gaps in the agriculture sector based on our field survey are as follows:

- Lack of adequate technical knowledge regarding crop care, and pre & post-harvest management
- Inadequate knowledge on post harvesting measures such as logistics, marketing, etc.
- Lack of adequate knowledge on modern and scientific farming methods
- Lack of awareness about latest technology used in agriculture and inability to adopt technology even if they are aware of it

Department of Agriculture, Bhandara conducts various training programs for the farming community in the district. Some of the training areas include crop demonstration (for crops such as paddy, gram, tur, soya bean, etc), pest control management, new farming technologies and practices, etc. All these are sponsored program (from both central and state government) with an ideal batch size of 25-30 farmers. The duration of the course would vary from 15 days to 1 month depending course including farm visits.

Based on our interaction with the stake holders, they find hard in sourcing the trainees as the farmers are not very much keen to participate in agri-based training. They believe farming is a habitual activity they have been doing it for years and do not understand the importance of the training. This leads to the need of awareness program for farmers and educating them on how new farming practices came help them in improving their yield and quality.

Department of Agriculture provides training on modern farming methods such as System of Rice Intensification (SRI) cultivation practice. This kind of modern practice will result in good yield for paddy cultivation. When interacted with the farmers who have undergone training and followed the SRI cultivation practice, they mentioned that their yield has doubled (around 15 quintals per hectare to 30 quintals per hectare) and were very useful. Also, they provide modern farming equipment to the farmers at a subsidised rate and also train them on how to use them effectively. Pest control measures are also being taught to the farmers. The department is planning to scale up these activities in the coming years.



*Modern pest control equipment
(given at subsidised rates to farmers)*



*Paddy grown through SRI method
(Training by Dept of Agriculture, Bhandara)*

Training is also provided on horticulture crops through National Horticulture Mission (NHM). The training areas include plantation, maintenance, erection of seed net houses and protected cultivation. Mango, custard apple, banana and guava are some of the fruits grown in the region. These horticulture crops are a good source of earning for the farmers.

Bhandara district also has good potential in allied activities such as dairy farming and fisheries. The district has good water resources through dams and tanks built. There is a good scope for fishing in this region. There are 9,681 fisherman members registered in the co-operative society of the district. Based on our interaction, there is currently no training activity in fishing and there is scope for improvement in this sector.

5.2. Food processing – Rice milling

Paddy is the major crop grown in the district and this has resulted in setting up of numerous rice mills in the region. According to discussion with the industry players in the district, there are around 342 rice mills in Bhandara district. These rice mills fall under the Micro, Small and Medium Enterprises (MSME) category. The rice milling capacity is around 3.12 lakh ton.

Rice milling is the major industry in the district. Most of the rice mills in the district have not upgraded with the latest technology and advanced machines available (whereas nearby district such as Gondia have sophisticated rice mills). On an average, a mill has around ten to twelve labours and the nature of the work requires unskilled and semi-skilled labours. Since it has been an established industry in the district and the work is also not very technical, there are no major skill gaps experienced. However, there are other human resources related issues faced by these industries.

The industry players in the region mentioned that the people from the local lacks appropriate work culture, facing high absenteeism, being casual at work, etc. They also added that the work force has attitudinal issues and do not take their work seriously. Some of the rice mills needed to operate in shifts and the workers are not willing to work in shifts. Therefore, many rice mills have employed work force (operators, workers, etc.) from other states such as Madhya Pradesh and are carrying out their operation.

Based on our stakeholders' discussions, we have found out the following:

- There is shortage for skilled labour locally in the district
- The supervisors in the mills lack adequate managerial skills and knowledge of modern milling process using latest milling machines
- Operators lack adequate knowledge about modern machine operation (sortex machine and boiler) and machine maintenance skills
- The labours and workers lack adequate work culture. Frequent absenteeism and casualness in the work is observed.

5.3. Others

In addition to the sectors mentioned above, Bhandara district is also home to some manufacturing and engineering based industries (such as Ashok Leyland and Sunflag steel industries). While these industries don't have any employment generation or expansion plans in the next few years, they have reported shortage of skilled manpower in some of the key functions like turners, fitters, machinist, etc. They added that the people recruited from local technical institutes lack adequate practical knowledge and they have to provide in plant training to match their requirements.

Apart from the industries present in the district as mentioned above, the people from Bhandara work in nearby district (mainly Nagpur district). Nagpur is only around 60 kms away from Bhandara and many people do a daily travel to and fro and work there. One of the industries that employ these people is the organised retail sector comprising of departmental stores, super markets, apparel showrooms, etc. Most of the people employed here have not attended formal training on the same and are not able to get a

good job profile. Training in these areas would help them in getting a good job with enhanced salary income. Some of the expected skill sets for organised retail sector is listed in the table in annexures.

Other sectors which have significant employment opportunities for migrant population are facility management, construction, security guards, etc. These sectors have good demand for skilled human resources and training can be provided for these as well.

6. Recommendations

Recommendations for Bhandara district focuses on the sectors of agriculture, food processing – rice milling and others (Organised retail sector). Some of these sectors will have recommendations for the private sector which will directly translate to skills being developed and the others will need Government intervention to facilitate improvements.

While the detailed recommendations follow, summary is given in the table below.

Table 60: Key recommendations for Bhandara – summary

Sector	For private training providers	For Government players	For Industry	For NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Training on modern methods, marketing, etc. ▪ Tie up with Government for aid in sourcing and getting subsidy for training 	<ul style="list-style-type: none"> ▪ Sourcing of candidates ▪ Stipend facility to farmer training ▪ Tie up with private training provider for training delivery 	- -	<ul style="list-style-type: none"> ▪ Interventions required through funding private training as well as through SSC
Food processing – Rice milling	<ul style="list-style-type: none"> ▪ Training to operators in milling industry ▪ Tie up with local industries and provide need based training 	<ul style="list-style-type: none"> ▪ Government ITIs can provide to the local industries according to requirement 	<ul style="list-style-type: none"> ▪ Tie up with training provider for need based training ▪ Provide physical infrastructure support for training 	<ul style="list-style-type: none"> • Interventions required through funding private training as well as through SSC
Others – Organised retail sector	<ul style="list-style-type: none"> ▪ Training on retail related courses ▪ Tie up with industry players to ensure placements 	<ul style="list-style-type: none"> ▪ Create awareness about training program ▪ Aid in sourcing candidates ▪ Providing subsidy on training in initial years 	<ul style="list-style-type: none"> ▪ Tie up with the training providers for skilling and placement 	<ul style="list-style-type: none"> ▪ Interventions required through funding private training as well as through SSC

6.1. Government players

- ❖ **Agriculture and allied:** Department of Agriculture is already involved in training the farmers in the district. It can scale up the process and increase the number of beneficiaries. Also, it should also develop a monitoring mechanism to validate the success of training. Government can facilitate the training program provided in agriculture and allied activities. Some of the ways it can aid the training for agriculture are as follows:

- It can aid quality training provider by providing subsidy for the training through various skill development scheme
- Providing stipend to the trainees
- Help in sourcing trainees through Department of Agriculture
- Facilitate the training by providing class rooms and infrastructural facilities for training
- Monitor the performance of training providers and feedback from farmers

Government can also scale up the process of providing training for growing horticulture crops. The condition in the district is observed to be suitable for various horticulture crops such as banana, mango, sitafal, etc. The training is provided by Department of Horticulture through various schemes (example: National Horticulture Mission (NHM))

Government can also provide training to the rural people (farmers) in agricultural allied activities such as Poultry, Goatery, Sericulture and Apiculture. These activities would help the farmers in generating additional income.

- ❖ **Food Processing – Rice Milling:** Government can facilitate the training for mill operation. The government technical institutions (example: Government ITI) can provide on milling operation on requirement basis. The institution can tie up with the local industries and offer the courses according to their requirement and provide training accordingly. Infrastructure (for practical training) can also be leveraged from the industries.
- ❖ **Others (Organised Retail):** Government needs to play a crucial role in implementation of the training program for these identified sectors. Some of the ways it can aid the training are as follows:
 - Awareness programs on opportunities in these sectors and importance of training to get a job
 - Sourcing candidates for training program
 - In the initial years, Government may also provide subsidy for the training program through skill development schemes
 - Monitoring of training providers and training process (which are conducted through government funds)

6.2. Private training providers

- ❖ **Agriculture and allied:** Private training centres can provide farming related courses to the farming community in the district. In the agriculture training space, private training centres will face issues in some of the areas such as sourcing, sustainability, etc. This is due to the farmers' lack of awareness about training and its benefits and economical background. Therefore, the private training providers can coordinate with the government (state and central) and provide training through their various schemes for skill development. By this, they will be able to overcome sourcing and sustainability issues to a certain extent. Some of the areas where training can be provided to farmers are as follows:
 - Modern methods of rice production (example: SRI technique)

- Usage of modern equipments in farming
 - Pest and weed control
 - Yield management
 - Inter cropping techniques
 - Irrigation techniques (Example: Drip irrigation)
 - Horticulture crop training (vegetables and fruits)
 - Marketing and sales of agricultural produce
 - Integrated course on production, processing and marketing
- ❖ **Food Processing – Rice Milling:** A rice mill generally requires semi-skilled and unskilled nature of human resource, however due to advancement of technology and modern milling equipment, skilled personnel are required in specialised areas. Private training providers can provide training in these areas which are as follows:
- Boiler attendant course – (Boilers are used in mills for heating the paddy) The course should cover milling process, machine operation and machine maintenance
 - Sortex machine operator – Machine operation and maintenance (Sortex machine is used to sort the rice to different grades)
 - Milling machine operator
 - Quality control
 - Providing training on diversification of products – Rice bran oil

Rice mills are currently mechanised and it is not a big employment generating industry. Also, operators are available in the existing mills and upskilling on the above mentioned courses only needs to be provided. Therefore, temporary and need based training centres can be set up by partnering with industrial association and train a group of people as required by the milling units. Industrial partnership is crucial as it assures the placement for the trainees.

- ❖ **Others (Organised Retail):** Private training providers can provide training in retailing courses. The sector is growing at a good rate with the increasing number of shopping malls and departmental stores in the Tier II and III cities and is in need of skilled human resources. Some of the training courses that can be offered are mentioned below:
- Sales and Marketing
 - Customer relationship and sales
 - Retail Store Operations
 - Product specific retail sales training - (example: Retail sales of white goods and electronic goods)

All these courses should include communication skills and basic etiquettes as a part of their curriculum since people are from rural background. Also, adequate industry partnership to place the trainees on successful completion of training is essential for successful implementation of the training program.

Also, the private training providers should be registered with NSDC and the relevant Sector Skill Council, and follow the standardised curriculum which is recognised by the industry. This will also be beneficial to the trainees as after successful completion of training program they are entitled to a refund of upto Rs. 10,000 of course fees⁶ paid by them. This will promote trainees to get trained from NSDC approved centre.

6.3. Industry

- ❖ **Food Processing – Rice Milling:** The industries should play a crucial in aiding the training providers with adequate infrastructural facilities as they are the beneficiaries of the training activities. Since mostly upskilling training is required for the existing employees, they should frame the training requirement and should tie up training providers. Infrastructure support can be provided them for quality training output. The industries should also recognise the trained candidates in mill operations and some incentives need to be given to promote skilled labour in the industry.

- ❖ **Others (Organised Retail):** Industries require skilled personnel in various functions. They need to have a tie up with quality training provider for placement and also aid them in framing training content as per their requirement. The industry may also encourage the training happening at the place of supply of human resource and provide job on their successful completion. These sectors are providing jobs to large number of migrant people who do not have prior experience / training and getting a skilled human resource is a great advantage to them.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Agriculture and allied
- ❖ Food processing – rice mills
- ❖ Others (Organised Retail)

⁶ Source: Budget 2013

2.7. BULDHANA

1. Introduction

Buldhana district headquartered by Buldhana city lies in the eastern portion of Maharashtra. It has a total land area of 9,661 sq. km., which is 3.14 per cent of the total State area. It is bordered by Nirmur District of Madhya Pradesh from the North, Amravati, Akola and Washim districts on the East, Jalna district on the South and Jalgoan and Aurangabad districts on the West.

It is sub-divided into fourteen sub-districts and has 1, 297 villages. Majority of the population at 79 per cent lives in rural areas. Agriculture is the main occupation, employing 80.6 per cent of the labour force (as of Census 2001). The remaining is in household industry (1.3 per cent) and other workers⁷ at 18.1 per cent.

Buldhana was restructured from the Akola region that was earlier a part of the Berar Province. It is said that this city was previously named BhilThana, referring to the dwelling of the native Bhil tribe. Over a period of time, the name evolved into today's Buldhana.

Table 61: Comparison of Buldhana district with Maharashtra – key indicators

Indicator	Year	Buldhana	Maharashtra
Area, in sq.km.	2011	9,661	307,713
Percentage share in State geographical area, %	2011	3.14%	100%
No. of sub-districts	2011	14	353
No. of inhabited villages	2011	1,297	41,095
No. of households	2011	445,634	19,576,736
Forest area as a % of total geographical area	2011	6.11	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Buldhana district has a population of 25.8 lakh persons – 2.30 per cent of the State population. While 55 per cent of the population in the district is in working-age group (15 to 59 years), about 46 per cent is actually working i.e. work participation rate.

⁷Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers are 'Other Workers'.

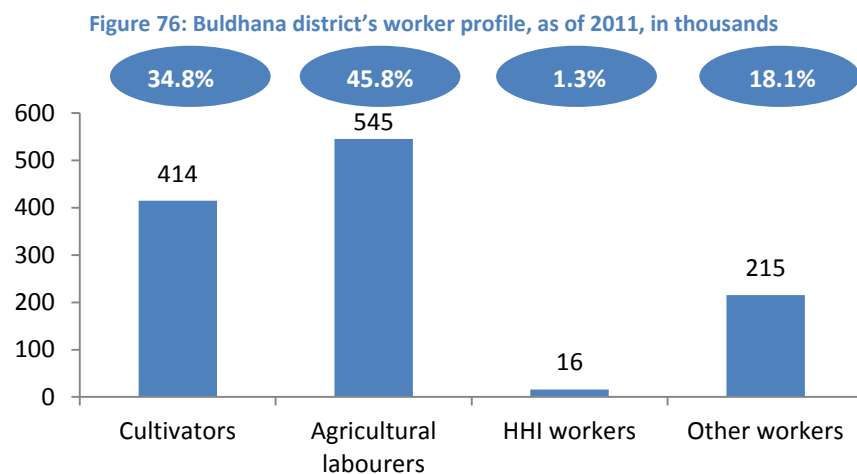
The district's literacy rate is 82.09 per cent, which is almost same as the State average of 82.91 per cent and higher than the All-India average of 74 per cent. Male literacy at 90.69 per cent is significantly higher than female literacy rate at 72.95 per cent.

Table 62: Key demographic indicators

Indicator	Year	Buldhana	Maharashtra
Population, No.	2011	2,588,039	112,372,972
Decadal growth rate of population, %	2001-11	15.93	15.99%
District's share in State's population, %	2011	2.30%	100%
Urban population as a percentage of total population, %	2011	21%	45%
SC population, %	2001	10.82%	8.79%
ST population, %	2001	5.15%	15%
Sex ratio, No. of females per 1000 males	2011	928	925
Population density, per sq. km.	2011	268	365
Literacy rate, %	2011	82.09%	82.91%
Main workers, No.	2001	908,797	34,748,053
Marginal workers, No.	2001	107,218	6,425,298
Working age population* as a percentage of total population, %	2001	55%	59%
Work participation rate^, %	2001	46%	42.5%
HDI Index	2000	27	0.58

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011, Maharashtra Human Development Report 2005

The district has a total workforce of about 10.1 lakh persons. Of this, 34.8 per cent are cultivators, 45.8 per cent are agricultural labourers, 1.3 per cent is workers in household industry and 18.1 per cent are other workers.



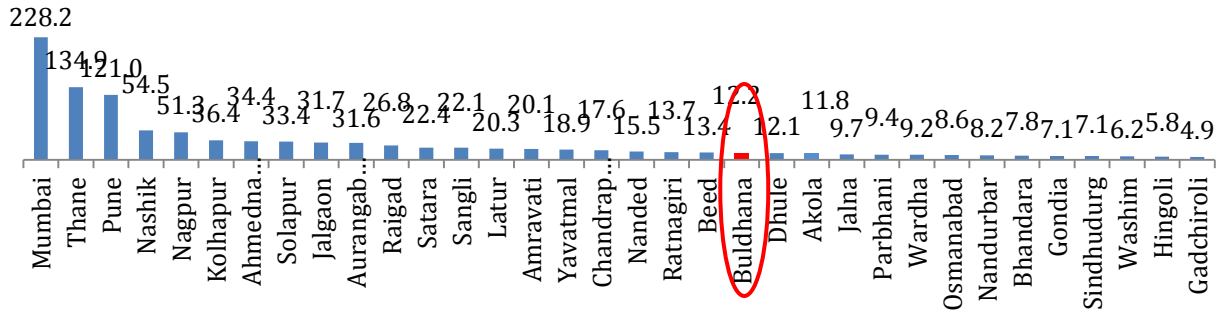
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Buldhana district had the 21st highest Gross District Domestic Product (GDDP) in Maharashtra at Rs 12,186 crore (1.14 per cent of the Gross State Domestic Product). In terms of per capita NDDP though, it ranked 32nd amongst all districts at Rs 45,699. This was almost half of the State average of Rs 87,686.

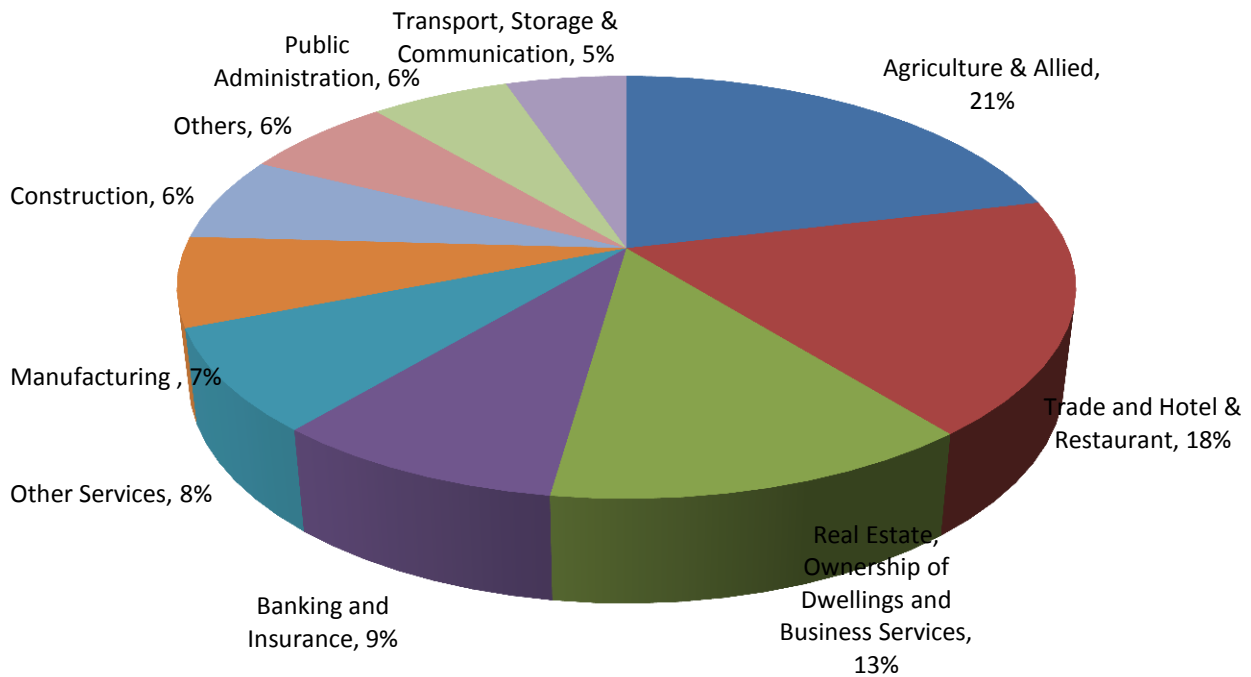
Figure 77: Gross District Domestic Product, InRs thousand Crore, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly service based, with service sector’s share in GDDP at 59.3 per cent in 2009-10. This is followed by primary sector at 25.7 per cent and secondary sector at 15.0 per cent.

Figure 78: Sector wise distribution of Buldhana’s GDDP



Source: District Socio Economic Review of Amravati

Agriculture: Agriculture is mainly dominated by cultivation of irrigated crops like wheat, jawar and maize and non-irrigated crops like cotton, oilseeds and pulses.

Industry: As of August 2012, Buldhana district had 18 large scale industrial units, employing around 5,800 persons. These included companies such as Birla Cotsyn (India) Pvt Ltd, Rasoya Proteins Ltd and Hindustan Unilever Ltd etc. (Refer to annexures for complete list). End products manufactured included cotton yarn, solvent extraction of soya bean, and toilet soaps etc. Buldhana district also has 1,814 Micro, Small and Medium Enterprises (MSME), employing 24,731 persons. As of August 2012, the prominent MSME industries in the district were 'Food products and Beverages', 'Textiles', and 'Non-metallic Minerals'. Refer to annexures for details.

Services: As mentioned above, services account for 59.3 per cent of GDDP in Buldhana district for the year 2009-10. Of all the services, the key services in the district are of 'trade, hotels and restaurants' at 18 per cent of GDDP, followed by 'real estate, ownership of dwellings, business and legal services' at 13 per cent, 'Banking and Insurance' at nine per cent, other services at eight per cent and 'Public Administration' at six per cent.

2.3. State of education

As of 2011-12, Buldhana district had 2,248 schools, which includes primary schools, upper primary secondary and higher secondary schools. Total student enrolment in all the schools was 406,484 while the student-teacher ratio was at 31 students per teacher. The student-teacher ratio is slightly higher than the State's average which is about 30 students per teacher.

Table 63: School and higher education infrastructure in Buldhana district

Particular	No. Of institutes	No. Of students
Schools	2,248	406,484
General colleges	59	24154
Technical education*	19	4113

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *Excluding non-AICTE diploma courses*

For general higher education, the district has 59 general colleges, while for technical education; the district has 19 colleges. For vocational training, Buldhana district had a total of 16 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, thirteen were Government ITIs, and remaining three were private unaided ITIs. All the 16 ITIs together have a seating capacity of 3260.

Table 64: Key ITI indicators in Buldhana district, as of March 2012

Indicator	Value
Total Number of ITIs	16
Number of Government ITI	13

Indicator	Value
Number of Private unaided ITI	3
Total Seating capacity	3260

Source: IMAcS Primary Survey

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. Majority of the private training centres in Buldhana district offers computer related courses. Some of the courses offered by them include MS-CIT, C++, Java, DTP, Oracle, Tally, etc. MS-CIT course is preferred among the students/youth in the district as this course is a pre-requisite for getting a Government job in the State. The other training areas provided by private training institutes include beauty culture, handicrafts, embroidery and fancy work, tailoring and cutting, etc. For details of training institutes and courses offered, refer to annexures.

2.4. Youth aspirations

In the process of identifying the growth engines for the Buldhana district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Salary Expectations:** During our discussion with students, it is reported by the students that they expect a starting salary of around Rs 15,000 to 20,000 per month after completing their courses.
- **Migration Trends:** About 90 per cent of the students are willing to shift from Buldhana, if they are offered a job outside the district at a decent salary. Preferred destinations are Aurangabad, Nagpur, Pune and Mumbai.
- **Demand for placement cell:** There is high demand for placement cells in the educational institutions by the students, which are currently lacking.
- **Demand for new trades/courses:** There is high demand for trades such as steel welder, mobile repairing, beautician, digital photography, animation etc.
- **Preference for Government jobs:** Students prefer Government jobs rather than private jobs as they believe Government jobs are more secure than private jobs.
- **Entrepreneurial zeal:** The youth is not inclined towards starting their own business, as they are highly risk averse. The preference is to go for Government or private jobs only, as they provide a secure source of income. Based on our discussions, we found that only about four to five per cent of the students want to go for self-employment opportunities.

3. Developmental concerns

Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

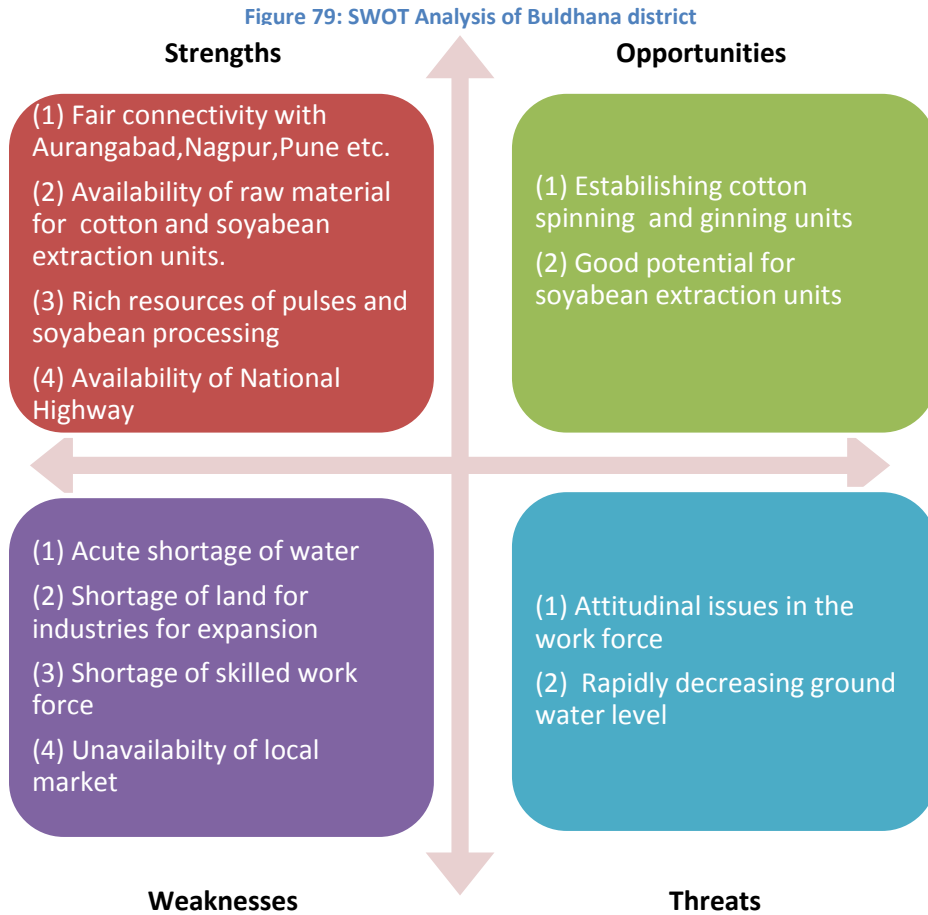
- **Lack of skilled manpower within the district:** It has been observed that in Buldhana district industries are facing shortage of skilled labour in industries such as cotton and soybean

extraction units, leading to delays in production, which is hampering the growth of the these sectors in the district.

- **Irregular Power Supply:** It is reported that industries are currently facing the problem of irregular power supply, which is available for only about 3 to 4 hours in a day, due to which industries are not able to work at higher capacity utilizations and thereby lose out of valuable revenues.
- **Attitudinal issue of district human resource:** In Buldhana district, attitude of work force has been reported to be a major issue. It is reported that work force, in Buldhana district lacks sense of ownership in their job and want to have gentlemen's attire at work are not willing to work in factory/field and also exhibit frequent unexplained absenteeism from work.

SWOT analysis

Based on the diagnostics of the Buldhana district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 1.30 lakhs persons between 2012 and 2022. Sectors which are likely to generate employment are mainly 'agriculture and allied', 'building, construction and real estate' and 'BFSI'.

However, sectors which are unique to Buldhana are 'food processing' and 'textiles and clothing'. The forecasts for these sectors are low, as current and past trends have been used for forecasting. However, these two sectors have immense potential due to availability of raw materials. If adequate investments materialise in these sectors (both from Government and private), then these sectors will generate employment much more than what has been forecasted as of now.

Table 65: Incremental demand of human resources in Buldhana – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	20,714	10,555	31,269
Auto and Auto component	465	745	1,209
BFSI	8,272	13,297	21,570
Building, Construction industry and Real Estate	12,286	17,051	29,336
Education and Skill Development	9,919	4,937	14,856
Food Processing	616	795	1,412
Healthcare Services	3,547	4,855	8,402
Textile and Clothing	638	809	1,447
Transportation, Logistics, Warehousing and Packaging	3,203	3,631	6,834
Tourism, Travel, Hospitality & Trade	4,710	6,858	11,567
Other manufacturing	930	1,531	2,461
Others*	116	126	242
Total	65,416	65,189	130,606

Source: IMAcS Analysis

**Others include Chemicals & Pharmaceuticals and furniture and furnishings.*

Figure 80: Incremental demand of human resources in Buldhana – by skill level

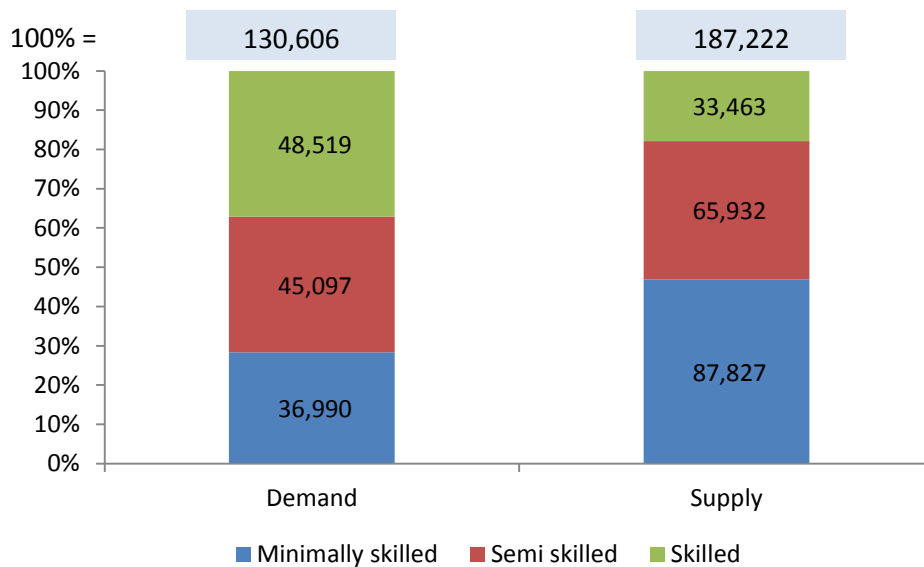


Source: IMAcS Analysis

*Others include Chemicals & Pharmaceuticals and furniture and furnishings.

We have estimated incremental supply of human resources in the district at 1.87 lakh for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be more than the incremental demand in the district, thus indicating outward migration of human resources from the district due to insufficient job opportunities within the district. However, there is likely to be shortage of skilled human resources, thus indicating the need for up-skilling.

Figure 81: Demand supply gap of human resources in Buldhana – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

As discussed in the section above, while employment will be generated across many sectors, in this section, we have identified especially those sectors which require skilling interventions in the district – mainly food processing and textiles & clothing. Identification of such sectors has been based on the diagnostics above, our observations during the primary survey and discussions with the key stakeholders in the district.

Table 66: Sectors where interventions are required in Buldhana district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Buldhana	Maharashtra
Agriculture and allied		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMaCS Analysis.

For the sectors identified above, we have mapped the skill requirements and the gaps faced by the sector in the section below.

5.1. Agriculture and allied sector

Buldhana district has 80.6 per cent of population which is involved in the field of agriculture and its allied activities. So going forward to this, there is a big scope for agriculture and allied industries like cotton and soybean processing. Cotton and soybean are the major crops grown in the Buldhana district.

The skill gaps in the agriculture and allied sector are:

- Lack of knowledge about high quality seeds
- Lack understanding of cultural practices like crop rotation, inter cropping, double cropping etc.
- Lack of knowledge on modern techniques in agriculture
- Lack understanding of best practices of sorting, grading and packaging
- Lack of understanding of organic farming
- Lack of understanding of correct dosage of pesticides to protect fertility of the soil
- Lack of knowledge on productive cultivation in poly houses
- Lack of precision farming techniques and tissue culture

5.2. Textile and Clothing industry

The district currently has six large textile based units with an investment of around Rs. 190 crore and providing permanent employment for around 1500 people. During our primary survey, industrialists reported that half of the workforces are from states like Bihar, Gujarat and Orissa and remaining half from the Buldhana itself. The district also has few MSMEs in cotton and textiles sector.

Based on our discussion with industry players in the district, the cotton and textile units (Spinning) are unable to get skilled manpower from the district. Therefore, the units provide various trainings to fit the employees according to their requirements. Majority of the recruitment happens at the operator/worker level. People recruited at this level are either 8th pass/ 10th pass/ ITI pass outs.

The textile based units in the district are able to source qualified personnel at the level of assistant manager or above. These units face fewer skill gaps in the supervisor and operator/worker level. However, continuous need based training are provided by these units.

The skill gaps in the Textile and clothing sector are:

- Lacks in Technical Know how
- Lacks in innovative skills
- Lack of knowledge of compliance to quality
- Inadequacy in managing people/teams
- Inadequacy in improving the performance of people.
- Inadequacy in managing effective flow of communication.
- Inadequate knowledge about the technical spinning process
- Other issues include non-skill related such as absenteeism, work – related behaviour, non-cooperation with supervisors, etc.

5.3. Food Processing Industry-Soybean Edible oil

The district currently has three food processing units of soybean refined oil like Rasoya proteins Ltd, Hanuman Vitamin Food Pvt Ltd and Vidarbha Refinery Ltd with an investment of around Rs. 260 crore and providing permanent employment for around 350 people. Majority of the workforce (More than 90

per cent) are from Buldhana district. The district also has few MSMEs in food processing sector (Micro, Small and Medium Enterprises).

The skill gaps in the food processing industry-soybean edible oil sector are:

- Lack innovative skills
- Time Management Skills
- Effective communication skills
- Team Working Skills
- In efficient in handling pressure situations
- Limited knowledge of operating machines.
- Lack in Time management of different operations
- Lacks in communication skills with production manager
- Decision making skills in specific circumstances.
- In efficient in handling pressure situations

6. Recommendations

Recommendations for Buldhana district focus on ‘textiles and clothing’ and ‘food processing’ industries. As these, industries have significant potential and also facing skill gaps in their respective industries. In addition to the above sectors, agriculture and allied also contributes significant number of employment generation in the district and needs skill up-gradation.

Table 67: Key Recommendations for Buldhana-Summary

Sector	Government	Private training providers	NSDC	Industry
Agriculture and allied sector	<ul style="list-style-type: none"> • Encourage strengthening and modernisation of existing agriculture techniques • Take steps to solve the issue of water shortage in the district 	n/a	<ul style="list-style-type: none"> • n/a 	n/a
Textiles and clothing	<ul style="list-style-type: none"> • Focus on training programs and practical exposures through Department of Textiles – especially for ginning, pressing and spinning units 	<ul style="list-style-type: none"> • Coordinate with Government departments and industries for the provision of technical training for the workforce 	<ul style="list-style-type: none"> • Interventions required through funding private training as well as through SSCs 	<ul style="list-style-type: none"> • Initiating skills training in collaboration with private players and Government training institutes • Create placement linkages with training institutes
Food processing industry- Soybean edible oil	<ul style="list-style-type: none"> • Focus on solving water problem for industries • Facilitate training facilities to agricultural labors 	<ul style="list-style-type: none"> • Take active part in providing training to the workforce of soybean industries 	<ul style="list-style-type: none"> • Interventions required through funding private training as well as through SSCs 	<ul style="list-style-type: none"> • Tie up with training providers for training of employees • Create placement linkages with

Sector	Government	Private training providers	NSDC	Industry
	<ul style="list-style-type: none"> • Create awareness on financial schemes among respective industries 			training institutes

6.1. Government Players

- ❖ **Agriculture and Allied:** Department of Agriculture can focus on training people on modern techniques of cotton and oil seed production. The Government also needs to focus on solving the issue of water shortage in the industry.
- ❖ **Textile and clothing industry:** The Department of Textiles can focus on providing training in spinning of cotton in the district. The same can be achieved in collaboration with the spinners association. While the spinners association can help provide the trainees, the Department of Textiles can help with funding as well as expert faculty.
- ❖ **Food processing industry-soybean edible oil:** Department of Agriculture needs to focus more actively in arranging training programs in soyabean processing to ensure that full potential of the district is met. It needs to ensure advance modernisation and technological up gradation for soybean extraction industries, take various measures like creating awareness on financial schemes among respective industries , spread awareness on interest subsidies on loan, etc.

6.2. Private training providers

- ❖ **Textile and clothing industry:** The private training providers do not have remunerative opportunities available in the district, given the lack of purchasing power with the people involved in the sector in the district. Thus, training programmes will only have to be arranged in collaboration with Government departments, which can take care of the funding issues. This can be done in collaboration with the Department of Textiles.
- ❖ **Food processing industry-soybean edible oil:** Private training providers can play a vital role for soybean processing industries by taking active part in providing training to the work force of the soybean extraction industries. This can be achieved in a cluster format, where training is provided at the industrial association / cluster level.

6.3. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Agriculture and Allied
- ❖ Food processing industry-soybean edible oil
- ❖ Textiles and clothing – cotton ginning, pressing and spinning activities

6.4. Industry

- ❖ **Textile and clothing industry:** As discussed above, the industry will have to meet its training requirements in collaboration with the Government training programmes. In addition, the

spinner's associations can arrange central training for the spinners as well, which can benefit the spinning community as a whole.

- ❖ **Food processing industry-soybean edible oil:** For employees in the soybean industry, industries can coordinate with private training institutes for the workforce training. It can also focus on creating placement linkages with the training institutes.

2.8. CHANDRAPUR

1. Introduction

Chandrapur is situated in the eastern part of the Maharashtra state (in the Nagpur region) and has a total land area of 11,443 sq. km., which is 3.7 per cent of the total State area. It is bordered on north by the districts of Nagpur, Bhandara and Wardha, on the west by the districts of Yavatmal and Nanded, on the east by Gadchiroli district and on the south by the Adilabad district of Andhra Pradesh.

It is sub-divided into 15 sub-districts and has 1,472 villages. Majority of the population at 65 per cent lives in rural areas. Agriculture is the main occupation, employing 65 per cent of the labour force (as of Census 2001). The remaining is in household industry (two per cent) and other workers⁸ at 33 per cent.

Paddy is the major crop grown in the district. Rice milling industries are established in the districts because of the availability of paddy crop. The district is also endowed with valuable minerals such as coal, iron and limestone. There are large mining operators present in the district. The abundant availability of minerals (especially coal and limestone) has led to set up industries in power and cement sector as well.

The district has a forest area of around 43 per cent of its total area which is very high as compared to the state's average (around 17 per cent) and the forest resources contributes significantly to the economy of the district. Teak wood, bamboo, tendu leaves and mahua flowers are the important forest resources in the district. The famous Tadoba National Park (Tiger reserve) is present in this district.

Table 68: Comparison of Chandrapur district with Maharashtra – key indicators

Indicator	Year	Chandrapur	Maharashtra
Area, in sq.km.	2001	11,443	307,713
Percentage share in State geographical area, %	2001	3.72%	100%
No. of sub-districts	2011	15	353
No. of inhabited villages	2001	1,472	41,095
No. of households	2001	462,632	19,576,736
Forest area as a % of total geographical area	2001	43.73%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

⁸ Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers are 'Other Workers'.

2.1. Demography

As per Census 2011, Chandrapur district has a population of 21.9 lakh persons – 1.95 per cent of the State population. Majority of the population (21 per cent) is concentrated in Chandrapur sub-district, followed by Bhadravati, Chimur and Warora sub-districts at eight per cent each, Brahmapuri, Korpana and Rajura sub-districts at seven per cent each, Nagbhid sub-district at six per cent, Mul, Sawali and Sindewahi sub-districts at five per cent each and Gondpipri sub-district at four per cent respectively. While 60 per cent of the population in the district is in working-age group (15 to 59 years), about 45 per cent is actually working i.e. work participation rate.

The district's literacy rate is 81.35 per cent, which is slightly lower than the State average of 82.9 per cent, is higher than All-India average of 74 per cent. Male literacy at 88.7 per cent is significantly higher than female literacy rate at 73.6 per cent.

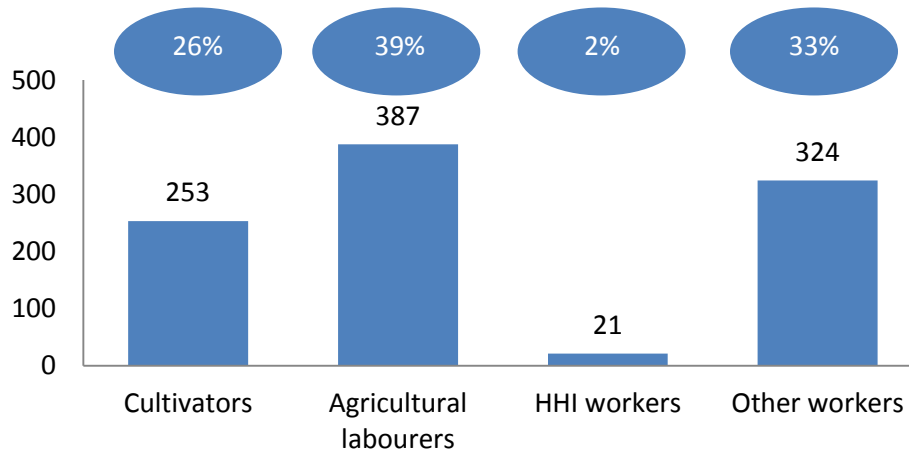
Table 69: Key demographic indicators

Indicator	Year	Chandrapur	Maharashtra
Population, No.	2011	2,194,262	112,372,972
Decadal growth rate of population, %	2001-11	5.95	15.99%
District's share in State's population, %	2011	1.95%	100%
Urban population as a percentage of total population, %	2011	35%	45%
SC population, %	2001	14%	8.79%
ST population, %	2001	18%	15%
Sex ratio, No. of females per 1000 males	2011	959	925
Population density, per sq. km.	2011	192	365
Literacy rate, %	2011	81.35	82.91%
Main workers, No.	2001	683,029	34,748,053
Marginal workers, No.	2001	247,762	6,425,298
Working age population* as a percentage of total population, %	2001	60%	59%
Work participation rate^, %	2001	44.94%	42.50%
HDI Rank	2000	26	
HDI Index	2000	0.41	0.58

**Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011*

The district has a total workforce of about 9.9 lakh persons. Of this, 26 per cent are cultivators, 39 per cent are agricultural labourers, two per cent are workers in household industry and 33 per cent are other workers.

Figure 82: Chandrapur district's worker profile, as of 2011, in thousands



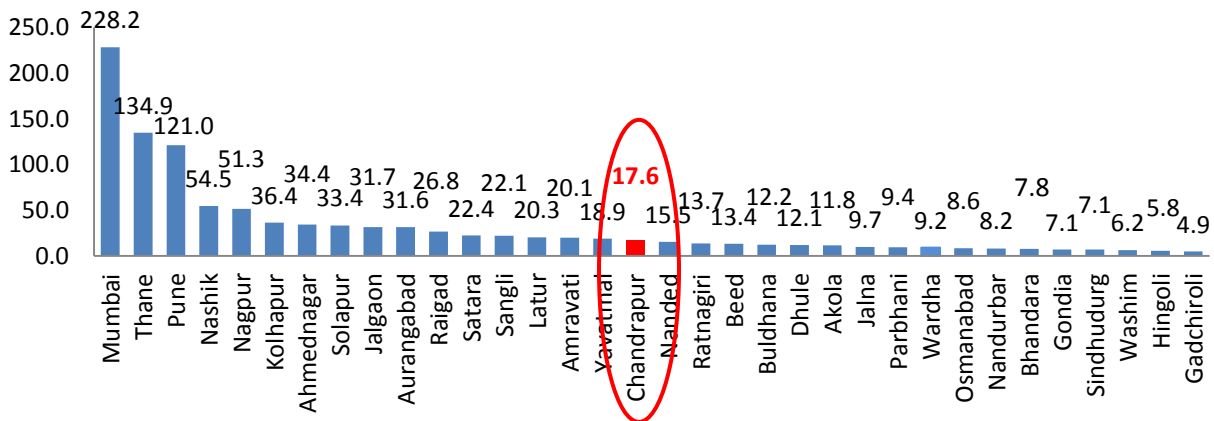
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Chandrapur district had the 17th largest Gross District Domestic Product (GDDP) in Maharashtra at Rs 17,592 crore (1.65 per cent of the Gross State Domestic Product). In terms of per capita NDDP though, it ranked 15th amongst all the districts at Rs 67,641. This was lower than the State average of Rs 87,686.

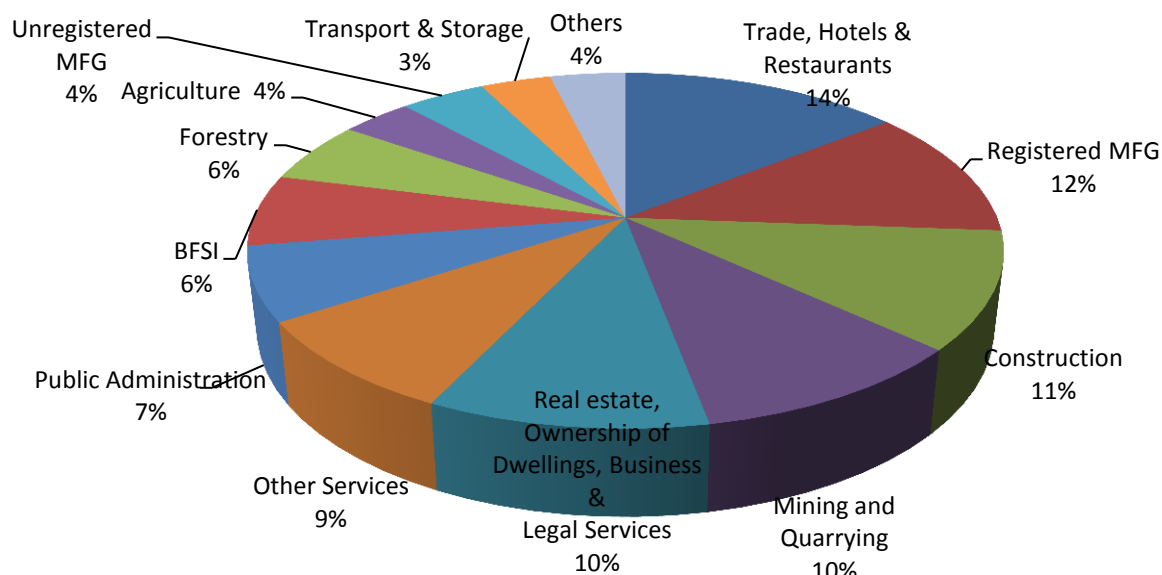
Figure 83: Gross District Domestic Product, in Rs thousand Crore, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly service based, with service sector's share in GDDP at 52 per cent in 2009-10. This is followed by secondary sector at 28 per cent and primary sector at 20 per cent.

Figure 84: Sector wise distribution of Chandrapur's GDDP, as of 2009-10, 100% = Rs 13,699 crore



Source: District Socio Economic Review of Gondia

Agriculture: The cultivable area in the district is around 4,58,403 hectares. Paddy, cotton and soya bean are the major crops grown in this region. Rice is the primary crop grown and ranks fourth in rice production within the State. Paddy constitutes about 43 per cent of the total crop production followed by cotton at 35 per cent and the rest is filled by Soya bean and other crops. Agriculture is mainly rain fed in the district. Mining is an important activity in the district. As mentioned in the above chart, mining contributes to around 10 per cent of the total GDDP for the district in the year 2009-10.

Industry: As of September 2012, Chandrapur district had 30 large scale industrial units, employing 6,442 persons. These included popular companies such as Ballarpur industries, Murli industries, Ambuja cements, Ultratech cements, ACC limited, Lloyd metals, Videocon industries, etc. End products manufactured included power generation, cement, sponge iron, etc. Chandrapur is one of the few districts in the region to have good number industries within it. One of the important reasons for the presence of the industries is the availability of raw materials such as coal, limestone, etc.

The district has 1,792 Micro, Small and Medium Enterprises (MSME), employing 11,878 persons. As of September 2012, the prominent MSME industries in the district were 'Food products and Beverages', 'Furniture', 'Fabricated metal products' and 'other service activities'. Refer to the table in annexure for complete list of MSME industries and employment details. The district has 15 industrial areas, totalling 3,263 hectares of land.

Services: As mentioned above, services account for 52 per cent of GDDP in Chandrapur district. Of all the services, the key services in the district are of 'trade, hotels and restaurants' at 14 per cent, 'real estate, ownership of dwellings, business and legal services' at 10 per cent, other services at 9 per cent, 'banking

and insurance' and 'public administration' at seven per cent each of GDDP, followed by 'transport and storage' at four per cent each and 'communication' and 'railways' at one per cent each.

2.3. State of education

As of 2011-12, Chandrapur district had 2,421 schools. Of this, 49 per cent were primary schools, 31 per cent were upper primary schools and the remaining 20 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 300,781 while the student-teacher ratio was at 24 students per teacher. The student-teacher ratio is better than the average ratio for the State at about 30 students per teacher.

Table 70: School and higher education infrastructure in Chandrapur district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	2,421	300,781
General colleges	130	43,651
Technical education*	22	5,077

Source: District Information System for Education (DISE) 2011-12

For general higher education, the district has 130 general colleges and 22 technical education institutes. For vocational training, Chandrapur district had a total of 29 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, 18 were Government ITIs and remaining 11 were private ITIs. All the 29 ITIs together have a seating capacity of 5,392.

Table 71: Key ITI indicators in Gondia district, as of March 2012

Indicator	Value
Total Number of it is	29
Number of Government ITIs	18
Number of Private it is	11
Total Seating capacity	5,392

Source: Department of Employment & Self Employment, Government of Maharashtra

Based on our discussions with the key stakeholders in Chandrapur district, we have found that on an average, of all the students that pass out from an ITI in each year, only around 20 to 25 per cent find jobs in the market. The average pass rate observed is around 80 to 85 per cent and the drop-out rate (on an average) is around 5 to 10 per cent and at tribal places it is observed to be high at around 10 to 15 per cent. The reason for drop-outs includes getting employment (wage based) during education, economic conditions of the family, etc. For details on courses offered by ITIs in Chandrapur, refer to the table in annexure. The ITIs also involve in providing vocational training courses through Modular Employable Skills (MES) programs such as fabrication, computer basics, tailoring, electrician, automobile beauty culture, etc. along with their formal technical training.

In addition to the above, the district has training infrastructure for different trades set up by both Government and private Institutions. The Government department offer courses in trades such as computer basics, bamboo furniture, welding, fabrication, etc. District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship Development) and MITCON Consultancy and Engineering Services Ltd. Department of Agriculture offers variety of courses to farmers such as control cultivation (green house, shed net house), new technologies in farming, introduction of drip irrigation, horticulture crop production, etc. These trainings are conducted through various schemes such as Rashtriya Anna Suraksha Abhiyan, Rashtriya Krishi Vikas Yojna, National Horticulture Mission, etc.

There are private training centres in Chandrapur district offering computer related courses and other vocational training courses. Some of the courses offered by computer training centres in the district include MS-CIT, C++, Java, DTP, Tally, etc. MS-CIT course is preferred among the students/youth in the district as this course is a pre-requisite for getting a Government job in the state. Other vocational training providers offer courses such as welder, fabricator, fitter, electrical wiremen, basic fashion designing, beauty culture, etc. For details of training institutes and courses offered, refer to table in annexure.

2.4. Youth aspirations

In the process of identifying the growth engines for the Chandrapur district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Satisfaction with educational infrastructure in the district:** Adequate number of educational institutions is available in the district. However, quality of the institutions needs to be improved to make them comparable to institutes in places such as Nagpur, Pune, etc.
- **Preferred institutes and courses:** Students prefer Government institutes than private because of low fees and adequate facilities. The important criteria for choosing any trade/course are the job opportunity for that trade and their interest in a particular field.
- **Demand for additional training / courses:** Some students along with their main academic course pursue additional training courses on computer to increase their job opportunity. MS-CIT course, which aids in getting a Government job, is preferred by the students. Some students have also undergone type writing training to enhance their skills.
- **Job preference:** First preference is to work in Government sector mainly due to job security. Preferred sectors to work include automobile and other manufacturing industries (sectors relevant to their respective trades/courses).
- **Migration trends:** Even though youth believe that the district has a good number of industries compared to nearby districts, they are willing to move to places such as Mumbai, Pune, Hyderabad, etc. for job opportunities. This shows the youth's lure for a city life and a better standard of living.

3. Developmental concerns

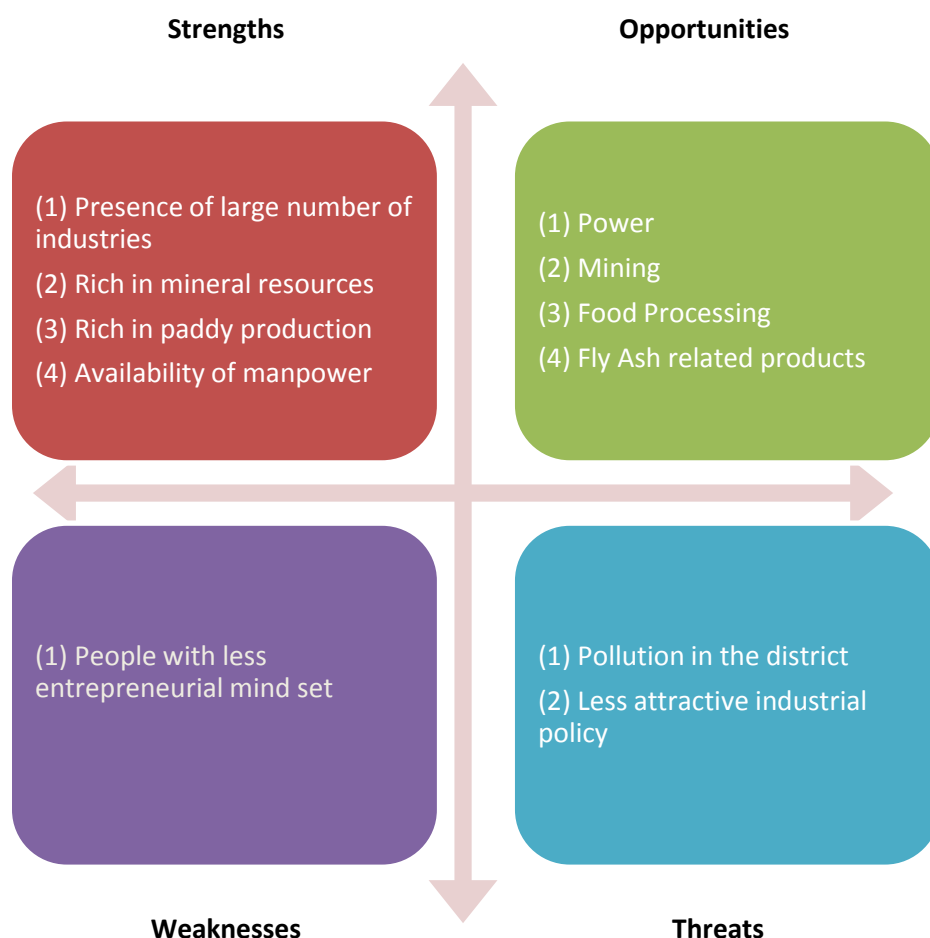
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **People lack adequate work culture and with less entrepreneurial mind set:** Based on our discussion with various stake holders of the district, industry associations, academicians, etc., we observe that the people in the district lack adequate work culture. There are problems faced in the industries such as labour union issues, absenteeism, etc. Also, in spite of opportunities available in the district, people lack entrepreneurial mindset to start a firm and establish them. They are contented and are risk averse.
- **Pollution in the district:** Pollution is one of the major concerns of the district. Chandrapur is continuously ranked in one of the 'critically polluted area' in the country. The nature of industries in the region is important reason for pollution in the district. The district comprises of major industries in sectors such as mining, power, steel, cement, etc. which generally causes pollution. The air and water are severely polluted in the region. This will impact the industrial growth in the district. Corrective measures need to be taken to control the pollution in the region.
- **Less attractive industrial policies:** The industry players in the district observe that the industrial policy of the state is becoming less attractive. The industries need to face a prolonged procedure for building new units or for any expansion plans. Also, the taxes imposed on industries in the state are higher than some of the neighbouring states. For example: In neighbouring states, the rice milling industry enjoys benefits such as tax-exemption (VAT) on rice bran, subsidy on agro based products and lower electricity rate. The policies in the State are becoming less attractive for the industries to operate or expand their operation.

SWOT analysis

Based on the diagnostics of the Chandrapur district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 85: SWOT Analysis of Chandrapur district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 1.74 lakh persons between 2012 and 2022. Sectors which will drive demand are expected to be agriculture and allied, 'tourism, travel, hospitality & trade' and building, construction and real estate. There will also be incremental demand for other sectors such as banking and financial services, education and skill development and healthcare services which aid the district's growth.

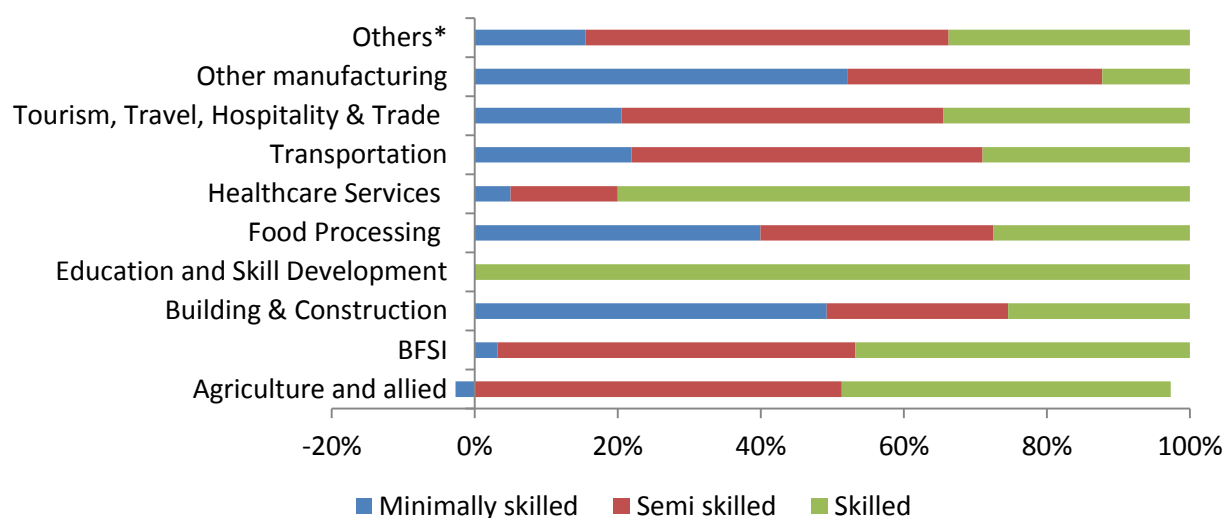
Table 72: Incremental demand of human resources in Chandrapur – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	15,299	7,796	23,095
BFSI	12,170	19,562	31,732
Building, Construction industry and Real Estate	26,576	36,883	63,460
Education and Skill Development	10,164	4,667	14,832
Food Processing	1,177	1,519	2,696
Healthcare Services	1,808	2,474	4,281
Transportation, Logistics, Warehousing and Packaging	4,717	5,347	10,065
Tourism, Travel, Hospitality & Trade	5,606	8,163	13,769
Other manufacturing	3,270	5,384	8,654
Others*	817	1,237	2,054
Total	81,605	93,033	174,637

Source: IMAcS Analysis

*Others include Auto and Auto component, chemicals and pharmaceuticals, Furniture and Furnishings and Textile and Clothing

Figure 86: Incremental demand of human resources in Chandrapur – by skill level

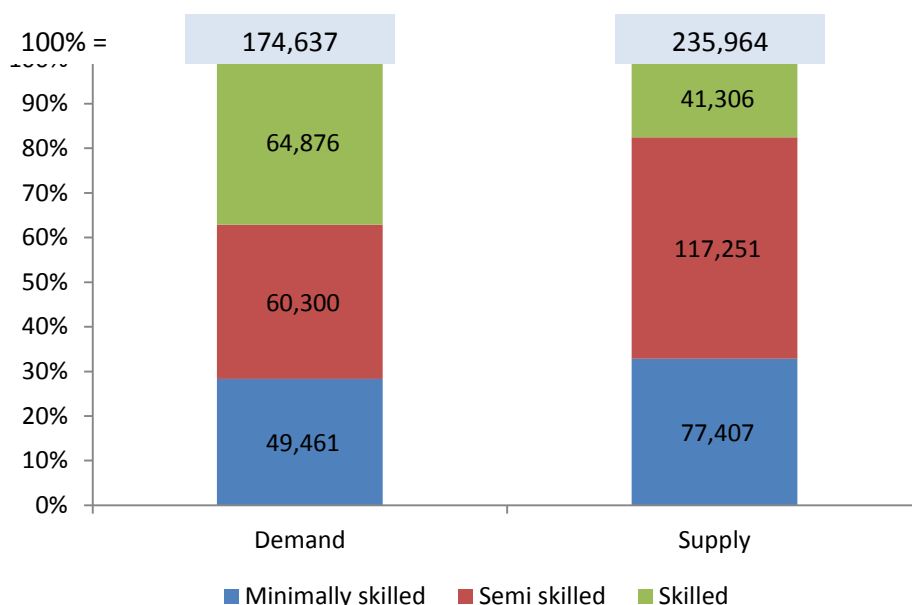


Source: IMAcS Analysis

*Others include Auto and Auto component, chemicals and pharmaceuticals, Furniture and Furnishings and Textile and Clothing

We have estimated incremental supply of human resources in the district at 2.35 lakh for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be sufficient to meet the incremental demand in the district. The excess of human resources is likely to migrate to other districts where there are adequate job opportunities. However, the incremental supply is leaning more towards minimally skilled workers, as against skilled workers. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward.

Figure 87: Demand supply gap of human resources in Chandrapur – by skill level



Source: IMaCS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile

5. Skill mapping

As discussed in the section above, while employment will be generated across many sectors, in this section, we have identified especially those sectors which require skilling interventions in the district – food processing (rice milling cluster) industry, tourism, construction material and building hardware, power (energy), mining and fly ash cluster. These sectors require skilled human resources and skilling intervention.

Table 73: Sectors where interventions are required in Chandrapur district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Chandrapur	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		

High Growth Sectors identified by NSDC	Chandrapur	Maharashtra
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		
Additional sectors	Chandrapur	Maharashtra
Energy (Power)		
Fly ash Cluster		
Mining		

Source: IMaCS Analysis

5.1. Construction Materials and Building Hardware – Cement Industry

Chandrapur district is well known for its mineral wealth. The district has abundance resource of lime stone, which is the key raw material for producing cement. There are approximately 1,026 million tons of limestone deposits found in the district. This has led to setting up of many cement factories in the district. The district houses the largest number of cement factories in the State. There are some big cement companies present in the district such as Ultratech cements, ACC Limited, Ambuja cements, Murli industries, etc.

Based on our discussion with the key industry players in the district, the skill gaps observed the employees and workers in the cement industry are mentioned below:

- Inadequate ability to keep track of international trends in the cement industry
- Inadequate ability to coordinate between departments / functions among supervisors
- Inability to manage workmen and maintain discipline among supervisors
- Inadequate technical knowledge, such as knowledge of kiln operations
- Inability in working with new technologies
- Inadequate knowledge of quality tools / latest manufacturing techniques
- Inability to follow safety procedures among workers
- Inability to understand the supervisor's instruction and do at first instance among workers

5.2. Food processing – Rice milling

Rice is the primary crop in the district. Chandrapur ranks fourth in rice production within the state. Paddy accounts for about 70 per cent of the total crop produced in the district. This abundance rice production has resulted in setting up of numerous rice mills in the region. According to discussions with the industry players in the district, there are more than 300 rice mills in Chandrapur district. Rice mill cluster is proposed at Mul and is at the consideration stage. Based on the conversation with the stake holders, the cluster is likely to be developed in near future. The existing rice mills fall under the Micro, Small and Medium Enterprises (MSME) category.

Rice milling plant



Modern Rice milling Equipment



Imported Sortex Machine

Rice milling is one of the major industry in the district traditionally. On an average, a mill has around ten to twelve labours and the nature of the work requires unskilled and semi-skilled labours. The work is not technical and there is no skill issues observed in the industry. However, due to advancement in technology and machineries in the rice milling industry, skilled operators are required to operate the machines. They are used in the following:

- Boiler operation – Modern electronic boilers are now used for heating the paddy
- Sortex Machine operation – Sortex machine are used to automatically separate the black/broken rice in a specified rate to bring the desired quality of output

Based on our discussions with the stakeholders of the industry, the skill gaps observed are as follows:

- Inadequate managerial capabilities and knowledge about new machineries used among supervisors
- Lack of knowledge about modern machineries (imported machines used in milling)
- Inadequate planning of work schedules by supervisors
- Operators in the mill lack in depth knowledge of the machine they are operating
- Issues like absenteeism and casualness in work is observed at worker level

5.3. Tourism, Travel, Hospitality and Trade

One of the popular tourist attractions in the district is the Tadoba – Andhari Tiger Reserve (TATR).

Tadoba – Andhari Tiger Reserves: This is the largest national park in Maharashtra. The total area of the reserve is around 625 square kilometres comprising of Tadoba National park (116 sq kms) and Andhari wildlife sanctuary (509 sq kms). This is one of India’s 41 “Project Tiger⁹” – Tiger reserves. The place is highly popular among wildlife enthusiasts as it assures tiger sighting.

The major attraction in the place is the presence of tigers. Other wildlife present in the reserves include leopards, sloth bears, gaur, nilgai, striped hyena, small Indian civet, Jungle cat, spotted deer, barking deer, chital and chausingha. Indian Python and March Crocodile are also found inside the reserve. Apart from these, 195 different species of birds are also found inside the sanctuary.



Tigers in the reserve

The number of tourist visiting the wildlife sanctuary in the recent years is shown below.

Year	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Till August 2012
No of Tourists	35,640	43,345	61,790	68,183	103,696	78,881	47,635	23,258
No of Vehicles	5,531	6,548	9,306	10,489	15,593	10,983	7,177	5,793

Source: Tadoba-Andhari Tiger reserve project, Field Office, Chandrapur

There is a dip in the last two years (2010 to 2012) due to strict implementation of norms to protect wildlife from poaching. However, the public is showing rising interest in visiting this tiger reserve and is expected to increase in the coming years.

Trained guides are available to assist the tourists visiting the tiger reserve. Also, it is mandatory for the tourists to be accompanied by the local tourist guide. The guides are trained by the conservator of forest

⁹ Project Tiger aims at ensuring a viable population of Bengal tiger in their natural habitats and preserving areas of biological importance as a natural heritage for the people.

and field director office. The expected skill sets for these guides are mentioned in the table in annexures.

Based on our discussion with the stakeholders, the tourist guides lack skills such as inability to speak English fluently and lack of adequate knowledge about various species of wildlife in the region.

5.4. Energy Sector (Thermal Power)

Chandrapur district is known for the thermal power stations present in the region. Chandrapur Super Thermal Power Station (CSTPS) is one of the largest power stations in the country, with the capacity to produce 2,340 MW. This accounts for about 25 per cent of the state's total power generation capacity. This is one of the biggest thermal power stations in Asia and first power station in the country to receive the Greentech Award. Large amount of coal availability has promoted thermal power stations in the district. Apart from CSTPS, there are also other power generation units present in the district such as Shardaambika Power Pvt Ltd, Yash Agro Energy Ltd, etc.

There are few other companies setting power plants in the district and there is a potential for employment generation in the sector for the district. The employment for the Government controlled power units are recruited at a central level. However, for the semi-skilled and labour category of workforce, the industries are recruiting people locally.

Employees in the power plant are trained well by the units. Job-specific training is provided to them considering their area of operation, process, machine operation, etc. Most of the trained are internally deployed and on need basis external training is also provided. Some of the training topics for the thermal power employees include energy management system, boiler construction, electrical-transformers, cold/hot rolling, switch gear maintenance, etc. The training is a continuous process to assure quality and standard. Safety related training is provided to employees at all level to overcome accidents, damages, etc.

Based on our discussions with the stakeholders, the skill gaps observed in the sector are as follows:

- Inability to manage the local people who are sub-ordinates among supervisors
- Lack of cross discipline knowledge among supervisors
- Lack multi-disciplined skills such as welding, fitting among operators
- Lack exposure to basic equipment / machines and their usage among fresh trainees
- Lack of adequate discipline at workplace and non-serious about job among workers

5.5. Fly Ash Cluster

Fly Ash refers to ash produced during combustion of coal. This fly ash is available in abundance in Chandrapur district because of the presence of Chandrapur Super Thermal Power Station (CSTPS). The coal based thermal power station emits around 18,000 Metric Tonne of fly ash per day. This fly ash is dumped after the power generation and creates air pollution. So, proper utilisation of this fly ash is required. Most of the fly ash is currently consumed by the cement industries in the region as it can be used as an ingredient in manufacturing of cement. Also, the fly ash is also taken by the local brick

manufacturers to produce fly ash bricks. However, there is still significant amount of fly ash is left in the district.

There are measures taken to utilise this fly ash and one such measure is the creation of “High Fly ash cluster” in the district. The Fly Ash based product manufacturers from Chandrapur has now form a Special Purpose Vehicle (SPV) company named as High Fly Ash Cluster (P) Ltd. for development of Common Facility Center (CFC) for development of Environment friendly Fly Ash Cluster under “The Micro & Small Enterprises Cluster Development Programme” (MSECDP).

There are currently around 40 to 45 units (fly ash bricks) in the district. They are making only bricks from fly ash currently. The cluster development board hopes that many new industry players will start to join the cluster program once the common facility centre is fully operational and see the benefit out of it. The proposed cluster and common facility centre plans to produce various types of products from fly ash such as Ready mix Fly Ash Concrete, Wall panels, Flooring tiles, Corrugated Sheet, Doors and Window Panels, Cement pipes, Flux-bonded ceramics, etc.

Products made out of Fly ash



Hume Pipes



Fly Ash Bricks

This will be a modern, innovative and first of its kind of cluster for fly ash products. The cluster plans to have a dedicated skill training centre for training people on fly ash products. Key areas of training would on the following:

- Machine Operation
- Moulding Material
- Mixing

Training is essential because currently there is no scientific method of manufacturing products out of fly ash is taking place (Please refer the annexures for general manufacturing process of fly ash bricks). Based on our discussion with the industry players, few of the skill gaps in the existing fly ash brick units are as follows:

- Fly ash is not classified according to grades
- No segregation process is followed and no quality maintained
- From Loading to Unloading, no scientific method of handling is followed which leads to health issues such as cancer, asthma, etc (due to constant inhaling of fly ash)

5.6. Mining

Chandrapur district has been endowed with various valuable minerals. The important minerals found in the district are Coal, Limestone, Iron ore, Lатарite and Dolomite. The mineral wealth is spread across most of the taluks in the district. The production data of mineral for the district is given below:

Table 74: Availability of minerals in Chandrapur district, as of 2010-11

S.No	Name of Mineral	Production in Lac Tonnes (2010-11)
1	Coal	18,803,787
2	Iron ore	34,627
3	Limestone	9,130,318
4	Dolomite	4,372
5	Quartz	34
6	Florite	284,280
7	Shale	1,337,654
8	Sand (stowing)	2,521,580
9	Lатарite	49,250

Source: Dept of Geology and Mines, Nagpur

From the above table, it is evident that the district is rich in mineral wealth. This abundance availability of minerals in the regions has led to setting up of many mining companies in the district. There are proper mining companies and captive mining companies (who take out minerals for their industrial consumption). Some of the prominent mining companies in the district include Western Coalfields limited, Sunflag Iron and Steel co.ltd, Ultratech cement, Gujrath Ambuja Cement Co ltd, etc.

Based on our discussion with mining industry players in the district, there are broadly two types of mining activity are performed viz. open cast mining and closed cast (underground) mining. There are many people in the district employed in mining industries. Mostly 'on the job' training is provided to them. Through experience, they understand the skill requirement for the work and perform them accordingly. However, in recent days, prominent industries are conducting training programs for the new employees without prior work experience in mining. Theoretical training on mining and then 'on the job' training is provided.

Assessment and feedback is provided before workers indulge in the work. For illiterates who will be working in the mining area, training is provided through visual medium (video clips) to make them

understand concepts. Safety in the workplace is one important course of the training. The industry players are not observing any skill gaps as the employees are vastly experienced and also continuous 'on the job' training provided if they find any gaps.

6. Recommendations

Recommendations for Chandrapur district focuses on the sectors of food processing – rice milling, tourism, cement, mining, power and fly ash sectors. Some of these sectors will have recommendations for the private sector which will directly translate to skills being developed and the others will need Government intervention to facilitate improvements

While the detailed recommendations follow, summary is given in the table below.

Table 75: Key recommendations for chandrapur – summary

Sector	For private training providers	For Government players	For Industry	For NSDC
Construction material and building hardware (cement industry)	<ul style="list-style-type: none"> ▪ Provide specialised training in cement industry 	<ul style="list-style-type: none"> ▪ Improve existing facilities in government ITI and Polytechnics ▪ Increase practical exposure and include industry participation 	<ul style="list-style-type: none"> ▪ Tie up with quality training providers ▪ Provide necessary infrastructure and other aid for effective training 	<ul style="list-style-type: none"> ▪ Interventions required through funding private training as well as through SSC
Food Processing – Rice milling	---	<ul style="list-style-type: none"> ▪ Government ITIs can provide to the local industries according to requirement 	<ul style="list-style-type: none"> ▪ Provide training in the common facility training centre ▪ Provide physical infrastructure support for training 	<ul style="list-style-type: none"> ▪ Interventions required through funding private training as well as through SSC
Travel, Tourism, Hospitality and Trade	---	<ul style="list-style-type: none"> ▪ Department of tourism to provide training along with forestry department ▪ Provide registered certificates 	<ul style="list-style-type: none"> ▪ Tour operators to provide training and enhance visitor's experience during the tour 	<ul style="list-style-type: none"> ▪ Interventions required through funding private training as well as through SSC
Energy Sector (Power)	<ul style="list-style-type: none"> ▪ Private ITCs need to provide adequate practical exposure 	<ul style="list-style-type: none"> ▪ Improve existing facilities in government ITIs 	<ul style="list-style-type: none"> ▪ Provide adequate training for employees on process and industrial safety 	<ul style="list-style-type: none"> ▪ Interventions required through funding private training as well as through SSC
Fly ash culture	--	<ul style="list-style-type: none"> ▪ Provide subsidies to new units ▪ Encourage new entrepreneurs 	<ul style="list-style-type: none"> ▪ Provide training in the common facility centre ▪ Provide technical and soft skill training ▪ Provide Entrepreneurship development training 	<ul style="list-style-type: none"> ▪ Interventions required through funding private training as well as through SSC
Mining	<ul style="list-style-type: none"> • Provide training in collaboration with the industry 	<ul style="list-style-type: none"> ▪ Conduct vocational courses relating to mining such as crane and heavy earth 	<ul style="list-style-type: none"> ▪ Provide adequate training for employees on process and industrial safety 	<ul style="list-style-type: none"> ▪ Interventions required through funding private training as well as

Sector	For private training providers	For Government players	For Industry	For NSDC
		moving machine operation	<ul style="list-style-type: none"> ▪ Tie up with quality training providers to provide training 	through SSC

6.1. Government players

- ❖ **Construction material and Building hardware (Cement Industry):** The skilling intervention from the Government in this sector may be minimal as the training requirement is more industry and function specific in nature. However, these industries are one of the major employment providers for trainees from Industrial Training Institutes (ITIs) and Polytechnics. Based on the discussion with local industry players, Government may take measures to improve the quality of the institutes (in terms of infrastructure and practical exposure) to match the industry requirement.

- ❖ **Food Processing – Rice Milling:** Government can facilitate the training for mill operations. The Government technical institutions (example: Government ITI) can provide on milling operation on requirement basis. The institution can tie up with the local industries and offer the courses according to their requirement and provide training accordingly. Infrastructure (for practical training) can also be leveraged from the industries.

- ❖ **Travel, Tourism, Hospitality and Trade (Tourism segment):** Government departments (department of tourism, forest department) need to play a crucial role in implementation of the training program for the wildlife park guides. The training course should include areas such as:
 - Knowledge about wildlife vegetation in the reserve park (especially on tigers in the park) and ability to locate them. (This is important because the tadoba andhari national park assures tiger sighting for visitors)
 - Knowledge about various species (fauna and flora) in the park and their significance
 - Locations and routes inside the park
 - First aid and emergency related training
 - Knowledge on preservation of forests
 - Communication training (languages, etiquettes, behaviour, etc.)

The training can be provided by associating with recognised institute such as Indian Institute of Forest Management which provides courses such as wildlife guard training program. The guides should be recognised through registered certificates after successful completion of training. The government should also ensure that only registered and certified guides will be allowed to operate in the reserve park.

- ❖ **Energy Sector (Power):** The skilling intervention from the Government in this sector may be minimal as the training requirement is more industry and function specific in nature. However, these industries are one of the major employment providers for students from Industrial

Training Institutes (ITIs) in various trades. Based on the discussion with local industry players, Government may take measures to improve the quality of the institutes (in terms of practical and industrial exposure) to match the industry requirement.

- ❖ **Fly Ash cluster:** The industry is still in nascent stage and there are not many players. The cluster project is implemented and common facility centre is about to start its operation. The Government should provide adequate subsidies and encourage local entrepreneurs to start fly ash related units in the cluster. The industry uses fly ash as its primary raw material, which otherwise left alone results in creating dust and pollution. Therefore, it is essential to promote this type of industries which involves in recycling of materials and reduces pollution.
- ❖ **Mining:** Government may provide vocational training courses for mining industry requirement through institutes such as Industrial Training Institutes (ITIs). Some of the courses / trades which can be offered are heavy earth moving equipment operator, crane operator, electrician, etc. Department of mines and geology which acts as the regulator for the sector, can ensure whether the employees are aware of the safety procedures and safety regulations are followed in the industry.

6.2. Private training providers

- ❖ **Construction material and Building hardware (Cement Industry):** Training requirement for cement industries would be process and function specific. Therefore, training providers should involve industries as a part of training. The industry also requires upskilling and supervisory training for existing employees and training can be provided in relevant topics. Some of the specialised training topics for cement industry that can be offered are as follows:
 - Cement manufacturing for process engineers
 - Kiln process
 - Mill grinding
 - Logistics management in cement industry
 - Supervisory skills training (for supervisors)These are function/process specific training and to be provided in tie up with the industries on need basis.
- ❖ **Energy Sector (Power):** Training requirement for Power sector (Thermal energy) would be process and function specific. It would be highly unaffordable for a private training provider to provide training exclusively for power sector as the equipment required for training are very expensive and the infrastructure expense is also high. However, the power industry recruits tradesmen from private Industrial Training Centres (ITCs) in trades such as welder, instrumentation mechanic, fitter, electrician, etc. Based on the discussions with industrial players, the ITCs need to provide more practical sessions and industry exposure to fit in the job role.

- ❖ **Mining:** Training needs to be provided in collaboration with the industry on their mines itself. Thus, the training providers can bring in their expertise, while industry can provide the required infrastructure.

6.3. Industry

- ❖ **Construction material and Building hardware (Cement Industry):** Industry needs to play a crucial role in this sector. They need to have a tie up with quality training provider for skilling existing human resource in the industry. They need to participate in designing the course and curriculum for training along with training providers. They need to provide support to training providers such as:

- Infrastructure facilities (for practical training)
- Assisting in field visits
- Support of faculties (through guest lecture – expert from the industry)

Also, prominent industries have a formal internal training program periodically to improve and update them with latest trends in the industry. These programs can be scaled and also can be shared on a common platform.

- ❖ **Food Processing – Rice Milling:** The industries should play a crucial role in aiding the training for the sector in the district. Common facility centre for rice milling is proposed and is more likely come in few months. The common facility centre (CFC) needs to be utilised for training and efficient production.

A rice mill generally requires semi- skilled and unskilled nature of human resource, however due to advancement of technology and modern milling equipment, skilled personnel are required in specialised areas. The training areas that can be provided for the skilled workmen are as follows:

- Boiler attendant course – (Boilers are used in mills for heating the paddy) The course should cover milling process, machine operation and machine maintenance
- Sortex machine operator – Machine operation and maintenance (Sortex machine is used to sort the rice to different grades)
- Milling machine operator
- Quality control

Training on the above mentioned courses / areas can be provided in the common facility centre. Since industries are part of the common facility, the infrastructure (modern machines, etc) can be leveraged from them for enhanced practical and industrial exposure during training period.

Also, entrepreneurial development training can be given in this facility centre for the local industry players. These training could help the industry players to understand about best industrial practices, better production process, latest changes/trends in the industry, product diversification / new product production (rice bran oil, fodder, etc). The common facility centre

can associate with Maharashtra Centre for Entrepreneurship Development (MCED) for providing the mentioned entrepreneurship development courses. Rice mill association in the district can overlook and implement the training as per the local industry requirement.

- ❖ **Travel, Tourism, Hospitality and Trade (Tourism segment):** The industry can aid the sector by enabling facilities to the touring visitors. Adequately trained guides (registered and certified by the department of tourism, forest department) can be appointed and provide necessary facilities for tourist requirement. Tourists will be expecting a good experience over in terms of lodging facilities, food, tour guides, drivers, etc. and it should be fulfilled to build a brand name and success as a commercial venture. Employing trained candidates will ensure professionalism in the work and make the visitors satisfied. 'On the job' and continuous training may be provided by the tour operators in the mentioned areas.

- ❖ **Energy Sector (Power):** Industry needs to play a crucial role in this sector. Usually, power sector is dominated by large private / public sector player and they have an exclusive training department to cater the need of the unit. Training is provided to employees of different cadres in the organisation. Some of the training areas they provide are as follows:
 - Energy management systems
 - Turbovisory parameters
 - Boiler construction (know-how of the process)
 - Energy conservation and energy audit
 - Cold / Hot rolling
 - Maintenance of boilers
 - Industrial safety (standards such as OHSAS)

These are only some of the indicative topics of training and not exhaustive. They provide various training periodically and on need basis. Supervisors and executives are also sent for prominent institutions such as National Power Training Institute (NPTI) for skill up gradation. The industry needs to ensure that the employees are adequately trained to handle the machine operation, aware of safety procedures, following safety norms, etc. Industry can also tie up with the ITIs and ITCs in providing assistance in field visits, curriculum development, etc.

- ❖ **Fly Ash cluster:** The cluster project has been initiated and common facility is about to start its operation. This is a unique type of cluster wherein the common facility centre is set up upfront and fly ash product manufacturing units are yet to open. The idea is to open the centre, show progress by limited industries present in the region, and many entrepreneurs would be starting to setting up a unit. Since common facility centre has many facilities, setting up of a unit is not very capital intensive and many centres will set up units in near future.

Common facility centre needs to provide training in various aspects and needs to have a training department for the same. Technical training on product and process need to be provided. Also, Entrepreneurial Development Program (EDP) needs to be provided to the prospective

entrepreneurs in the region. This can be done by having a tie up with Maharashtra Centre for Entrepreneurship Development (MCED). Other training such as marketing the product, quality aspects, etc also needs to be provided.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Construction material and Building hardware (Cement Industry)
- ❖ Food processing – rice mills
- ❖ Travel, Tourism, Hospitality and Trade (Tourism segment)
- ❖ Energy Sector (Power)
- ❖ Mining – mainly limestone
- ❖ Fly ash

2.9. DHULE

1. Introduction

Dhule district was formed from the Dharwad district of Karnataka in 1997. Dhule lies in the Khandesh region, which forms the northwest corner of Deccan Plateau. It is bound by Nandurbar district on the north-west, by state of Madhya Pradesh in the northeast, by Jalgaon district on the east, by Nashik district on the south and by the State of Gujarat in the southwest. Dhule is about 322 kilometres from Mumbai by road and about 366 kilometres by rail. Dhule (town) is the administrative and political headquarters of the district.

Dhule district has a total land area of 8,063 square kilometres (sq. km.). It is sub-divided into four sub-districts (talukas) –Dhule, Shirpur, Sindkheda and Sakri; and has about 678 villages. Majority of the population at 72 per cent lives in rural areas. Agriculture is the main occupation, employing 70 per cent of the labour force (as of Census 2001). The remaining is in household industry (three per cent) and other workers¹⁰ at 37 per cent.

Agriculture is the main occupation in the district. Most parts of the district are not under irrigation and thus cultivation heavily depends on regular monsoon or rain water. Apart from wheat, bajra, jowar, the most favoured commercial crop is cotton.

Table 76: Comparison of Dhule district with Maharashtra – key indicators

Indicator	Year	Dhule	Maharashtra
Area, in sq.km.	2001	8,063	307,713
Percentage share in State geographical area, %	2001	2.6%	100%
No. of sub-districts	2001	4	353
No. of inhabited villages	2001	678	41,095
No. of households	2001	324,557	19,576,736
Forest area as a % of total geographical area	2001	28.5%	

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

¹⁰ Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers, are 'Other Workers'.

2.1. Demography

As per Census 2011, Dhule district has a population of 20.49 lakh persons – 1.8 per cent of the State population. While 72 per cent of the population in the district is in working-age group (15 to 59 years), about 56 per cent is actually working i.e. work participation rate.

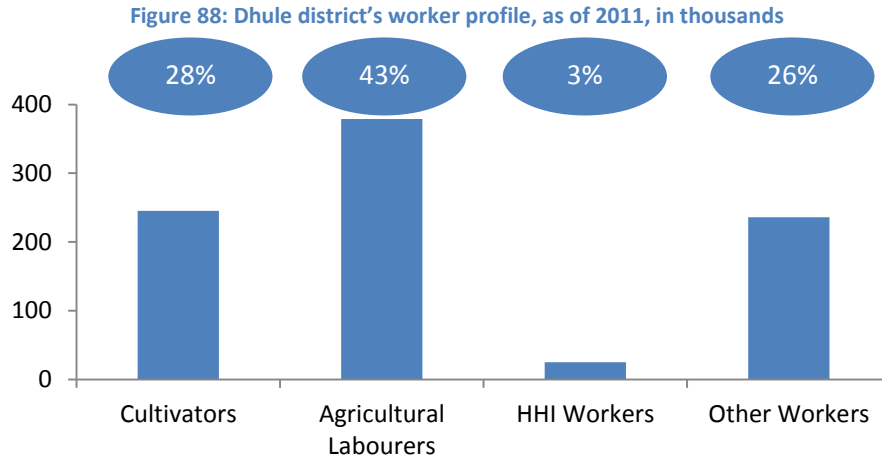
The district's literacy rate is 74.61 per cent, which is lower than the State average of 82.91 per cent, and equivalent to the All-India average of 74 per cent. If things are looked out at gender wise, male and female literacy were 82.59 and 66.21 respectively, with the male literacy being higher than the female literacy.

Table 77: Key demographic indicators

Indicator	Year	Dhule	Maharashtra
Population, No.	2011	2,048,781	112,372,972
Decadal growth rate of population, %	2001-11	19.96%	15.99%
District's share in State's population, %	2011	1.82%	100%
Urban population as a percentage of total population, %	2001	28%	45%
SC population, %	2001	6%	8.79%
ST population, %	2001	26%	15%
Sex ratio, No. of females per 1000 males	2011	941	925
Population density, per sq. km.	2011	285	365
Literacy rate, %	2011	74.61%	82.91%
Main workers, No.	2001	573,496	34,748,053
Marginal workers, No.	2001	164,445	6,425,298
Working age population* as a percentage of total population, %	2001	72%	59%
Work participation rate^, %	2001	56%	42.50%
HDI	2000	0.36	0.58

**Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011, Maharashtra Human Development Report 2005*

The district has a total workforce of about 8.9 lakh persons. Of this, 28 per cent are cultivators, 43 per cent are agricultural labourers, three per cent are workers in household industry and 26 per cent are other workers.



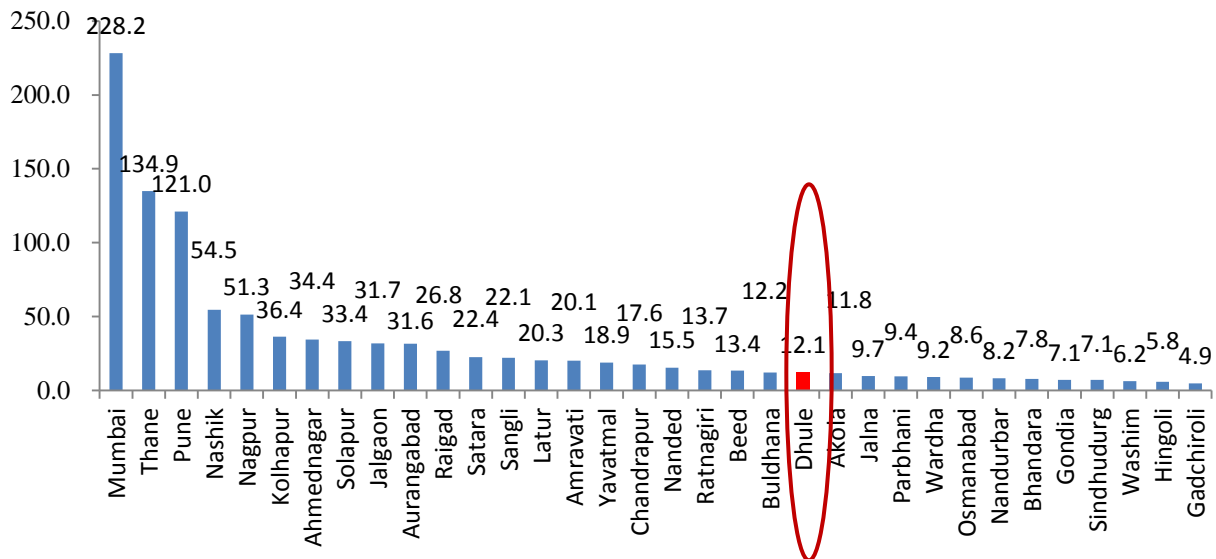
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2 Economy

As of 2010-11, Dhule district stood 22nd in terms of Gross District Domestic Product (GDDP) in Maharashtra at Rs 12,077 crore (1.13 per cent of the Gross State Domestic Product). In terms of per capita GDDP, it was again 22nd amongst all the districts of Maharashtra at Rs. 58,575. This was lower than the State average of Rs 87,686.

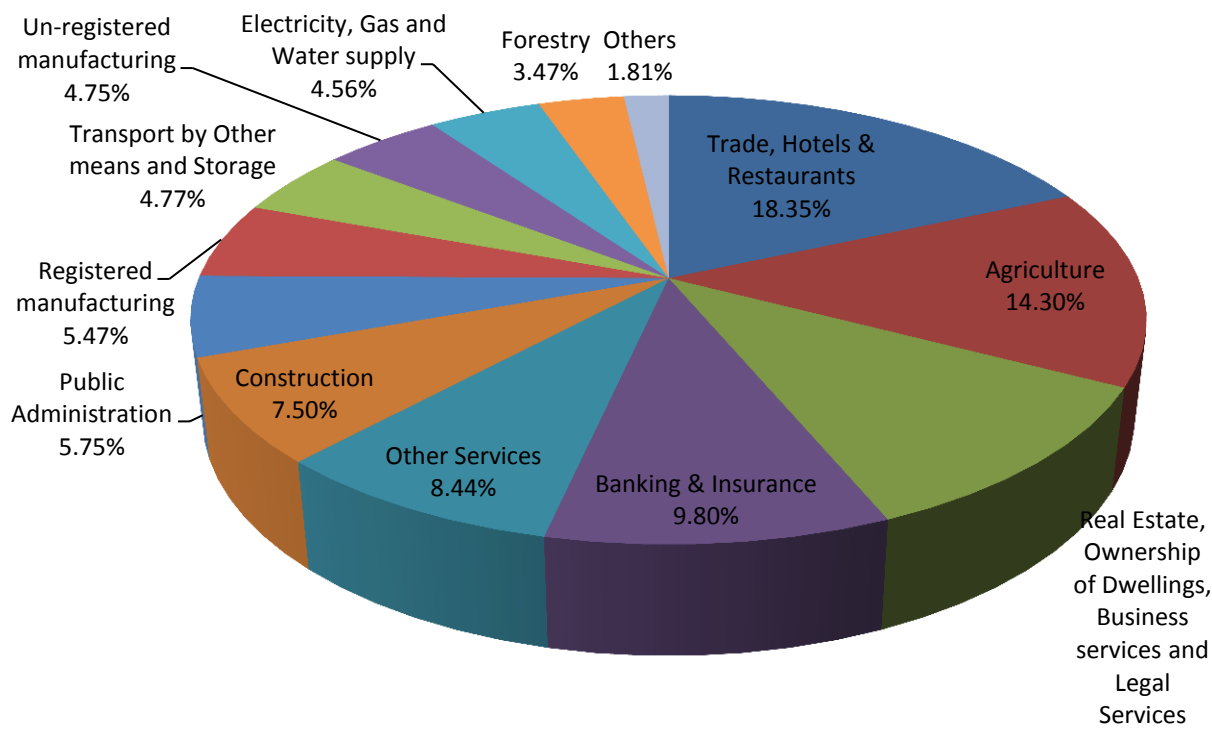
Figure 89: Gross District Domestic Product, In Rs thousand crore, as of 2010-11



Source: Maharashtra Directorate of Economic and Statistics

The district economy is pre-dominantly service based, with service sector's share in GDDP at 60 per cent in 2009-10. This is followed by secondary sector at 22 per cent and primary sector at 18 per cent.

Figure 90: Sector wise distribution of Dhule's GDDP, as of 2009-10, 100% = Rs10,343 crore



Source: District Socio-Economic Review

Agriculture: Of the total area of 8,063 sq. km. in the district, over 48.87 per cent is the net sown area (cultivated land). Agriculture is mainly dominated by cultivation of bajra and jowar under food crops and cotton and sugarcane under commercial crops.

Industry: As of September 2012, Dhule district had three large scale industrial units, employing 4,961 persons - The Kisan Sahakari Starch Manufacturing Society Ltd, Jawahar Shetkari Sahakari Soot Girani Ltd and Priyadarshani Sahakari Soot Girni Ltd. End products manufactured included Cotton Yarn, Oil extraction etc. The district has four industrial areas, totalling 1,523 acres of land most of which is still awaiting allotment.

Services: As mentioned above, services account for 60 per cent of GDDP in Dhule district. Of all the services, the key services in the district are of 'trade, hotels and restaurants' at 18 per cent of GDDP, followed by 'real estate, ownership of dwellings, business and legal services' at 11 per cent, 'Banking and Insurance' at 10 per cent, other services at eight per cent and 'Public Administration' at six per cent.

2.3 State of education

As of March 2010, Dhule district had 1,856 schools, with 325,087 students enrolled. The student – teacher ratio was at 32 students per teacher. The students –teacher ratio was higher than the average ratio for the state at 30 students per teacher.

Table 78: School and higher education infrastructure in Dhule district, as of March 2011

Particulars	No. of institutes	No. of students
Schools	1,856	325,087
General colleges	43	32,894
Technical education*	24	4116

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

For general higher education, the district has 43 general colleges and 24 technical education institutes. For vocational training, Dhule district had a total of 14 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, two were Government ITIs, six were private aided ITIs and six were private unaided ITIs. All the 14 ITIs together have about 6605 students studying.

Table 79: Key ITI indicators in Dhule district, as of March 2012

Indicator	Value
Total Number of ITI	14
Number of Government ITI	2
Number of Private aided ITI	6
Number of Private unaided ITI	6
Total Seating capacity	6,605

Source: IMAcS Primary Survey

Based on our discussions with the key stakeholders in Dhule district, we have found that on an average, of all the students that pass out from an ITI in each year, almost 80 to 85 per cent find jobs in the market.

In addition to the above, the district has training infrastructure for different trades set up by both Government and private Institutions. The Government Departments offer courses in trades such as animal husbandry, hand-in-hand microfinance, teacher education and evaluation, policy planning, personality development etc. District Industries Centre (DIC) provides training relating to industries and service sector through MCED (Maharashtra Centre for Entrepreneurship Development) and MITCON Consultancy and Engineering Services Ltd. Self-employment promoting training programs such as mobile repairing, electrician, tailoring, beautician etc. are also conducted through this scheme. The private training institutes are offering courses in teacher's training, tailoring, computer training and nursing.

2.4 Youth aspirations

In the process of identifying the growth engines for the Dhule district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Entrepreneurial zeal:** The students are not interested in starting their own businesses. Their preference lies within getting into a Government job which is very stable.

- **Migration trends:** The preference amongst students both from colleges as well as other technical training institutes like ITIs is to migrate to bigger cities like Nashik, Pune, Mumbai etc. for better pay and the attraction of living in a big city.
- **Job preference:** Amongst category of jobs, the ITI students prefer to join Government departments and Government companies over any private sector companies. The preference amongst all students is for white collar jobs as against manual labour or jobs which require large amount of physical effort.

3. Developmental concerns

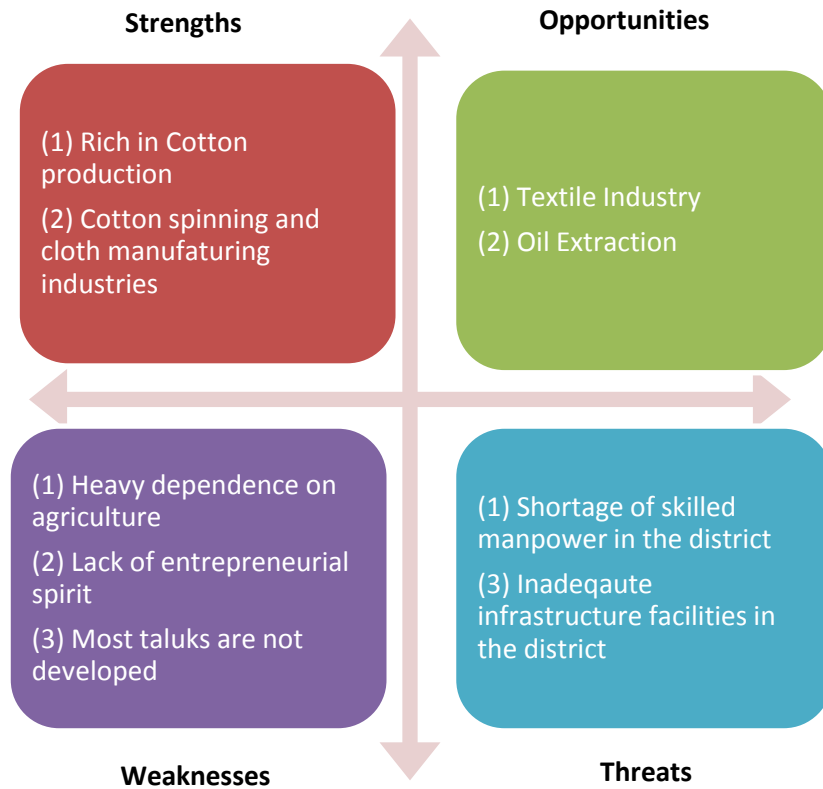
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Lack of Industrialisation:** Dhule is in many ways an agrarian / rural district. More than 71 per cent of the population is dependent on agriculture for a livelihood. Also, since the economy is totally depended on agriculture, most workers belong to the unskilled labourers category, involved in farming and other allied activities. Lack of industrialisation leads to limited further potential for employment growth within the district.
- **Migration of Workers:** This is also as a result of lack of industrialisation within the district. The local population has a tendency to migrate to adjoining districts such as Nashik and Pune as well as to the neighbouring state of Gujarat (Surat region) for better jobs within the automotive, textile and diamond cutting industries. Constant migration of skilled workers to other districts / states leads to a shortage of manpower as against what is the current need of the employers in the district.

SWOT analysis

Based on the diagnostics of the Dhule district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 91: SWOT Analysis of Dhule district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 1.21 lakh persons between 2012 and 2022. Sectors which will drive demand are expected to be building, construction and real estate, agriculture and allied activities, banking, financial services and insurance.

However, sectors which are unique to Dhule are ‘food processing’ and ‘textiles and clothing’. The forecasts for these sectors are relatively low, as current and past trends have been used for forecasting. However, these two sectors have immense potential due to availability of raw materials. If adequate

investments materialise in these sectors (both from Government and private), then these sectors will generate employment much more than what has been forecasted as of now.

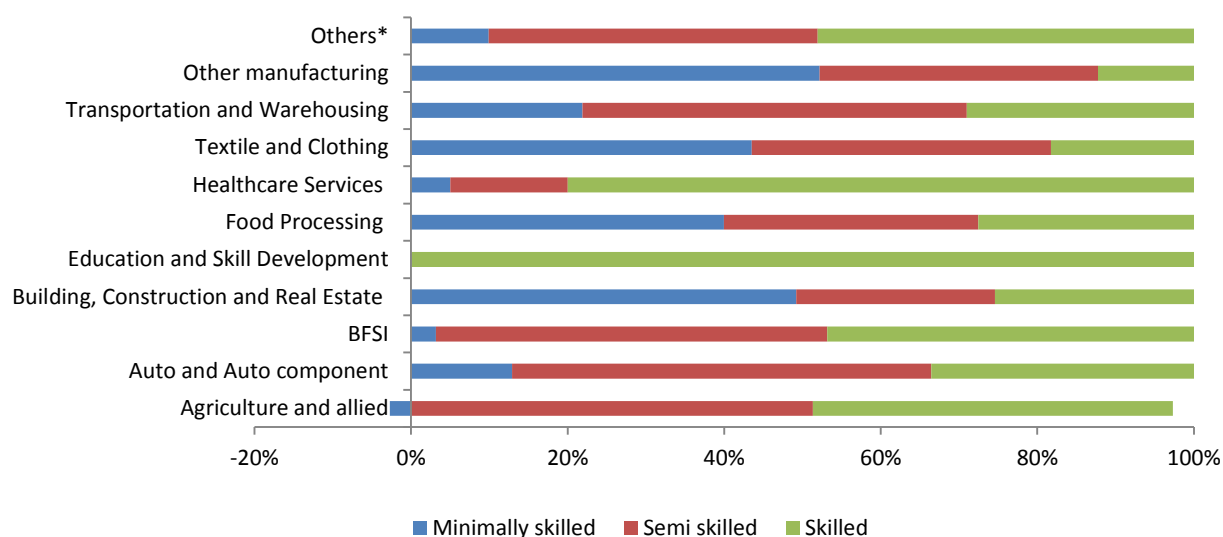
Table 80: Incremental demand of human resources in Dhule – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	13,159	6,706	19,865
Auto and Auto component	1,028	1,617	2,645
Banking, Financial Services and Insurance [^]	6,125	9,845	15,970
Building, Construction industry and Real Estate	13,576	18,841	32,417
Education and Skill Development [^]	7,387	3,956	11,343
Food Processing	1,046	1,350	2,396
Healthcare Services [^]	6,158	8,427	14,585
Textile and Clothing	3,915	4,962	8,877
Transportation, Logistics, Warehousing and Packaging	3,801	4,308	8,109
Other manufacturing	1,319	2,172	3,491
Others*	550	663	1,213
Total	58,063	62,847	120,910

Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, electronics, furniture and furnishings, Tourism, Travel, Hospitality and Trade
[^]For smaller districts such as Dhule as the district economy grows, sectors such as BFSI, Education and Healthcare will become the major employment generators incrementally.

Figure 92: Incremental demand of human resources in Dhule – by skill level



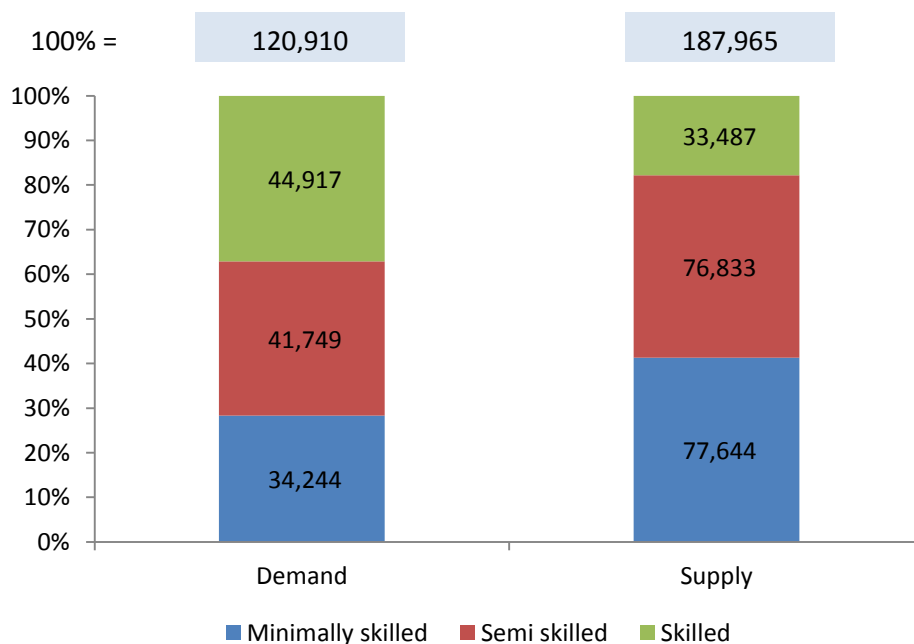
Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, electronics, furniture and furnishings and tourism, travel, hospitality and trade

We have estimated incremental supply of human resources in the district at 1.87 lakh for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply is higher

than the incremental demand in the district. This surplus of human resources is likely to be migrate to the adjoining districts of Nashik, Pune and Mumbai and also into the neighbouring state of Gujarat for jobs in textile and diamond cutting. However, the incremental supply is significantly low in the skilled categories vis a vis the incremental demand within the district for the said category. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward.

Figure 93: Demand supply gap of human resources in Dhule – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

As discussed in the section above, while employment will be generated across many sectors, in this section, we have identified especially those sectors which require skilling interventions in the district – mainly food processing and textiles & clothing. Identification of such sectors has been based on the diagnostics above, our observations during the primary survey and discussions with the key stakeholders in the district.

Table 81: Sectors present in Dhule district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Dhule	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing (Oil extraction / processing)		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMAcS Analysis.

For the sectors identified above, we have mapped the skill requirements and the gaps faced by the sector in the section below.

5.1. Textiles and clothing industry

Dhule has industrial units which focus on both the upward stream processes of creating cotton fibres / yarns out of cotton as well as in the field of garment manufacturing. The major companies in this segment are Priyadarshini Spinning mills, Dwetha Garments, Dissan Industries etc.

The skill gaps found in the Spinning process include:-

- Lack of availability of sufficient manpower.
- Electricians and Fitters (Maintenance operator) from ITIs have limited knowledge of maintenance of spinning machinery. The ITIs do not provide training specific to the textile machines which leads to the skill gap.
- Improper communication skills
- Major issues include non-skill related such as absenteeism, work – related behaviour, non-cooperation with supervisors, etc.
- Inadequate knowledge about the entire spinning process
- Knowledge/ Skill confined to single or few machines

- Lack of knowledge of compliance to quality
- Most of the managerial / supervisory staff are hired from bigger cities like Nashik, Pune etc. as people with such skills are not available within the district

The skill gaps found in the Garment manufacturing units include:-

- Inadequate understanding of buyer requirements which leads to number of iterations before the sample is accepted.
- Insufficient knowledge of latest fashion trends in the international markets – changes in design between ‘seasons’. It is required that the designer be able to forecast trends by being networked with foreign designers in major markets. The same is applicable to Indian markets as well.
- Inadequate knowledge of speciality fabrics
- On-the job training provided as such skills are lacking in persons trained at training institutes and usually come from experience only.
- Lack of knowledge of cause effect relationships for various defects.

5.2. Oil Extraction / Processing

The district is a leading groundnut producing area leading to the setting up of various medium to small sized oil mills. The bigger companies like Maharashtra Oil Extractions Pvt Ltd, Sanjay Soya etc. are in the business of soya and cotton seed oil extraction / processing. Most of the larger units are automated to a large extent.

The skill gaps found in this section includes:-

- Most of the managerial / supervisory staff is hired from Pune, Mumbai etc. as people with such skills are not available in Dhule district.
- Lacks people management skills
- Lacks quality control skills
- Even those who are trained before the job have to be re-trained, especially on running of machines, as the training institutes do not have good machine infrastructure.
- Lack of effective communication skills.
- Lack of knowledge of safety hazards.
- Very few people available who are food technologists.
- On-the job training provided as such skills are lacking in persons trained at training institutes.

6. Recommendations

Recommendations for Dhule district focus on the sectors of textile and oil processing industries. While the detailed recommendations follow, summary is given in the table below.

Table 82: Key recommendations for Dhule – summary

Sector	For Government	For private training providers	For Industry	For NSDC
Textile – Cotton Spinning	<ul style="list-style-type: none"> Increase the number of seats for turner, fitter and other ITI trades mentioned for private players 	<ul style="list-style-type: none"> Machine operator, Power loom assistant, packaging, basic yarn and dyeing related courses for the 10th/ 12th pass candidates ITI related trades : Turner, Fitter, Machinist etc. 	<ul style="list-style-type: none"> Collaboration with VTPs for training, preferably at a cluster level 	<ul style="list-style-type: none"> Interventions required through funding private training as well as through SSCs
Textile – Garment Manufacturing	<ul style="list-style-type: none"> The Government may look to increase the number of textile design and tailoring related courses at the ITIs in order to facilitate the availability of local manpower. 	<ul style="list-style-type: none"> Stitching and Tailoring Training for various stages of garment manufacturing Training in garment designing Training in modern practices like printing (on T-shirts) Knitted fabric specific courses 	<ul style="list-style-type: none"> Collaboration with VTPs for training, preferably on the industrial association level 	<ul style="list-style-type: none"> Interventions required through funding private training as well as through SSCs
Oil Extraction / Processing	<ul style="list-style-type: none"> Basics of cotton / soya milling with focus on quality and safety aspects Oil heating and processing science and technology 	NA	<ul style="list-style-type: none"> Need to impart safety training 	NA

6.1. Government

- ❖ **Textile Cotton Spinning:** Dhule like various other districts of Maharashtra has a strong cotton ginning / spinning industry on the back of good cotton crop grown in the adjoining areas. This industry in Dhule district currently faces an acute shortage of skilled and semi-skilled manpower to work in the factories as there exists a lot of attrition within these industries. There is a need for further increase the number of seats in ITIs in certain trades (please refer to private training provider recommendations for list of trades). The Government may also look at collaboration with the local industries for adoption of ITIs to better ensure the industry – academia - technical work forces connect.
- ❖ **Textile Garment manufacturing:** The Government can look to increase the number of textile design and tailoring related courses at the ITIs in order to facilitate the availability of local manpower for the industry as well as enhance the curriculum and duration of the existing training program to cater the need of industry

- ❖ **Food processing - Oil Processing:** The State Government too should look at setting up short term courses which focus on specific needs of the oil processing industry:
 - Essentials of packaging technology for distribution and marketing of food products
 - Basics of cotton / soya milling with focus on quality and safety aspects
 - Oil heating and processing science and technology
 - Drying of food products: Principles, practices and industrial applications
 - Safety training

6.2. Private Training Providers

The recommendations for the private training providers focus on the courses, category for which training needs to be provided:-

Sector	Category / Activity	Training required
Textile – Cotton Spinning	10 th , 12 th pass	<ul style="list-style-type: none"> ▪ Textile Machine operation ▪ Basics of Yarn making ▪ Quality Checking procedures in textile ▪ Packaging of products ▪ Safety Skills training including fire fighting ▪ Soft Skills training
	ITI Grade	<ul style="list-style-type: none"> ▪ Turner ▪ Fitter ▪ Welder ▪ Machinist ▪ Maintenance Operator ▪ Quality and environment management skills ▪ Safety Skills training including fire fighting
Textile – Garment Manufacturing	Garment manufacturing	<ul style="list-style-type: none"> ▪ Stitching and Tailoring ▪ Training for various stages of garment manufacturing ▪ Training in garment designing ▪ Training in modern practices like printing (on T-shirts) ▪ Knitted fabric specific courses ▪ Quality control in finished garments ▪ Soft Skills training

6.3. Industry

- ❖ **Textile Cotton Spinning:** Collaboration with VTPs for training, preferably at a cluster level.

- ❖ **Textile Garment manufacturing:** Collaboration with VTPs for training, preferably on the industrial association level
- ❖ **Food processing - Oil Processing:** The industry needs to collaborate with training providers / institutes to impart safety training related courses as such is very specific and is of high risk.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Textiles and clothing - Cotton Spinning and garment manufacturing
- ❖ Food processing – oil extraction and processing, mainly from soyabean

2.10. GADCHIROLI

1. Introduction

Gadchiroli district is located in the north-eastern side of the state of Maharashtra in the Deccan Plateau. It has a total land area of 14,412 sq. km., which is 4.7 per cent of the total State area. It is bordered on north by the Gondia district, on the north-east by the Rajnandgaon district of Chhattisgarh state, on the east by the Kanker and Narayanpur districts of Chhattisgarh, on the south-east by Bijapur district of Chhattisgarh, on the south by Karmnagar district of Andhra Pradesh, on the south-east by Adilabad district of Andhra Pradesh, on the west by Chandrapur district and on the north-west by Bhandara district.

It is sub-divided into 12 sub-districts and has 1,521 villages. Majority of the population at 89 per cent lives in rural areas. Agriculture is the main occupation, employing 82 per cent of the labour force (as of Census 2001). The remaining is in household industry (two per cent) and other workers¹¹ at 16 per cent.

The district has a forest area of about 85 per cent of its total area which is very high compared to the state's average which is only 17 per cent. The district has a very high proportion of Reserve Forest, which is normally the highest quality forest and has the maximum restrictions on harvesting by the local communities. Due to this vast forest area coverage, cultivable area is very less as compared to the other districts in the state. Forest resources contribute significantly to the district's economy. Bamboo is available in abundance in the district. The other forest resources of the district include Tendu leaves, Mahuva Flowers, Lac and silk.

The major crop grown in the district is paddy. The production of crop is, however, less due to lesser area of cultivable land in the district. Gadchiroli district is rich with mineral resources. The major minerals found in the district are limestone, dolomite, quartz and granite.

Gadchiroli district is one of the deeply affected naxal regions in the country and the district is part of the red corridor¹². The district also lacks industrial activity and is industrially backward. The district was classified as one of the country's 250 most backward districts in 2006 by the Ministry of Panchayat Raj.

Table 83: Comparison of Gadchiroli district with Maharashtra – key indicators

Indicator	Year	Gadchiroli	Maharashtra
Area, in sq.km.	2001	14,412	307,713
Percentage share in State geographical area, %	2001	4.68%	100%

¹¹ Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers are 'Other Workers'.

¹² Red Corridor: This is a region in the east of India that experiences considerable Naxalite communist insurgency.

Indicator	Year	Gadchiroli	Maharashtra
No. of sub-districts	2011	12	353
No. of inhabited villages	2001	1,521	41,095
No. of households	2001	210,362	19,576,736
Forest area as a % of total geographical area	2001	85.76%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Gadchiroli district has a population of 10.7 lakh persons – 0.95 per cent of the State population. Majority of the population (17 per cent) is concentrated in Chamorshi sub-district, followed by Gadchiroli sub-district at 13 per cent and Aheri sub-district at 11 per cent, Aromori sub-district at nine per cent, Desaiganj, Dhanora and Kurkheda sub-districts at eight per cent each, Sironcha and Etapalli sub-districts at seven per cent each, Korchi sub-district at 4 per cent and Bhamragad sub-district at 3 per cent respectively. While 58 per cent of the population in the district is in working-age group (15 to 59 years), about 51 per cent is actually working i.e. work participation rate.

The district's literacy rate is 70.55 per cent, which is lower than the State average of 82.91 per cent, and also lower than All-India average of 74 per cent. Male literacy at 80.21 per cent is significantly higher than female literacy rate at 60.66 per cent.

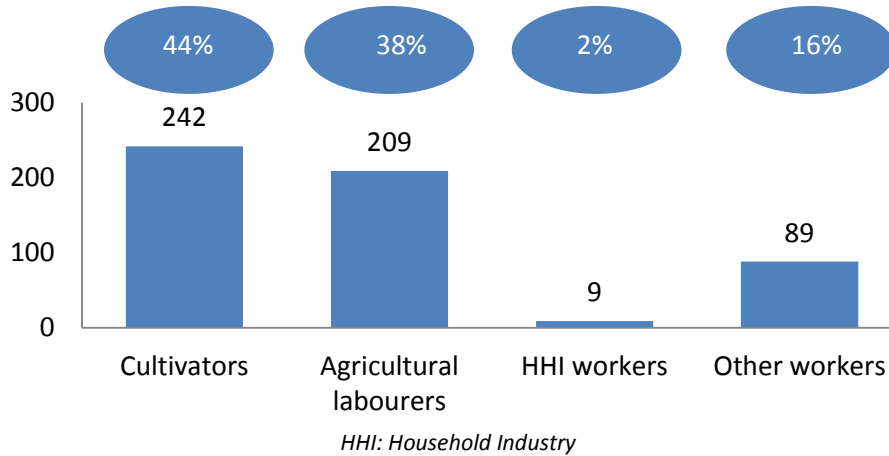
Table 84: Key demographic indicators

Indicator	Year	Gadchiroli	Maharashtra
Population, No.	2011	1,071,795	112,372,972
Decadal growth rate of population, %	2001-11	10.46%	15.99%
District's share in State's population, %	2011	0.95%	100%
Urban population as a percentage of total population, %	2011	11%	45%
SC population, %	2001	11%	8.79%
ST population, %	2001	38%	15%
Sex ratio, No. of females per 1000 males	2011	975	925
Population density, per sq. km.	2011	74	365
Literacy rate, %	2011	70.55%	82.91%
Main workers, No.	2001	336,959	34,748,053
Marginal workers, No.	2001	160,145	6,425,298
Working age population* as a percentage of total population, %	2001	58%	59%
Work participation rate [^] , %	2001	51%	42.50%

**Working age population is the population in the age-group of 15 to 59 years. [^] Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011*

The district has a total workforce of about 8.5 lakh persons. Of this, 44 per cent are cultivators, 38 per cent are agricultural labourers, four per cent are workers in household industry and 31 per cent are other workers.

Figure 94: Gadchiroli district's worker profile, as of 2011, in thousands



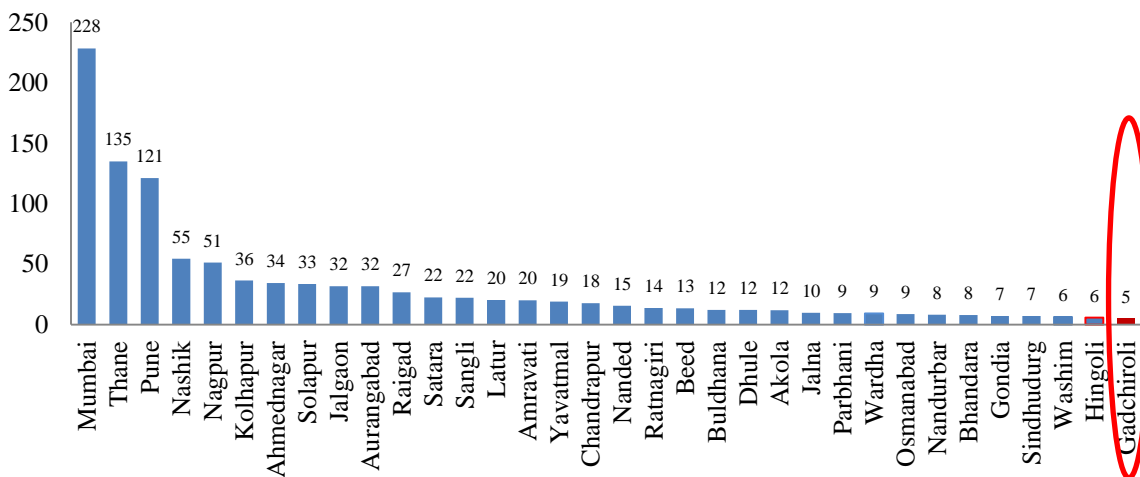
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Gadchiroli district had the lowest Gross District Domestic Product (GDDP) in Maharashtra at Rs 4,851 crore (0.45 per cent of the Gross State Domestic Product). In terms of per capita DDDP also, it ranked the last amongst all the districts at Rs 43,058. This was almost half of the State average of Rs 87,686.

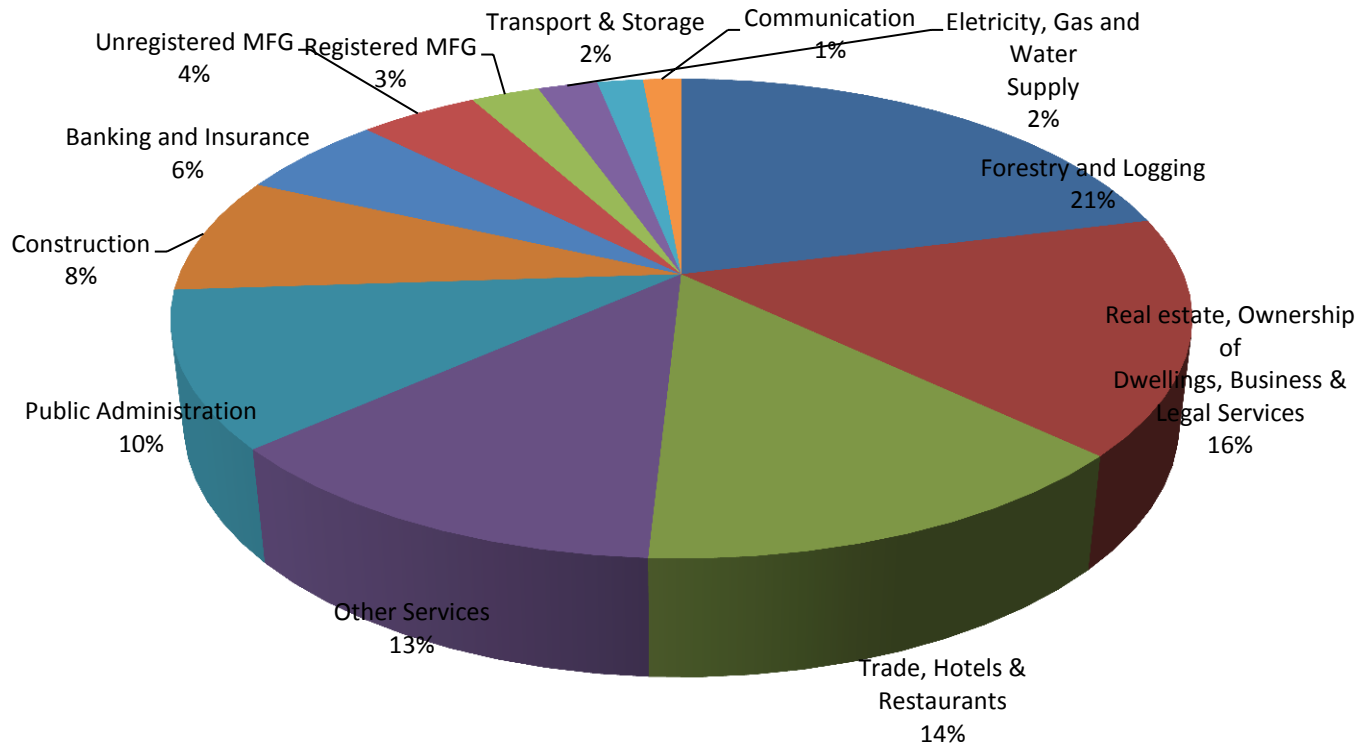
Figure 95: Gross District Domestic Product, in Rs thousand Crore, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly service based, with service sector's share in GDDP at 61 per cent in 2009-10. This is followed by primary sector at 22 per cent and secondary sector at 17 per cent.

Figure 96: Sector wise distribution of Gadchiroli's GDDP, as of 2009-10, 100% = Rs 3,808 crore



Source: District Socio Economic Review of Gadchiroli

Agriculture: Of the total area of 14,412 sq. km, only around 13 per cent of the land is cultivable area. Paddy is the major crop grown in the district. There are rice mills in the district set up due to the rice production in the district. Agricultural activities are low in the district. However, forest based resources contribute significantly to the primary sector and the economy of the sector. Most of the small household industries are dependent on forest based resources (such as bamboo) and perform livelihood works. From the above chart, it can be clearly seen that the forest resource (forestry and logging at 21 per cent of the total GDDP) is a major contributor to the district's economy.

Industry: Gadchiroli is an industrially backward district. There is only one large size industry unit in the district viz. Ballarpur Industries (paper industry). The district has 733 Micro, Small and Medium Enterprises (MSME), employing 4,843 persons. As of September 2012, the prominent MSME industries in the district were 'Wood, products of wood', 'Food products and Beverages' and 'Furniture'. Refer to the table in annexure for complete list of MSME industries and employment details. The district has four industrial areas, totalling 119 acres of land.

Services: As mentioned above, services account for 61 per cent of GDDP in Gadchiroli district. Of all the services, the key services in the district are of 'real estate, ownership of dwellings, business and legal services' at 16 per cent of GDDP, followed by 'trade, hotels and restaurants' at 11 per cent, other

services at 13 per cent, 'public administration' at 10 per cent each, 'banking and insurance' at six per cent and 'transportation and storage' and 'railways' contributes around three per cent.

2.3. State of education

As of 2011-12, Gadchiroli district had 2,040 schools. Of this, 58 per cent were primary schools, 25 per cent were upper primary schools and the remaining 17 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 161,364 while the student-teacher ratio was at 20 students per teacher. The student-teacher ratio is much better as compared to the average ratio for the State at about 30 students per teacher.

Table 85: School and higher education infrastructure in Nagpur district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	2,040	161,364
General colleges	81	16,394
Technical Education*	2	475

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

For general higher education, the district has 81 general colleges and two technical education institutes. For vocational training, Gadchiroli district had a total of 16 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. All of these ITIs are government and there are no private ITI in the district. All the 16 ITIs together have a seating capacity of 3,052.

Table 86: Key ITI indicators in Gondia district, as of March 2012

Indicator	Value
Total Number of it is	16
Number of Government ITIs	16
Number of Private it is	Nil
Total Seating capacity	3,052

Source: Department of Employment & Self Employment, Government of Maharashtra

Based on our discussions with the key stakeholders in Gadchiroli district, the average pass rate is observed to be around 80 per cent and the drop-out rate is around 20 per cent. The important reasons cited for the high drop-out rate in the district are the poor economic conditions of the trainees and less motivation to pursue studies. Also, the district experiences poor attendance from students compared to other districts. Some of the reasons for this are the students are involved in seasonal jungle related work, sudden naxal activities and out of fear might not attend the classes, etc. For details on courses offered by ITIs in Gadchiroli, refer to the table in annexure.

In addition to the above, the district has training infrastructure for different trades set up by both Government and private Institutions. The Government department offer courses in trades such as

computer basics, bamboo furniture, agarbatti making, etc. District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship Development) and MITCON Consultancy and Engineering Services Ltd. The stakeholders mentioned that computer related courses offered by them have a good response from trainees and are keen to learn. They also mentioned that for any skill development program needs to be implemented, it should consider the following:

- a. It should be on a subsidy or on a sponsored basis
- b. Stipend needs to be given for trainees
- c. Boarding / Lodging expenses incurred should be borne

These aspects become important because the trainees targeted are from poor economic background and they have limited exposure on importance of skill development. So, only when they feel that there is no cost involved, they might take some interest to participate in training activities.

Gadchiroli is one of the few districts that has identified the importance of skill development and has taken some measures in this aspect. The Chief Controller of Forest (CCF) office has taken initiatives on skill development. They are doing in this on two broad categories namely livelihood programs such as agarbatti making and vocational skill training program in sector such as construction, hospitality, etc. The district skill development council has also initiated skill development program and started to provide vocational training through tie up with external professional training partner. They are ensuring that the program is training cum placement model with a minimum of 80 per cent placement rate. The training program is conducted in places such as Aurangabad which help the trainees to gain practical and industrial exposure.

There are some private training centres in Gadchiroli district offering computer related courses. Some of the courses offered by them include MS-CIT, C++, Java, DTP, Tally, etc. MS-CIT course is preferred among the students/youth in the district as this course is a pre-requisite for getting a Government job in the state. For details of training institutes and courses offered, refer to table in annexure.

2.4. Youth aspirations

In the process of identifying the growth engines for the Gadchiroli district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Educational infrastructure in the district:** Youths in Gadchiroli believe that there is no adequate quality educational institution as compared to other districts in the state. Students have to go outside the district for higher education. Practical exposure is lacking in the training institutes. Quality of courses and teachers are fine. Quality of infrastructure needs improvement. Youths also added that educational institutions in the remote locations (mostly forest areas) lack adequate infrastructure.
- **Preferred trades / courses:** The important criteria for choosing any trade/course are the job opportunity for that trade and their interest in a particular field. Some of the students were not able

to get their preferred course due to lack of merit in their school results. Also, few students are not able to get desired trades due to reservation policies. The district has high reservation for tribal students.

- **Preference for additional training / course:** Some students along with their main academic course pursue additional training courses on computer to increase their job opportunity. MS-CIT course, which aids in getting a government job, is preferred by the students.
- **Preferred sectors to work:** First preference is to work in government sector mainly due to job security. Preferred sectors to work include IT, Automobile and other manufacturing industries.
- **Youths' concerns:** The concerns raised by the youths include naxal activities and lack of industrial activity in the district.
- **Willingness to migrate:** Youths are willing to migrate to other places in search of job opportunity such as Pune, Mumbai, Nagpur, Nashik, Aurangabad, etc. and also settle there.

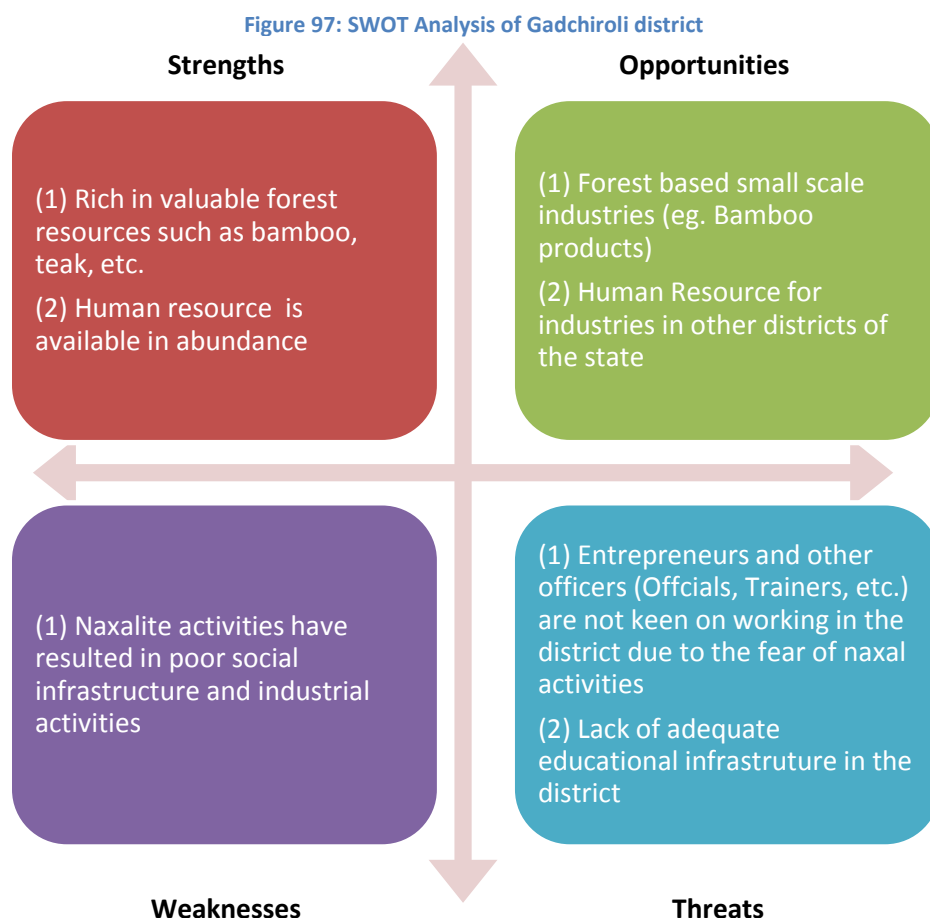
3. Developmental concerns

Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Naxal activities in the district:** Gadchiroli district is one of the deeply affected naxal regions in the country. Due to these naxal activities, the development and progress of the district has been affected to a certain extent. There are no adequate industries in the district and new players are also not keen on establishing a unit considering the problems. There are also other issues due to the naxal activities in the district. Many officials (such as government officers, trainers in educational institutions, etc.) are not much interested to work in the region. Also, when there are sudden naxal activities, institutes and offices might not work or the people might not attend and stay in their places due to fear.
- **Inadequate educational infrastructure in the district:** The district lacks adequate educational institutes in the district. For example: the district has only one polytechnic. The students need to travel outside for higher education. Also, the few institutes present in the district lacks quality in terms of infrastructure, availability of qualified faculties, etc. (especially in rural and forest region) The students passing out of schools in the rural region are finding very difficult to compete with urban students in higher education.

SWOT analysis

Based on the diagnostics of the Gadchiroli district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 54,062 persons between 2012 and 2022. Sectors which will drive demand are expected to be agriculture and allied building, construction and real estate. Other sectors that could generate employment in the district include banking and financial services, education and skill development and healthcare services.

Table 87: Incremental demand of human resources in Gadchiroli – by sector

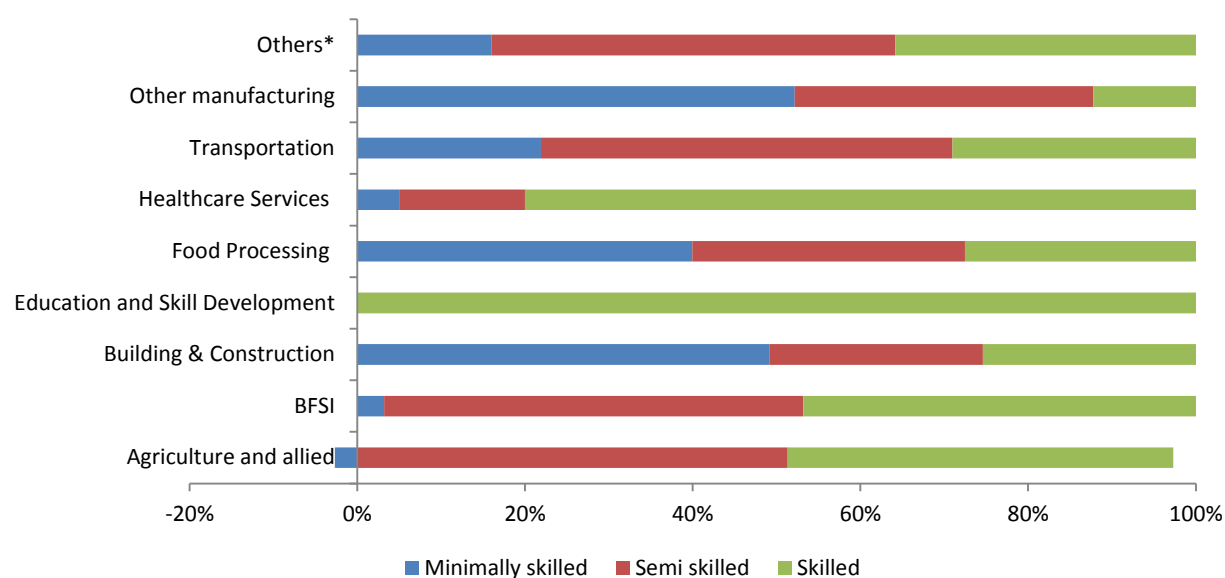
Sector	2012-17	2018-22	2012-22
Agriculture and allied	10,339	5,269	15,608
BFSI	3,420	5,498	8,918

Sector	2012-17	2018-22	2012-22
Building, Construction industry and Real Estate	5,218	7,242	12,461
Education and Skill Development	5,506	2,500	8,006
Food Processing	510	658	1,169
Healthcare Services	2,075	2,839	4,914
Transportation, Logistics, Warehousing and Packaging	690	783	1,473
Other manufacturing	336	553	888
Others*	254	371	625
Total	28,349	25,713	54,062

Source: IMAcS Analysis

*Others include Auto and Auto component, chemicals and pharmaceuticals, Furniture and Furnishings, Textile and Clothing and Tourism, Travel, Hospitality & Trade

Figure 98: Incremental demand of human resources in Gadchiroli – by skill level

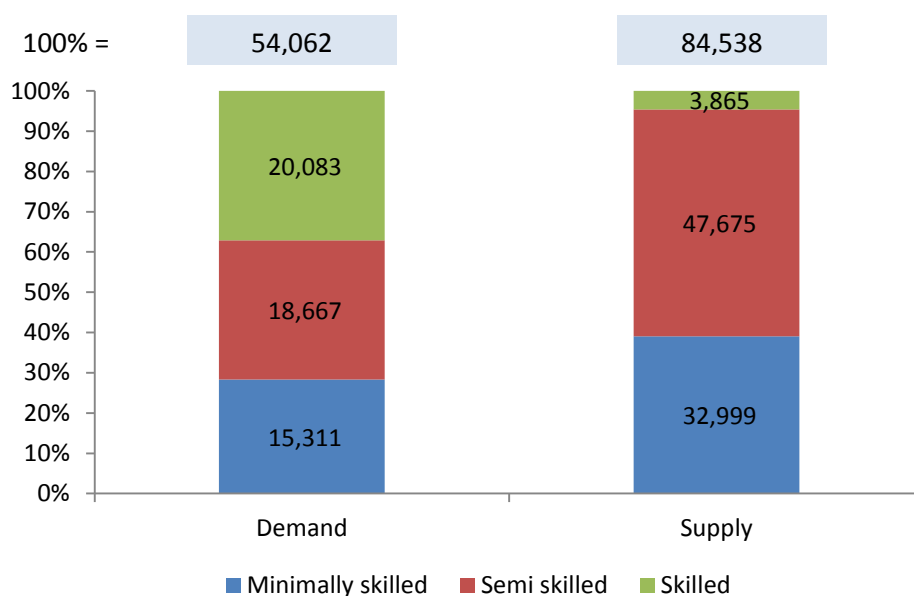


Source: IMAcS Analysis

*Others include Auto and Auto component, chemicals and pharmaceuticals, Furniture and Furnishings, Textile and Clothing and Tourism, Travel, Hospitality & Trade

We have estimated incremental supply of human resources in the district at 84,538 for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be adequately sufficient to meet the incremental demand in the district. The excess of human resources is likely to migrate to other districts where there is a high demand for workforce. However, the incremental supply is leaning more towards minimally skilled workers, as against skilled workers. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward.

Figure 99: Demand supply gap of human resources in Gadchiroli – by skill level



Source: IMaCS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on our field surveys in Gadchiroli district, we have found out that sectors where skilling interventions are required are mainly agriculture and allied and forest resource based industries. There are not adequate industries in the region and according to the discussion with the stakeholders of the district, industrial progress in the district will not happen sooner in the next five to ten years. Therefore, the district is in need of alternate source of employment. The district can act as supplier of human resources to various industries in the state where there are adequate industries and in need of skilled manpower. Considering that the people are willing to migrate for employment, skilling interventions are possible in this space.

Table 88: Sectors where interventions are required in Gadchiroli district – comparison with Maharashtra

(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Gadchiroli	Maharashtra
Agriculture and allied		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		

High Growth Sectors identified by NSDC	Gadchiroli	Maharashtra
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMACS Analysis

5.1. Agriculture and allied - Forest resource based livelihood works (Bamboo furnishings and crafting)

Gadchiroli district is covered with dense forest and the forest covered area is around 86 per cent. There are valuable forest based resources in the district and one important resource is Bamboo. Bamboo is used for various purposes such as construction work, building interiors, furniture, articles, etc. Bamboo crafting is popular in the district and this is a household activity in the district. They make furniture and articles with Bamboo and sell them in the local market. Some of the major products made by them include bamboo basket, storage bins, bamboo sheet covers, etc.

The people/craftsmen use minimal tools to create the products. Most of the craftsmen in the district just use one knife/ chisel (shown in below picture) and carve the bamboo into thin strips. These thin strips are then placed (placing them alternatively on vertical and horizontal strips) with their hands to make the finished products. The people usually buy a bamboo at a cost of Rs. 40 and they are able to make three to four baskets from one bamboo which is sold at Rs. 200 (each at Rs. 50). And in one day, one craftsman can make three to four baskets.

These people make the same products from bamboo such as baskets, grain storage bins, etc. These are usually essentials and are low value items. They do not make creative intricate articles which can be sold at high price. They lack creative knowledge and also require market exposure to understand the market conditions and demand. The government has also taken some measure to improve this bamboo furnishing segment. There is a bamboo cluster formed and a common facility centre is set up. There was few training activities conducted on chemical treatment, bamboo products and also have taken the

craftsman on field trips to established clusters. Bamboo furniture making machineries will be installed and training will be provided to craftsman.

Bamboo Furnishings



Common facility centre and training would help these craftsmen to create diverse furnishings/articles and will also help them to gain market exposure. Based on our stakeholder's discussion, the few skill gaps observed in the sector are as follows:

- Lack of adequate creative knowledge to create new intricate designs
- Inadequate knowledge about marketing and promoting their products
- Lack of adequate knowledge about chemicals used for finishing process (which helps in extending life of the product)

5.2. Unorganised sector

Gadchiroli district lacks industrial activity. Therefore, the people in the district have to look for other alternatives for employment. One such measure could be that the district can be a supply of manpower to the districts which are progressing and in need of skilled manpower for its development. Migration for employment is common in India. There are various types of migration seen in India namely seasonal migration (especially agricultural farmers during off-season), inter-state and intra-state migration for employment reasons.

There are districts such as Nagpur, Pune, Aurangabad, Mumbai, etc which are showing high industrial progress and are in requirement of skilled manpower in various sectors such as facility management, organised retail, construction, hospitality, etc. to assist its growth. Most of the migrants get a job in these sectors without proper training/experience and end up in getting a lower profile job. Skilling intervention could help them in getting a better job and the industry is also in need of skilled manpower. Considering the human resources nature of the district and the manpower requirement in the nearby districts, skilling can be provided in sectors such as construction, hospitality and facility management which could act as a catalyst in getting a better job in the mentioned sectors. These sectors have high employment potential and are in requirement of skilled manpower.

The expected skill sets for these sectors are mentioned in the tables in annexures.

6. Recommendations

Recommendations for Gadchiroli district focuses on the sectors of agriculture and allied (forest based resources), and others (construction, hospitality and facility management). Some of these sectors will have recommendations for the private sector which will directly translate to skills being developed and the others will need Government intervention to facilitate improvements

While the detailed recommendations follow, summary is given in the table below.

Table 89: Key recommendations for Gadchiroli – summary

Sector	For private training providers	For Government players	For Industry	For NSDC
Agriculture and allied – (Forest based resources)	<ul style="list-style-type: none"> ▪ Training on using forest based resources ▪ Bamboo furnishing training ▪ Marketing knowledge 	<ul style="list-style-type: none"> ▪ Training through Common facility centre ▪ Providing subsidies and stipend facilities 	---	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
Others – Construction, Hospitality and Facility Management sectors	<ul style="list-style-type: none"> ▪ Training in sector related courses ▪ Provide Inter personal and communication skills as they are from backward region ▪ Adequate Industry exposure ▪ Industry tie up to ensure placement 	<ul style="list-style-type: none"> ▪ Sourcing ▪ Tie up with training providers ▪ Support for training through subsidy or infrastructural facilities 	<ul style="list-style-type: none"> ▪ Tie up with training provider and provide job to candidates upon successful completion of training ▪ Encourage skilled people from industrially backward region 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs

6.1. Government players

❖ **Agriculture and allied (Forest based resources):** Government should play a major role in this sector. There is a common facility centre build for bamboo furnishing. Training can be provided in this facility centre on various types of bamboo products. The Government should also help the craftsmen by providing bamboo at subsidised rates, marketing facilities, etc. after the training to make it is a livelihood program.

Government can also aid the other training providers operating in the same space in the following ways:

- Aid in sourcing the candidates for training
- Providing subsidy on training cost and stipend to trainees
- Facilitate training infrastructure

❖ **Other Sectors (Construction, Hospitality and Facility Management Sector):** Government needs to play a crucial role in skill development activities in this kind of region (the district is deeply affected by naxal activities and is industrially backward). Government has understood the

importance of skilling and already taken some steps towards skill development in the district. The district skill executive committee has identified some high growth sectors with employment potential and has started training the local people by partnering with external training provider. Now the Government can scale up the initiative to different sectors based on the employment demand.

Government needs to play a role of facilitator of these skill development training programs and can aid in the following ways:

- Awareness programs on opportunities in the identified sectors and importance of training to get a job
- Sourcing candidates for training program (this can be done through the department of employment and self-employment which has data and access to qualified and unemployed youth in the district who are the prime target for the training program)
- In the initial years, Government may also provide subsidy for the training program through skill development schemes
- Monitoring of training providers and training process (which are conducted through government funds)

6.2. Private training providers

❖ **Agriculture and allied (Forest based resources):** Private training centres for making products out of forest based resources or value addition can be setup. Some of the courses that can be offered are as follows:

- Bamboo furnishing (Bamboos are used as a product in various industry. It can be used for construction, furniture, making display articles, making agarbatti, ice cream, sticks, etc). Training can be provided on bamboo based product specific training.
- Training for products made out of forest based resources (example: Moha flowers can be used for medicines, perfumes, oil, etc.)

Since the people are from a rural and poor educational background, training should include aspects such as communication skills, marketing knowledge of the products, etc.

Since the district is deeply affected by naxal activities, the training provider may be a qualified NGO as they tend to understand the people better and their problems. Also, to work in these areas, certain level of service mindset is required.

These training providers need to coordinate with Government in getting subsidy for the training and stipend for the trainees through skill development schemes. This is essential because in these areas, people may not show interest to participate in training program and there should be some incentive for them to attend a training program.

❖ **Other Sectors (Construction, Hospitality and Facility Management Sector):** Private training providers can provide training in sectors such as construction, hospitality and facility

management. These sectors are witnessing good growth in the developed and developing region and are in need of skilled human resources.

Construction sector:

Construction is one of the high growth sectors where the employment generation is very high. Skilled workmen in construction sector are required in places (in Maharashtra) such as Mumbai, Pune, Nagpur, etc. In Nagpur, there is a good growth in infrastructure sector (especially with the ongoing MIHAN project) and there is a huge demand for skilled workmen. The people from the district generally have a good stamina which is suitable for construction sector (as it requires physical work). Therefore, training in construction sector has a good scope for employment.

Some of the courses that can be provided in the sector are as follows:

- Masonry
- Carpentry
- Bar bending
- Welding
- Plumbing
- Wiremen
- Draughtsmen – civil
- Crane operator

Hospitality sector:

Some of the courses that can be provided for hospitality sector training are as follows:

- Food preparation (Cuisine specific)
- Food service
- House keeping

Facility management sector:

Some of the courses that can be provided for hospitality sector training are as follows:

- Office administration
- House keeping
- Fire protection and safety management
- Driving
- Security guards

Some of the important points that need to be considered by a training provider while providing training in the area are as follows:

- Training should be provided in local language
- All the courses should include communication skills and basic etiquettes as a part of their curriculum since people are from rural background.
- Adequate industry exposure (like industrial visits) is essential because they are from industrially backward industries and might have not seen industries at all

- The training provider should have a tie up with industries for placement. Only when people realise that they would get an assured job after training, they would join for any training program. So, adequate industry partnership to place the trainees on successful completion of training is essential for successful implementation of the training program.

The training should coordinate with the Government in getting relevant aid for the training program such as getting subsidies, stipend for the students, infrastructural facilities for training, etc.

6.3. Industry

- ❖ **Other Sectors (Construction, Hospitality and Facility Management Sector):** Industries require skilled personnel in various functions. They need to have a tie up with quality training provider for placement and also aid them in framing training content as per their requirement. The industry may also encourage the training happening at the place of supply of human resource and provide job on their successful completion. These sectors are providing jobs to large number of migrant people who do not have prior experience / training and getting a skilled human resource is a great advantage to them.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Agriculture and allied (Forest based resources – mainly bamboo)
- ❖ Other Sectors (Construction, Hospitality and Facility Management Sector)

2.11. GONDIA

1. Introduction

Gondia is situated in the north-eastern part of the Maharashtra state and has a total land area of 5,234 sq. km., which is 1.7 per cent of the total State area. It is bordered on north by the Balaghat district of Madhya Pradesh, on the east by the Rajnandgaon district of Chhatisgarh, on the south by Gadchiroli district and on the west by the Bhandara district of Maharashtra.

It is sub-divided into eight sub-districts and has 893 villages. Majority of the population at 83 per cent lives in rural areas. Agriculture is the main occupation, employing 68 per cent of the labour force (as of Census 2001). The remaining is in household industry (10 per cent) and other workers¹³ at 22 per cent.

Paddy is the major crop grown in the district. The district is also referred as the rice bowl of Maharashtra due to its abundant production of the crop. This has also led to setting up of many rice mills and is one of the major industries in the district. Finer grade (quality) of rice is also produced in the district and is exported to various countries. The important minerals found in the district are Iron ore and Quartz.

The district has a forest area of around 51 per cent of its total area which is very high as compared to state's average (around 17 per cent) and the forest resources contribute to the economy of the district. Nagzera and Navegaon are the national reserve forests in the district. Bamboo, tendu leaves and teak wood are the important forest resources in the district.

The district lacks industrial activity and is industrially backward. The district is also prone to naxal activities in some areas (especially the eastern part) and the district is a part of the red corridor¹⁴. The district was classified as one of the country's 250 most backward districts in 2006 by the Ministry of Panchayat Raj.

Table 90: Comparison of Gondia district with Maharashtra – key indicators

Indicator	Year	Gondia	Maharashtra
Area, in sq.km.	2001	5,234	307,713
Percentage share in State geographical area, %	2001	1.70%	100.00%
No. of sub-districts	2011	8	353
No. of inhabited villages	2001	893	41,095
No. of households	2001	249,720	19,576,736
Forest area as a % of total geographical area	2001	51%	16.94%

Source: Census 2001, Census 2011

¹³ Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers are 'Other Workers'.

¹⁴ Red Corridor: This is a region in the east of India that experiences considerable Naxalite communist insurgency.

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Gondia district has a population of 13.2 lakh persons – 1.2 per cent of the State population. Majority of the population (31 per cent) is concentrated in Gondia sub-district, followed by Tirora sub-district at 16 per cent and Arjuni Morgaon sub-district at 11 per cent, Goregaon and Amgaon sub-districts at 10 per cent each, Deori and Sadak Arjuni sub-districts at nine per cent each and Salekasa sub-district at six per cent respectively. While 60 per cent of the population in the district is in working-age group (15 to 59 years), about 48 per cent is actually working i.e. work participation rate.

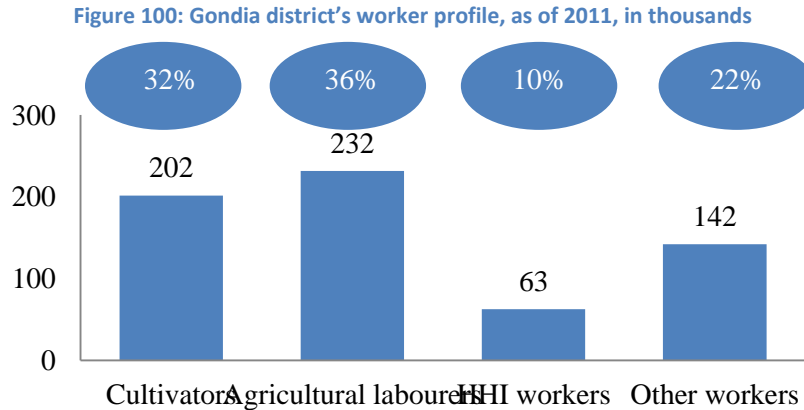
The district's literacy rate is 85.4 per cent, which is slightly higher than the State average of 82.9 per cent, and also higher than All-India average of 74 per cent. Male literacy at 93.54 per cent is significantly higher than female literacy rate at 77.3 per cent.

Table 91: Key demographic indicators

Indicator	Year	Gondia	Maharashtra
Population, No.	2011	1,322,331	112,372,972
Decadal growth rate of population, %	2001-11	10.13%	15.99%
District's share in State's population, %	2011	1.18%	100.00%
Urban population as a percentage of total population, %	2011	17.07%	45.23%
SC population, %	2001	13.97%	8.79%
ST population, %	2001	16.36%	14.84%
Sex ratio, No. of females per 1000 males	2011	996	925
Population density, per sq. km.	2011	253	365
Literacy rate, %	2011	85.41%	82.91%
Main workers, No.	2001	391,890	34,748,053
Marginal workers, No.	2001	187,706	6,425,298
Working age population* as a percentage of total population, %	2001	59.84%	59.05%
Work participation rate [^] , %	2001	48.27%	42.50%
HDI Rank	2000	21	--
HDI Index	2000	0.46	0.58

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011

The district has a total workforce of about 6.4 lakh persons. Of this, 32 per cent are cultivators, 36 per cent are agricultural labourers, 10 per cent are workers in household industry and 22 per cent are other workers.



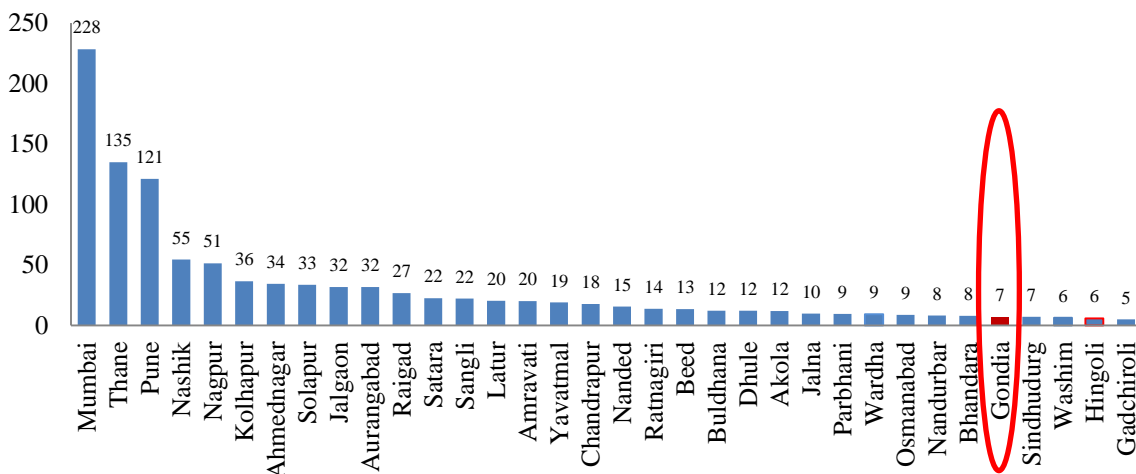
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Gondia district had the fifth smallest Gross District Domestic Product (GDDP) in Maharashtra at Rs 7,093 crore (0.66 per cent of the Gross State Domestic Product). In terms of per capita NDDP though, it ranked 29th (6th smallest) amongst all the districts at Rs 50,042. This was lower than the State average of Rs 87,686.

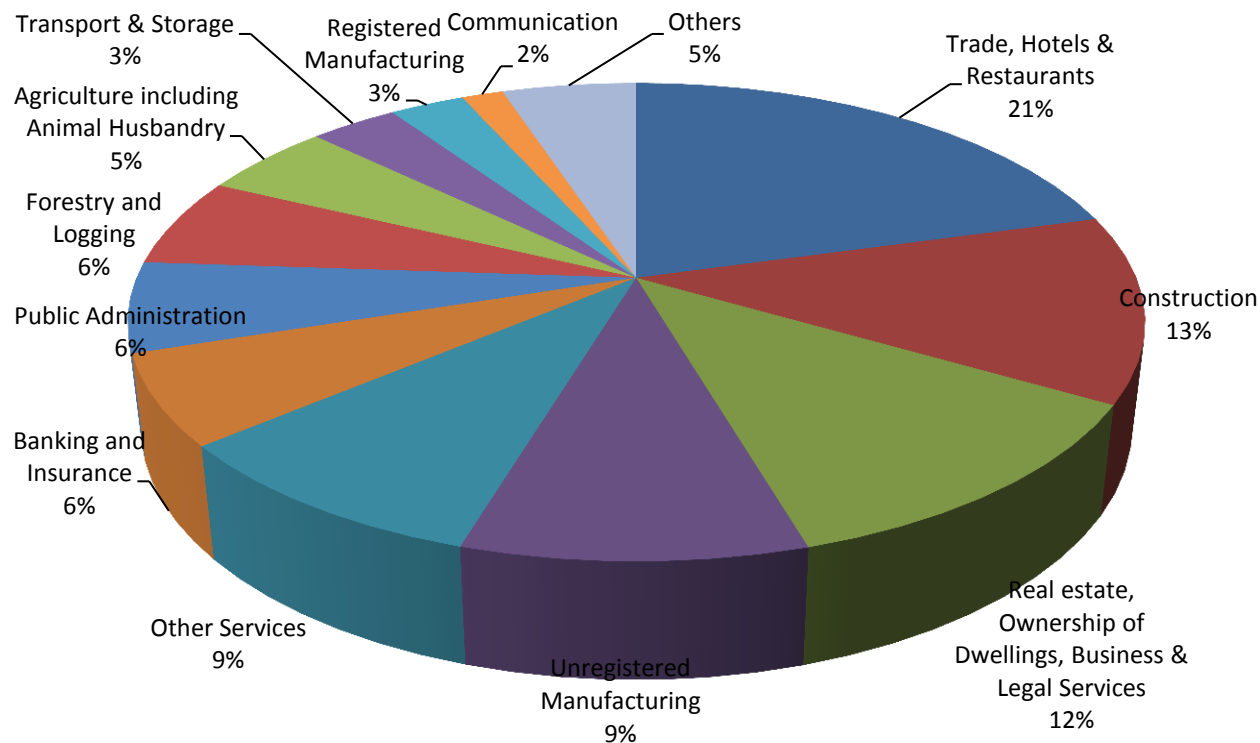
Figure 101: Gross District Domestic Product, in Rs thousand Crore, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly service based, with service sector's share in GDDP at 60 per cent in 2009-10. This is followed by secondary sector at 26 per cent and primary sector at 14 per cent.

Figure 102: Sector wise distribution of Gondia's GDDP, as of 2009-10, 100% = Rs 5,811 crore



Source: District Socio Economic Review of Gondia

Agriculture: Of the total area of 5,234 sq. km. in the district, around 31 per cent is the net sown area (cultivated land). The major crop grown in the district is paddy. Crops such as wheat and gram are also grown in very few areas. The district has a forest cover of around 51 per cent of the total area. The forest resources also contribute to the economy of the district. The important forest resources in the district are teakwood, bamboo and tendu leaves. As shown in the above chart, 'forestry and logging' contributes to around six per cent of the total GDDP of the district.

Industry: As of October 2012, Gondia district had three medium scale industrial units, employing 370 persons. These companies are Gayatri Agro Industrial Power Ltd, Maheshwari Solvent Extraction Ltd and Sunil Solvent extraction P Ltd. End products manufactured include power and edible oil. Also, there is a large industry (Adani Power Maharashtra P Ltd) coming up in the district and is proposed to employ around 800 persons.

The district has 1,407 Micro, Small and Medium Enterprises (MSME), employing 11,038 persons. As of October 2012, the prominent MSME industries in the district were 'Food products and Beverages', 'Non-metallic Minerals', 'chemical and chemical products' and 'other service activities'. Refer to the table in

annexures for complete list of MSME industries and employment details. The district has seven industrial areas, totalling 670 acres of land.

Services: As mentioned above, services account for 60 per cent of GDDP in Gondia district. Of all the services, the key services in the district are of 'trade, hotels and restaurants' at 21 per cent, 'real estate, ownership of dwellings, business and legal services' at 12 per cent, other services at 9 per cent, 'banking and insurance' and 'public administration' at six per cent each of GDDP, followed by 'transport and storage' at three per cent each and 'communication' at two per cent.

2.3.State of education

As of 2011-12, Gondia district had 1,590 schools. Of this, 45 per cent were primary schools, 35 per cent were upper primary schools and the remaining 20 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 191,112 while the student-teacher ratio was high at 26 students per teacher. The student-teacher ratio was lesser than the average ratio for the State at about 30 students per teacher.

Table 92: School education infrastructure in Gondia district

Particulars	No. of institutes	No. of students
Schools	1,590	191,112
General colleges	22	17,386
Technical education*	13	1,867

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

For general higher education, the district has 22 general colleges and 13 technical education institutes. For vocational training, Gondia district had a total of 11 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, eight were Government ITIs and remaining three were private ITIs. All the 11 ITIs together have a seating capacity of 2,200.

Table 93: Key ITI indicators in Gondia district, as of March 2012

Indicator	Value
Total Number of it is	11
Number of Government ITIs	8
Number of Private it is	3
Total Seating capacity	2,200

Source: Department of Employment & Self Employment, Government of Maharashtra

Based on our discussions with the key stakeholders in Gondia district, we have found that on an average, of all the students that pass out from an ITI in each year, only around 20 to 25 per cent find jobs in the market. The average pass rate observed is around 70 per cent and the drop-out rate is around 20 to 25 per cent. The important reasons cited for the high drop-out rate in the district are the

poor economic conditions of the trainees and students getting an opportunity in military or police services. For details on courses offered by ITIs in Gondia, refer to the table in annexures.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The government department offer courses in trades such as agriculture, textiles, education, etc. District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship Development) and MITCON Consultancy and Engineering Services Ltd. Self-employment promoting training programs such as Inverter Repairing, Mobile Repairing, two-wheeler and four-wheeler repairing, leather bag making, Domestic appliances repairing etc. are conducted through this scheme. Department of Agriculture offers training to farmers in areas such as modern techniques in rice production (example: SRI technique), poultry, crop based training (production, processing and marketing), etc.

Majority of the private training centres in Gondia district offers computer related courses. Some of the courses offered by them include MS-CIT, C++, Java, DTP, Tally, etc. MS-CIT course is preferred among the students/youth in the district as this course is a pre-requisite for getting a Government job in the state. Computer related jobs that are in demand in the district (as per the discussion with stake holders of the district) are data entry operations and computer based accounting (Tally). The other training areas provided by private training institutes include handicrafts, garment manufacturing and fashion designing, mobile repair and servicing, beauty culture, etc. For details of training institutes and courses offered, refer to table in annexures.

2.4. Youth aspirations

In the process of identifying the growth engines for the Gondia district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Existing educational infrastructure in the district:** Youths in Gondia believe that there no adequate quality educational institutes (especially in higher education) as compared to other districts in the state. Students have to go outside the district (example: Nagpur) for higher education.
- **Preferred trades / courses:** Students prefer Government institutes than private because of low fees, better infrastructure and adequate facilities. The important criteria for choosing any trade/course are the job opportunity for that trade and their interest in a particular field. Around 40 per cent of the students are not able to get their preferred course of interest mainly due to lack of good scores from school education.
- **Demand for additional training / courses:** Some students along with their main academic course pursue additional training courses on computer to increase their job opportunity. MS-CIT course, which aids in getting a Government job, is preferred by the students.
- **Youths' concern:** An important concern raised by the youth is the lack of industrial activity in the district and therefore the inability to find jobs locally.

- **Job preference:** First preference is to work in Government sector mainly due to job security. Preferred sectors to work include IT, automobile and other manufacturing industries. Youths are willing to migrate to other places in search of job opportunity such as Pune, Mumbai, Nagpur, Nashik, Aurangabad, etc.

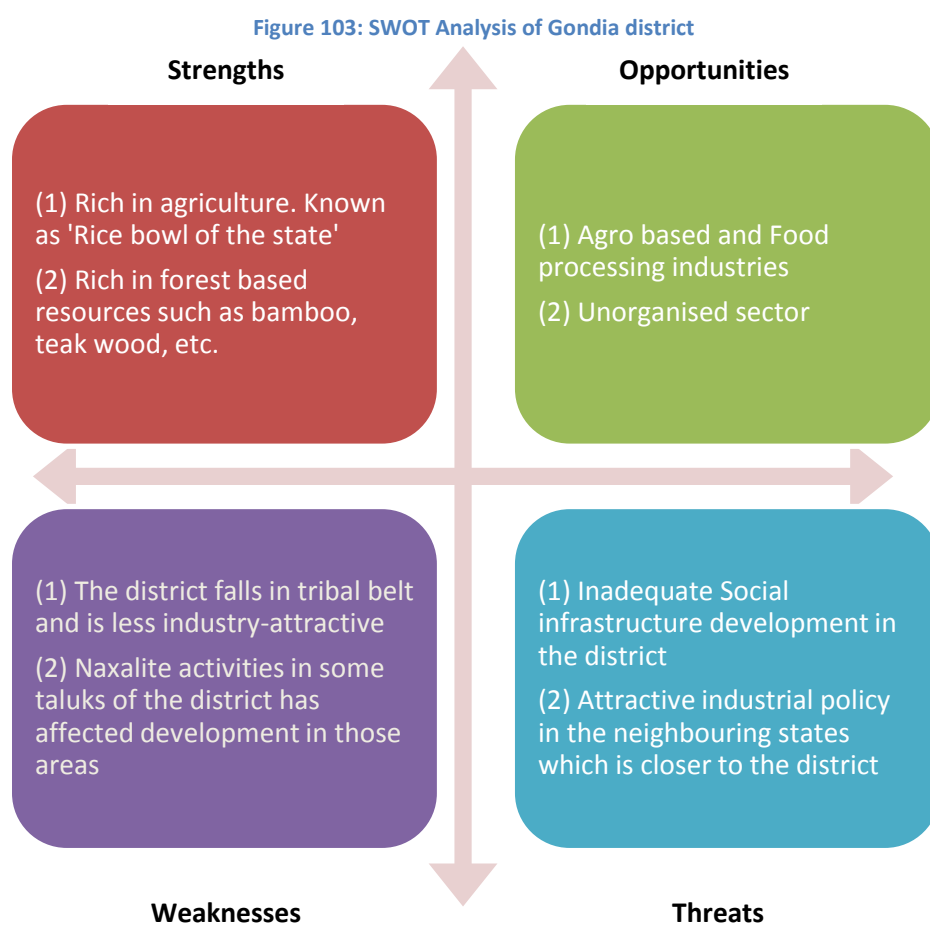
3. Developmental concerns

Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Industrial backwardness of the district:** The district lacks industrial activities. There are not many large and medium based industries in the districts. The industries are not keen on setting up a venture/factory in the district and some of the reasons for this as mentioned by the stakeholders includes less physical infrastructure (especially road network) facility in the district, inadequate social infrastructure and the similar incentive scheme offered to industries across the state (i.e. the industry gets similar incentive package irrespective of the nature of the district anywhere in the State and they prefer a developed district to establish their business). Gondia district falls in the tribal belt and the stake holders believe that the industries should be given adequate incentives to establish their unit in the district.
- **Development affected due to Naxalite activities in some parts of the district:** As mentioned earlier in the report, the district is a part of the red corridor – region that experiences naxalite activities. Taluks such as Salekasa, Deori, Sadak – Arjuni and Arjuni Morgaon are affected due to naxal activities and social infrastructure in these places has not developed due to this.
- **Competitive industrial policies of neighbouring states:** Gondia district is known for its abundance rice production and the rice mills in the region. There are about 450 rice mills in the district and is one of the major economic activities. This has been a traditional industry and is well known. Currently, the rice mills are facing stiff competition from industries in neighbouring states (such as Chhattisgarh and Madhya Pradesh) mainly due to their attractive industrial policies. The district is very close to these states and facing the heat such as non-availability of skilled labour, etc. Some of the important concerns raised by the rice mill owners of the district are mentioned below. In neighbouring states, the industry enjoy benefits such tax-exempt (VAT) on rice bran, subsidy on agro based products and lower electricity rate. Hence, the milling units in Gondia are not able to be competitive. Earlier, people from these States were coming to Gondia district to work in rice mills. Due to industrial progress in these states, the people are able to find a job there and some of the milling units in Gondia district are currently not able to get adequate skilled labour.

SWOT analysis

Based on the diagnostics of the Gondia district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 91,704 persons between 2012 and 2022. Sectors which will drive demand are expected to be agricultural and allied, and building, construction and real estate. The requirements for skilled personnel are likely to increase, as the maximum demand will be generated for semi-skilled and skilled workers.

Table 94: Incremental demand of human resources in Gondia – by sector

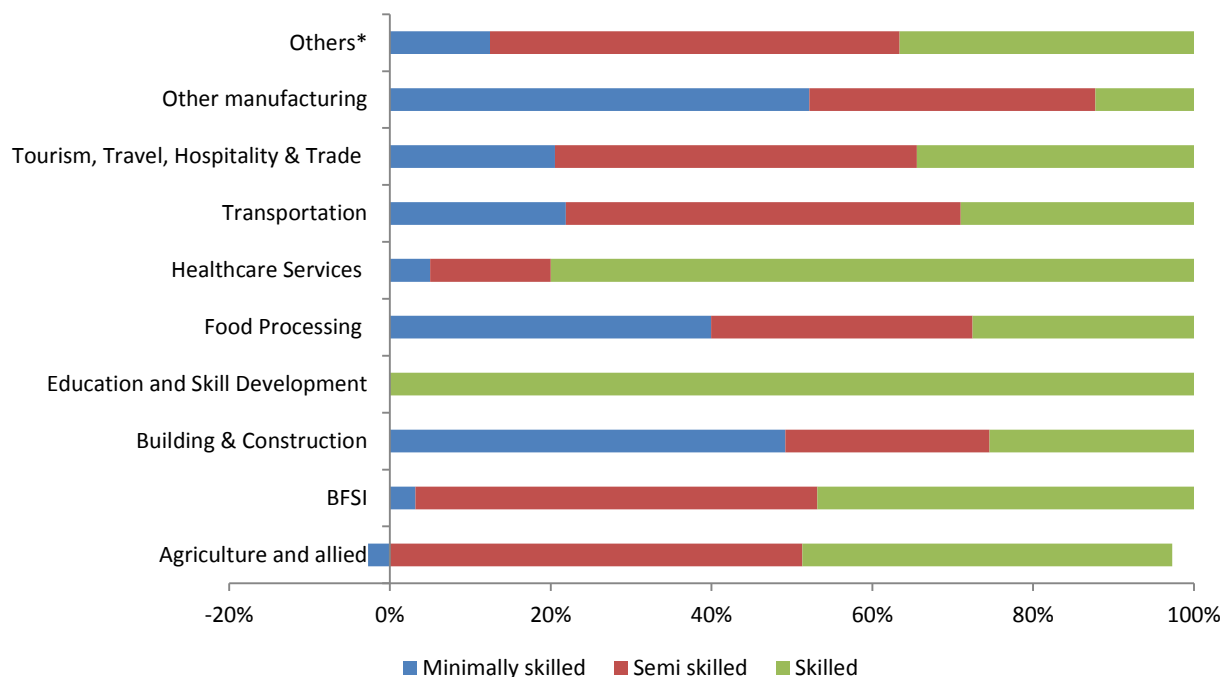
Sector	2012-17	2018-22	2012-22
Agriculture and allied	9,958	5,075	15,033
BFSI	4,852	7,799	12,651

Sector	2012-17	2018-22	2012-22
Building, Construction industry and Real Estate	12,868	17,859	30,727
Education and Skill Development	5,402	2,716	8,118
Food Processing	2,533	3,268	5,801
Healthcare Services	1,558	2,132	3,690
Transportation, Logistics, Warehousing and Packaging	2,027	2,298	4,325
Tourism, Travel, Hospitality & Trade	3,339	4,862	8,202
Other manufacturing	877	1,444	2,322
Others*	335	500	836
Total	43,751	47,954	91,704

Source: IMaCS Analysis

*Others include Auto and Auto component, chemicals and pharmaceuticals and Furniture and Furnishings

Figure 104: Incremental demand of human resources in Gondia – by skill level



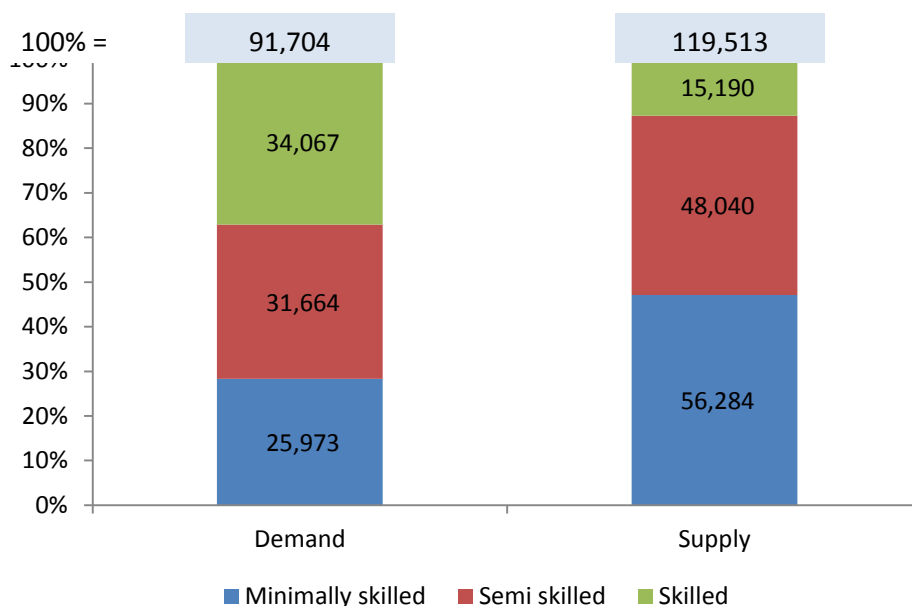
Source: IMaCS Analysis

*Others include Auto and Auto component, chemicals and pharmaceuticals and Furniture and Furnishings

We have estimated incremental supply of human resources in the district at 119,513 persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be sufficient to meet the incremental demand in the district. The excess of human resources is likely to migrate to other districts where there are adequate job opportunities. However, the incremental supply is leaning more towards minimally skilled workers, as against skilled workers. Thus, indicating that

significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward.

Figure 105: Demand supply gap of human resources in Gondia – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on our field surveys in Gondia district, we have found out that sectors where skilling interventions are required are mainly agriculture and food processing (rice milling) industry. Industrial progress in the district has been slow and there is only one large industry in the district that is recently set up (Adani Power) and there is no incremental manpower requirement as the recruitment process is already complete. In addition to the existing sectors in the district, we have also found areas where the district can act as a supplier of manpower to other progressive districts. Migration for employment is a general phenomenon in India and skilling interventions are possible in this as well.

Table 95: Sectors where interventions are required in Gondia district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Gondia	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		

High Growth Sectors identified by NSDC	Gondia	Maharashtra
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMaCS Analysis

5.1. Agriculture and allied activities

Gondia is basically an agrarian economy. Around 68 per cent of the total workforce of the district is dependent on agriculture (32 per cent are cultivators and 36 per cent are agricultural labourers). Also, the major industry in Gondia district is also based on agriculture i.e. rice milling industry. Paddy is the major crop grown in the crop and the district is also referred as “Rice bowl of Maharashtra”.

Farming is a traditional occupation and is carried out through generations. However, there are certain skill gaps found in agriculture and skilling interventions are required in this sector. There are various skill development programs conducted by the Department of Agriculture for the farming community. According to the discussions with the stake holders of the district, there are some difficulties in conducting the training for farmers and are as follows:

- Farmers are not very keen on agriculture training as they believe it is their traditional activity and know the (agricultural) process well
- Most of the farmers are not willing to get trained for longer period (not more than 5 days)
- Farmers are not willing to pay and get trained and also expect stipend during their training period

Some of the major skill gaps in the agriculture sector based on our field survey are as follows:

- Some of the farmers do not consider agriculture as a commercial venture and do not adopt scientific methods of farming

- Lack of adequate technical knowledge regarding crop care, and pre & post-harvest management
- Inadequate knowledge on post harvesting measures such as logistics, marketing, etc.
- Inadequate knowledge to assess market situation and choose to grow the crop that is in demand
- Lack of adequate knowledge on modern and scientific farming methods such as Systematic Rice Intensification (SRI), etc.
- Lack of awareness about latest technology used in agriculture and inability to adopt technology even if they are aware of it

5.2. Food processing – Rice milling

Paddy is the major crop grown in the district and this has resulted in setting up of numerous rice mills in the region. According to discussions with the industry players in the district, there are around 450 rice mills in Gondia district. These rice mills fall under the Micro, Small and Medium Enterprises (MSME) category.

Rice milling is the major industry in the district and finer quality of rice is exported as well. Most of the rice mills in the district have upgraded themselves with the technology and has modern equipment in their mills. On an average, a mill has around ten to twelve labours and the nature of the work requires unskilled and semi-skilled labours. Since it has been as established industry in the district and the work is also not very technical, there are no major skill gaps experienced. However, due to the advancement in technology and the incoming of modern equipment in the mill, few of the semi-skilled labours are experiencing a few skill gaps in the functions such as:

- Boiler operation – Modern electronic boilers are now used for heating the paddy
- Sortex Machine operation – Sortex machine are used to automatically separate the black/broken rice in a specified rate to bring the desired quality of output
- Quality control – Ensuring the output is of desired quality (in terms of number black rice/broken rice, colour, quality of polishing, etc.)

Rice milling plant



Modern Rice milling Equipment



Imported Sortex Machine

Based on the discussions with the stakeholders in the district, we observe the following:

- There is a shortage of skilled workmen observe in the district for roles such as boiler operator, sortex machine operator and boiler operator.
- The industry is facing high competition from the industries in the nearby States.
- The industry players in the district believe that the industrial policy of the State is not very attractive as it is in the nearby States and are not able to compete with them

5.3. Others

Gondia district lacks adequate industrial activity. Therefore, the people in the district have to look for other alternatives for employment. One such measure could be that the district can be a supply of manpower to the districts which are progressing and in need of skilled manpower for its development. Migration for employment is common in India. There are various types of migration seen in India namely seasonal migration (especially agricultural farmers during off-season), inter-state and intra-state migration for employment reasons.

There are districts such as Nagpur, Pune, Aurangabad, Mumbai, etc which are showing high industrial progress and are in requirement of skilled manpower in various sectors such as facility management, organised retail, construction, etc. to assist its growth. Most of the migrants get a job in these sectors without proper training/experience and end up in getting a lower profile job. Skilling intervention could help them in getting a better job and the industry is also in need of skilled manpower.

Considering the literacy rate of Gondia (which is above the state average) and the progress in the nearby districts, skilling can be provided in retailing and facility management sectors which could act as a catalyst in getting a better job in these sectors. These sectors have high employment potential and are in requirement of skilled manpower. The expected skill sets for these sectors are mentioned in the tables in annexures.

6. Recommendations

Recommendations for Gondia district focuses on the sectors of agriculture, food processing – rice milling and others (retail and facility management). Some of these sectors will have recommendations for the private sector which will directly translate to skills being developed and the others will need Government intervention to facilitate improvements

While the detailed recommendations follow, summary is given in the table below.

Table 96: Key recommendations for Gondia – summary

Sector	For private training providers	For Government players	For Industry	For NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Training on modern methods, marketing, etc. ▪ Tie up with Government for aid in sourcing and getting subsidy for 	<ul style="list-style-type: none"> ▪ Sourcing of candidates ▪ Stipend facility to farmer training ▪ Tie up with private training provider for training delivery 	----	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs

Sector	For private training providers	For Government players	For Industry	For NSDC
	training			
Food processing – Rice milling	<ul style="list-style-type: none"> ▪ Training to operators in milling industry ▪ Tie up with local industries and provide need based training 	<ul style="list-style-type: none"> ▪ Government ITIs can provide to the local industries according to requirement 	<ul style="list-style-type: none"> ▪ Tie up with training provider for need based training ▪ Provide physical infrastructure support for training 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
Others – Retail sector Facility Management	<ul style="list-style-type: none"> ▪ Training on retail and facility management related courses ▪ Tie up with industry players to ensure placements 	<ul style="list-style-type: none"> ▪ Create awareness about training program ▪ Aid in sourcing candidates ▪ Providing subsidy on training in initial years 	<ul style="list-style-type: none"> ▪ Tie up with the training providers for skilling and placement ▪ Industry should encourage placing skilled people from industrially backward areas 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs

6.1. Government players

- ❖ **Agriculture and allied:** The Department of Agriculture can facilitate the training program provided in agriculture and allied activities. Some of the ways it can aid the training for agriculture are as follows:
 - It can aid quality training provider by providing subsidy for the training through various skill development schemes
 - Providing stipend to the trainees
 - Help in sourcing trainees
 - Facilitate the training by providing class rooms and infrastructural facilities for training
 - Monitor the performance of training providers and feedback from farmers

- ❖ **Food Processing – Rice Milling:** Government can facilitate the training for mill operation. The Government technical institutions (example: Government ITI) can provide training on milling operation on requirement basis. The institution can tie up with the local industries and offer the courses according to their requirement and provide training accordingly. Infrastructure (for practical training) can also be leveraged from the industries.

- ❖ **Other Sectors (Organised Retail and Facility Management Sector):** Government needs to play a crucial role in implementation of the training program for these identified sectors. Some of the ways it can aid the training are as follows:
 - Awareness programs on opportunities in these sectors and importance of training to get a job
 - Sourcing candidates for training program
 - In the initial years, Government may also provide subsidy for the training program through skill development schemes
 - Monitoring of training providers and training process (which are conducted through government funds)

6.2. Private training providers

❖ **Agriculture and allied:** Private training centres can provide farming related courses to the farming community in the district. In the agriculture training space, private training centres will face issues in some of the areas such as sourcing, sustainability, etc. This is due to the farmers' lack of awareness about training and its benefits and economical background. Therefore, the private training providers can coordinate with the Government (state and central) and provide training through their various schemes for skill development. By this, they will be able to overcome sourcing and sustainability issues to a certain extent. Some of the areas where training can be provided to farmers are as follows:

- Modern methods of rice production (example: SRI technique)
- Usage of modern equipment in farming
- Pest and weed control
- Yield management
- Inter cropping techniques
- Irrigation techniques (Example: Drip irrigation)
- Horticulture crop training (vegetables and fruits)
- Marketing and sales of agricultural produce
- Integrated course on production, processing and marketing

❖ **Food Processing – Rice Milling:** A rice mill generally requires semi-skilled and unskilled nature of human resource, however due to advancement of technology and modern milling equipment, skilled personnel are required in specialised areas. Private training providers can provide training in these areas which are as follows:

- Boiler attendant course – (Boilers are used in mills for heating the paddy) The course should cover milling process, machine operation and machine maintenance
- Sortex machine operator – Machine operation and maintenance (Sortex machine is used to sort the rice to different grades)
- Milling machine operator
- Quality control

Rice mills are currently mechanised and it is not a big employment generating industry. Also, operators are available in the existing mills and upskilling on the above mentioned courses only needs to be provided. Therefore, temporary and need based training centres can be set up by partnering with industrial associations and train a group of people as required by the milling units. Industrial partnership is crucial as it assures the placement for the trainees.

❖ **Other Sectors (Organised Retail and Facility Management Sector):** Private training providers can provide training in sectors such as organised retail and facility management. These sectors

are in booming in the developed and developing region and are in need of skilled human resources. Some of the training courses for these sectors are mentioned below.

Organised retail sector:

- Sales and Marketing
- Customer relationship and sales
- Retail Store Operations
- Product specific retail sales training - (example: Retail sales of white goods and electronic goods)

Facility management sector:

- Office administration
- Security management
- Fire protection and safety management
- Driving

All these courses should include communication skills and basic etiquettes as a part of their curriculum since people are from rural background. The important thing for the training provider is to have a tie up with industries for placement. Only when people realise that they would get an assured job after training, they would join for any training program. So, adequate industry partnership to place the trainees on successful completion of training is essential for successful implementation of the training program.

6.3. Industry

- ❖ **Food Processing – Rice Milling:** The industries can play a crucial role in aiding the training providers with adequate infrastructural facilities as they are the beneficiaries of the training activities. Since mostly upskilling training is required for the existing employees, they should frame the training requirement and should tie up with training providers. Infrastructure support can be provided to them for quality training output. The industries should also recognise the trained candidates in mill operations and some incentive need to be given to promote skilled labour in the industry.
- ❖ **Other Sectors (Organised Retail and Facility Management Sector):** Industries require skilled personnel in various functions. They need to have a tie up with quality training provider for placement and also aid them in framing training content as per their requirement. The industry may also encourage the training happening at the place of supply of human resource and provide job on their successful completion. These sectors are providing jobs to large number of migrant people who do not have prior experience / training and getting a skilled human resource is a great advantage to them.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Agriculture and allied – mainly modern techniques of rice cultivation
- ❖ Food processing – rice mills
- ❖ Sectors for migration (Organised Retail and Facility Management Sector)

2.12. Hingoli

1. Introduction

Hingoli district lies at the northern part of Marathwada in the State of Maharashtra. It came into existence as a separate district of Maharashtra from the division of Parbhani district on 1st May 1999. The district consists of two sub divisions namely Hingoli and Basmath and five talukas namely Hingoli, Basmath, Kalamnuri, and Aundha Nagnath and Sengaon. Marathwada is one of the six administrative divisions in Maharashtra. It is known as Pathar pradesh of Balaghat and Satpuda mountain ranges.

The district comprises of 672 villages and has a total geographical area of 4,827 sq. km. out of which about eight per cent is covered with forests. It is predominantly a tribal district.

Table 97: Comparison of Hingoli district with Maharashtra – key indicators

Indicator	Year	Hingoli	Maharashtra
Area, in sq.km.	2001	4,827	307,713
Percentage share in State geographical area, %	2001	1.57%	100%
No. of sub-districts	2011	6	353
No. of inhabited villages	2001	672	41,095
No. of households	2001	180,695	19,576,736
Forest area as a percentage of total	2001	7.96%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Hingoli district has a population of 11.78 lakh persons – 1.05 per cent of the State population. While 51 per cent of the population in the district is in working-age group (15 to 59 years), about 39 per cent is actually working i.e. work participation rate. The district's literacy rate is 76.04 per cent, which is lower than the State average of 82.91 per cent but higher than the All-India average of 74 per cent.

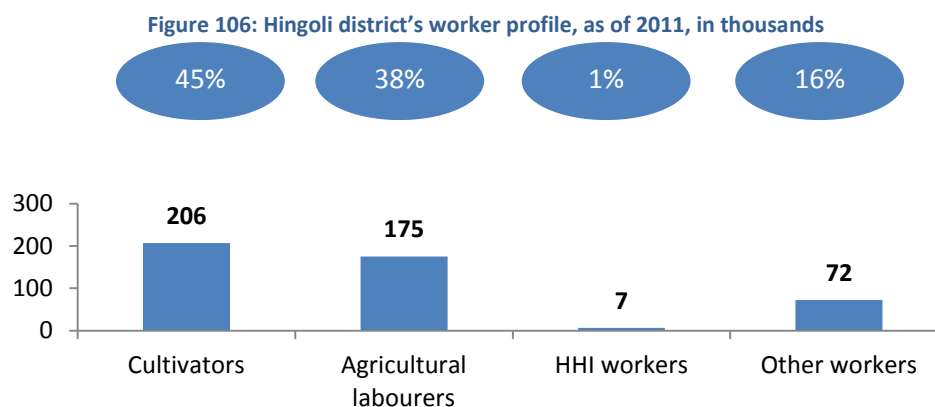
Table 98: Key demographic indicators

Indicator	Year	Hingoli	Maharashtra
Population, No.	2011	1,178,973	112,372,972
Decadal growth rate of population, %	2001-11	19.43	15.99%
District's share in State's population, %	2011	1.05%	100%
Urban population as a percentage of total population, %	2011	15%	45%

Indicator	Year	Hingoli	Maharashtra
SC population, %	2001	10%	8.79%
ST population, %	2001	9%	15%
Sex ratio, No. of females per 1000 males	2011	935	925
Population density, per sq. km.	2011	244	365
Literacy rate, %	2011	76.04%	82.91%
Main workers, No.	2001	412,838	34,748,053
Marginal workers, No.	2001	47,140	6,425,298
Working age population* as a percentage of total population, %	2001	51%	59%
Work participation rate^, %	2001	39%	42.50%

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011

The district has a total workforce of about 4.59 lakh persons. Of this, 45 per cent are cultivators, 38 per cent are agricultural labourers, one per cent are workers in household industry and 16 per cent are other workers.



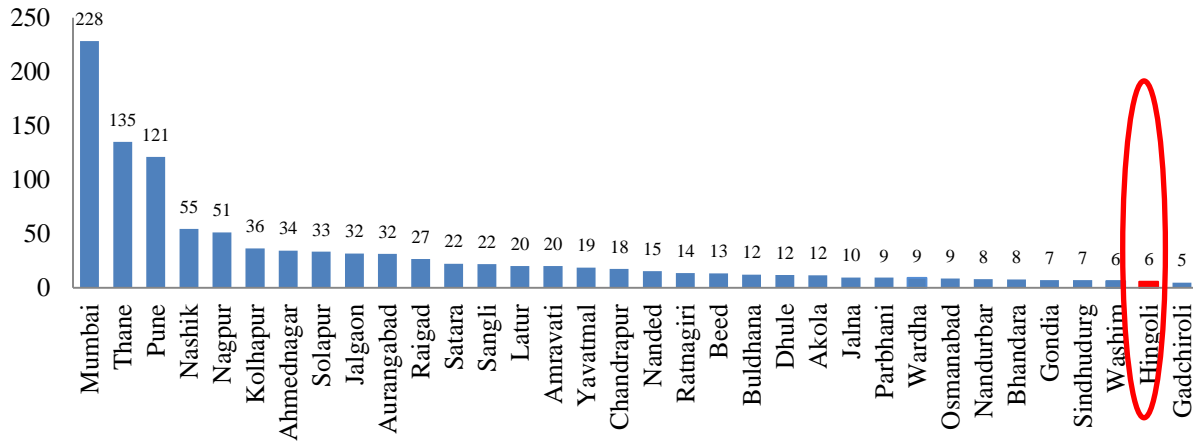
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2011-12, Hingoli district had Gross District Domestic Product (GDDP) of Rs 5,767 crore (one per cent of the GSDP of Maharashtra). It has the second lowest GDDP of the total 35 districts in the State.

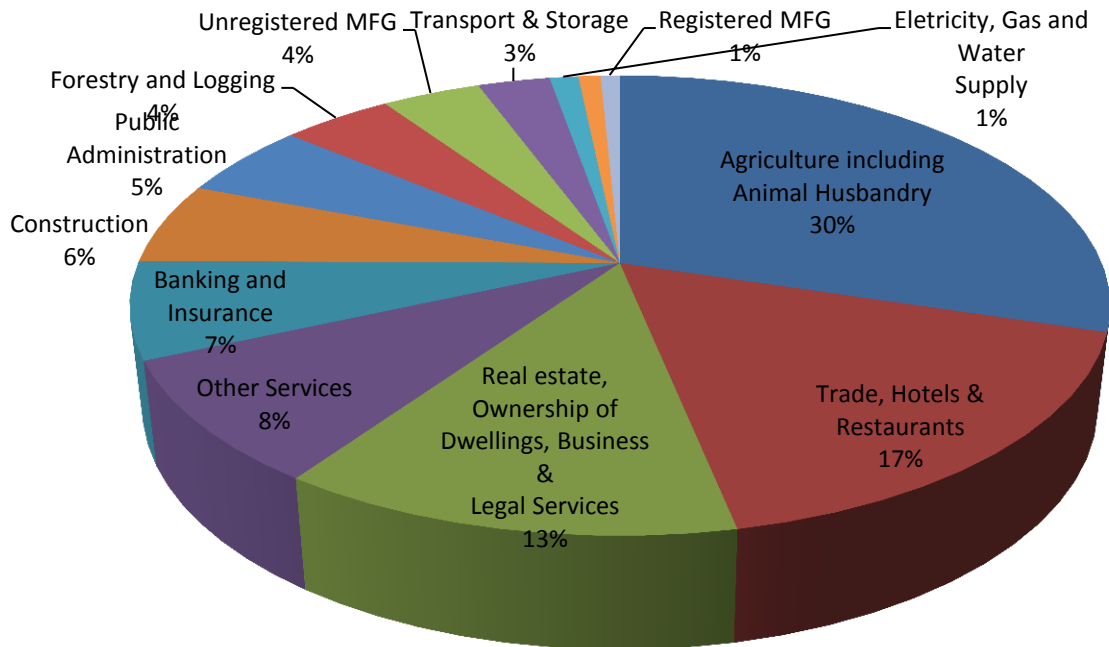
Figure 107: Gross District Domestic Product, in Rs 5,767 crores, as of 2010-11



Source: Economic Survey of Maharashtra

Tertiary sector contributes to 50 per cent to the district GDDP, followed by the primary sector at 34 per cent secondary sector at 16 per cent.

Figure 108: Sector wise distribution of Hingoli's GDDP, as of 2009-10, 100% =4,194 crore



Source: Directorate of Economics and Statistics, Government of Maharashtra

Agriculture: The district economy is pre dominantly agriculture based with more than 80 per cent of the population dependent on agriculture directly or indirectly but agriculture’s contribution to GDDP is 30 per cent. Key crops grown in the district are soya bean (28 per cent of cultivable area), cotton, jowar, tur, pulses, oil seeds, wheat, gram, and sunflower. The main non-food crop is cotton (22 per cent of the cultivable area).

Industry: The district is industrially backward. The industrial activity is largely confined to agro processing units -- ginning and pressing of cotton, oil mills, and dal mills. The key reason to district’s low levels of industrial development is lack of infrastructure including road connectivity, power and water supply.

Services: As mentioned earlier, service sector’s contribution to GDDP is at 50 per cent. Of all the services, the key services in the district are of ‘trade, hotels and restaurants’ accounting for 17 per cent followed by ‘real estate, ownership of dwellings, business and legal services’ accounting for 13 per cent.

2.3.State of Education

As of 2011-12, Hingoli district had 1,132 schools. Of this, 40 per cent were primary schools, 44 per cent were upper primary schools and the remaining 16 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 188,840 while the student-teacher ratio was at 32 students per teacher. The student-teacher ratio was slightly higher as compared to the average ratio for the State at about 30 students per teacher. Number of general colleges is 30, while availability of technical education institutes is limited to five.

Table 99 : School and higher education infrastructure in Hingoli district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	1,132	188,840
General colleges	30	11,424
Technical institutes*	5	655

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *Excluding non-AICTE diploma courses*

For vocational education, the district has six Industrial Training Institutes (ITIs) with a seating capacity of 548. In 2011-12, the total numbers of applications received were 3,122 for 548 seats. This indicates a shortage of vocational education institutes, which was also corroborated from our discussions with the stakeholders in the district. Based on our primary survey, we found that there is a shortage of vocational education institutes in the district. Many of the youth have to travel to nearby districts to avail of good quality education.

Table 100: Key ITI indicators in Hingoli district, as of October 2012

Indicator	Value
Total Number of ITIs	6
Number of Government ITIs	6
Number of Private ITIs	0
Total Seating capacity	548

Source: Department of Employment & Self Employment, Government of Maharashtra

The primary survey also revealed that on an average, of all the students that pass out from an ITI in each year, not more than 50 per cent find jobs in the market. This is due to the shortage of job opportunities in the district, which is further attributed to lack of industrialisation.

The district also has training infrastructure for different trades set up by both Government and private institutions. The Government Departments offer courses in trades such as hair and skin care, fitter, Computer operator and programming assistant (COPA), electrician, dress making and welder. The private institutes provide courses such as beauty culture, desktop publishing, interior decorator and designer and etc.

2.4. Youth Aspirations

In the process of identifying the growth engines for the Hingoli district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Willingness to pursue higher education:** Most of the students wants to pursue higher education but are constrained by finances. They have a clear bias towards government institutes as the fees is low and job opportunities are better.
- **Entrepreneurial zeal:** The youth is not inclined towards starting their own business, as they are highly risk averse. The preference is to go for Government or private jobs only, as they provide a secure source of income. Based on our discussions, we found that only about one to two per cent of the students want to go for self-employment opportunities
- **Migration trends:** Most of the students want to work in Nagpur or Pune as the district doesn't offer them decent salaries.
- **Satisfaction with existing education infrastructure:** Even though there is high preference to study from Government educational institutions, the youth feel that these institutions are not equipped with even the basic infrastructure such as drinking water and working toilets.

3. Developmental concerns

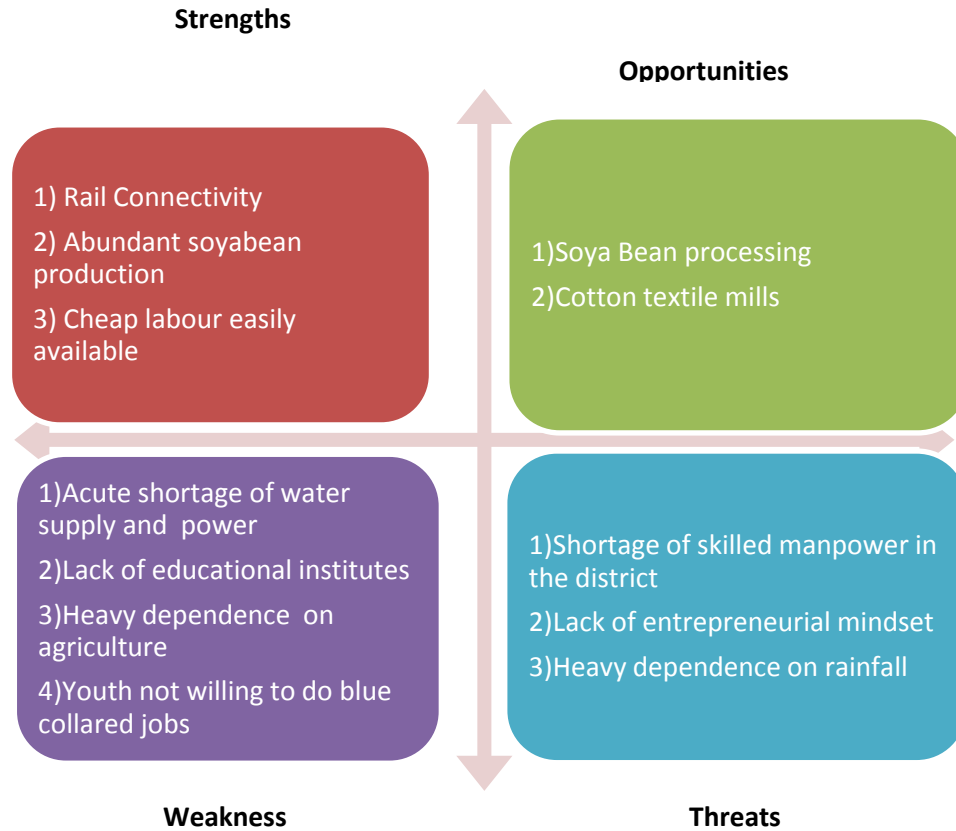
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Water Scarcity:** There is a huge water scarcity in Hingoli. The net irrigated area is 59,300 hectares (13 per cent of agricultural area) while rainfed area is 397,700 hectares. Key rivers flowing through the district are Kayadhu and Purna. However, these are not sufficient to meet the water demands for the district – not even for drinking purposes, let alone industrial use. The district has been receiving grant from the State Government to tide over its water crisis. The water scarcity as a whole is the biggest factor leading to lack of industrial development in the district.
- **Lack of quality educational infrastructure:** The district also faces shortage of educational infrastructure. For instance, for 548 current seats in ITI, 3,122 applications were received in 2011-12. Thus, educational infrastructure needs major up gradation. There is also no major private engineering college affiliated to AICTE in the district. The students from Hingoli have to go to nearby districts to study.
- **Lack of entrepreneurial spirit:** There is a lack of entrepreneurial spirit which is reflected in our discussions with the students and farmers. The students in ITIs look for employment after passing out of the institutes rather than preferring to start something of their own. Even if they are given financial assistance for setting up their units, they are not willing to take the extra risk which comes with starting a new unit.

SWOT analysis

Based on the diagnostics of the Hingoli, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 109 : SWOT analysis of Hingoli district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 64,582 persons between 2012 and 2022. Sectors which are likely to generate employment are mainly ‘agriculture and allied’, and ‘building, construction and real estate’.

However, sectors which are unique to Hingoli are ‘food processing’ and ‘textiles and clothing’. The forecasts for these sectors are quite low, as current and past trends have been used for forecasting. However, these two sectors have immense potential due to availability of raw materials. If adequate investments materialise in these sectors (both from Government and private), then these sectors will generate employment much more than what has been forecasted as of now.

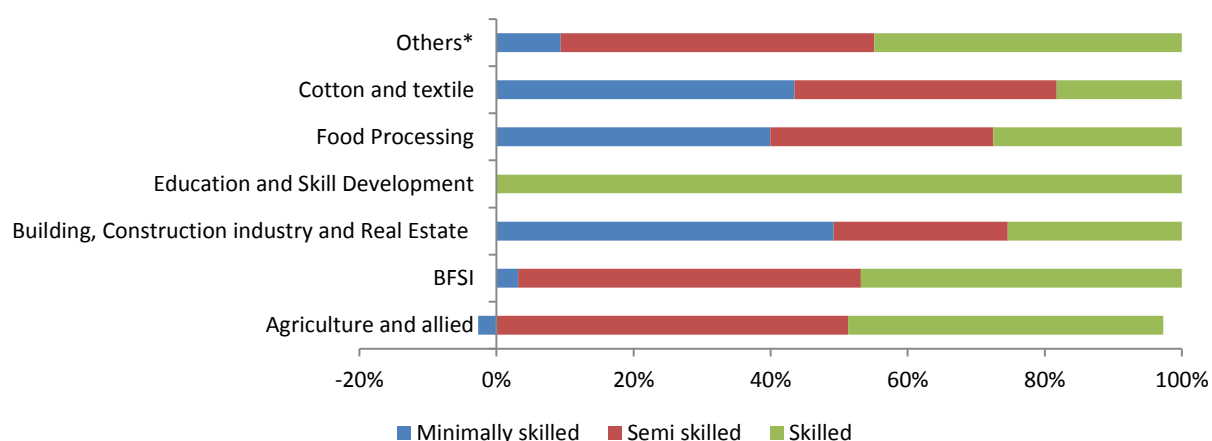
Table 101: Incremental demand of human resources in Hingoli – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	9,645	4,915	14,560
Banking, Financial Services and Insurance	3,023	4,859	7,881
Building, Construction industry and Real Estate	4,199	5,827	10,026
Education and Skill Development	4,930	2,233	7,163
Food Processing	159	205	363
Textiles & clothing	160	203	364
Others*	2,252	2,917	5,168
Total	32,104	32,479	64,582

Source: IMAcS Analysis

* Other sector include Auto and Auto component, Chemicals & Pharmaceuticals, Furniture and Furnishings, Healthcare Services, Transportation, Logistics, Warehousing and Packaging and Other manufacturing

Figure 110: Incremental demand of human resources in Hingoli – by skill level

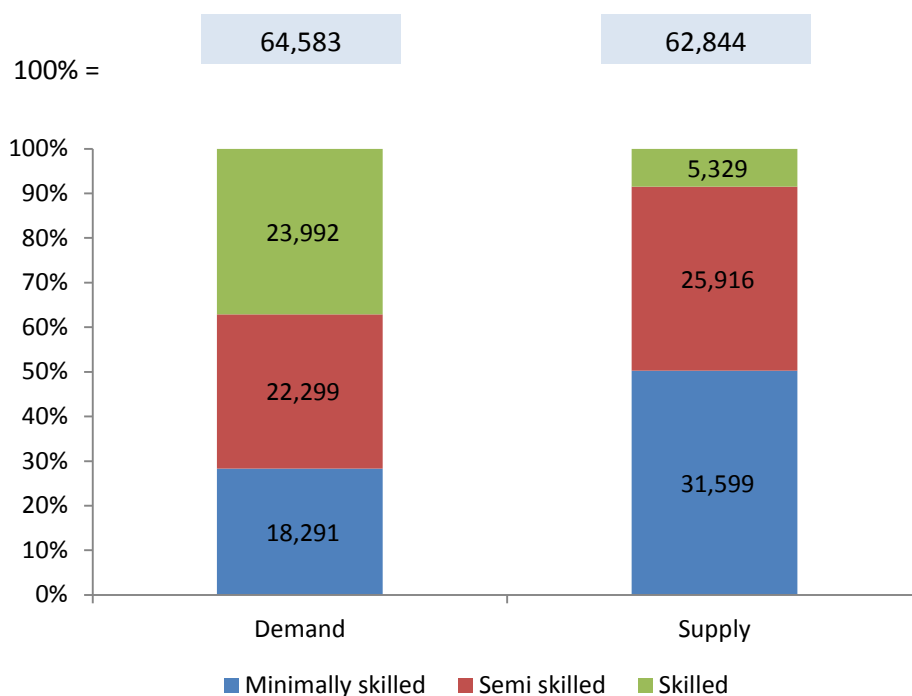


Source: IMAcS Analysis

* Other sector include Auto and Auto component, Chemicals & Pharmaceuticals, Furniture and Furnishings, Healthcare Services, Transportation, Logistics, Warehousing and Packaging and Other manufacturing

We have estimated incremental supply of human resources in the district at 62,844 persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be more or less sufficient to meet the incremental demand in the district. However, shortage is likely to be faced at the skilled personnel level. Thus, significant skilling and up-skilling efforts will be required.

Figure 111: Demand supply gap of human resources in Hingoli – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

As discussed in the section above, while employment will be generated across many sectors, in this section, we have identified especially those sectors which require skilling interventions in the district – mainly food processing and textiles & clothing. Identification of such sectors has been based on the diagnostics above, our observations during the primary survey and discussions with the key stakeholders in the district.

Table 102 : Sectors where interventions are required in Hingoli– comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Hingoli	Maharashtra
Agriculture and allied		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		

High Growth Sectors identified by NSDC	Hingoli	Maharashtra
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing – Soya processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing – Cotton ginning and pressing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMaCS Analysis

The shortlisted sectors are at different stages of development and market evolution. Based on that, each one of them has separate skill requirements. While some require only skill up-gradation, some require new skills and even speciality skills.

5.1. Agriculture

More than 80 per cent of total working population in Hingoli depends on agriculture for livelihood (Cultivators: 45 per cent and agriculture labourers: 38 per cent) and less than one per cent of labour is engaged in industrial activities since there are no industries present. Key crops grown in the district are soya bean (28 per cent of cultivable area), cotton, jowar, tur, pulses, oil seeds, wheat, gram, and sunflower. The main non-food crop is cotton (22 per cent of the cultivable area). The sector currently uses out-dated modes of production. With skilling interventions and technology improvements, the sector can witness increased yields and thus benefit the huge section of people employed in the same.

Based on our stakeholders' discussions we have identified the following skill gaps for farmers:

- Lack the ability to use the latest technology
- Unable to use the most productive seeds due to lack of knowledge and finance
- Lack of storage space leads to selling them cheap and sometimes at a loss
- Unaware of the different uses for a crop
- Unable to use the most advanced machinery because of lack of knowledge about their capability to increase productivity

5.2. Food processing - Soyabean

As discussed in the sections above, 28 per cent of the cultivable land is allotted for soyabean production. Given the scale of production, there is potential for setting up soyabean processing units in the district. However, presently there are no such units in the district due to lack of adequate infrastructure. With adequate Government intervention, the industry can come up in the district. For expected competencies required in the sector, please refer to annexures.

5.3. Textiles & clothing - Cotton Ginning and pressing

It could be a good opportunity in the future as 22 per cent of the cultivable area is under cotton cultivation. In addition, there is no dearth of cheap labour in the district which is required for cotton and ginning plant. For expected competencies required in the sector, please refer to annexures.

5.4. Others

Hingoli district lacks adequate industrial activity. Therefore, the people in the district have to look for other alternatives for employment. One such measure could be that the district can be a supply of manpower to the districts which are progressing and in need of skilled manpower for its development. Migration for employment is common in India. There are various types of migration seen in India namely seasonal migration (especially agricultural farmers during off-season), inter-state and intra-state migration for employment reasons.

There are districts such as Nagpur, Pune, Aurangabad, Mumbai, etc which are showing high industrial progress and are in requirement of skilled manpower in various sectors such as facility management, organised retail, construction, etc. to assist its growth. Most of the migrants get a job in these sectors without proper training/experience and end up in getting a lower profile job. Skilling intervention could help them in getting a better job and the industry is also in need of skilled manpower.

Skilling can be provided in retailing and facility management sectors which could act as a catalyst in getting a better job in these sectors. These sectors have high employment potential and are in requirement of skilled manpower. The expected skill sets for these sectors are mentioned in the tables in annexures.

6. Recommendations

Recommendations for Hingoli district focuses on the sectors of agriculture, food processing – soya processing, textiles and clothing – cotton ginning and pressing and others (retail and facility management). Some of these sectors will have recommendations for the private sector which will directly translate to skills being developed and the others will need Government intervention to facilitate improvements

While the detailed recommendations follow, summary is given in the table below.

Table 103 : Key Recommendation for Hingoli District

Sector	Government	Private training providers	Industry	NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Department of agriculture needs to disseminate knowledge about soil health, efficient use of water and crop planning according to climatic conditions. 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a
Food processing - Soya	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Training to be provided in tie-ups with the industry 	<ul style="list-style-type: none"> ▪ Tie up with VTPs once industry sets up shop in the district 	<ul style="list-style-type: none"> Interventions required through funding of private training as well through SSCs
Textiles & clothing - Cotton Ginning and Pressing	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ They can provide training to workers which can be subsidized by the industry 	<ul style="list-style-type: none"> ▪ Tie up with VTPs once industry sets up shop in the district 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well through SSCs
Others – Retail sector Facility Management	<ul style="list-style-type: none"> ▪ Training on retail and facility management related courses ▪ Tie up with industry players to ensure placements 	<ul style="list-style-type: none"> ▪ Create awareness about training program ▪ Aid in sourcing candidates ▪ Providing subsidy on training in initial years 	<ul style="list-style-type: none"> ▪ Tie up with the training providers for skilling and placement ▪ Industry should encourage placing skilled people from industrially backward areas 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs

6.1. Government

❖ **Agriculture and Allied sector :**

The district is predominantly agrarian with over 80 per cent of the population dependent on it for their livelihood. Thus, efforts need to be made by the department of agriculture to skill them and disseminate knowledge about the following:

- Soil health
- Efficient use of water through micro irrigation
- Crop planning according to agro climatic condition

Government needs to conduct camps to make farmers aware of various schemes run by it. The same can be achieved with the help of the local Self Help Groups (SHGs) or existing NGOs that work in that area. The awareness needs to be generated in all talukas of the district.

- ❖ **Other Sectors (Organised Retail and Facility Management Sector):** Government needs to play a crucial role in implementation of the training program for these identified sectors. Some of the ways it can aid the training are as follows:

- Awareness programs on opportunities in these sectors and importance of training to get a job
- Sourcing candidates for training program
- In the initial years, Government may also provide subsidy for the training program through skill development schemes
- Monitoring of training providers and training process (which are conducted through government funds)

6.2. Private training providers

- ❖ **Food Processing – Soya:** Currently, there are no soyabean processing units in the district. Once the industry comes up, the private training institutes can directly collaborate with the industry for meeting their training requirements.
- ❖ **Cotton ginning and pressing:** It can provide the training needs of the workers in this industry through collaboration with industry.
- ❖ **Other Sectors (Organised Retail and Facility Management Sector):** Private training providers can provide training in sectors such as organised retail and facility management. These sectors are in booming in the developed and developing region and are in need of skilled human resources. Some of the training courses for these sectors are mentioned below.

Organised retail sector:

- Sales and Marketing
- Customer relationship and sales
- Retail Store Operations
- Product specific retail sales training - (example: Retail sales of white goods and electronic goods)

Facility management sector:

- Office administration
- Security management
- Fire protection and safety management
- Driving

All these courses should include communication skills and basic etiquettes as a part of their curriculum since people are from rural background. The important thing for the training provider is to have a tie up with industries for placement. Only when people realise that they would get an assured job after training, they would join for any training program. So, adequate

industry partnership to place the trainees on successful completion of training is essential for successful implementation of the training program.

6.3. Industry

- ❖ **Food Processing – Soya:** Presently, this is a potential opportunity in the district. Once the industry comes up, it can collaborate with VTPs for meeting the training needs of the manpower.
- ❖ **Cotton ginning and pressing:** Presently, this is a potential opportunity in the district. Once the industry comes up, it can collaborate with VTPs for meeting the training needs of the manpower.
- ❖ **Other Sectors (Organised Retail and Facility Management Sector):** Industries require skilled personnel in various functions. They need to have a tie up with quality training provider for placement and also aid them in framing training content as per their requirement. The industry may also encourage the training happening at the place of supply of human resource and provide job on their successful completion. These sectors are providing jobs to large number of migrant people who do not have prior experience / training and getting a skilled human resource is a great advantage to them.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Food Processing – Soya (up-coming area; doesn't exist presently)
- ❖ Cotton ginning and pressing (up-coming area; doesn't exist presently)
- ❖ Sectors for migration (Organised Retail and Facility Management Sector)

2.13. JALGAON

1. Introduction

Jalgaon, formerly known as East Khandesh, is a northern district in the state of Maharashtra in India, part of the Nashik Division. It is bounded by Madhya Pradesh state to the north, and by the districts of Buldhana to the east, Jalna to the southeast, Aurangabad to the south, Nashik to the southwest, and Dhule to the west. Jalgaon (city) is the headquarters and chief city of the district.

Jalgaon district has an area of 11,765 square kilometres, and a population density of 359 persons per square kilometre. There are 1,491 villages in the district and it is sub-divided into 16 taluks. Majority of the population at 68 per cent lives in rural areas. Cultivators and Agricultural labourers together are a major class of the workers in the district, employing 70.8 per cent of the labour force (as of Census 2001) followed by other workers¹ (26.8 per cent) and household industry at 2.4 per cent.

Generally soil found in various parts of the Jalgaon district are black - fertile, medium fertile, forest oriented etc. Major rivers flowing through the district include Tapti and its tributaries the Girna, Bori and Panjhra. Out of the total geographical area of Jalgaon about 218 thousand hector falls under forest cover which translates into 25.08%.

Situated near the famous Ajanta Caves located just about 59 kilometers away, is one of the key attraction places for tourists. Jalgaon is connected with Central Railway zone and National Highway No.6 and has an Airport. The district now has major industrial areas, educational institutes and good hospitals. The city is well developed with good roads, and residential areas, and also has good communication and transport infrastructure. Known as "Banana-City", it contributes to about half of the Maharashtra state's Banana production.

Table 104: Comparison of Jalgaon district with Maharashtra – key indicators

Indicator	Year	Jalgaon	Maharashtra
Area, in sq.km.	2001	11,765	307,713
Percentage share in State geographical area, %	2001	3.82%	100%
No. of sub-districts	2011	16	353
No. of inhabited villages	2001	1,491	41,095
No. of households	2001	732,767	19,576,736
Forest area as a % of total geographical area	2001	25.08%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Jalgaon district has a population of 42.24 lakh persons – 3.76 per cent of the State population. While 57 per cent of the population in the district is in working-age group (15 to 59 years), about 42 per cent is actually working i.e. work participation rate.

The district's literacy rate is 79.73 per cent, which is marginally lower than the State average of 82.91 per cent but higher than the All-India average of 74 per cent. Male literacy at 87.97 per cent is much higher than female literacy rate at 70.92 per cent. About 68 per cent of the population lives in rural areas with the balance 32 per cent in the urban areas. Agriculture provides majority of the employment in the district (70.9 per cent) while manufacturing and services are next at 26.80 per cent.

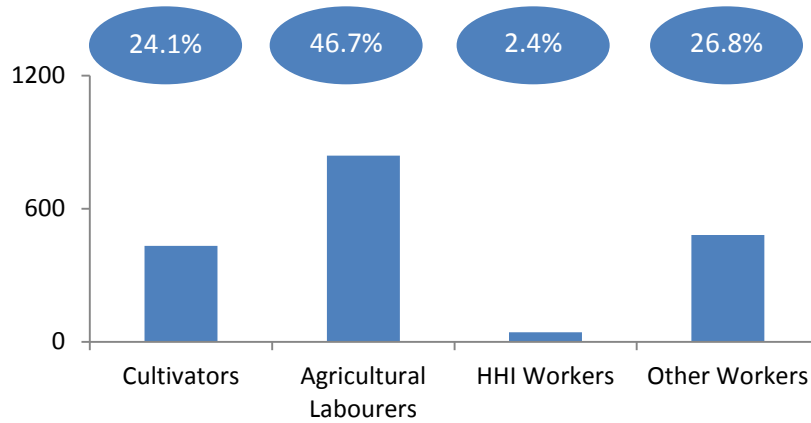
Table 105: Key demographic indicators

Indicator	Year	Jalgaon	Maharashtra
Population, No.	2011	4,224,442	112,372,972
Decadal growth rate of population, %	2001-11	14.71	15.99%
District's share in State's population, %	2011	3.76%	100%
Urban population as a percentage of total population, %	2001	32%	45%
SC population, %	2001	8%	8.79%
ST population, %	2001	12%	15%
Sex ratio, No. of females per 1000 males	2011	922	925
Population density, per sq. km.	2011	359	365
Literacy rate, %	2011	79.73%	82.91%
Main workers, No.	2001	1,300,086	34,748,053
Marginal workers, No.	2001	263,897	6,425,298
Working age population* as a percentage of total population, %	2001	57%	59%
Work participation rate^, %	2001	42%	42.50%
HDI	2001	0.49	0.58

**Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011, Maharashtra Human Development Report 2005*

The district has a total workforce of about 15.6 lakh persons. Of this, 24.1 per cent are cultivators, 46.7 per cent are agricultural labourers, 2.4 per cent are workers in household industry and 26.8 per cent are other workers.

Figure 112: Jalgaon district's worker profile, as of 2011, in thousands



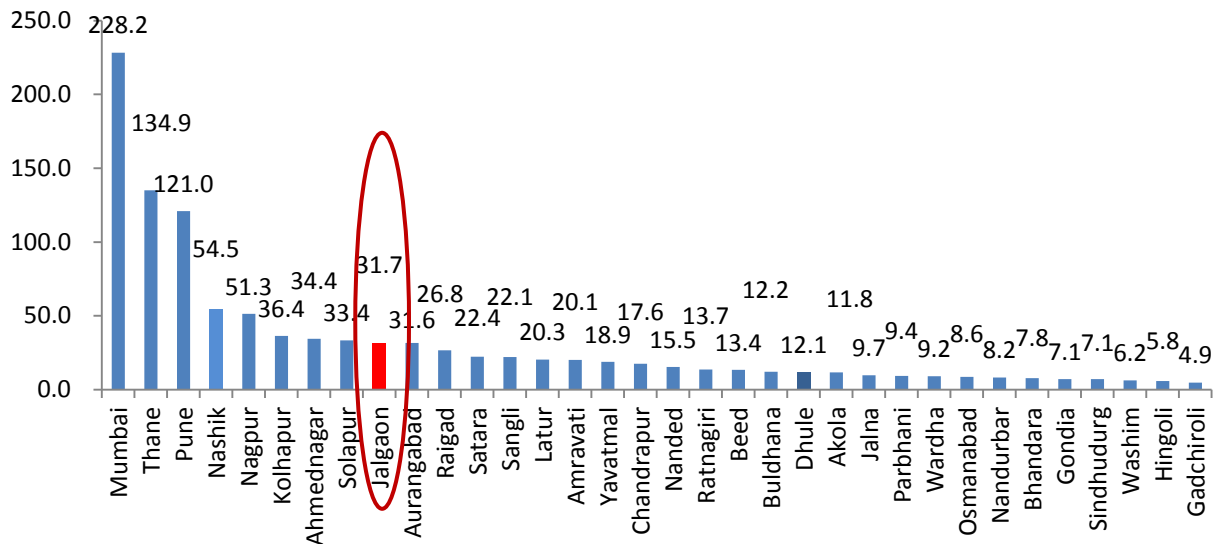
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2011-12, Jalgaon district had the ninth largest Gross District Domestic Product (GDDP) in Maharashtra at Rs 31,728 crore (2.9 per cent of the Gross State Domestic Product). In terms of per capita GDDP, it ranked 14th amongst 35 districts at Rs 61,391. This was lower than the State average of Rs 87,686.

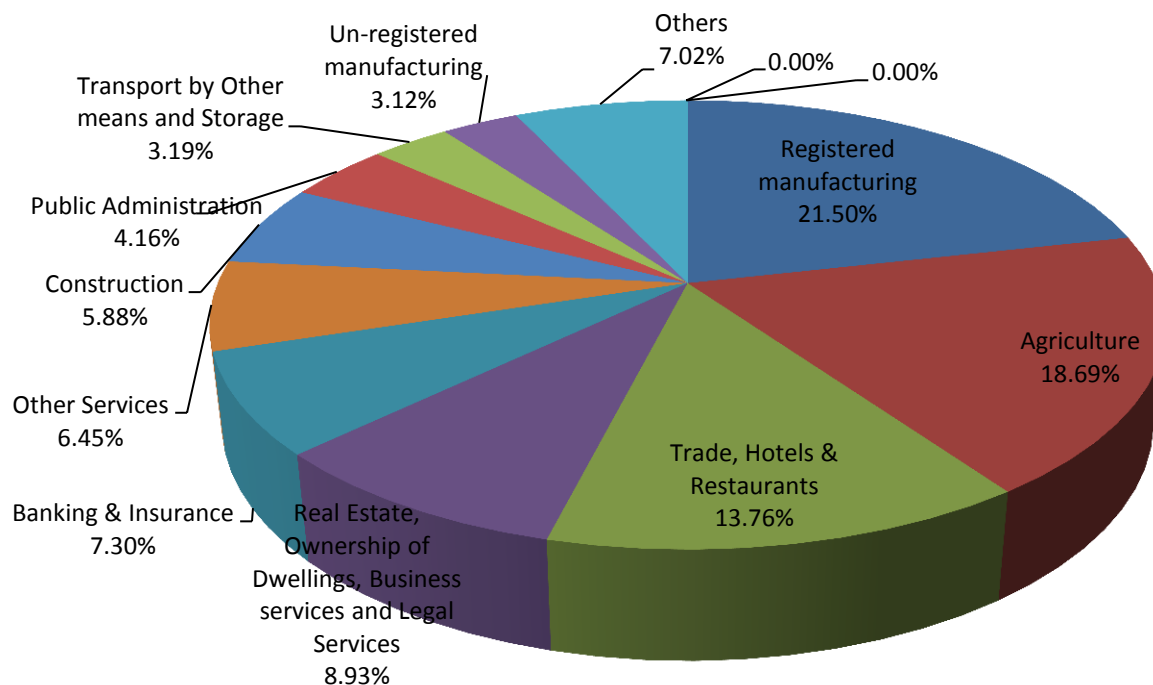
Figure 113: Gross District Domestic Product, In Rs thousand crore, as of 2011-12



Source: Maharashtra Directorate of Economic and Statistics

The district economy is has an equivalent mix of manufacturing and service based industries, with service sector's share in GDDP at 46.7 per cent and in 2009-10. This is followed by secondary sector at 32.5 per cent and primary sector at 20.8 per cent.

Figure 114: Sector wise distribution of Jalgaon's GDDP, As of 2009-10, 100% = Rs 28,408.25 crore



Source: Jalgaon District at a Glance 2009-10

Agriculture: Of the total area of 1,163.9 hectares in the district, about 73.2 per cent is the net sown area (cultivated land). Agriculture is mainly dominated by cultivation of cotton and banana. Jalgaon district produces more than 16 per cent of India's bananas and thus three per cent of world banana production happens in Jalgaon. According to Mahabanana, an association of banana growers of Maharashtra, 66 per cent of Maharashtra's land under banana crop is in Jalgaon.

Industry: As of 31st March 2012, Jalgaon district had about 10 large and medium scale industrial units. The major companies include Jain Irrigation Systems, Supreme Industries, Raymond Ltd, Tulsi Extractions etc. Jalgaon also has 4,276 micro and small scale enterprises, employing 36,065 persons. As of August 2012, majority of these included manufacture of basic metals, fabricated metal products, electrical, machinery and apparatus, rubber and plastic products, chemicals and chemical products etc. Also, the district has four industrial areas, totalling 1,230.93 hectares of land.

Services: As mentioned above, services account for 46.7 per cent of GDDP in Jalgaon district. Of all the services, the key services in the district are of trade, hotels and restaurants at 13.76 per cent, followed by real estate, ownership of dwellings, business and legal services at 8.93 per cent and banking and insurance at 7.30 per cent of GDDP.

2.3. State of education

As of 2011-12, Jalgaon district had 3,080 schools. Total student enrolment in all the schools was 662,606 while the student-teacher ratio was high at 34 students per teacher. The student-teacher ratio was higher to the average ratio for the State at about 30 students per teacher.

Table 106: School and higher education infrastructure in Jalgaon district, as of March 2011

Particulars	No. of institutes	No. of students
Schools	3080	662,606
General colleges	57	67,804
Technical education*	49	9,459

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

For general higher education, the district has 57 general colleges and 49 technical education institutes. For vocational training, Jalgaon district had a total of 26 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, 17 were Government ITIs, 9 were private ITIs. All the 26 ITIs together have a seating capacity of 4,984.

Table 107: Key ITI indicators in Jalgaon district, as of March 2012

Indicator	Value
Total Number of it is	26
Number of Government it is	17
Number of Private it is	9
Total Seating capacity	4,984

Source: Department of Employment & Self Employment, Government of Maharashtra

Based on our discussions with the key stakeholders in Jalgaon district, we have found that on an average, of all the students that pass out from an ITI in each year, about 85 to 90 per cent find jobs in the market.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The Government Departments offer courses in trades such as animal husbandry, hand-in-hand microfinance, teacher education and evaluation, policy planning, personality development etc. District Industries Centre (DIC) provides training relating to industries and service sector through MCED (Maharashtra Centre for Entrepreneurship Development) and MITCON Consultancy and Engineering Services Ltd. Self-employment promoting training programs such as mobile repairing, electrician, tailoring, beautician etc. are also conducted through this scheme.

2.4. Youth aspirations

In the process of identifying the growth engines for the Jalgaon district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Migration trends:** The preference amongst students both from colleges as well as other technical training institutes like ITIs is to migrate to bigger cities like Mumbai, Pune, Nashik for better pay and the attraction of living in a big city.
- **Satisfaction with existing education infrastructure:** Training institutes in Jalgaon have adequate machinery and infrastructure for practical training to be made available to students and the students feel satisfied with the same. Also, the ITI students want training want additional training in:-
 - English communication and soft skills
 - Higher order computer training
 - CNC machine operation
- **Job preference:** Amongst category of jobs, the ITI students prefer to join Government departments and Government companies over any private sector companies. While amongst college students, the preference is to join the private sector, especially the IT services sector. The preference amongst all students is for white collar jobs as against manual labour or jobs which require large amount of physical effort.

3. Developmental concerns

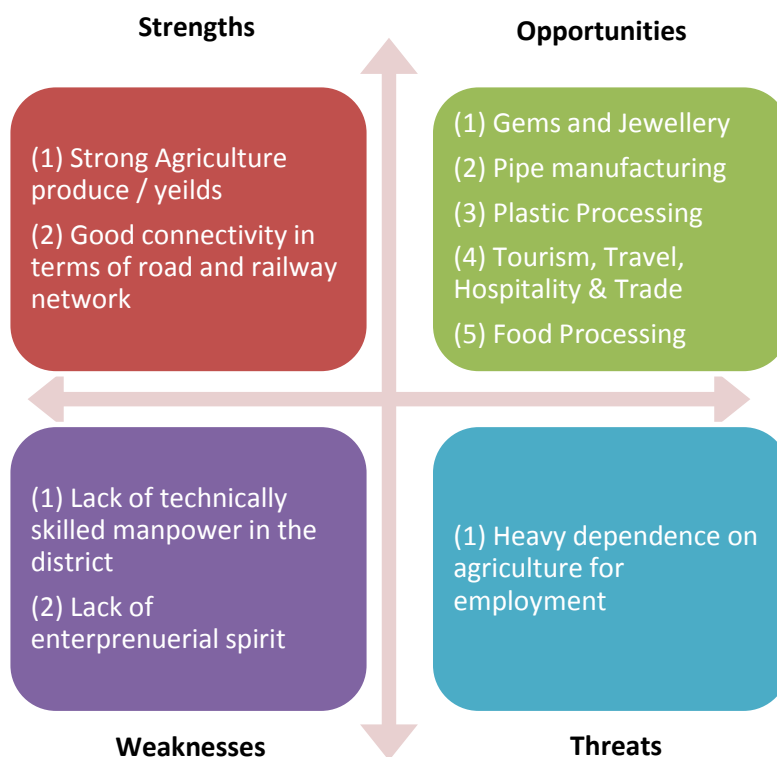
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Lack of Entrepreneurial spirit:** Most local people within the district prefer to work as an employee in various organisations within the district or migrate outside for employment and lack the will / spirit to setup industries / units of their own. There is a need to promote further entrepreneurship within the district.
- **Heavy dependence on agriculture for employment:** The district is heavily dependent on basic agriculture for most of its employment (71 per cent). This creates a huge seasonal unemployment scenario in the district. The farmers must be made to engage in further agro processing activities to help combat this situation.

SWOT analysis

Based on the diagnostics of the Jalgaon district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 115: SWOT Analysis of Jalgaon district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 2.77 lakh persons between 2012 and 2022. Sectors which will drive demand are expected to be 'building, construction and real estate', 'agriculture and allied activities' and 'banking, financial services and insurance'.

However, sectors which are unique to Jalgaon are 'food processing', 'gems and jewellery', and 'tourism, travel and hospitality'. The forecasts for these sectors are relatively low as compared to other sectors, as current and past trends have been used for forecasting. However, these sectors have immense potential due to availability of raw materials / natural endowments. If adequate investments materialise in these sectors (both from Government and private), then these sectors will generate employment much more than what has been forecasted as of now.

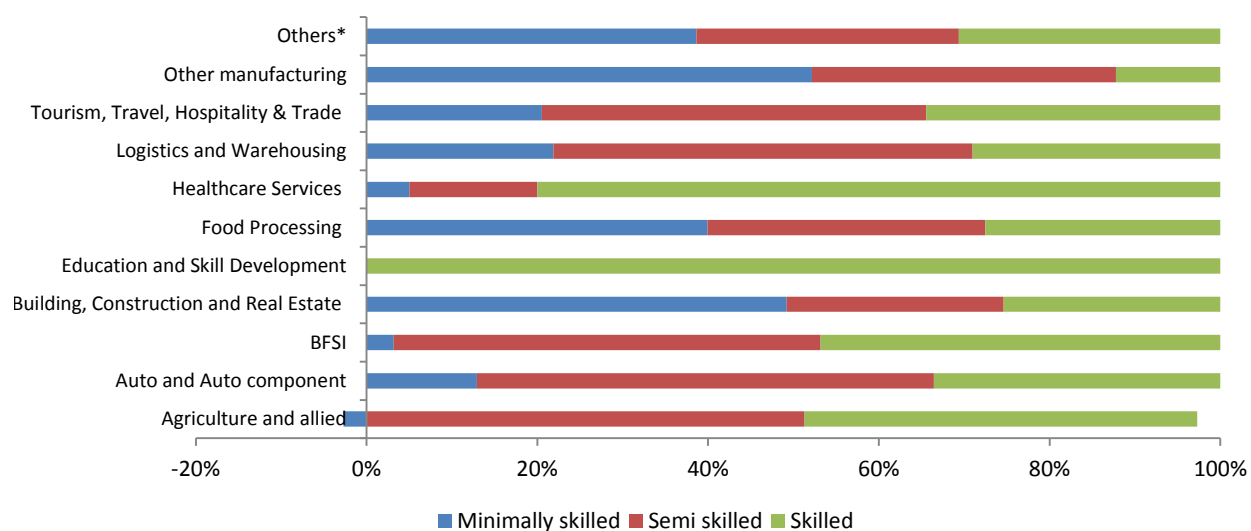
Table 108: Incremental demand of human resources in Jalgaon – by sector

Sector#	2012-17	2018-22	2012-22
Agriculture and allied	28,030	14,283	42,313
Auto and Auto component	1,173	1,880	3,053
BFSI [^]	14,795	23,782	38,576
Building, Construction industry and Real Estate	29,234	40,571	69,805
Education and Skill Development [^]	16,157	7,977	24,134
Food Processing	2,572	3,318	5,890
Healthcare Services [^]	10,839	14,834	25,674
Transportation, Logistics, Warehousing and Packaging	9,808	11,118	20,926
Tourism, Travel, Hospitality & Trade	7,848	11,427	19,274
Other manufacturing	8,732	14,374	23,105
Others	2,117	2,610	4,727
Total	131,303	146,175	277,477

Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, electronics, furniture and furnishings, gems and jewellery, textile and clothing
[^]As the district economy grows, sectors such as BFSI, Education and Healthcare will become the major employment generators incrementally. # The demand numbers do not include those for industries such plastic processing and pipe manufacturing as they are not part of NSDC's 19 high growth sectors as well as the numbers within the district are not significant from the state perspective.

Figure 116: Incremental demand of human resources in Jalgaon – by skill level



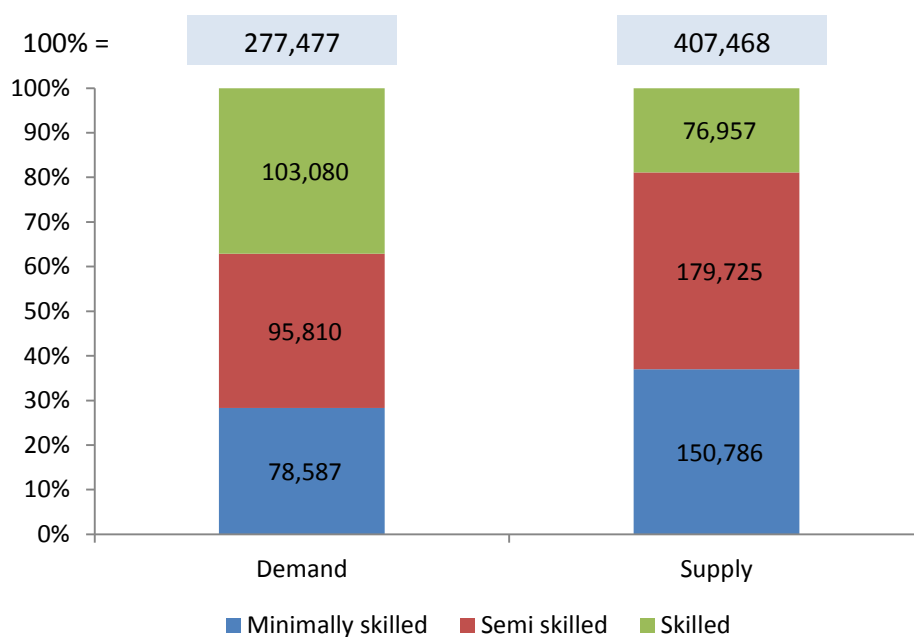
Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, electronics, furniture and furnishings, gems and jewellery, textile and clothing.

We have estimated incremental supply of human resources in the district at 4.07 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply is higher than the incremental demand in the district. However, the incremental supply is significantly low in the skilled category vis a vis the incremental demand within the district for the said category. Thus,

indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward. Also, the demand numbers are lesser than the supply numbers as they do not include industries such as metal pipes and plastic processing which are significant employment generators within the district.

Figure 117: Demand supply gap of human resources in Jalgaon – by skill level



Source: IMaCS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

As discussed in the section above, while employment will be generated across many sectors, in this section, we have identified especially those sectors which require skilling interventions in the district – mainly ‘gems & jewellery’, ‘food processing’, ‘tourism, travel and hospitality’, ‘pipe manufacturing’ and ‘plastic processing’. Identification of such sectors has been based on the diagnostics above, our observations during the primary survey and discussions with the key stakeholders in the district.

Table 109: Sectors where interventions are required in Jalgaon district – comparison with Maharashtra

(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Jalgaon	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		

High Growth Sectors identified by NSDC	Jalgaon	Maharashtra
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		
Additional sectors	Jalgaon	Maharashtra
Pipe manufacturing		
Plastic Processing		

Source: IMAcS Analysis

For the sectors identified above, we have mapped the skill requirements and the gaps faced by the sector in the following section.

5.1. Food Processing

Jalgaon is often known as the "Banana Capital" of India. Jalgaon district produces more than 16 per cent of India's bananas and three per cent of world banana production happens in Jalgaon. Jalgaon thus produces more bananas than most of the countries of the world. According to Mahabanana, an association of banana growers of Maharashtra, 66 per cent of Maharashtra's land under banana crop is in Jalgaon. This provides the district with a huge potential in the banana processing segment in the form of processed products like banana flavour, banana puree, banana concentrate, banana pulp, banana chips, wafers, banana powder etc.

Since this is a potential segment within the district (not currently existing within the district), people need to be trained. The various job roles which need to be trained for this industry within Jalgaon are as follows:-

- Processing Entrepreneur
- Formulation Experts
- Machinery operators / attendants
- Marketers

- Basic training for farmers

5.2. Gems and Jewellery

Jalgaon is one of the biggest jewellery markets in Maharashtra and famous for its gold quality and designs therefore it's well known as 'Golden city'. The district is home to many small and medium jewel makers and retail stores. In fact, not only is the district a major supplier of gold jewellery to other markets like Mumbai, Delhi, Chennai etc. but people from across the country are also known to have travelled to Jalgaon to buy gold jewellery for occasions like marriage.

There is also a proposal put forward for a cluster for the Gold ornaments in Jalgaon. Once established, the cluster is expected to house about 39 units with a proposed turnover of Rs. 3000 crore and provide employment to about 5000 people. Major issues faced by the sector within Jalgaon district include:-

1. Lack of Trained manpower and
2. Need for automation / New Technology.

The skill gaps identified within this sector in Jalgaon are:-

- Tendency to produce traditional designs that may not be fully accepted by the changing consumer market(for a jewellery designer)
- Poor understanding / communication skills
- Lack of adequate understanding of the plating process
- Lack of adequate understanding of the reason behind using specific compounds/brushes for specific products
- Lack of ability to quickly understand customer needs on designs and prices and show pertinent available designs
- Very Less product knowledge to influence buying behaviour

5.3. Tourism, Travel, Hospitality & Trade

The Jalgaon city is near to world famous historic monument Ajanta and Ellora caves and has rich tourism attractive places especially in monsoon season. The other major tourist attractions are Pal hill station at Raver, Patnadevi temple at chalisgaon confluence of Tapi and Purna rivers and hot water springs at Unapdev in Chopda Taluka.

Some of the prominent places of interest in Jalgaon are:-

Tourist Location	Description
Ajanta and Ellora Caves	The Ajanta Caves are about 30 rock-cut Buddhist cave monuments which date from the 2nd century BCE to about 480 or 650 CE. The caves were built in two phases starting around the 2nd century BCE, with the second group of caves built around 400–650 CE according to older accounts, or all in a brief period between 460 to 480. The site is a protected monument in the care of the Archaeological Survey of India, and since 1983, the Ajanta Caves have been a UNESCO World Heritage Site. The 34 Ellora caves – actually structures excavated out of the vertical face of the Charanandri hills. Buddhist, Hindu and Jain rock-cut temples and viharas and mathas were built between the 5th century and 10th century. The 12 Buddhist (caves 1–12), 17 Hindu (caves 13–29) and 5 Jain (caves 30–34) caves, built in proximity, demonstrate the religious harmony prevalent during this period of Indian history. It is a protected monument under the Archaeological Survey of India.
Omkareshwar Temple	The Omkareshwar Mandir is a very popular and one of the most beautiful temples of Jalgaon and is devoted to Lord Shiva. It is located at Jai Nagar and organizes great festivals during occasions like Shravni Somvar, Shivratri, Gokulashtami and Ramnavmi.
Unapdev (Hot Water Spring)	Located at a distance of 25kms from Chopda city and 4kms from Adavad, Unapdev is listed as ASI site and is famous for its hot water fountain. State run Medical Plants Centre to avail benefits to everyone is another attraction
Shree Manudevi, Adgaon	Located in Northern border on Satpuda hills, Manudevi temple is one of ideal religious cum picnic spot. The temple area has good development work done in last decade and anyone could now directly reach the temple through vehicle.. The temple is fully covered with Satpuda hills and turns lush green during Monsoon making it a more pleased spot.

The skill gaps identified within this sector are:-

- Inadequate customer handling skills.
- Lack of proper communication skills.
- Inadequate knowledge of local region.
- Lacks people management skills.
- Inability to groom and train the housekeeping staff.
- The district lacks a large number of professionally trained guides.

5.4. Plastic Processing

Like Nashik, Jalgaon is also a hub for plastic processing companies especially plastic furniture and plastic mats. Various medium and small scale industries are operational in the district in the plastic mat manufacturing business providing employment to a large number of people in the district. This apart one big player in the plastic furniture space is Supreme Industries Ltd.

For plastic mats a formal cluster is yet to be formed but there exist about 70 to 80 units within the MIDC region which are to be targeted. These will provide employment to about 3000 people directly and about 6000 people indirectly. These companies face major issues in terms of unavailability of regular electricity supply throughout the day. This apart the amount of investment required is also very high. A large proportion of the mats manufactured are used to export to various countries from around the globe.

The skill gaps identified within this sector are:-

- Lack of knowledge of proper safety skills
- Inadequate knowhow of tool and dye making processes
- No proper communication skills
- Inadequate process and people management skills.

5.5. Pipe manufacturing

Jalgaon is a prominent industry center for PVC as well as metal pipes and fittings. One of the biggest companies in this space is Tulsi Extrusions Ltd which employs more than 700 people. Apart from this there are various small and medium enterprises in this segment and traders from within the district who have setup shops.

The skill gaps within this sector include:-

- Lack of knowledge of proper safety skills
- Lack of knowledge of metal handling properties.
- No proper communication skills
- Inadequate process and people management skills.

6. Recommendations

Recommendations for Jalgaon district focus on the following sectors:

Table 110: Key recommendations for Jalgaon – Summary

Sector	For Government players	For private training providers	For Industry	For NSDC
Food Processing – mainly banana	<ul style="list-style-type: none"> ▪ Technical knowhow from both national and international source be made available for entrepreneurs ▪ Introduce BSc. and 	<ul style="list-style-type: none"> ▪ Pest management skills, especially related to seasonal pests that hamper the production ▪ Pre-harvest management skills ▪ Harvesting skills 	<ul style="list-style-type: none"> ▪ Training in collaboration with VTPs, preferably at the cluster level 	Interventions required through funding of private training and through SSCs

Sector	For Government players	For private training providers	For Industry	For NSDC
	BTech. level courses in Food processing at various colleges in the district.	<ul style="list-style-type: none"> ▪ Post-harvest, storage techniques ▪ Courses to understand the various equipment used in processing ▪ Knowledge of basic value addition required ▪ Ability to build customer links ▪ Marketing and branding skills ▪ Courses to bring abreast the global developments in the mango processing segment ▪ Skills to make formulations for the value added products 		
Gems & Jewellery – mainly gold	<ul style="list-style-type: none"> ▪ Provide training facilities preferably at a cluster level 	<ul style="list-style-type: none"> ▪ Jewellery designing ▪ Gold fabrication methods ▪ Polishing of Jewellery ▪ Sales and marketing of jewellery products 	<ul style="list-style-type: none"> ▪ Participate in the training process as the knowledge base needs to be passed on to ensure quality training. 	Interventions required through funding of private training and through SSCs
Tourism, Travel, Hospitality & Trade	<ul style="list-style-type: none"> ▪ Provide training for :- <ul style="list-style-type: none"> ○ Tourist Guides ○ Tourist Cab Drivers 	<ul style="list-style-type: none"> ▪ Housekeeping ▪ Front desk management ▪ Chef training ▪ Travel desk operators ▪ Communication skills ▪ Training in languages like English and Hindi 	<ul style="list-style-type: none"> ▪ On the job training and training in collaboration with the VTPs 	Interventions required through funding of private training and through SSCs
Plastic Processing	<ul style="list-style-type: none"> ▪ Increase the number of seats in the plastic processing (COE) and Tool & Dye making trades 	<ul style="list-style-type: none"> ▪ ITI related trades with specific focus – CNC machinist, Tool & Dye making, turner, electricians, Plastic Processing etc ▪ Mechanical Machine and Tool Maintenance ▪ Packaging and Quality inspection of plastic products ▪ Frame Bending 	<ul style="list-style-type: none"> ▪ Training in collaboration with Govt departments and VTPs 	Interventions required through funding of private training and through SSCs
Pipe manufacturing	<ul style="list-style-type: none"> ▪ Strengthen apprenticeship program at ITIs 	<ul style="list-style-type: none"> ▪ ITI related courses like welder, fitter, plastic processing etc. ▪ Handling of Extrusion Machine ▪ Moulding practices – basics 	NA	Interventions required through funding of private training and through SSCs

Sector	For Government players	For private training providers	For Industry	For NSDC
		<ul style="list-style-type: none"> ▪ Soft skill training 		

6.1. Government

- ❖ **Food Processing:** Currently, though the local farmers are growing the fruit, not lot of awareness exists on how to optimize the produce. Some of the other ways by which the interventions can occur are:
 - Technical knowhow from both national and international source be made available for entrepreneurs
 - This apart the higher order skills within the food processing sector also needs to be addressed, wherein the government must look to introduce BSc. and BTech. level courses in Food processing at various colleges in the district.

- ❖ **Gems and Jewellery:** The sector is currently very unorganised in the district. There are a large number of medium and small enterprises operating on their own. There is thus support required from the government in three ways:-
 - Promote the region as a major Jewellery hub of the country thus enthusing more business opportunities for the entities in the district.
 - Set up proper training premises within the said cluster so that the in-house as well as new employees of the various units can be trained in that region itself.

- ❖ **Trade, Tourism and Hospitality:** On the training front the Government needs to implement programs in order to train people in:-
 - Tourist guides: These people need specific training in:-
 - Knowledge of the significance of each of the places they operate in.
 - Effective communication skills with proficiency in English and Hindi languages
 - Ability to help out foreign tourists especially to travel around the district
 It is essential to provide certification to such trained guides as it will enhance the credibility of the people and further the confidence of the tourists
 - Tourist cab Drivers: These people need specific training in:-
 - Effective driving skills
 - Complete knowledge of all routes within the district to all major tourist locations
 - Ability to converse in English and Hindi languages
 - It is also important on the part of the Government to bring in initiatives where such people can be funded to own cabs as this will increase the interest to join in.

- ❖ **Plastic Processing:** There is need for intervention from the government end to meet the demand for technically skilled manpower within the district with specific focus on plastic processing. Thus it is essential to increase the number of seats in the plastic processing (COE)

and Tool & Dye making trade and also encourage the industries within the region to work with ITIs and other training institutes in the field of machinery and technology training.

- ❖ **Pipe Manufacturing:** There is a need for the Government to ensure more collaboration between the industry and technical training institutes, especially the ITIs. The current apprenticeship program must be strengthened further to ensure better learning for the students.

6.2. Private Training Providers

The recommendations for the private training providers focus on the courses, category for which training needs to be provided:-

Sector	Training required
Food Processing	<ul style="list-style-type: none"> ▪ Courses to understand the various equipment used in processing ▪ Knowledge of basic value addition required ▪ Marketing and branding skills ▪ Courses to bring abreast the global developments in the mango processing segment ▪ Skills to make formulations for the value added products
Gems and Jewellery	<ul style="list-style-type: none"> ▪ Jewellery designing ▪ Gold fabrication methods ▪ Polishing of Jewellery ▪ Sales and marketing of jewellery products
Tourism, Travel, Hospitality and Trade	<ul style="list-style-type: none"> ▪ Housekeeping ▪ Front desk management ▪ Chef training ▪ Travel desk operators ▪ Communication skills ▪ Training in languages like English and Hindi
Plastic Processing	<ul style="list-style-type: none"> ▪ Need for more ITI related trades with specific focus on industry related aspects – CNC machinist, Tool & Dye making, turner, electricians, Plastic Processing etc ▪ Mechanical Machine and Tool Maintenance ▪ Packaging and Quality inspection of plastic products ▪ Frame Bending
Pipe manufacturing	<ul style="list-style-type: none"> ▪ ITI related courses like welder, fitter, plastic processing etc. ▪ Handling of Extrusion Machine ▪ Moulding practices – basics ▪ Soft skill training

6.3. Industry

- ❖ **Food Processing:** Training in collaboration with VTPs, preferably at the cluster level.

- ❖ **Gems and jewellery:** The industry needs to participate in the training process as the knowledge base needs to be passed on to ensure quality training. There is also a need for trust to be developed amongst the jewellery makers and sellers with the private training providers as else the trained people may not get jobs within the sector.

- ❖ **Tourism, Hospitality and Trade:** Jalgaon enjoys proximity to many heritage sites like Ajanta and Ellora caves and various other religious and sight-seeing places. Thus there is huge potential to develop it further as a preferred travel destination. Industry can focus on on-the-job training and training in collaboration with the VTPs.

- ❖ **Plastic Processing:** Training in collaboration with Govt departments and VTPs.

6.4. NSDC

1. The NSDC can play a critical role in the below sectors by assisting and encouraging private players to offer the mentioned courses within the region:-
 - Food Processing
 - Gems and Jewellery
 - Tourism, Hospitality and Trade
 - Plastic processing
 - Pipe manufacturing

2. This apart, the NSDC should also look to coordinate with the industry and respective SSCs in the following sectors to ensure setting up of NOS and certification and assessment standards for the following sectors:-
 - Food Processing
 - Gems and Jewellery

2.14. Jalna

1. Introduction

Jalna district erstwhile a part of Aurangabad district was formed on 1st May 1981 by carving out Jalna, Bhokardan, Jafrabad, Ambad tahsils of Aurangabad district and Partur tahsil of Parbhani district. Jalna district covers an area of 7,718 sq.Kms, which is 2.51 per cent of the total State area.

The district head quarter is at Jalna and is well connected to the State capital and national capital by broad gauge railway line. Major towns of the State are also connected by State highways. The district is known for the highest production of Sweet Lemon (Mosambi) in the State.

Table 111: Comparison of Jalna district with Maharashtra – key indicators

Indicator	Year	Jalna	Maharashtra
Area, in sq.km.	2001	7,718	307,713
Percentage share in State geographical area, %	2001	2.51%	100%
No. of sub-districts	2011	9	353
No. of inhabited villages	2001	963	41,095
No. of households	2001	303,886	19,576,736
Forest area as a percentage of total geographical area	2001	0.89%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analyzed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Jalna district has a population of 19.58 lakh persons –1.74 per cent of the State population. While 52 per cent of the population in the district is in working-age group (15 to 59 years), about 36.6 per cent is actually working i.e. work participation rate.

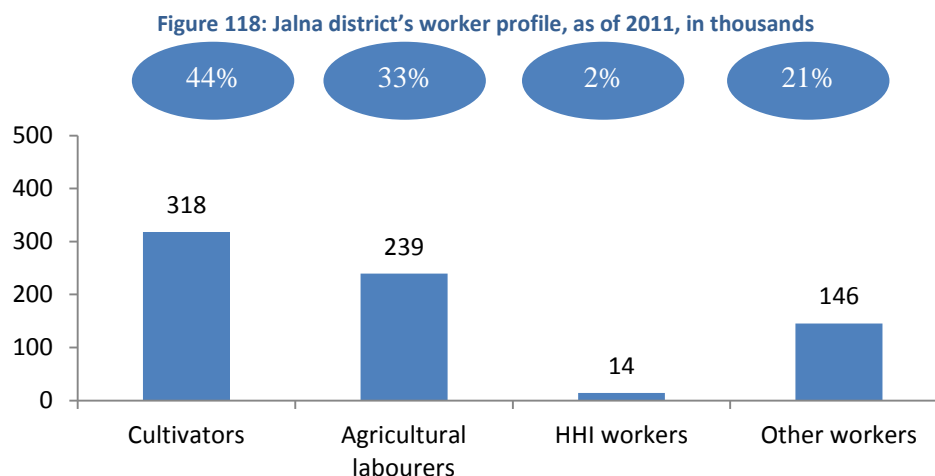
The district's literacy rate is 73.61 per cent, which is much lower than the State average of 82.91 per cent and slightly lower than the All-India average of 74 per cent. To improve the literacy rate, there needs to be conscious effort in this direction. Quality of education infrastructure needs to be improved.

Table 112: Key demographic indicators

Indicator	Year	Jalna	Maharashtra
Population, No.	2011	1,958,483	112,372,972
Decadal growth rate of population, %	2001-11	21.84	15.99%
District's share in State's population, %	2011	1.74%	100%
Urban population as a percentage of total population, %	2011	19%	45%
SC population, %	2001	11%	8.79%
ST population, %	2001	2%	15%
Sex ratio, No. of females per 1000 males	2011	929	925
Population density, per sq. km.	2011	255	365
Literacy rate, %	2011	73.61%	82.91%
Main workers, No.	2001	611,998	34,748,053
Marginal workers, No.	2001	104,902	6,425,298
Working age population* as a percentage of total population, %	2001	52%	59%
Work participation rate^, %	2001	36.60%	42.50%

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011

The district has a total workforce of about 7.16 lakh persons. Of this, 44 per cent are cultivators, 33 per cent are agricultural labourers, two per cent are workers in household industry and 21 per cent are other workers.



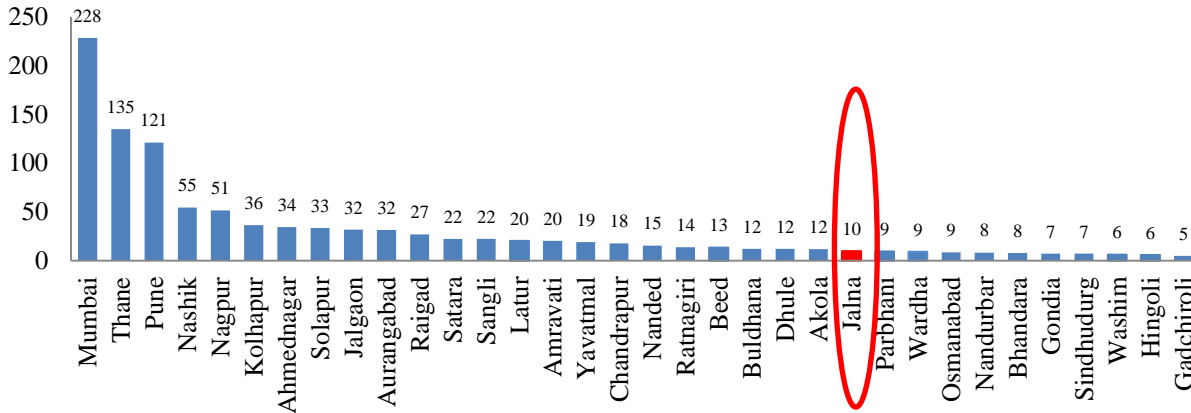
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2011-12, Jalna district had the 11th lowest Gross District Domestic Product (GDDP) in Maharashtra at Rs 9,717 crore (1.7 per cent of the Gross State Domestic Product).

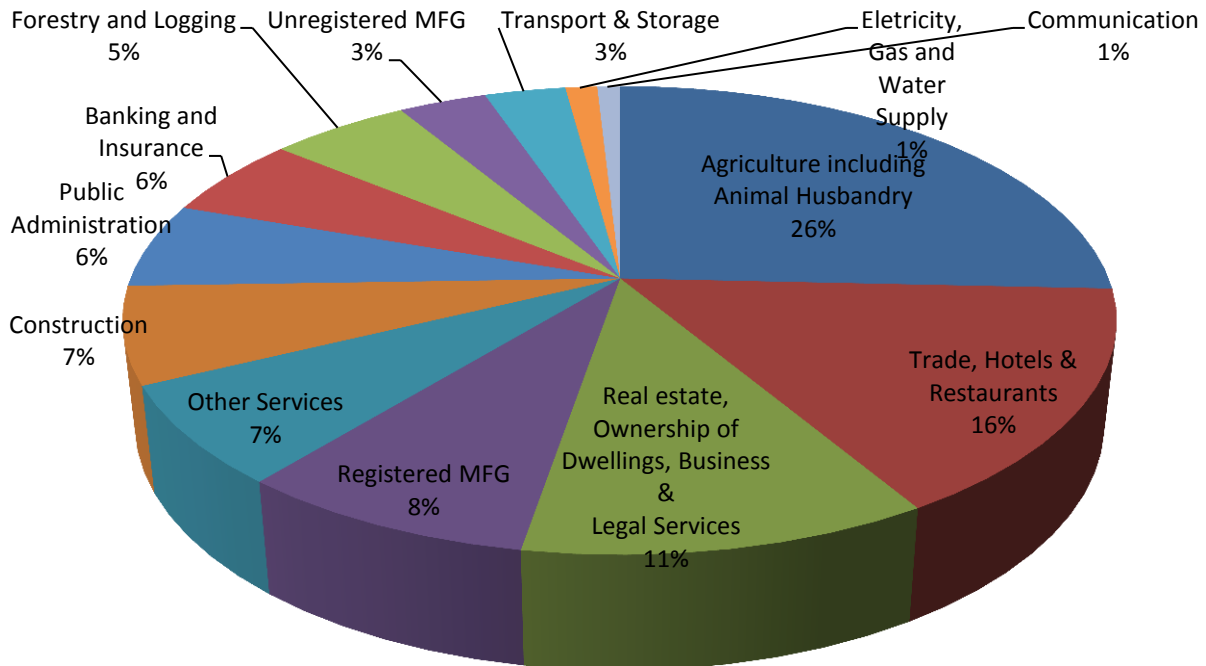
Figure 119: Gross District Domestic Product, in Rs 9,717 crores, as of 2011-12



Source: Economic Survey of Maharashtra

Primary sector contributed 31 per cent, secondary sector contributed 25 per cent while tertiary sector contributed 54 per cent to the GDDP of the district.

Figure 120: Sector wise distribution of Jalna's GDDP, as of 2009-10, 100% =8,727 crores



Source: Directorate of Economics and Statistics, Government of Maharashtra

Agriculture: Jalna is primarily an agrarian district where agriculture and allied activities provides means of livelihood to 77 per cent of the population. It is known for production of sweet lime (mosambi). Jowar and wheat are the major cereals grown in the district. The area under cotton is also very extensive. The area under double crops is just 15 per cent while area under irrigation is only 7.8 per cent which is far below the State average. Around 85 per cent of the geographical land is under agriculture use.

Industry: There are three types of industries which employ the maximum number of people. First one being agro based industries, second one being textile based and third is metal and engineering based industry. The industrial development is slow because of lack of water and power.

Services: As mentioned earlier, services sector accounts for 54 per cent of GDDP in Jalna district. Of all the services, the key services in the district are of 'Trade, Hotels and Restaurants' accounting for 16 per cent followed by 'real estate, ownership of dwellings, business and legal services' accounting for 11 per cent.

2.3.State of Education

As of 2011-12, Jalna district had 2,036 schools. Of this, 44 per cent were primary schools, 40 per cent were upper primary schools and the remaining 16 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 3,22,965 while the student-teacher ratio was high at 32 students per teacher. The student-teacher ratio was higher than the average ratio for the State at about 30 students per teacher.

Table 113 : School and higher education infrastructure in Jalna district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	2,036	3,22,965
General colleges	79	27078
Technical institutes*	12	2896

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

Table 114 : Key ITI indicators in Jalna district, as of October 2012

Indicator	Value
Total Number of ITIs	11
Number of Government ITIs	8
Number of Private ITIs	3
Total Seating capacity	1,764

Source: Department of Employment & Self Employment, Government of Maharashtra

The number of Industrial Training Institutes (ITIs) is 11 with a seating capacity of 1,764. In addition to the this, the district has training infrastructure for different trades set up by both Government and Private Institutions. The private institutes offer courses in welding and jointing , spray painter cum sign board

painter , repairing and servicing of radio , beauty culture , basic fashion designing, electrical assistant , wireman assistant, construction supervisor , electrical motor winding, mobile repairing and servicing, tailoring and cutting , building construction supervisor.

2.4. Youth Aspiration

In the process of identifying the growth engines for the Jalna district, we also held a discussion with a youth group in the district to understand their aspirations. They key points are summarised below:

- **Willingness to pursue higher education:** Most of the students want to pursue higher education in Jalna district. Most of them are looking to study in government colleges due to better infrastructure and better job prospects.
- **Entrepreneurial zeal:** The youth is not inclined towards starting their own business, as they are highly risk averse. The preference is to go for government jobs as it provides job security and sustainable source of income.
- **Satisfaction with existing education infrastructure:** Even though there is high preference to study from Government educational institutions, the youth feel that these institutions are not equipped with even the basic infrastructure such as drinking water and working toilets

3. Developmental concerns

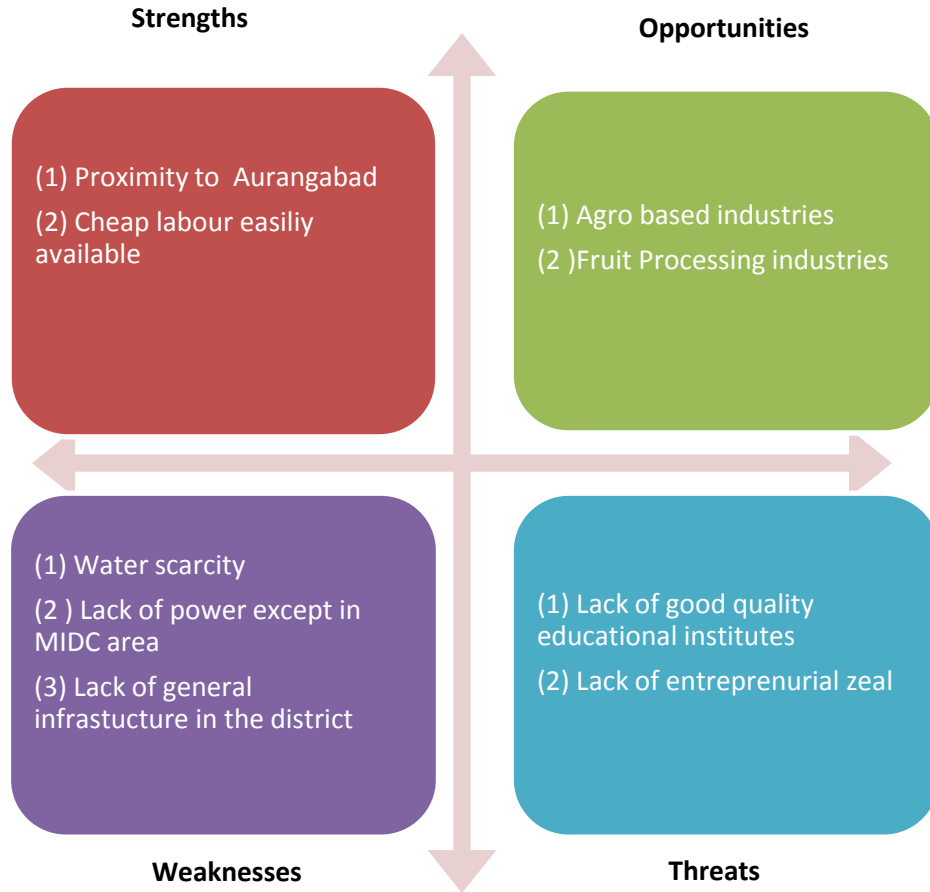
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Lacking in entrepreneurship spirit:** The students and the people of the district are risk averse. To be an entrepreneur an entrepreneur needs to take calculated risk which is lacking among the people of the district.
- **Transport infrastructure:** The current transport infrastructure is not adequate and needs to be improved. Roads need to be built and there needs to be one more railway track connecting Jalna to other major industrial towns.

SWOT analysis

Based on the diagnostics of the Jalna, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 121 : SWOT Analysis of Jalna District



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 1 lakh persons between 2012 and 2022. Sectors which are likely to generate employment are mainly ‘building, construction and real estate’, ‘agriculture and allied’, ‘BFSI’ and ‘education and skill development’. Most of these are supporting sectors which generate employment as an economy grows.

However, sectors which are unique to Jalna are ‘construction materials and building hardware’, ‘textiles and clothing’ and ‘unorganised sector – Ganesh idol manufacturing’. The forecasts for these sectors are low, as current and past trends have been used for forecasting. However, these sectors have immense potential due to availability of raw materials. If adequate investments materialise in these sectors (both from Government and private), then these sectors will generate employment much more than what has been forecasted as of now.

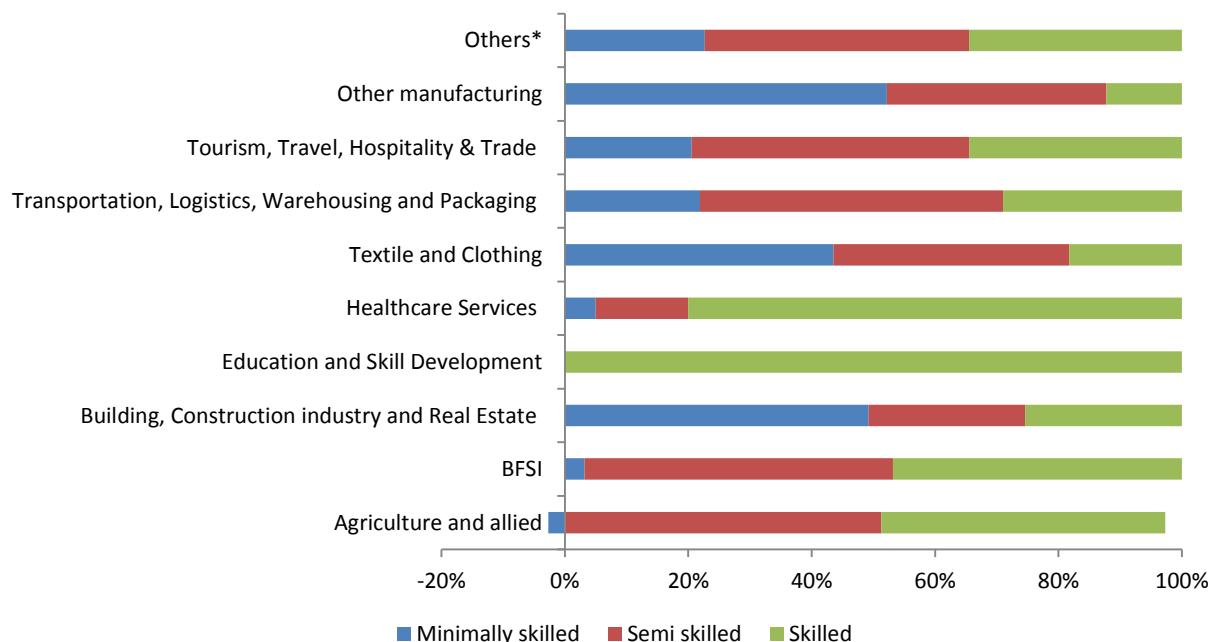
Table 115: Incremental demand of human resources in Jalna – by sector

Sector	2012-17	2018-22	2022-22
Agriculture and allied	14,093	7,181	21,274
Banking and Financial Services Insurance	6,363	10,229	16,592
Building, Construction industry and Real Estate	10,217	14,180	24,397
Education and Skill Development	7,169	3,713	10,882
Healthcare Services	3,279	4,487	7,766
Textile and Clothing	128	162	290
Transportation, Logistics, Warehousing and Packaging	2,049	2,322	4,371
Tourism, Travel, Hospitality & Trade	3,396	4,944	8,340
Other manufacturing	1,272	2,095	3,367
Others	762	1,047	1,808
Total	48,727	50,361	99,087

Source: IMAcS Analysis

Other sector include Auto and Auto component, chemicals and pharmaceuticals, Food Processing and furniture and furnishings

Figure 122: Incremental demand of human resources in Jalna – by skill level

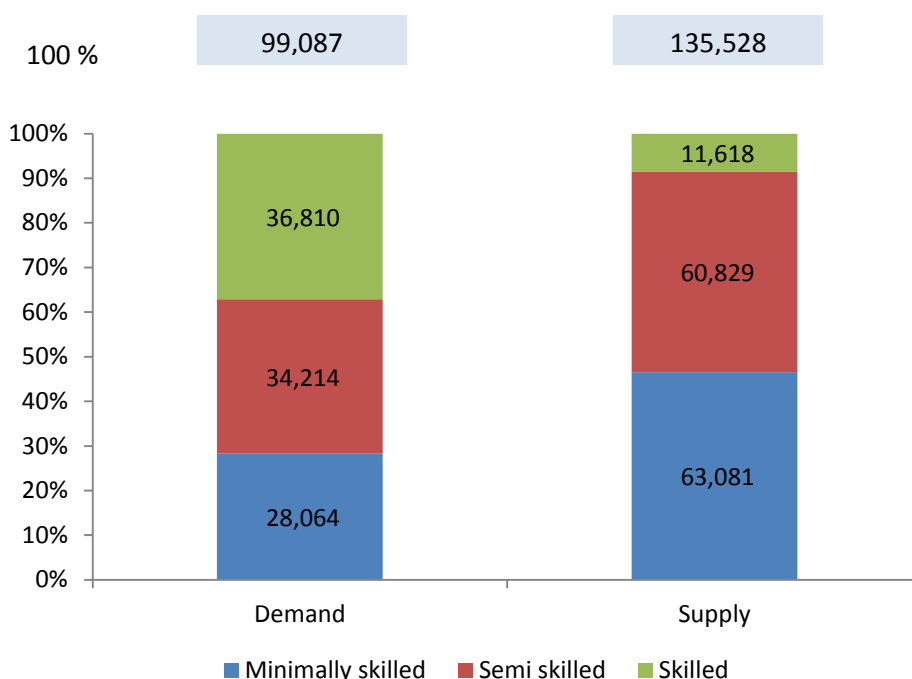


Source: IMAcS Analysis

Other sector include Auto and Auto component, chemicals and pharmaceuticals, Food Processing and furniture and furnishings

We have estimated incremental supply of human resources in the district at 1.35 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be more than the incremental demand in the district. Thus, indicating that all the people will not get absorbed in the district and will have to migrate out to other districts / States (as is reflected by current trends also). However, the incremental supply is leaning more towards minimally skilled workers, as against high demand for skilled workers in the district. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward.

Figure 123: Demand supply gap of human resources in Jalna – by skill level



5. Skill mapping

As discussed in the section above, while employment will be generated across many sectors, in this section, we have identified especially those sectors which require skilling interventions in the district – mainly ‘agriculture and allied’, ‘construction materials and building hardware’, ‘textiles and clothing’ and ‘unorganised sector – Ganesh idol manufacturing’.. Identification of such sectors has been based on the diagnostics above, our observations during the primary survey and discussions with the key stakeholders in the district.

Table 116 : Sectors where interventions are required in Jalna– comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Jalna	Maharashtra
Agriculture and allied		
Auto and Auto component		

High Growth Sectors identified by NSDC	Jalna	Maharashtra
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware - Metals		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing – Cotton Ginning and Spinning		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector – Ganesh Idol		

Source: IMACS Analysis

5.1. Agriculture and allied

It is vital to note that 85 per cent of the geographical area is under agricultural use. Jowar and wheat are the major cereals grown in the district. The area under double crops is only 15 per cent while area under irrigation is only 7.8 per cent. Rest of the area has to depend on rainfall. There is an immediate need to provide irrigation facilities to the farmers as 77 per cent of the population is dependent on agriculture for their livelihood. Additionally, the sector is still dependent on out-dated techniques of production and is in need of skill up-gradation.

Based on our stakeholders' discussions, we have found out the following skill gaps which are faced by the farmers in the district;

- Lack the ability to use the latest technology
- Unable to use the most productive seeds due to lack of knowledge and finance
- Lack of storage space leads to selling them cheap and sometimes at a loss
- Unaware of the different uses for a crop
- Unable to use the most advanced machinery because of lack of knowledge about their capability to increase productivity and lack of finance

5.2. Construction Materials and Building Hardware – Metals

This industry employs 4,222 people and is a growing industry in the district. These industries use scrap steel as their raw material which is procured from within Maharashtra and also from Raipur in Chhattisgarh. These scrap steel is used to make TMT bars. There are some concerns which the industry pointed out was that the labourers are frequently absent and resort to unprofessional behaviour. There is also a huge dearth of foundrymen required for this industry.

Based on our stakeholders' discussions, we have found out the following skill gaps which are faced by the sector in the district:

- There is a scarcity of people who have prior experience of working in a steel industry. The workers need to be trained for 6 to 9 months.
- There is a dearth of people who can stand such high temperatures within steel plants.
- Generally experienced people are from faraway places like Jharkhand, Bihar and U.P.
- Local workers are not regular for work and often absent.

5.3. Textile and Clothing – Cotton Ginning and Spinning

There are 200 textile units employing 1,058 people. There is a huge potential for these kinds of industries in the Jalna region. The greatest advantage being that raw material is readily available for cotton ginning industries.

Based on our stakeholders' discussions, we have found out there are following issues which are faced by the sector in the district;

- People are not very eager to work in Jalna as they feel they can do the same work in Aurangabad for a higher salary.
- Work culture is not good

5.4. Unorganised sector - Ganesh Idol Cluster

There are 118 micro units involved in Ganesh idol making which employ 550 labourers in skilled, semi-skilled and unskilled category. The industry has established a cluster around itself. Ganesh idol making requires very specific type of skills and it is not easy to find people with these types of skills. It is not possible to train them for this industry and people with prior experience can only be employed in this type of industry.



Based on our stakeholders' discussions, we have found out the following skill gaps which are faced by the sector in the district;

- It is quite difficult to find the people with these skills set – end to end skills for manufacturing
- Lack of knowledge of modernisation
- Lack of branding and marketing activities
- Inability to up-scale and make the products more competitive
- Lack of knowledge on latest designs and market trends

6. Recommendations

Our recommendations for Jalna district focus on sectors such as metal, cotton textiles and Ganesh idol cluster. In addition, we have recommendations for agriculture and allied sectors as they employ a significant proportion of workforce at about 77 per cent of the population. Within agriculture also, we recommend special focus on marginal farmers (which are 43 of the total labourers). These are rendered unemployed in the lean season and need supplemental means of livelihood.

Table 117 : Key Recommendation for Jalna District

Sector	Government	Private training providers	Industry	NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Department of Agriculture needs to provide training to marginal labourers to make them self-sustainable 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a
Construction materials & building hardware - Metals	<ul style="list-style-type: none"> ▪ Provide a framework for training programmes to be provided to the workers in the sector. 	<ul style="list-style-type: none"> ▪ Collaborate with industry for providing skills to the workmen 	<ul style="list-style-type: none"> ▪ Collaborate with VTPs for meeting training requirements 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
Textiles and clothing - Cotton ginning, pressing & spinning	<ul style="list-style-type: none"> ▪ Provide infrastructure for the textile specific courses 	<ul style="list-style-type: none"> ▪ Collaborate with industry for providing training 	<ul style="list-style-type: none"> ▪ Collaborating with Government ITI and private VTPs 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs

Sector	Government	Private training providers	Industry	NSDC
Ganesh idol making	<ul style="list-style-type: none"> ▪ Train them in alternate means of earning livelihood during the time when they are not making idols ▪ Providing training for modernisation of the sector 	<ul style="list-style-type: none"> ▪ Provide training in collaboration with the industry at the cluster level 	<ul style="list-style-type: none"> ▪ Close association with the cluster for its further development ▪ Provide training at cluster level in collaboration with VTPs 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs

6.1. Government

- ❖ **Agriculture and allied;** The Government needs to focus on marginal labourers and finding an alternate means to employ them. Some of the alternate skills which can be focused upon for improvement of livelihood of marginal farmers are (the list is only indicative):
 - Poultry and animal husbandry
 - Bee-keeping, honey extraction and processing
 - Embroidery and stitching for women
 - Candle making
 - Food processing such as pickle making, jam making etc.
 - Soap manufacturing
 - Spice manufacturing
 - Carpentry
 - Pottery making etc.
- ❖ **Construction materials and building hardware - Metals;** Directorate of Vocational Education & Training needs to place more focus on the course of metal fabrication in its ITIs. It also needs to promote private training providers offering courses in metal fabrication within the district. It has also been seen that the people within the district are not interested in working in the metal industry due to working conditions they have to face, such as high temperatures in the factories. Thus, awareness campaigns also need to be held in rural areas to generate awareness of the employment opportunities and income which the sector offers. This can help lure youth to the sector.
- ❖ **Textiles & clothing - Cotton ginning, pressing and spinning;** There needs to be increased focus of the Government on this sector as this is an employment incentive sector.
 - It can establish training institutes in collaboration with industry. Industry can bring the latest technology while the Government can give the land and building.
 - It must also incorporate special courses in ITI focussed on textile sector.
 - Promotion of cluster training programmes
- ❖ **Unorganised – Ganesh Idol cluster ;** Some of the areas, where focus needs to be placed are:
 - Organising workshops in the cluster for explaining export procedures to the manufacturers
 - Training on market development and linkages
 - Assistance for technological up-gradation

- Tie-ups with technical institutions for providing training to the workmen in the clusters
- Focus on designing and colouring of Ganesh idols
- Focus on more intricate work

6.2. Private training providers

- ❖ **Construction materials and building hardware - Metals;** Private training providers can consider starting courses on metal fabrication. However, it can be best achieved in collaboration with the industry, since the latter is aware of what kind of skills are lacking and what kind of modules are required in particular. The training institutes can act as a source for trained people, while industry can play the role of employment provider.
- ❖ **Textiles & clothing - Cotton ginning, pressing and spinning;** Training in the sector needs to be provided in close association with the industrial players, since there is no scope for standalone private training centres for ginning and pressing.
- ❖ **Unorganised – Ganesh idol cluster;** Provide training in collaboration with the industry at the cluster level.

6.3. Industry

- ❖ **Construction materials and building hardware - Metals;** Industry can collaborate with private training providers for sourcing its manpower.
- ❖ **Textiles & clothing - Cotton ginning, pressing and spinning;** Training to be provided in Collaboration with Government ITI and private VTPs
- ❖ **Unorganised – Ganesh idol cluster;** This industry has been formalised into a cluster already. It needs to focus on providing training at cluster level in collaboration with VTPs.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Metal fabrication
- ❖ Textiles & clothing - Cotton ginning, pressing and spinning
- ❖ Unorganised sector – Ganesh idol cluster

2.15. KOLHAPUR

1. Introduction

Kolhapur city is located in south-western part of Maharashtra on the banks of River Panchganga, with a land area of 7,685 square kilometres. It has an elevation of 569 metres (1867 ft) which is higher than that of Pune. It is bordered by Pune in the south, Bangalore in the northwest and Hyderabad in the west.

It is sub-divided into 13 talukas and has 1,196 villages. About 68 per cent of the population lives in the rural areas. Agriculture is the main occupation, employing 58 per cent of the labour force (as of Census 2001). The remaining is in household industry (four per cent) and other workers¹⁵ at 38 per cent.

Ichalkarnaji in Kolhapur is called the Manchester of India for the textile industry. Sugarcane and paddy are the key crops grown. The district reaps benefits from the high annual rainfall it receives from the monsoons. The average rainfall is 1,900 mm in the district, which lends it as a good potential for sugarcane industries.

Table 118: Comparison of Kolhapur district with Maharashtra – key indicators

Indicator	Year	Kolhapur	Maharashtra
Area, in sq.km.	2001	7,685	307,713
Percentage share in State geographical area, %	2001	2.50%	100%
No. of sub-districts	2011	13	353
No. of inhabited villages	2001	1,196	41,095
No. of households	2001	712,349	19,576,736
Forest area as a % of total geographical area	2001	22%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Kolhapur district has a population of 38,74,015 persons – 3.45 per cent of the State population. Majority of the Population (25 per cent) is concentrated in Karvir sub-district, followed by Hatkanangle sub-district (20 per cent), Shirol sub-district (10 per cent), Kagal and Panhal sub-district with (7 per cent) While 61 per cent of the population in the district is in working-age group (15 to 59 years), about 47 per cent is actually working i.e. work participation rate.

¹⁵ Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers, are 'Other Workers'.

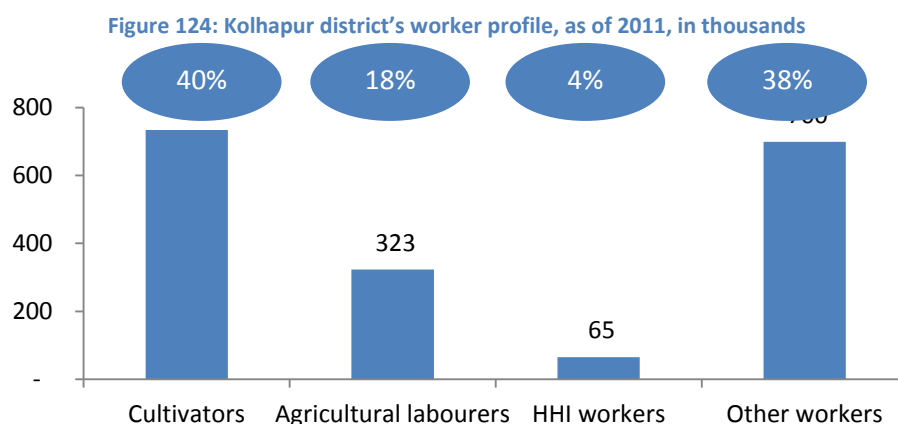
The district's literacy rate is 82.90 per cent, which is almost same as the State average of 82.91 per cent and much higher than the All-India average of 74 per cent. Male literacy at 91.33 per cent is significantly higher than female literacy rate at 74.18 per cent.

Table 119: Key demographic indicators

Indicator	Year	Kolhapur	Maharashtra
Population, No.	2011	3874015	112,372,972
Decadal growth rate of population, %	2001-11	9.96	15.99%
District's share in State's population, %	2011	3.45%	100%
Urban population as a percentage of total population, %	2011	32%	45%
SC population, %	2001	13%	8.79%
ST population, %	2001	1%	15%
Sex ratio, No. of females per 1000 males	2011	953	925
Population density, per sq. km.	2011	504	365
Literacy rate, %	2011	82.90%	82.91%
Main workers, No.	2001	1,394,882	34,748,053
Marginal workers, No.	2001	258,088	6,425,298
Working age population* as a percentage of total population, %	2001	61%	59%
Work participation rate^, %	2001	47.00%	42.50%
HDI Rank	2001	8	
HDI Index	2000	0.64	0.58

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population.

The district has a total workforce of about 16.52 lakh persons. Of this, 40 per cent are cultivators, 18 per cent are agricultural labourers four per cent are workers in household industry and 38 per cent are other workers.



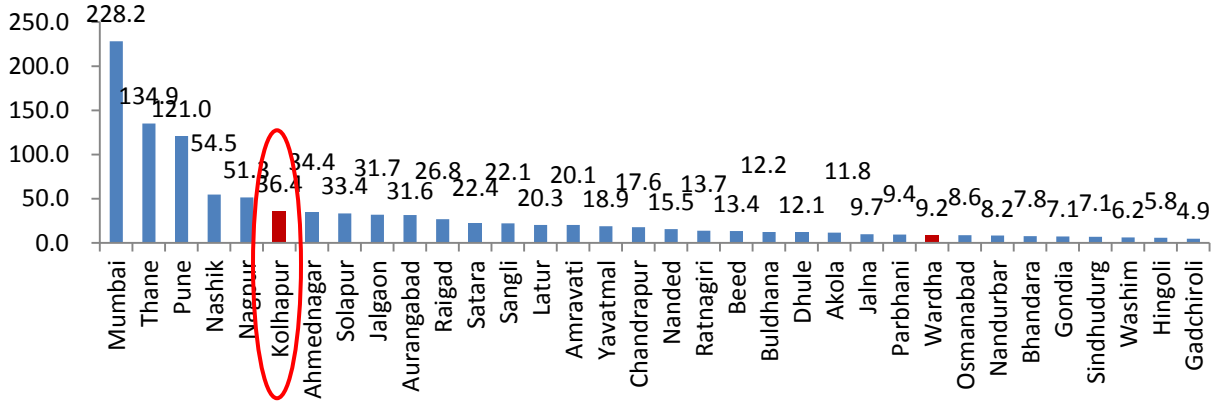
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Kolhapur district has the sixth largest Gross District Domestic Product (GDDP) in Maharashtra at Rs 36,362 (3.4 per cent of the Gross State Domestic Product). In terms of per capita NDDP though, it ranked eighth amongst all districts at Rs 84,095. This was lower than the State average of Rs 87,686.

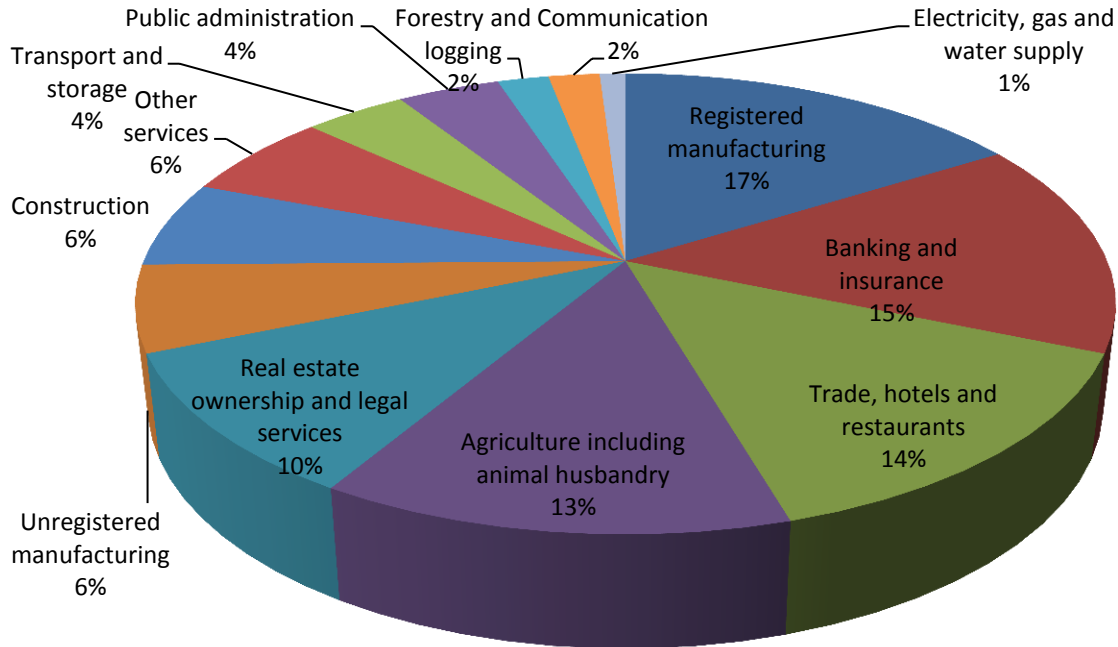
Figure 125: Gross District Domestic Product, in Rs thousand Crore, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly service based, with service sector’s share in GDDP at 55 per cent in 2009-10. This is followed by secondary sector at 30 per cent and primary sector at 15 per cent.

Figure 126: Sector wise distribution of Kolhapur's GDP, as of 2009-10, 100% = Rs30,568 Crore



Source: Kolhapur District At A Glance - 2011

Agriculture: Kolhapur's economy has grown backed by agriculture, with the Gagan bavada region receiving high rainfall. The net sown area is about 414,400 hectares. Kolhapur is predominant area in cultivation of paddy, sugarcane, banana and soybean. The production of sugarcane has led to the sugar based processing units in the district. Also, another stronghold of Kolhapur is the dairy industry.

Industry: Textile, leather, foundry and jewellery making are the main industrial activities in the district. Cooperative spinning and weaving mills and small size power loom units have been developed in and around Ichalkaranji city. The Maharashtra Industry Development Corporation (MIDC) has developed five major industrial areas in the district for the promotion of the same, with the largest being Kagal-Hatgangale area with a land bank of about 1,085 hectares.

Services: As mentioned above, services account for 55 per cent of GDP. Of all the services, the key services in the district are of 'Banking and Insurance' at 15 per cent followed by 'trade, hotels and restaurants' at 14 per cent of GDP, and other services at 6 per cent each and 'Public Administration' at 4 per cent.

2.3. State of education

As of 2011-12, Kohlapur district had 3,481 schools, with 513,989 students enrolled. Of this, 38 per cent were primary schools, 35 per cent were upper primary schools and the remaining 27 per cent were secondary and higher secondary schools. The student-teacher ratio was at 27 students per teacher. The student-teacher ratio was slightly better than the average ratio for the State at about 30 students per teacher.

Table 120: School and higher education infrastructure in Kohlapur district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	3,481	513,989
General colleges	88	55,277
Technical education*	49	13,744

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai, *Excluding non-AICTE diploma courses*

For general higher education, the district has 88 general colleges, while for technical education, the district has 49 institutes that have 13,744 students enrolled. For vocational training, Kohlapur district had a total of 41 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, 11 were Government ITIs and remaining 30 were private ITIs. All the 41 ITIs together have a seating capacity of 17,840.

Table 121: Key ITI indicators in Kohlapur district, March 2012

Indicator	Value
Total Number of ITI	41
Number of Government ITIs	11
Number of Private ITIs	30
Total Seating capacity	17,840
Student pass rate	80%
Student drop-out rate	5%

Source: ITI Kolhapur

Based on our discussions with the key stakeholders in Kohlapur district, we have found that on an average, of all the students that pass out from an ITI in each year, about 70 per cent find jobs in the market due to the high number of small manufacturing units present. The average pass rate observed is around 90 per cent and the drop-out rate is around 10 per cent. For details on courses offered by ITIs in Kohlapur, refer to the table in annexure.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The Government department offer courses in trades such as dairy, agriculture, textiles, etc. District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship Development).

Some of the courses that help the youth are certificate courses in computer operations, C programming, Visual basic and Computer Aided Designing. In addition to the certificate courses, diploma is also offered in various topics like Office Automation, Web Technologies, Office Management, etc. The private training institutes offer courses in agriculture and IT. The Agriculture College offers courses like Agro-extension services, agriculture economics, entomology, etc. Other institutes offer courses in computer basics, tailoring, cookery, etc. For details of training institutes and courses offered, refer to table in annexure.

2.4. Youth aspirations

In the process of identifying the growth engines for the Kolhapur district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Entrepreneurial zeal:** The youth is not inclined towards starting their own business, as they are highly risk averse.
- **Migration trends:** Many youth move to Pune city, looking for better pay scales and exposure to globally reputed organizations.
- **Satisfaction with existing education infrastructure:** The students feel that the training institutes' infrastructure needs to be ramped up, especially for practical exposure.
- **Demand for additional facilities:** Youth feel that additional facilities that will aid in development like library and IT facilities have to be built in the institutes.
- **Job preference:** Most students prefer part time jobs so as to fulfill their economic obligations and grow in the career.

3. Developmental concerns

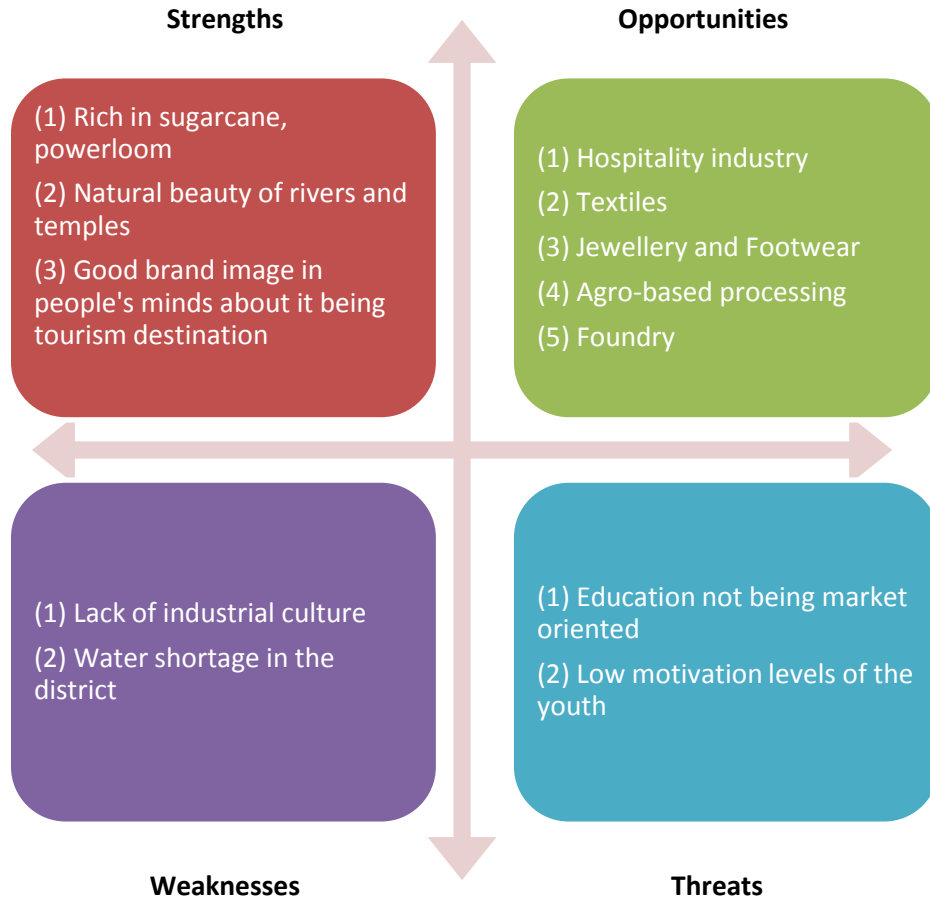
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Water Shortage:** Though the Western Ghats receives the heavy rainfall the talukas of Shirol and Hatkanangle record poor rainfall. This leaves an entire section of the district having water shortage which further cripples the uniform industrial development in Kolhapur.
- **Shortage of skilled manpower within the district:** There is a marked shortage of skilled manpower within Kolhapur. With the changing face of the industrial scenario in the district, this could prove to be a big hassle to making Kolhapur an industrial hub like Pune or Nasik.

SWOT analysis

Based on the diagnostics of the Kolhapur district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 127: SWOT Analysis of KOLHAPUR district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 342,596 persons between 2012 and 2022. Sectors which will drive demand are expected to be agriculture and allied, construction and real estate, BFSI and tourism. The requirements for skilled personnel are likely to increase, as the maximum demand will be generated for semi-skilled and skilled workers, which need to be skilled.

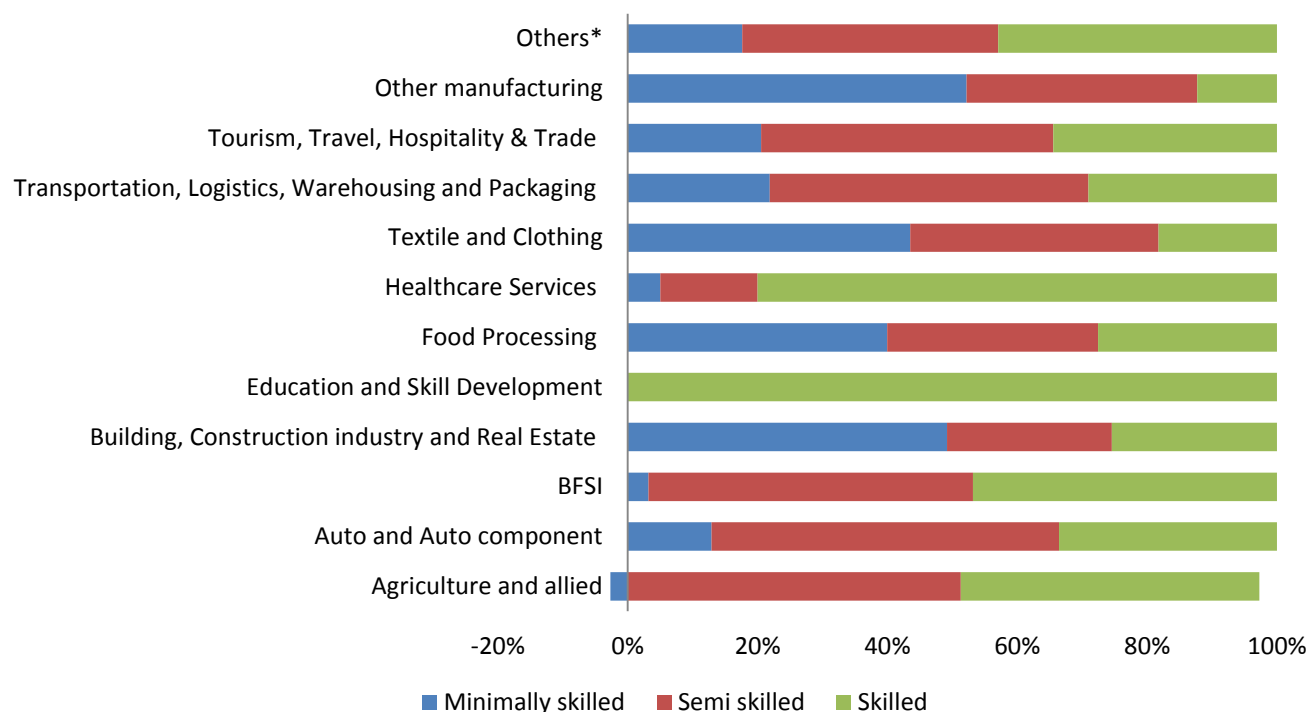
Table 122: Incremental demand of human resources in Kohlapur – by sector

Year	2012-17	2018-22	2012-22
Agriculture and allied	24,255	12,360	36,616
Auto and Auto component	3,296	5,171	8,467
BFSI	20,601	33,116	53,717
Building, Construction industry and Real Estate	34,512	47,897	82,410
Education and Skill Development	18,581	7,922	26,503
Food Processing	4,422	5,706	10,128
Healthcare Services	4,339	5,938	10,277
Textile and Clothing	15,940	20,203	36,143
Transportation, Logistics, Warehousing and Packaging	8,981	10,181	19,162
Tourism, Travel, Hospitality & Trade	14,558	21,198	35,757
Other manufacturing	8,531	14,044	22,575
Others*	396	446	842
Total	158,414	184,182	342,596

Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, gems and jewellery, chemical, IT, media and entertainment, organized retail, electronics, and furniture and furnishings.

Figure 128: Incremental demand of human resources in Kohlapur – by skill level

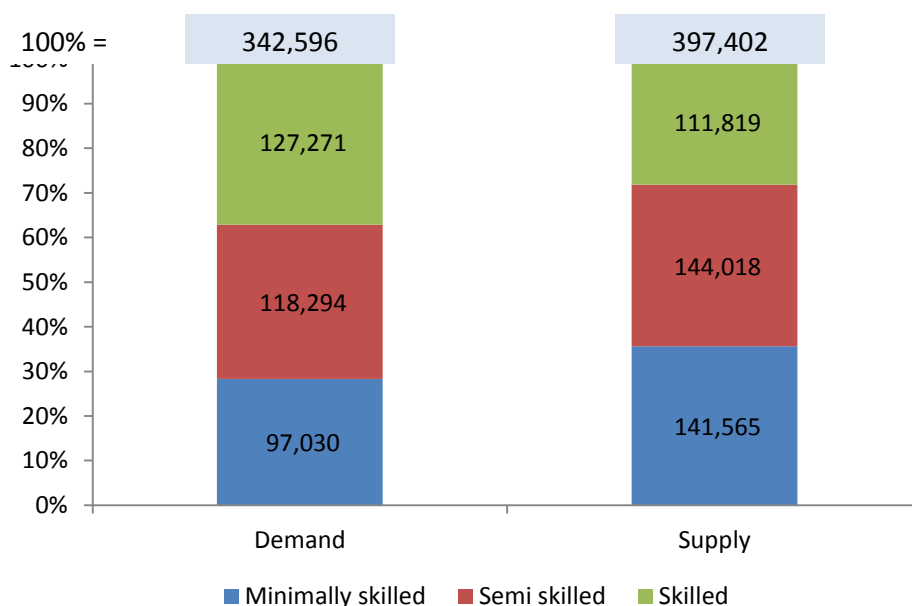


Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, gems and jewellery, chemical, IT, media and entertainment, organized retail, electronics, and furniture and furnishings.

We have estimated incremental supply of human resources in the district at 397,402 for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be in surplus of the demand in Kolhapur. Thus, this could lead to migration to business hubs like Pune where the skilled youth look for opportunities.

Figure 129: Demand supply gap of human resources in Kolhapur – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

As discussed in the section above, while employment will be generated across many sectors, in this section, we have identified especially those sectors which require skilling interventions in the district – mainly ‘agriculture and allied’ ‘tourism, trade and hospitality’, ‘food processing’, ‘textiles’, ‘unorganised sectors’ and ‘foundry’. Identification of such sectors has been based on the diagnostics above, our observations during the primary survey and discussions with the key stakeholders in the district.

Table 123: Sectors present in Kolhapur district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Kolhapur	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		

High Growth Sectors identified by NSDC	Kolhapur	Maharashtra
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Others – Foundry		
Unorganised sector – Silver Jewellery and Leather Chappals		

Source: IMaCS Analysis

For the sectors identified above, we have mapped the skill requirements and the gaps faced by the sector in the section below.

5.1. Tourism, Travel, Hospitality and Trade

The district of Kolhapur has gained immense popularity as a tourism destination. The district has the varied geographical features with rivers and abundant flora and fauna, temples and palaces. It is the seat of Goddess Mahalaxmi and is one of the Shaktipeeths mentioned in Indian mythology. In addition to this religiously significant temple, Kolhapur has the Pachganga river meandering through it and is known for boat rides.

There are several other tourist spots in the district like the famous Gokak Falls and Radhanagari Dam. In addition, Gandharva Resort and Amusement Park, Sidhagiri Wax Museum, Rankala lakes, Panhala Fort are also part of various tourism circuits. In the last few years, there have been many hospitality ventures in the district due to the district becoming a tourism hub.

The biggest challenge for this district is to attract the tourists from northern India who generally stop at Pune. This can be done with better infrastructure and experiential tourism development. The aspect of capacity building also has to be explored where the human resource needs to be trained.

Beauty of Kolhapur

Gokak Falls



Panhala Fort



Table 124: Tourist spots in Kolhapur

Tourist Spot	Brief Description
Gokak Falls	This falls resembles Niagara Falls on a smaller scale. The waterfall is horse shoe shaped at the crest, with a flood breadth of 177 metres (581 ft). There is a hanging bridge across the river, measuring about 201 metres (659 ft). Its height above the rock bed is 14 metres (46 ft) The lake which is famed for boat rides and sunset views
Panhala Fort	Panhala fort, which carries a rich heritage, is the largest of all the Deccan forts. This is the only fort where the great ruler, Chhatrapati Shivaji Maharaj is believed to have spent more than 500 days. It was built between the 1178-1209 AD.
Mahalakshmi Temple	This a famous temple in Kolhapur

Some of the key skill gaps in this sector based on our survey are:

- English speaking difficulties
- Customer relationship management difficulties
- Lack of soft skills

5.2. Others - Foundry

Kolhapur is having a lot of foundries making Iron casting. These units are found in abundance in the district, mainly concentrated in the Shahupuri taluka. Each of these units ranges from small to medium, which employ about 20 to 60 people. There about 150 foundry units in a cluster which offer employment to about 1,800 people. The foundries in Kolhapur cluster are one of the prominent ones in India and cater to the market for high end castings in the automotive and electrical machinery sectors. Some of the key skill gaps in this sector based on our survey are:

- Lack the soft skills – in terms of report writing, documentation of faults, etc.

- Not enough mechanical and electrical diploma holders available in Kohlapur
- Not able to adapt to the latest technology used in shop floor
- Less number of fitters, which forces the managers to recruit from outside
- Less number of CNC qualified personnel
- Lack the discipline to come and put in the required hours of work

5.3. Food Processing – sugar and jaggery

The sugar and jaggery processing industries in Kohlapur district do well due to the abundant sugarcane crops in the district. In fact, the three districts of Kohlapur, Satara and Sangli form the sugar belt in Maharashtra. There are many sugar based processing units in Kohlapur, with some of the prominent names being Warana Sahkari Karakhana Limited, Daulat Sahakari Karakhana Limited amongst others. Thus, these units are employment sources for the local farmers and the mill workers. The key skill gaps in sugar are related to soft skills and industrial discipline.

The sugarcanes that are not used in the sugar mills are used to make jaggery. In Kohlapur, jaggery is processed primarily with the aid of clusters to bring together the small entrepreneurs. There are about 52 units in the cluster and is led by the Shri Chatrapati Shahu Sahkari Gul Kharedi Vikri Sangh Limited.

Some of the key gaps are:

- Lack of knowledge of cutting sugarcane
- Lack of knowledge on how crusher efficiency can be improved
- Lack of understanding of adequate quantities of chemicals. Chemicals are added 10-15 times more than the prescribed limit, which make the jaggery very attractive. However, it also makes it very harmful to eat.
- Lack of knowledge on how to make organic jaggery
- Lack of knowledge on use of by-products of sugar making such as bagasse and molasses

5.4. Textiles and clothing

Textile in Kohlapur mainly has the garmenting sub-process. The garments are then sent to the client center for the final label attachment. The industry is led by the town of Ichalkaranji which is known as the Manchester of Maharashtra. It is one of the fastest growing industrial areas in western Maharashtra. Earlier, Ichalkaranji was famous for cotton cloths, dhotis and saris. In 2012, the Government of India has sanctioned Rs. 8,000 crore for modernisation of textile industry, while a fund of Rs.15,404 crore has been allotted in the 11th five year plan for the same. Of this provision funds of Rs.400 crore have been provided to the creation of integrated textile parks. A overall investment of Rs.9,000 crore is expected in this project and employment generation for about 4 lakh people is also projected.

The skill gap here is the time taken to adapt to the shop-floor practices that are bridged by on the job training across all job roles. Another skill gap domain is in the softer aspects, where the workers tend to exhibit attrition tendencies and absenteeism.

5.5. Unorganised sector - footwear and jewellery making

5.5.1. **Kolhapuri chappals** are well known in the national and international market due to their unique design. This is due to the traditional Chappals having an ethnic look. These Chappals are still mainly prepared by hand, which helps them retain their unique appearance. Places like Kapashi, Kurundwad and Airoli in Kolhapur district have roughly 500-700 small and large scale industries where these chappals are manufactured, encouraged by the Kohlapur Cluster for Chappals. The artisans work on these footwear as this is a traditional skill for them.

Some of the key skill gaps are:

- Insufficient formal training institutes for workers/operators
- Inadequate ability to undertake cutting and stitching jobs effectively with minimum errors
- Cutting operator generally does not understand which part of shoe comes from a particular part of the leather and the importance of cutting with minimum wastage and flaws

5.5.2. **Kolhapuri jewelry** is another traditional skill of the district that has gained visibility in the national and international levels. The silver jewelry making is concentrated in the Hupri town where artisans craft the pieces. This product is exported to as far as United States of America, Belgium, Romania and Nepal. The Hupri cluster has about 136 units of traditionally skilled artisans who make the produce. This being a traditional skill does not have skill gaps related to the work and production of the pieces. However, formal training can be given to institutionalize the process. Also, greater market awareness can be taught.

Kolhapuri Jewelry and Chappals



6. Recommendations

Recommendations for Kolhapur district focus on the sectors of food processing, foundry, unorganized sector (chappal and jewellery), textile and clothing and tourism and hospitality. Some of these sectors will have recommendations for the private sector which will directly translate to skills being developed and the others will need Government intervention to facilitate improvements. Finally, since a significant

chunk of employment is concentrated in agriculture, thus, major up-skilling can be done for those workers, updating them of latest techniques of farming. This will help them improve their livelihood opportunities and will increase their income levels.

While the detailed recommendations follow, summary is given in the table below.

Table 125: Key recommendations for Kohlapur – summary

Sector	For private training providers	For Government players	For Industry	For NSDC
Food processing – sugar	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Research on innovative irrigation technology 	<ul style="list-style-type: none"> Focus on R&D 	<ul style="list-style-type: none"> n/a
Textiles and clothing	<ul style="list-style-type: none"> Skills like akoba, appliqués Exposure to color schemes, etc. 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Training in collaboration with VTPs 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Travel, Tourism and Hospitality	<ul style="list-style-type: none"> Skilling based on the functional roles such as hospitality establishments, tour guides and special personnel The development of special personnel will lead to creation of experiential tourism that will drive up the number of tourists who visit the district 	<ul style="list-style-type: none"> Capacity building through Department of Tourism and MTDC 	<ul style="list-style-type: none"> Facilitate training of personnel to promote experiential tourism in district Training in collaboration with VTPs 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Foundry	<ul style="list-style-type: none"> Courses related to deep introductory level job role Higher end courses like designing, casting technology, etc 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Up-skilling modules sponsoring for existing personnel Internships for youth 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Unorganized – chappal and jewellery	<ul style="list-style-type: none"> Courses related to modern designs Courses related to finishing, etc 	<ul style="list-style-type: none"> Training at cluster level 	<ul style="list-style-type: none"> Facilitate cluster level training in collaboration with Government and VTPs 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs

6.1. Government players

- ❖ **Sugar processing:** The intervention of the Government is required to primarily improve the farm level productivity. Though as a traditional activity cane has been grown for decades, the farmers still are not aware of the latest methods to combat the pests and utilization of better irrigation facilities. Some of the ways by which the government can intervene to bridge these gaps are:
 - Spread awareness on how to better the produce
 - Give modules to educate farmers on the cane diseases and how to protect the canes
 - Propagate knowledge on latest pesticides

- Encourage in investment of common modern farm equipment by small farmers
 - Test innovative irrigation technologies
 - Encourage the usage of insecticides in right quantities
 - Propagate knowledge on various cane crop related pests and diseases to protect the crop
- ❖ **Travel, tourism and hospitality:** Undertake capacity building programmes through Department of Tourism and MTDC. The capacity building from the Government’s end i.e. guide , language training courses have to be given at village level for the local youth. Faculty from reputable hospitality institutes should be hired for these courses, which needs to take place across all the talukas.
- ❖ **Unorganized sector – jewellery and chappal making:** The Government can do the critical role of hand-holding by providing training to the artisans at the cluster level. Seed capital can also be provided to VTPs who can provide modern training techniques in this area. Support can also be provided in terms of providing infrastructure as well as stipend to the trainees.

6.2. Private training providers

- ❖ **Textiles and clothing:** Private training centers for honing skills across spinning, weaving and garmenting can be setup with a thrust on attracting women. Women can be sourced from villages and at taluka headquarters the short duration courses can be conducted to actively engage the women. Some of the indicative modules that can be offered are:
- Knowledge on colour schemes
 - Skills for techniques like appliqué, akoba, etc
 - Knowledge on designing the garment
 - Skills for innovative cuts and structuring
 - Embroidery skills
 - Jardosi skills to make the textile attractive, etc.
- ❖ **Travel, tourism and hospitality:** The capacity building is required across the value chain, based on the functional role as the skill building component also is at a nascent stage in Kohlapur. They can be based in the district headquarters of Kohlapur town.

Table 126: Indicative skilling required in tourism in Kohlapur

Functional role	Training required
Tourist guide/operator	<ol style="list-style-type: none"> 1. Communication skills 2. Route optimization – especially to create hubs that can club the beaches, backwaters and the places of religious importance 3. Courses to engage with the customer i.e. soft skills training 4. Courses that build awareness about the history of Kohlapur
Hospitality establishments	<ol style="list-style-type: none"> 1. Basic computer courses 2. Communication skills

Functional role	Training required
	<ol style="list-style-type: none"> 3. Courses to solve basic problems 4. Hospitality management courses for establishment managers 5. Culinary courses to bring forth the specialties of the Kohlapuri cuisine
Special personnel	<ol style="list-style-type: none"> 1. History experts 2. Adventure tourism experts

- ❖ **Foundry:** Aided by the foundry cluster, a Foundry Training Institute can be set-up that will aid in building the skills across critical dimensions. The indicative list of courses that can be offered to the foundry personnel are:

Table 127: Training for foundry sector - Kohlapur

Functional role	Training required
Entry level foundry man (Foremen, patternmakers)	<ol style="list-style-type: none"> 1. Metal casting practices 2. Different types of designs in casts 3. Basic casting defects and how to prevent them 4. Basic techniques of core making and moulding 5. Basic safety procedures
Experienced foundry man (foundry engineers, supervisors, metallurgists, and quality control personnel)	<ol style="list-style-type: none"> 1. Casting design using 3D modeling 2. Casting costing 3. Analysis & Reduction of Casting Defects 4. Chemically Bonded Molding & Core making 5. Safety procedures 6. Usage of advanced machines 7. Marketing ability 8. Soft skills

**List of courses is indicative based on industry interactions*

- ❖ **Unorganized sector – jewellery and chappal making:** Private training providers can offer the following indicative list of modules within the cluster framework to ensure a higher reach:
 - Designing techniques
 - Raw material quality inspection techniques
 - Usage of computers to have complicated and attractive patterns
 - Finishing techniques
 - Market study skills to understand what the market requires
 - Colour schemes in designing
 - Better presentation skills to make the final product look attractive
 - Usage of fur, strings, satin, etc to enhance the visual quality

6.3. Industry

- ❖ **Sugar processing:** Though the industry has moved forward with the strong co-operative movement and several mills, there is less focus on R&D to utilize the by-products like molasses

and bagasse effectively. Thus, the industry can focus on investing in R&D and looking for optimal ways of production.

- ❖ **Textiles and clothing:** Training for existing and new workers can be facilitated in collaboration with VTPs.
- ❖ **Travel, tourism and hospitality:** Facilitate training of personnel to promote experiential tourism in district. Training to be provided in collaboration with VTPs as well as Department of Tourism and MTDC.
- ❖ **Foundry:** The industry's thrust can be across two prongs:
 - 1. Existing employees
These personnel can be sent for up-skilling modules to hone their casting and modelling skills. This will give them exposure to the latest technology.

 - 2. Students/Youth
The youth in polytechnics and ITI can be offered internships to give them practical exposure to foundry technology.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Food processing - Sugar processing
- ❖ Textiles and clothing
- ❖ Tourism and hospitality
- ❖ Others – Foundry
- ❖ Unorganised sector – silver jewellery making and Kolhapuri chappal making

2.16. Latur**1. Introduction**

Latur, a district situated on the Maharashtra Karnataka border was historically known as Ratnapur. It is located in the Marathawada region of Maharashtra. Prior to 1981, it was a part of Osmanabad district. It has a total land area of 7,157 sq. km. – constituting for 2.3 per cent of the total State area. The district is primarily agrarian, with 73 per cent of the total workforce engaged in agriculture and related activities. It is also known for presence of sugar processing and soya processing industry.

Table 128: Comparison of Latur district with Maharashtra – key indicators

Indicator	Year	Latur	Maharashtra
Area, in sq.km.	2001	7,157	307,713
Percentage share in State geographical area, %	2001	2.33%	100%
No. of sub-districts	2011	11	353
No. of inhabited villages	2001	921	41,095
No. of households	2001	381,600	19,576,736
Forest area as a percentage of total geographical area	2001	0.56%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Latur district has a population of 24.55 lakh persons – 2.2 per cent of the State population. While 53 per cent of the population in the district is in working-age group (15 to 59 years), about 34 per cent is actually working i.e. work participation rate. The work participation rate is quite low as compared to the State average of 42.5 per cent.

The district's literacy rate is 79 per cent, which is slightly lower than the State average of 82.91 per cent but higher than the All-India average of 74 per cent. The district has made huge strides in education with some good engineering colleges making a vast difference to the education landscape of Latur.

Table 129: Key demographic indicators

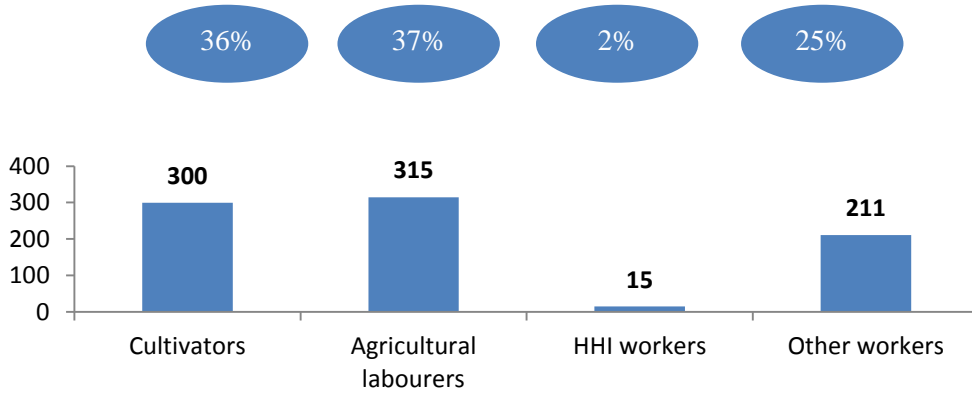
Indicator	Year	Latur	Maharashtra
Population, No.	2011	2,455,543	112,372,972
Decadal growth rate of population, %	2001-11	18.04%	15.99%
District's share in State's population, %	2011	2.19%	100%
Urban population as a percentage of total population, %	2011	25%	45%

Indicator	Year	Latur	Maharashtra
SC population, %	2001	19%	8.79%
ST population, %	2001	2%	15%
Sex ratio, No. of females per 1000 males	2011	924	925
Population density, per sq. km.	2011	343	365
Literacy rate, %	2011	79.03%	82.91%
Main workers, No.	2001	712,849	34,748,053
Marginal workers, No.	2001	127,669	6,425,298
Working age population* as a percentage of total population, %	2001	53%	59%
Work participation rate^, %	2001	34.23%	42.50%

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011

The district has a total workforce of about 8.40 lakh persons. Of this, 36 per cent are cultivators, 37 per cent are agricultural labourers, two per cent are workers in household industry and 25 per cent are other workers.

Figure 130: Latur district's worker profile, as of 2011, in thousands



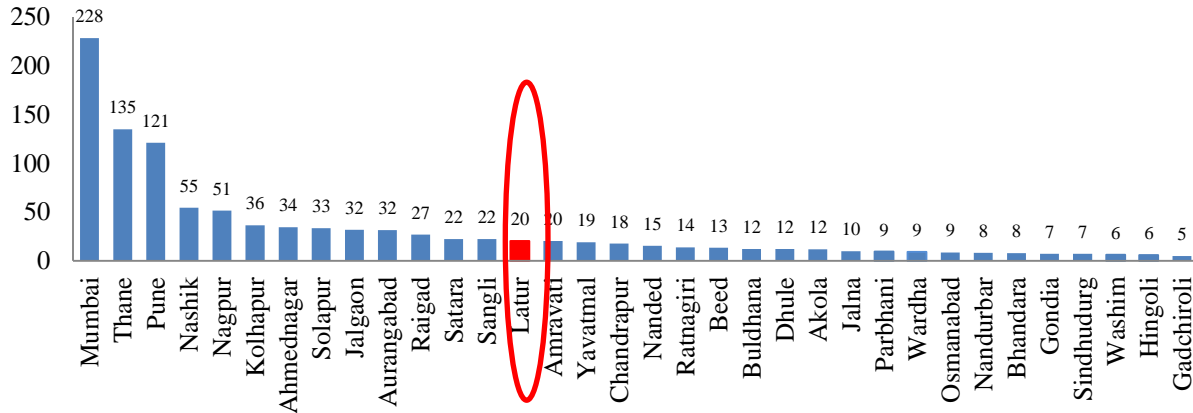
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2011-12, Latur district had 14th largest Gross District Domestic Product (GDDP) in Maharashtra at Rs 20,335 crore (3.48 per cent of the Gross State Domestic Product).

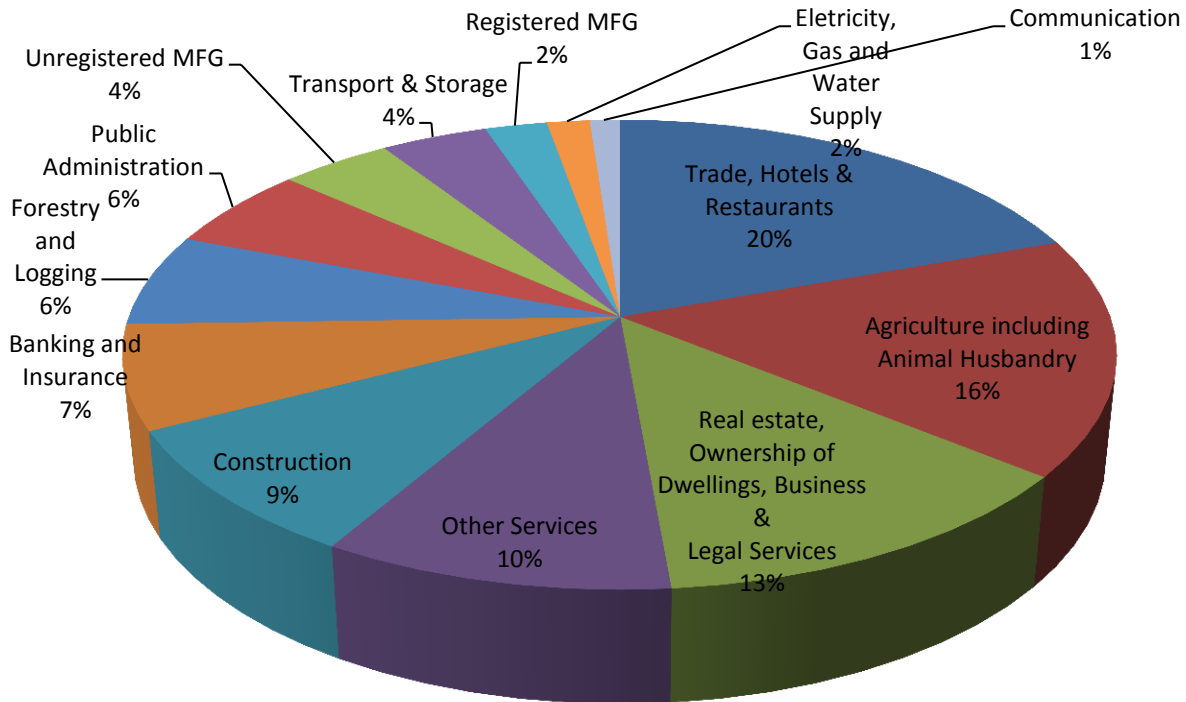
Figure 131: Gross District Domestic Product, In Rs 20,335 crores, as of 2011-12



Source: Economic Survey of Maharashtra

Primary sector contributed 22 per cent to the GDP while secondary sector's contribution was 21 per cent and tertiary sector contributed 57 per cent to the GDP of the district.

Figure 132: Sector wise distribution of Latur's GDDP, As of 2009-10, 100% =10,731 crores



Source: Directorate of Economics and Statistics, Government of Maharashtra

Agriculture: Latur is primarily an agrarian district where agriculture and allied activities provides means of livelihood to 73 per cent of the population. There is lack of irrigation facilities and high dependence on rainfall. To increase crop productivity, the district administration is trying to take some measures like bringing technology and seeds with higher yields with hands on experience, training the farmers for the same and changing the cropping pattern to increase the average crop yield.

The main objectives being considered in their vision are as follows:

- To create water literacy in each village
 - To develop the village wise cropping pattern
 - To increase local availability of the high yielding varieties through village seed production programme
 - To train the farmers in the advanced technology
- To implement the campaign movement on the grant in aid non grant in aid policy
Different programmes for agriculture development being undertaken are as follows to accomplish the objectives as outlined above:
- Village seed production programme
 - Participation of the Krishi Vidyan Kendras
 - In situ water conservation

Industry: Around 21 medium and large scale units are working with an investment of Rs. 388 crore. Around 2,280 small scale units have been established with an investment of Rs. 148 crores. Videocon, India Rayon and India Bulls and Supreme Industries are going to set up a plant in Latur with an investment of Rs. 600 crore. Some of the proposed schemes for industrial development are:

- New Industrial Area 1000 hectares
- Murud Gramodyog Vasahat
- Floriculture Park
- Central Research & Training Institute for edible oil & pulses
- Research & Training Centre for non-conventional energy
- Regular Air service
- To establish Small Industries Development Bank of India
- Small Industries Development Bank Of India
- Bio-Technology Park
- Soybean Processing Research Centre (ICAR)
- Honey Processing Centre
- To establish Udyog Bhawan
- To start various courses related with food processing

Services: As discussed earlier, service sector account for 57 per cent of GDP in Latur district. Of all the services, the key services in the district are of 'Trade, Hotels and Restaurants' accounting for 20 per cent followed by 'real estate, ownership of dwellings, business and legal services' accounting for 13 per cent.

2.3. State of Education

As of 2011-12, Latur district had 2,294 schools. Of this, 35 per cent were primary schools, 40 per cent were upper primary schools and the remaining 26 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 4,21,310 while the student-teacher ratio was high at 28 students per teacher. The student-teacher ratio was slightly better as compared to the average ratio for the State at about 30 students per teacher.

Table 130 : School and higher education infrastructure in Latur district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	2,294	4,21,310
General colleges	81	33,442
Technical institutes*	35	6,840

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

The number of Industrial Training Institutes (ITIs) is 12 with a seating capacity of 2,320. As per our discussion with educational institutes most of the students aspire to study in government ITI because of low fees and good job prospects.

Table 131 : Key ITI indicators in Latur district, as of October 2012

Indicator	Value
Total Number of ITI	12
Number of Government ITI	11
Number of Private ITI	1
Total Seating capacity	2,320

Source: Department of Employment & Self Employment, Government of Maharashtra

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The Government Departments offer courses in multiple trades some of which are welder, carpenter, plumber, mason, wireman, cutting and sewing, hair and skin care, mechanical diesel, stenographer (Marathi) and stenographer (English) etc.

2.4. Youth Aspiration

In the process of identifying the growth engines for the Latur district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Willingness to pursue higher education:** Most of the students want to pursue higher education but are constrained due to finances. There is a bias towards government institutes as they feel the fees are low and the institutes have a better infrastructure.
- **Entrepreneurial zeal:** Most of the students are not inclined towards pursuing business opportunities as they are highly risk averse. Only one to two per cent of the youth want to start their own business.
- **Migration trends:** Most of the students come from nearby districts like Parbhani. Most of them want to work in Latur itself but are willing to go to Pune if compensated adequately.
- **Satisfaction with existing education infrastructure:** Even though there is high preference to study from Government educational institutions, the youth feel that these institutions are not equipped with even the basic infrastructure such as drinking water and working toilets.

3. Developmental concerns

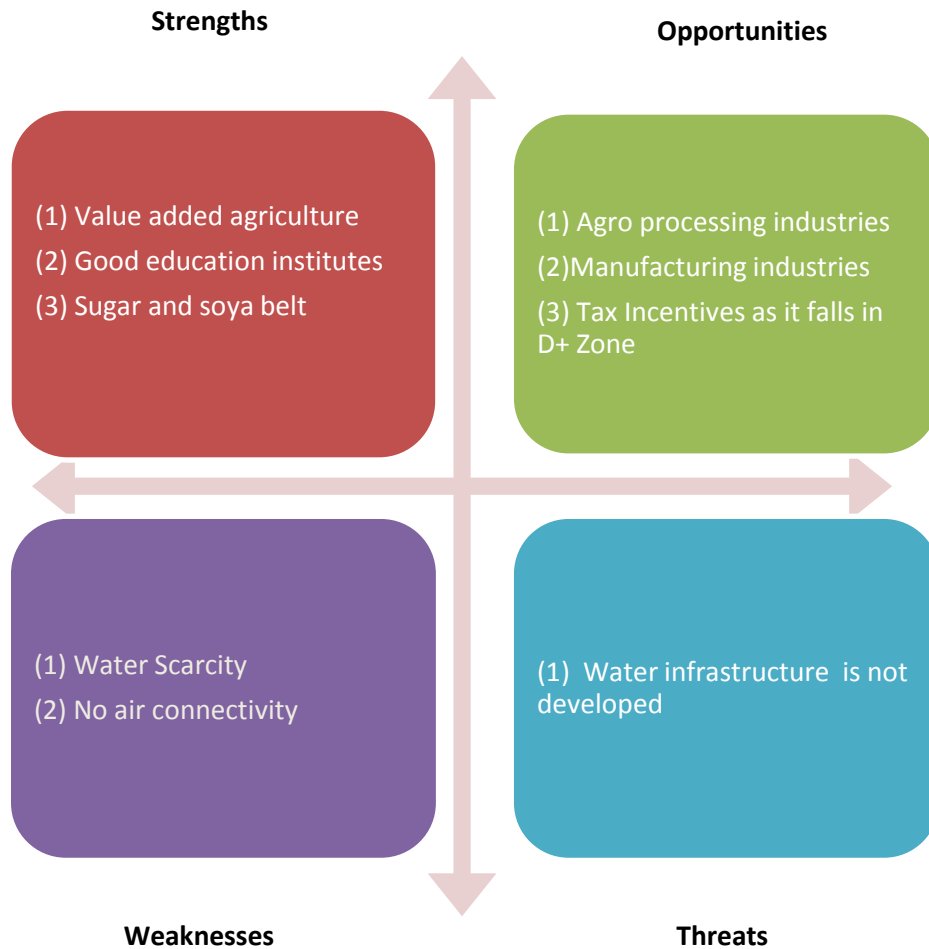
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Lacking in pro-activeness:** The youth lack pro-activeness and do not want to take any risk. Government is willing to provide financial assistance at low rates of interest but the youth lack vision and business acumen.
- **Water Scarcity:** There is severe lack of water availability in Latur as the irrigation is only provided to 22.90 per cent of the cultivable area. This creates a huge dependence on rainfall for agriculture productivity. About 30 per cent villages do not have adequate water to drink and to use for their daily purpose.

SWOT analysis

Based on the diagnostics of the Latur, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 133 : SWOT Analysis of Latur District



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 1.3 lakh persons between 2012 and 2022. Sectors which are likely to generate employment are mainly 'building, construction and real estate', 'agriculture and allied' and 'BFSI'.

However, sector which is unique to Latur is 'food processing – both sugar and soya'. The forecasts for this, is however, relatively low, as current and past trends have been used for forecasting. However, the sector has immense potential due to availability of raw materials. If adequate investments materialise in these sectors (both from Government and private), then the sector will generate employment much more than what has been forecasted as of now.

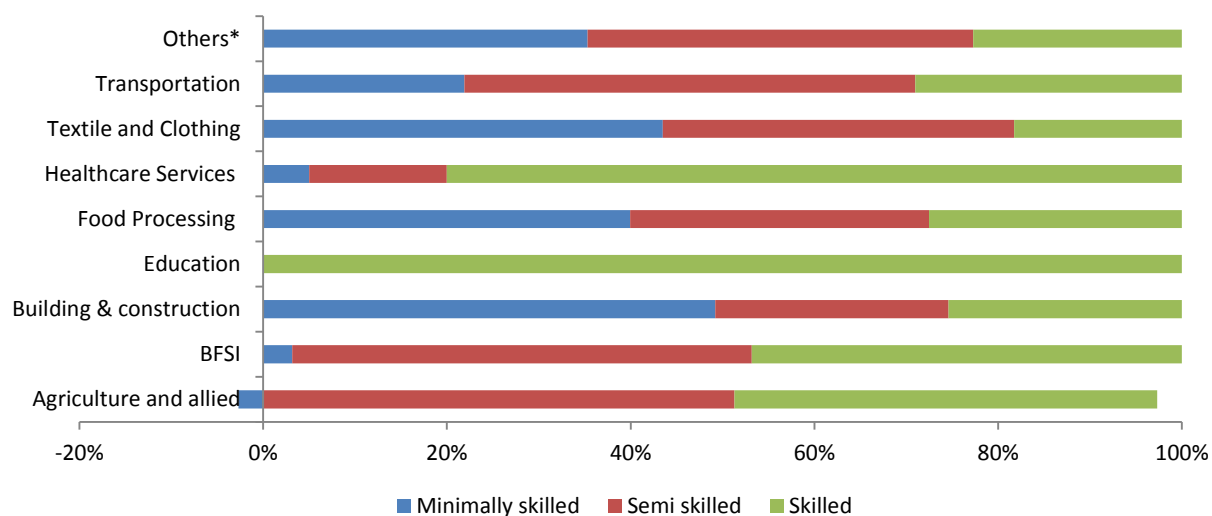
Table 132: Incremental demand of human resources in Latur – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	15,544	7,921	23,465
BFSI	8,113	13,042	21,155
Building, Construction industry and Real Estate	16,714	23,196	39,911
Education and Skill Development	8,255	5,003	13,258
Food Processing	2,685	3,464	6,148
Healthcare Services	5,089	6,965	12,055
Textile and Clothing	1,582	2,006	3,588
Transportation, Logistics, Warehousing and Packaging	3,218	3,648	6,865
Others	1,672	2,643	4,313
Total	62,872	67,887	130,759

Source: IMAcS Analysis

*Other sector include Auto and Auto component, Chemicals & Pharmaceuticals, Furniture and Furnishings, Tourism, Travel, Hospitality & Trade, Other manufacturing.

Figure 134: Incremental demand of human resources in Latur – by skill level

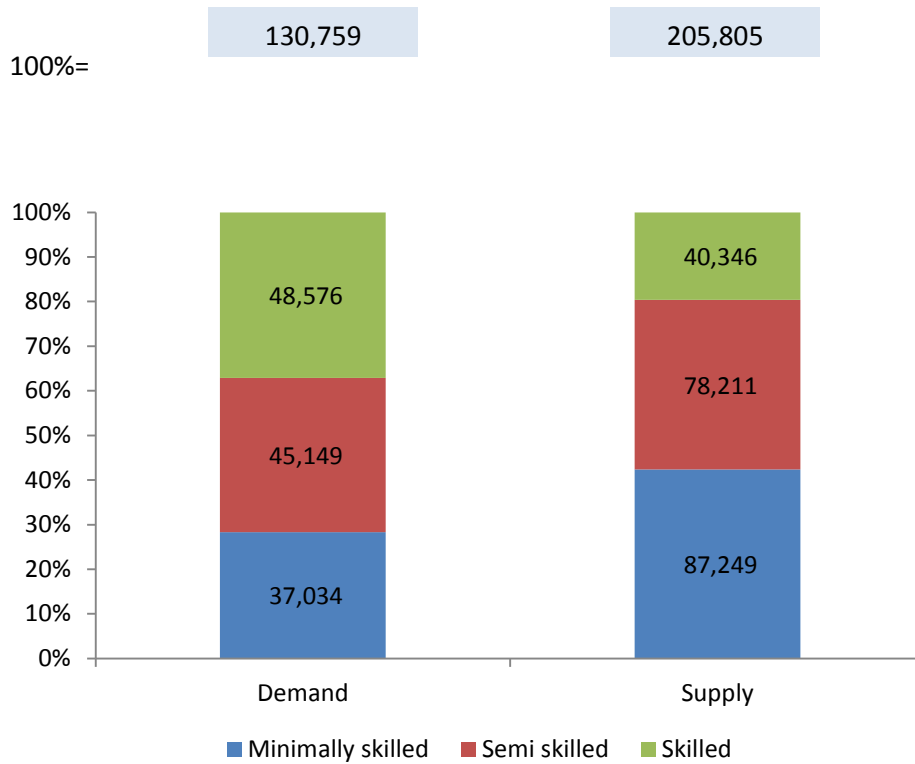


Source: IMAcS Analysis

*Other sector include Auto and Auto component, Chemicals & Pharmaceuticals, Furniture and Furnishings, Tourism, Travel, Hospitality & Trade, Other manufacturing.

We have estimated incremental supply of human resources in the district at 2.05 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be more than the incremental demand in the district. Thus, indicating that all the people will not get absorbed in the district and will have to migrate out to other districts / States (as is reflected by current trends also). However, the incremental supply is leaning more towards minimally skilled workers, as against high demand for skilled workers in the district. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward.

Figure 135: Demand supply gap of human resources in Latur – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

As discussed in the section above, while employment will be generated across many sectors, in this section, we have identified especially those sectors which require skilling interventions in the district – mainly agriculture and allied, and food processing (sugar and soya). Identification of such sectors has

been based on the diagnostics above, our observations during the primary survey and discussions with the key stakeholders in the district.

Table 133 : Sectors where interventions are required in Latur– comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Latur	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing – Sugar		
Food Processing – Soya		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMaCS Analysis

The shortlisted sectors are at different stages of development and market evolution. Based on that, each one of them has separate skill requirements. While some require only skill up-gradation, some require new skills and even speciality skills.

5.1. Agriculture and allied

Presently, kharif crops being grown in the district are jowar, tur, blackgram, and soyabean and rabi crops being jowar, gram, and wheat crops. The area under cultivation of soyabean is increasing during the kharif season along with that of green gram, black gram and tur. The area under sugarcane plantation is also increasing in the district.

There is major scope for horticulture crops like mango, pomegranate, and grape etc. in the district. The area under horticulture is increasing on a daily basis. Latur is also one of the top districts in Maharashtra in terms of grapes exports.

Based on our stakeholders' discussions we have identified the following skill gaps for farmers:

- Lack the ability to use the latest technology
- Unable to use the most productive seeds due to lack of knowledge and finance
- Lack of storage space leads to selling them cheap and sometimes at a loss
- Unaware of the different uses for a crop
- Unable to use the most advanced machinery because of lack of knowledge about their capability to increase productivity

5.2. Food Processing – Soybean

In Latur, 29 per cent of cultivable land is occupied by soyabean crop. In the vision statement prepared by Latur district administration they envision a soyabean processing research centre in the next 25 years. There are couple of large oil mills in Latur namely Tina Oil and Chemicals which employs 260 people and also another oil mill called Kirti Agro Vet Limited employing 70 people. Based on our stakeholders' discussions we have identified the following skill gaps for the sector:

- People with this kind of skill-set don't prefer to stay in Latur and work. They prefer to move to nearby hubs like Pune, Aurangabad.
- People with the required skill set are difficult to get.
- Experienced people prefer to work in Pune or Nagpur.

5.3. Food Processing – Sugar

The area under sugarcane plantation is increasing in the district, but lack of labourers is increasing the production cost and therefore hurting the margins of sugar factory owners. The sugar companies are a major source of employment to the local farmers, purchase majority of their produce and provide sustainable source of livelihood to them. Many locals are also employed in these sugar mills. However, the functioning of sugar mills is seasonal in nature.

Manjara sugar factory was established with an investment of Rs.80 crore and employs around 800 people (where more than 90 per cent are unskilled). It is the largest sugar factory in Latur and uses the most advanced machineries.

Based on our stakeholders' discussions we have identified the following skill gaps for the sector:

- As this happens to a menial job and not a high paying one, it becomes difficult to retain employees. Most of the regulars happen to be from other states like U.P and Bihar.
- Lack of skills in ITI pass outs is also observed, as most of them have to be trained again on shop floor only.

6. Recommendations

Latur is a district where soya and sugar contribute to more than 50 per cent of the cultivable area. Here 73 per cent of the workforce is dependent on agriculture. There is a huge scope in food processing industry and hence the recommendations will be centred on this industry and how to develop the same.

Table 134 : Key Recommendation for Latur District

Sector	Government	Private training providers	Industry	NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Department of Agriculture needs to increase the scope and coverage of the schemes which it is currently running in the district. 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a
Food processing – Soyabean and sugar	<ul style="list-style-type: none"> ▪ Provide training for workers in industry in collaboration with industry 	<ul style="list-style-type: none"> ▪ They can collaborate with industry to provide training. 	<ul style="list-style-type: none"> ▪ Collaboration with VTPs at industrial association level for training of workers 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs

6.1. Government

- ❖ **Agriculture and allied;** As per our discussion with some of the farmers and villagers they are not aware of many of the schemes run by the Government. The Government needs to focus on disseminating knowledge and information about the same. Also, the district is predominantly agrarian with over 73 per cent of the population dependent on it for their livelihood. The district has a high number (41 per cent) of marginal farmers, which are rendered jobless during the lean season. Thus, efforts need to be made by the local Government authorities to mobilise such farmers in productive employment opportunities during lean season. There is also an urgent need to educate the farmers about different ways to improve the productivity of crops and also make them aware of the different Government schemes available at their disposal. Some of the allied activities where the Government can give training are as follows:
 - Training in horticulture products like mango, grapes and pomegranate
 - Sericulture, milk production and honey extraction

- ❖ **Food Processing – Soya and sugar;** Training needs to be provided for workers in collaboration with the industry.

6.2. Private training providers

- ❖ **Food processing – soya and sugar;** They can collaborate with industry to provide training to workers in soya oil mills. The same can be subsidised by the Government. And some fees can be

borne by the industry. It will be a win-win situation as industry can focus only on core activities and training is outsourced to private training providers.

6.3. Industry

- ❖ **Food Processing – Soya and sugar;** Collaboration with VTPs at industrial association level for training of workers.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Food Processing – Soya
- ❖ Food Processing – Sugar

2.17. MUMBAI AND MUMBAI SUBURBAN

1. Introduction

Mumbai – the capital city of Maharashtra – is the most populous city in India and the fourth most populous city in the world. It lies on the west coast of India and has a deep natural harbour. The district attracts different skill sets from all parts of India, as people from all over the country aspire to move to Mumbai to find their dream jobs.

The district, once home to top manufacturing companies in the world, has now become a key service sector hub. It is also known as the ‘Financial capital’ of India. It generates 5 per cent of India's GDP, 25 per cent of industrial output, 70 per cent of maritime trade in India (Mumbai Port Trust & JNPT), and 70 per cent of capital transactions to India's economy. The city houses important financial institutions such as the Reserve Bank of India, the Bombay Stock Exchange, the National Stock Exchange of India, the SEBI and the corporate headquarters of numerous Indian companies and multinational corporations. It is also home to some of India's premier scientific and nuclear institute like BARC, NPCL, IREL, TIFR, AERB, AECI, and the Department of Atomic Energy. The city also houses India's Hindi (Bollywood) and Marathi film and television industry.

Mumbai consists of two distinct regions: Mumbai City district and Mumbai Suburban district, which form two separate revenue districts of Maharashtra.

Table 135: Comparison of Mumbai and Mumbai Suburban districts with Maharashtra – key indicators

Indicator	Year	Mumbai	Mumbai Suburban	Karnataka
Area, in sq.km.	2001	157	446	307,713
Percentage share in State geographical area, %	2001	0.05%	0.14%	100%
No. of sub-districts	2011	n/a	n/a	353
No. of inhabited villages	2001	n/a	n/a	41,095
No. of households	2001	677,163	1,838,426	19,576,736

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Mumbai district has a population of 3.1 million people, while Mumbai Suburban district is home to over nine million people. The two together account for over 11 per cent of

Maharashtra's population. Both the districts also have very high population density at over 20,000 persons per sq. km. – the highest in the country.

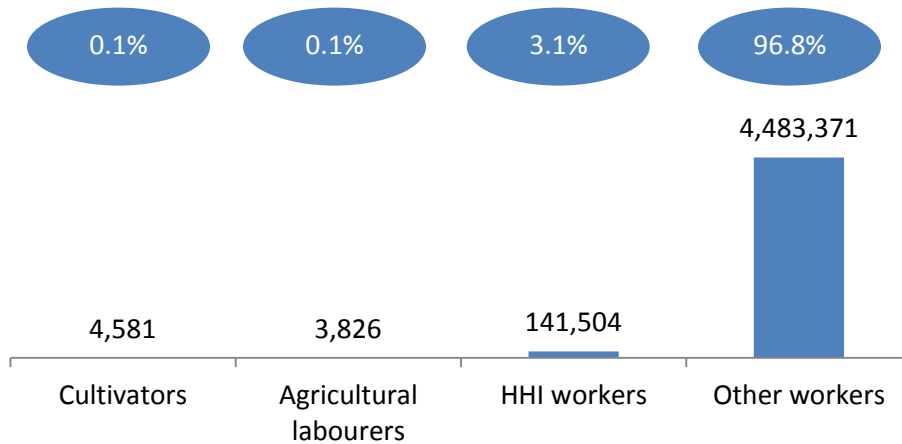
Table 136: Key demographic indicators

Indicator	Year	Mumbai	Mumbai Suburban	Maharashtra
Population, No.	2011	3,145,966	9,332,481	112,372,972
Decadal growth rate of population, %	2001-11	-5.75%	8.01%	15.99%
District's share in State's population, %	2011	2.8%	8.3%	100%
Urban population as a percentage of total population, %	2001	100%	100%	45%
SC population, %	2001	5%	5%	8.8%
ST population, %	2001	1%	1%	15%
Sex ratio, No. of females per 1000 males	2011	838	857	925
Population density, per sq. km.	2011	20,038	20,925	365
Literacy rate, %	2011	88.48%	90.90%	82.91%
Main workers, No.	2001	1,250,710	2,971,039	34,748,053
Marginal workers, No.	2001	61,029	181,470	6,425,298
Working age population* as a percentage of total population, %	2001	69%	67%	59%
Work participation rate^, %	2001	39%	36.5%	42.5%

**Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011*

The district has a total workforce of about 93 lakh persons. Majority of these are 'other workers' at about 96.8 per cent, i.e. those engaged in non-agricultural and non-household activity related sectors.

Figure 136: Mumbai and Mumbai Suburban district's worker profile, as of 2011, in thousands



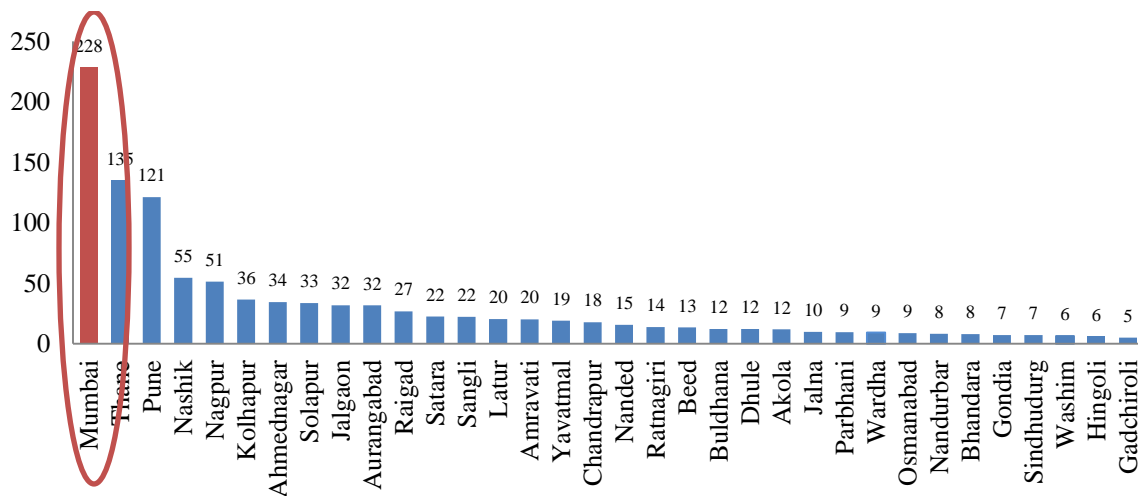
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Mumbai (including Suburban) district had the highest Gross District Domestic Product (GDDP) in Maharashtra at Rs 228,228 crore (21 per cent of the Maharashtra's GSDP). In terms of per capita NDDP as well, it ranked first amongst 35 districts at Rs 141,138 per person per annum. This was much higher than the State average of Rs 87,686.

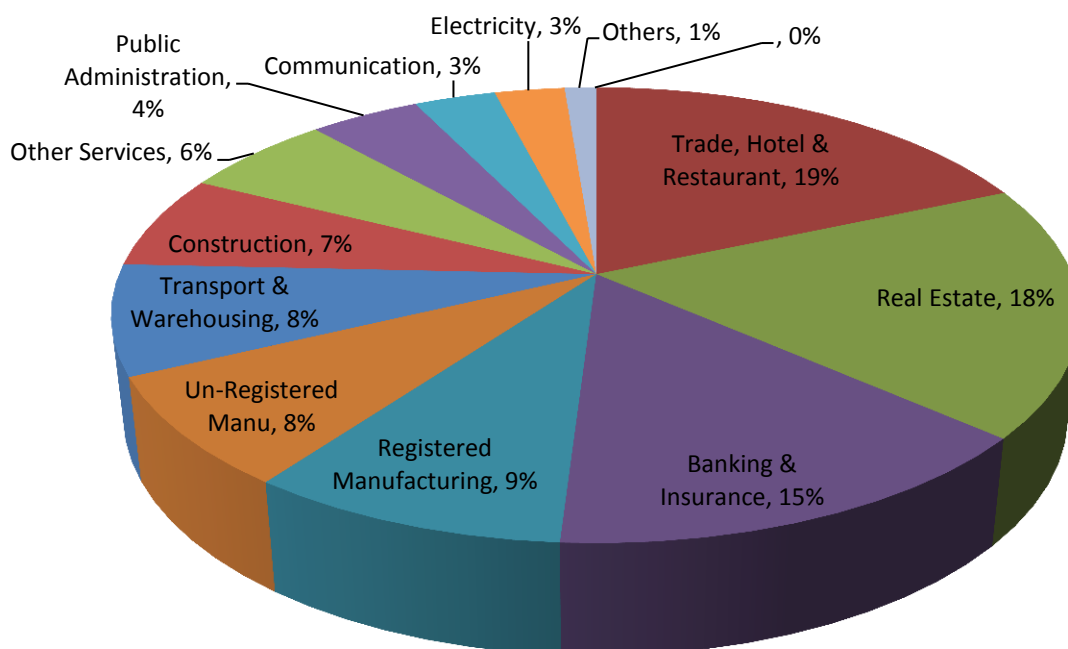
Figure 137: Gross District Domestic Product, in Rs thousand crores, as of 2010-11



Source: Economic Survey of Maharashtra, 2011-12

The district economy is pre-dominantly service based, with service sector's share in GDDP at 73 per cent in 2010-11. This is followed by secondary sector at 26 per cent and primary sector at just one per cent.

Figure 138: Sector wise distribution of Mumbai and Mumbai Suburban's GDDP, as of 2010-11, 100% = Rs 228,228 crore



Source: Directorate of Economics and Statistics of Maharashtra

Agriculture and allied:

Both Mumbai and Mumbai Suburban districts are 100 per cent urban and there is very limited presence of agriculture and allied sectors in the district. As discussed above, the primary sector's contribution to the GDDP is only at about one per cent (which is also mainly allied activities and not agriculture per se) and only about 0.2 per cent of the total workforce of the districts is involved in agriculture as cultivators and agricultural labourers.

Industry:

Mumbai and Mumbai Suburban districts are home to 635 large scale industrial units, employing 217,662 persons. In addition, there are 6,589 MSME units, employing 195,793 persons. Most of the companies are in the service sector. Some of the prominent large scale companies present in the district include Crompton Greaves, Lodha Textiles, Tata Infomedia, Zee Enterprises, Mahendra Brothers, Reliance Life Sciences, Siemens, BPCL, Cipla, HPCL, L&T, Pepsico etc. The district is also home to many small scale units engaged manufacturing of leather and leather products, gems and jewellery, herbal products, etc. Additionally, Mumbai is also known for its famous Bollywood industry, generating employment for lakhs of people.

Services: As mentioned above, services account for 73 per cent of GDP in Mumbai and Mumbai Suburban districts. Of all the services, the key services in the districts are ‘trade, hotels and restaurants’ at 25 per cent, ‘real estate, ownership of dwellings and business services’ at 24 per cent, and ‘banking and insurance’ at 20 per cent. In addition, many small informal services have also come up which provide employment to a large section of people. These include domestic workers, vendors, facility management, security guards, beauticians, dabbawallas etc.

2.3. State of education

As of 2011-12, Mumbai and Mumbai Suburban districts had 3,833 schools with a student enrolment of 14.72 lakh. The student-teacher ratio in the district was 37 students per teacher, which is worse than the State average of 30 students per teacher.

Table 137: School and higher education infrastructure in Mumbai and Mumbai Suburban districts, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	3,833	1,471,890
General colleges	206	291,746
Technical education*	109	20,208

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *Excluding non-AICTE diploma courses*

For higher education, the two districts are home to 206 general colleges and 109 institutions for technical education (including engineering colleges and polytechnics). For vocational training, there are 28 ITI with a seating capacity of 7,804 persons. Actual student enrolment is only 79 per cent of the seating capacity, leaving remaining seats vacant. For details of courses offered in ITI, please refer to annexure.

Table 138: Key ITI indicators in Mumbai and Mumbai Suburban districts, as of 2011-12

Indicator	Value
Total Number of ITI	28
Number of Government ITI	13
Number of Private ITI	15
Total Seating capacity	7,804
Total student enrolment	6,130

Source: Department of Employment & Self Employment, Government of Maharashtra

In addition to the above, the two districts have multiple private training institutes. These offer courses in a multitude of trades such as computer software and hardware, interior decoration, auto-CAD, tailoring, teaching, embroidery, electrical work, repair and maintenance, carpentry, computer operations, bakery and confectionary, beauty culture, jewellery designing, mobile repairing etc.

2.4. Youth aspirations

In the process of identifying the growth engines for the Mumbai and Mumbai Suburban districts, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Willingness to pursue higher education:** Of the total students surveyed, about 90 per cent were desirous of pursuing higher education. They believe that degree increases their salary and job prospects. The perception is that while the students passing out of ITI get a starting salary of Rs. 10,000 to Rs. 15,000 per month, students passing out of degree colleges can start at Rs. 30,000 per month as well. Specifically the ITI students have shown an interest in pursuing higher degree courses in their specialisation (eg. – the electrical students wanted to pursue railway electrical relay systems)
- **Entrepreneurial zeal:** Of the total students surveyed, about 20 per cent to 30 per cent showed interest in self-employment. However, most of the students are not aware of the processes they need to follow to start a venture of their own. In most cases, there is no awareness of Government schemes which are targeted at imparting training to students on the same.
- **Migration trends:** Majority of the students studying in Mumbai want to get placed within Mumbai itself.
- **Satisfaction with existing education infrastructure:** Given the potential in the civil engineering area, students are looking back at it as a good option and want to study civil engineering mainly in Government colleges. However, they believe that there are very few Government colleges are offering this course.
- **Demand for additional training / courses:** Students at ITIs want to learn the latest machine technologies and applications within each of their trades for better employability. Female students studying tailoring courses wanted more design related training also to be imparted.
- **Job preference:** Students expect a starting salary of at least Rs.10,000-Rs.15,000 per month. Preference is for Government jobs only. However, in the last few years, students have realised that it's not easy to get a Government job. Thus, they have now developed a preference for big private players such as Lodha, India Bulls, ACC, L&T, Kalpataru, Siemens, Mahindra and Mahindra etc.

3. Developmental concerns

Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Increasing real estate cost pushing industry to move out of Mumbai:** The cost of real estate has seen an exponential rise in the last three decades in Mumbai, making it unviable for manufacturing entities to continue their businesses, making them lose out on competitiveness.

These units though initially moved into further away Mumbai suburbs, today are looking to get out of the city as well as the State altogether.

- **Increasing pressure of population on the existing amenities and infrastructure in the district:** Mumbai is surrounded by water on three sides with a narrow stretch of land in the middle, thus limiting the further development to only the northern side. Mumbai has a population of 1.4 crore living in a land area of just 603 sq km, which translates into a density of more than 20,000 people per square kilometre. This has put an immense pressure on the available land, water and other resources, making them expensive and forcing the people especially the poor to live in deplorable conditions. Also, the congestion makes any infrastructural developments / expansions virtually impractical.
- **Influx of migrants:** As of 2001 census about 36.8 per cent of the rise in population of Mumbai and Mumbai suburban has been due to migration of people from outside. The migration data also indicates that this inward migration is not only from outside of Maharashtra (from states like UP and Bihar) but also from other rural districts of Maharashtra. Also, the business potential of Mumbai attracts skilled and highly skilled manpower from all over the country. This has led to a huge constraint of resources as well as rise in prices of the same.
- **Slow pace of infrastructure development:** Various major infrastructure development projects in Mumbai have been substantially delayed, facing huge cost overruns or have simply failed to take off. To cite some delayed projects, are the Navi Mumbai airport and the coastal road where work has not yet begun (in terms of construction) for the past 24 months. Also, various other projects like the metro rail project though under progress have been delayed for more than two years now. This creates a huge constraint in the growth aspirations of the city.

SWOT analysis

Based on the diagnostics of the Mumbai and Mumbai Suburban districts, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented in the figure below.

Figure 139: SWOT Analysis of Mumbai and Mumbai Suburban districts



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 5.05 million persons between 2012 and 2022. Sectors which will drive demand are expected to be organised retail, media and entertainment, unorganised sector and 'building, construction and real estate'. The requirements for skilled personnel are likely to increase, as the maximum demand will be generated for semi-skilled and skilled workers.

Table 139: Incremental demand of human resources in Mumbai and Mumbai Suburban – by sector

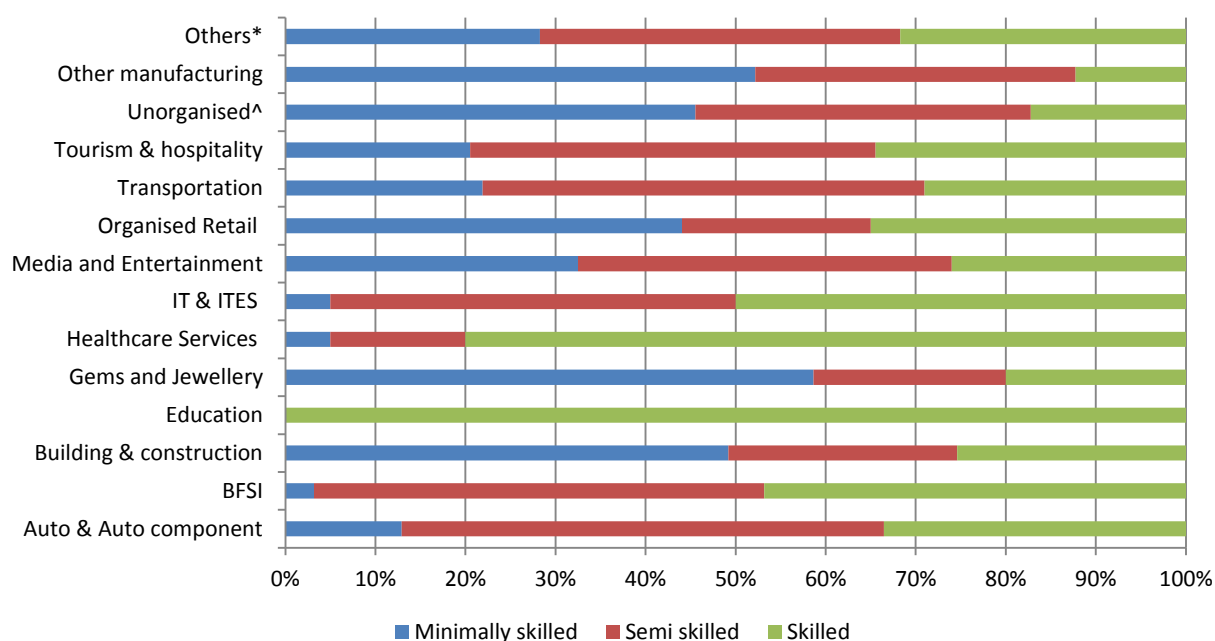
Sector	2012-17	2018-22	2012-22
Auto and Auto component	4,835	7,752	12,588
BFSI	148,502	238,713	387,215
Building, Construction industry and Real Estate	202,288	280,740	483,028
Education and Skill Development	69,726	23,564	93,290
Gems & jewellery	16,556	22,137	38,693
Healthcare Services	58,603	80,199	138,802

Sector	2012-17	2018-22	2012-22
IT & ITES	182,795	279,891	462,686
Media and Entertainment@	399,570	701,005	1,100,576
Organised Retail	341,373	849,446	1,190,820
Transportation, Logistics, Warehousing and Packaging	130,752	148,221	278,973
Tourism, Travel, Hospitality & Trade	78,347	114,080	192,427
Unorganised ^	233,019	321,159	554,177
Other manufacturing	42,243	69,540	111,784
Others*	2,028	2,217	4,245
Total	1,910,638	3,138,666	5,049,304

Source: IMAcS Analysis

^Unorganised sector includes domestic workers, handloom and handicrafts, beauticians, facility management personnel and security guards. *Others include agriculture and allied, electronics, furniture and furnishings and leather and leather products @Numbers for Media and Entertainment include those of other districts in Maharashtra such as Pune, Nagpur and Nashik as well.

Figure 140: Incremental demand of human resources in Mumbai – by skill level



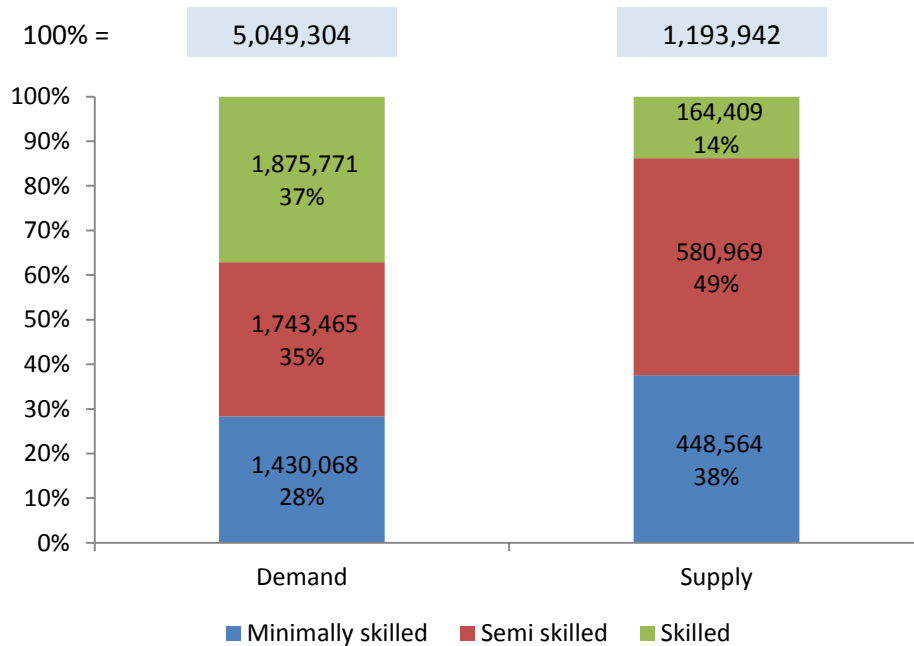
Source: IMAcS Analysis

^Unorganised sector includes domestic workers, handloom and handicrafts, beauticians, facility management personnel and security guards. *Others include agriculture and allied, electronics, and furniture and furnishings and leather and leather products

We have estimated incremental supply of human resources in the district at 1.19 million persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be insufficient to meet the incremental demand in the district. The shortage of human resources is likely to be met by migrants coming into the district. However, the incremental supply is leaning more

towards minimally skilled workers, as against skilled workers. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward. All the stakeholders need to work in conjunction to meet the skill shortage in the district.

Figure 141: Demand supply gap of human resources in Mumbai and Mumbai Suburban – by skill level



Source: IMaCS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

NSDC has identified 19 high growth sectors in the country. Most of these sectors exist in Mumbai and Suburban districts. While some of the sectors have the potential for generating additional employment going forward, some will not generate additional employment, but will need skill up-gradation. In the section below, we have covered those sectors which need skilling interventions both from the employment generation perspective as well as up-skilling.

Table 140: Sectors where interventions are required in Mumbai and Mumbai Suburban districts – comparison with Maharashtra

(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Mumbai and Mumbai Suburban	Maharashtra
Agriculture and allied		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMaCS Analysis. Note: Sectors such as chemicals, construction materials, furniture and textile and clothing do exist in Mumbai and Suburban districts, however, our analysis did not reveal any significant employment generation potential in these sectors, nor did it indicate a need for any up-skilling of the workforce in the same.

5.1. Auto and auto components

With the exception of Mahindra & Mahindra, the auto and auto components industry value chain which exists in Mumbai and Mumbai Suburban is limited to engineering, research and design, supply of auto parts, assembly of auto parts, marketing / export of auto products and presence of corporate offices of most major auto companies in the country.

Mahindra & Mahindra (M&M) have two adjoining plants in the Mumbai Suburban region (Kandivili) where they manufacture tractors and 4-wheeler passenger vehicles. M&M employs about 4,500 employees which includes both permanent and temporary staff. The company has its own training premises known as “Gurucool” where they provide training to both internal staff and the ITI students

interested in doing an internship at M&M. These students are given dexterity training to operate on the assembly plant as well as training in quality concepts, working and maintenance of various machinery etc.

Given the highest GDDP in Maharashtra (as compared to other districts) and also the highest per capita income in the State, the district has high disposable income and thus the higher rates of personal consumer expenditure. This has led to proliferation of automobiles (Mumbai and Mumbai Suburban districts together account for 1.6 million registered vehicles as of 2008), which has further led to setting up of many auto dealerships. Mumbai city in particular houses dealerships of most of the international auto companies. In addition, several two, three and four wheeler auto servicing units have also come up. Some of the key auto dealers in the district include Mahindra Dealers, Hyundai Dealers, Toyota, Hyundai, Skoda, BMW etc. With the increasing auto penetration, the rate of growth of auto dealerships / service centres is likely to grow further, which will generate employment opportunities for many.

Presently, most of the service centres are meeting their skill requirements by hiring youth from ITI – automobile and mechanic trades. People are hired from polytechnics and engineering colleges as well. However, the industry is facing very high attrition rates of up to 40 per cent per month and is thus faced with shortage of skilled staff. Some of the key skill gaps faced by auto dealers / service centres are:

- Shortage of skilled personnel, mainly senior technicians, electricians, customer care executives etc. (Only 50 per cent demand is met at technician level)
- Shortage of skilled ITI pass-outs with experience in automobile and mechanic trades like diesel mechanic maintenance mechanic and tool mechanic (MMTM), painters. There is high competition in the industry and bigger players are paying even up to Rs 20,000 per month to technicians, leading to a shortage for other smaller players in the industry.
- Inadequate understanding of customer requirements, especially at junior levels
- Inadequate knowledge of latest products and modern auto technology especially with respect to usage of electronics in the vehicles.
- Insufficient sales and marketing skills
- Weak soft skills and communication skills

5.2. Banking, financial services and insurance

Mumbai enjoys the distinction of being the financial capital of India. A sizable part of the business of commercial and investment banks, exchanges, securities firms, private equity and other financial services operates from Mumbai as the base. In fact, as of 2010-11, banking and insurance was the third largest contributor to the GDDP of Mumbai and Mumbai Suburban districts at 15 per cent of the total.

Several innovations in the Indian financial markets originated in Mumbai, which include stock market culture, Financial markets regulation, Spot, futures and other derivatives trading, Electronic and online trading, National Stock Exchanges (NSE/BSE/MCX-SX), Credit rating agencies (CRISIL/CARE), Self-regulatory institutions (IBA, AMFI, FIMDA, FEDAI, etc.), Dematerialization and depositories (NSDL/CDSL),

Multi-asset-class trading platforms (Financial Technologies Group), Modern commodities markets (MCX/NCDEX), Growth of currency derivatives (MCX-SX), Biggest private sector collateral management for agricultural markets (NBHC) and Spot market for agricultural commodities (NSEL).

Almost all banks in the country as well as major foreign banks with operations in India are either headquartered in Mumbai or have a sizeable regional office (especially in case of regional banks). For most products, Mumbai region alone accounts for 60 to 70 per cent of the banking business (deposits and loans) of the entire western region (Gujarat, Maharashtra and Goa). All major banks (including ICICI bank, HDFC bank, SBI, Citibank, Axis bank, HSBC, Standard Chartered etc.) have setup both retail , institutional as well as commercial banking businesses within the district along with their headquarters. Other major foreign banks like Rabo bank, Bank of America, JP Morgan etc have restricted their activities to investment banking alone.

Mumbai is also home to the back offices of biggest financial institutions in the world including JPMoran, Credit Suisse, Nomura, Bank of America, Citi Financials etc.

Insurance companies hire directly from open markets through advertisements. For managerial level people, graduates with a minimum of 50 per cent marks are required. For insurance agents, 12th pass students are also accepted.

Internal training is provided on-the-job. Zonal training centres / management training centres are present for companies such as LIC. About 100 hours of training is provided to new agents, post which they need to clear an internal examination to become a certified agent. Mumbai is also home to Insurance Institute of India (I.I.I.) for promoting insurance education and training. Certificates and Diplomas are awarded by the institute to successful candidates. These are recognised by the Government of India, the Insurance Regulatory and Development Authority (IRDA) and insurers in India and abroad.

Shortage of skilled personnel is faced mainly for sales. In sales, attrition rate is very high. For skill development, the district has a few private training institutes who collaborate with private banks to meet the requirement of junior level people such as the junior sales officers. Training is provided by NGOs also, which provide training free of cost, in collaboration with the banks. For instance, Institute for Technology and Management has collaborated with ICICI Bank, wherein the cost of training is borne by ICICI. Certification is provided in 'retail banking and sales management'. Apart from this all major banks have an internal training repository where employees have to mandatorily undergo a certain number of hours of training every year.

Skill gaps observed in BFSI sector:

- Inadequate selling skills
- Inadequate soft skills and communication skills
- Limited understanding of bank products

- Limited knowledge of banking processes and banking laws and practices
- Inadequate knowledge of banking IT systems used for operations and at branches.
- Limited training of insurance agents and thus their inability to come up to speed
- Inadequate knowledge of features of banking products and limited capability to answer client questions
- Inadequate awareness of regulations and compliance

5.3. Building, construction and real estate

In the last few years, building, construction and real estate has emerged as a booming sector in Mumbai and Mumbai Suburban districts contributing significantly to the GDDP as well as employment. As of 2010-11, real estate accounted for 18 per cent of Mumbai's GDDP, while construction accounted for 7 per cent – thus together accounting for 25 per cent of the district's GDDP (making the two sectors together as the biggest contributors.) Some of the prominent up-coming construction and real estate projects in the district include:

- Versova-Andheri-Ghatkopar Metro Rail (Rs. 38,930 mn)
- Mumbai Airport Modernisation project (Rs. 104, 530 mn)
- Chembur-Wadala-Jacob Circle Monorail (Rs. 30,000 mn)
- Bandra One BKC Commercial Complex (Rs. 15,810 mn)
- Sion-Panvel Expressway (Rs. 12,200 mn)
- Charkop-Bandra-Mankhurd Metro Rail Project Phase-II (Rs. 115,000 mn)
- Marine Drive-Madh Marve Coastal Road (Rs. 80,000 mn)
- Bandra-Virar Sea Link (Rs. 60,000 mn)
- Bkc Godrej-Jet Airways Commercial Complex (Rs. 25,000 mn) etc.

Infrastructure projects in Mumbai



In terms of real estate Mumbai is a major investment destination. In spite of being ranked as one of the most expensive cities in the world (to buy residential and commercial properties) investments have continued to flow in, though the pace of such investments has slowed down in the last three years. The market is though shifting towards more luxurious / premium setups in the prime areas such as Colaba,

Mahalaxmi, Napean Sea, Bandra, Andheri etc as the middle class migrates further outside of the Mumbai region to areas like Thane, Dombivili, Vasai, Virar, New Bombay etc.

The district is attracting construction workers from States such as Uttar Pradesh, Bihar, Andhra Pradesh etc. The locals are not interested in working in the construction sector. While demand for low skilled workforce is met from the migrant workforce, the demand remains unfulfilled at supervisor and above levels. Based on our industry interactions, we found that there is also shortage of civil engineers, surveyors and architects.

Given the shortage of skilled resources, the district has started attracting private training providers in this area. One such example is the 'Construction Academy', which provides training in site supervisor course. It's a three months course and focuses upon theory (basic knowledge) and 20 months of practical training. It has tie up with companies such as Gammon India, Goldstar Housing and Development, Ashapura Builders etc. Fee is charged at the time of admission. However, it is paid back to the students in equally instalments every month. Funding of institute is borne by the companies.

The skill gaps in this sector includes:-

- Civil engineers lack specific training / knowledge in areas like Tendering, Planning, billing, contract handling, QA/QC etc.
- There is also a dearth of skilled workmen in specialised trades like Bar bending schedule, mason, shuttering, facade building, carpenter etc.
- Insufficient ability to manage multiple contractors and resolve conflicts and inadequate project management skills
- Inadequate orientation to develop and adhere to safety norms at construction site.
- Lack of basic knowledge of handling machines used in construction
- Lack of communication and team management skills.

5.4. Electronics and IT Hardware

Mumbai and Mumbai Suburban districts used to be home to companies engaged in manufacturing of electronics and IT hardware. Over the last few years, manufacturing facilities of most companies have moved out of Mumbai and only corporate offices remain. Companies are moving out of Mumbai due to high costs, especially of real estate. They are moving their plants to locations such as Pune, or to other cities outside Maharashtra (such as Chennai and Mohali). Some of the prominent companies present in Mumbai are Siemens, Godrej and Boyce, Videocon, etc.

Based on our discussions with the stakeholders, we have found that the key skill gaps faced by the companies include:

- Lack of practical knowledge in engineers hired from colleges. Only basic theoretical knowledge is there. Advanced understanding of latest technology used in the industry is missing.
- Inadequate basic skills like the ability to read engineering drawings.

- Inadequate knowledge of machine shop operations.
- Inadequate knowledge on latest machinery (The industry has moved away from lathe to machining centre, while ITI are still teaching lathe only. It is an expensive machine (about Rs. 2 crore) and it is difficult for colleges and ITI to afford it.)
- Shortage of skilled personnel in ITI trades such as machinist (very high demand due to booming of automotive industry), fitter, electrician, electronics mechanic and RAC. Most of the RAC and electrician trade work-men prefer to go to malls, leading to a shortage for electronics industry at large.

Net net, the industry perceives that the students coming out of educational institutions such as engineering colleges, ITI and polytechnics are not industry ready.

Godrej Welder Training Program

Godrej started short-term welding training program in January 2012 in its headquarters in Mumbai Suburban district. Some of the key features of the course are:

- The course is run for 45 days, wherein a monthly stipend of Rs. 15,000 is also provided.
- As a part of the program, free meals and uniforms are also provided.
- About 30 to 40 per cent of the trained welders are absorbed within Godrej only.
- For the remaining workers, placement assistance is provided.
- Minimum qualification criteria for training is that the trainee should be an SSC pass out.
- Both theoretical and practical training is provided.
- Certification is provided jointly by Godrej and MCED.



Source: IMaCS primary survey

5.5. Food processing

Mumbai district has about 95 agro processing based MSME, employing about 2,000 people. Apart from these, various large companies had also set shop in the district though as of today most of them have

moved their manufacturing units out of Mumbai district. The bigger companies included Parle Agro (and Parle biscuits), Britannia, Godrej Hershey, Pepsico, Fritolays etc.

The sector today, though has very little presence in Mumbai with Parle being the only major player. The skill gaps for this sector include:-

- Lack of knowledge of modern packaging material like Tetra, TCA, TBA etc.
- Inadequate knowledge of operating packaging machinery.
- Lack of availability of food technologists
- Students from ITIs lack practical skills with modern day tools.

5.6. Gems and jewellery

Mumbai is one of the biggest gems and jewellery hubs in India (along with Surat). While Surat is known for diamond cutting and polishing, Mumbai is known for further processing of diamonds into jewellery and further exporting and marketing of the same. The Government of India has set up a gems and jewellery Special Economic Zone called as SEEPZ SEZ, which has a gems and gems and jewellery complex that houses more than 150 gems and jewellery units. Most of the companies are MSMEs, employing 200-300 persons per unit. Most of the employees are women.

In addition to manufacturing diamond studded jewellery, the units present in the SEEPZ are also involved in manufacturing of silver, combination and even non-precious metal jewellery. Entire production in the SEEPZ is for exports alone. The sector has an annual revenue of about Rs. 8,000-Rs. 10,000 crore.

Gold and diamond jewellery



Given the prominence of the sector, educational infrastructure providing training for the sector has also come up in the district. One of the famous universities for providing training in this area is Srimati Nathibai Damodar Training (SNDT) Women's University. In addition, Indian Institute of Gems & Jewellery (IIGJ) (an industry promoted training institute) has also been set up. However, both of these are for highly skilled people alone and do not meet the skill requirements of workers, for whom on-the-job

training only has to be organised. The industry also finds it difficult to retain the manpower as the demand is seasonal (July to February). The attrition rate is as high as 50 per cent.

Based on our industry discussions, we have found that some of the key skill gaps faced by the sector are as follows:

- Inadequate understanding of changing skill requirements. Skill levels required are getting changed due to gold getting replaced by silver (as gold becomes more expensive, demand for silver jewellery is rising).
- Inadequate understanding of career prospects in the industry.
- Inadequate understanding of jewellery processing, diamond setting, polishing, wax setting, rubber cutting etc. : both manual and machine based

5.7. Healthcare

Over the years healthcare has grown as an important segment within Mumbai district with the emergence of many renowned and world class hospitals like Lilavati, Jaslok, Hinduja Kokilaben Dhirubhai Ambani, Saifi hospitals etc. People come from all over the country to get treated as well as seek advice from the specialists / experts employed by each of hospitals. Though the medical education infrastructure within the district is still wanting, the talent pool available is a result of specialist doctors and other personnel migrating from various parts of the country.

The human resource spread generally seen in this sector is –

1. Doctors: 15 to 20%
2. Nurses: 45 to 55%
3. Technicians: 15 to 20%
4. Attenders and Helpers: 15 to 20%
5. Administration and support staff: 5%

The skill gaps in this sector include :-

- Need for more specialist and super specialist doctors
- Inadequate ability to prescribe medicines by the molecular name as against by the brand name
- Inadequate skills in working as a team
- In sufficient knowledge of hospital infection control management procedures
- Inadequate communication skills
- Partial knowledge of hospital protocols
- Inadequate knowledge of drugs as well as administration of the same.

5.8. IT & ITES

About 90 per cent of IT-ITES industry is concentrated in seven cities in India, including Mumbai and Pune in Maharashtra. Maharashtra contributes over 30 per cent of the country's total export of software. The

State houses more than 1,500 (of this, 800 are in Mumbai alone, as of 2008-09) software units. Mumbai witnessed the second highest IT exports in the State (after Pune) in 2008-09 at USD 3,346 million. Majority of the revenue comes from US and Europe. The IT Hub of Mumbai is mainly concentrated in the Greater Mumbai area. Key players include Accenture, Microsoft, HP, IBM, HCL, Infosys, Cognizant, Patni, etc.

A big proportion of the workforce in the IT industry in Mumbai (at about 60 per cent to 70 per cent) is from Mumbai alone. The remaining is hired from places such as Hyderabad, Kerala, Bangalore and Chennai. Majority of the freshers are hired in campus placement is done from engineering colleges and MCA colleges in Mumbai, Pune and Bangalore. Internal training is provided to all new comers, for which most companies have separate training departments.

Based on our interactions with the stakeholders, key skill gaps faced by the industry include:

- Mismatch between the learning of the youth versus the skills required by the industry
- Lack of practical knowledge. Only bookish knowledge is there.
- Inadequate knowledge of implementation
- Lack of implementation skills
- Inadequate communication skills
- Inadequate presentation skills
- Inadequate understanding of new concepts and technologies such as mobility and cloud computing
- Shortage of personnel with skills required for contemporary trends such as development of mobile applications
- Inability to multi-task and multi-skilling

Stakeholder discussion revealed that the extent of skill gap found in new comers is up to 85 to 90 per cent. Shortage of personnel is faced mainly at the lateral level.

5.9. Leather and leather products (cluster)

Mumbai Suburban district is home to the 'leather goods cluster' at Dharavi, which has about 100 functional units in it. The market within Dharavi specialising in leather goods is known as 'Chambda Bazar'. Principal products manufactured by the cluster include ladies hand bags, foot wear, sofa sets, and other leather products. The cluster is situated in Dharavi and has an annual turnover of about Rs. 15 crore per annum. Products manufactured in the cluster are sold domestically as well as internationally to countries such as US, UK, Italy etc.

The trade is practiced particularly by the *Dor* and *Chamar* communities, who have been involved in this through generations and have skill. *Dors* are usually involved in leather tanning, while *Chamaras* are involved in manufacturing of leather goods and articles. Labour working in the sector comes mainly from Tamil Nadu, Uttar Pradesh, and Bihar. Only about 20 per cent of the labour is locals.

While the cluster 'Dharavi Leather Cluster Pvt. Ltd.' was formalised around five years back, the industry has been in existence for more than 60 to 70 years at least. Other than the 100 units in the cluster, the sector has about 5,000 employers in Dharavi. Due to environmental reasons, tanneries have been banned in the area. The key work in the area is around manufacturing of leather products.

For training the personnel in the sector, the Government of Maharashtra had started two schools for leather technology in Bandra East. A Leather Technical Institute is also present. However, the stakeholders revealed that not many prefer to study from the institute as the latter's focus is on tanning, while the activity of tanning has moved to places such as Chennai, Kanpur and Kolkata.

Leather products



Based on our discussions with the stakeholders, we found out that some of the issues faced by the cluster include:

- Lack of common design and training centre for artisans
- Lack of R&D
- Lack of quality modern testing facility
- Branding and marketing issues

Key skill gaps are around:

- Modern leather technology
- Modernisation of the industry
- Access to finance
- Access to education and training
- Knowledge of new designs
- Common Facility Centre
- Good machinery
- Need testing and designing centre

5.10. Media and entertainment

Mumbai is also one of the key media and entertainment hubs of the country. It is not only known for its world-famous Bollywood industry (produced 462 movies in 2011), but also for its TV serial industry, news and print media, multimedia, digital advertisement, radio and gaming industry. The media and entertainment industry in the district attracts aspiring professionals from all over the country.

Some of the large scale industrial units in the media and entertainment space located in Mumbai include National Film Development, Bennet Coleman and Company, Television Eighteen India Ltd., Star India Ltd., Filmcraft Production (India) Pvt. Ltd., Red Chillies Entertainment Pvt. Ltd., Amitabh Bachchan Corpn. Ltd., Big City Films Pvt. Ltd., B.R. Films, Eros International Multimedia Pvt. Ltd., Picasso Film Production Pvt. Ltd., Tips Films Pvt. Ltd., Yash Raj Films Pvt. Ltd., Aamir Khan Production Pvt. Ltd., etc.

According to FICCI-KPMG media and entertainment report, the media and entertainment industry in the country is expected to grow at the rate of 15 per cent between 2012 and 2017. Of this, significant growth will be witnessed by TV at 18 per cent and films at 12 per cent per annum.

Key skill gaps existing in the industry include:

- Inadequate knowledge of upcoming and latest technology used in production of movies, television serials etc. Some of these include laser projection systems, digital cameras, 3D / 4D, interactive movie screens, second screen experience applications etc.
- Inadequate production designing skills
- Shortage of good quality and highly skilled marketing and sales staff (very high attrition and job swapping)
- Lack of adequate originality in work
- Inadequate knowledge of copyright issues as well as piracy
- Inadequate production and budgeting skills
- Shortage of personnel with technical skills. A lot of highly skilled technical personnel have to be brought from outside India.
- Insufficient knowledge on graphic works and its impact on art
- Inadequate knowledge of latest animation techniques
- Shortage of skilled personnel for video editing and photography skills
- Inadequate editing skills

5.11. Organised retail

With the rise of the middle class and increasing disposable incomes of the people in the district, Mumbai has witnessed an organised retail boom. Many malls, departmental stores, super markets and hyper markets have mushroomed up. There are over 50 malls in Mumbai city alone, in addition to hundreds of departmental stores, super markets and hyper markets. Some of the prominent malls include Atria Millenium Mall, Growel's 101, High Street Phoenix, Inorbit Mall, Maxus Mall, Metro Junction Mall, Neptune Magnet Mall, Nirmal Lifestyles, Orchid Ozone Mall, Phoenix Market City Mumbai, R City,

Thakur Mall, RNA NG Mall etc. Some of the key departmental stores include Westside, Shoppers Stop, Pantaloons, Lifestyle, More, Mega Mart, Reliance Mart, Big Bazaar, Star Bazaar, D Mart, Globus, etc.

Malls in Mumbai



The organised retail sector has found it easier to attract labour force due to the easy (perceived) nature of the work involved and the air conditioning environment offered by most stores and malls. In fact, based on our stakeholders' discussions, we have found that it's not just the sales and marketing personnel, but also the technical personnel which are getting attracted towards the organised retail sector. Other industries are beginning to feel the shortage of skilled people such as electricians and RAC, as these prefer to work in malls rather than factories.

However, the key challenge faced by the organised retail industry is its capacity to retain people. The attrition rates are very high and people switch jobs for even a few thousand Rupees of increments. For training of skilled personnel, many private training institutes have come up. One of the such institutes is ISIS Skills which is promoted by Asian Paints. It provides training through NGOs for underprivileged school drop-out children (18 to 25 years). Training is provided for a week to 10 days in hospitality and retail. It has industry partners for placements such as the Devyani Group (owns and runs franchisee for Pizza Hut, KFC, Costa, Vaango etc.) and the Jubilant Group.

Some of the key skill gaps and other issues faced by the industry include:

- Attitudinal problems
- High attrition rates
- Unwillingness to work hard
- Communication skills and soft skills
- Limited negotiation skills
- Limitations in supply chain optimisation
- Limitations in supply chain costing
- Logistics chain costing and optimisation, the mindset to stick with known logistics provider rather than optimising as per organisation requirements
- Limited knowledge in legal norms and requirements
- Limited knowledge in checking and inspecting goods

- Limited knowledge in accounting goods
- Understanding customer behaviour
- Assessment of different store layouts and displays
- Inadequate knowledge in managing the cash box, billing system, credit card, debit card and other coupons/cards etc.

5.12. Transportation, logistics, warehousing and packaging

Mumbai's location makes it accessible by all forms of transport: road, rail, air and sea. The existence of a two big ports along with good connectivity in all forms makes it the ideal destination for import and export activities. Mumbai accounts for slightly more than six per cent of India's economy contributing 60 per cent of customs duty collections and 40 per cent of foreign trade.

The region has two main ports – Mumbai Port in South Bombay and Jawaharlal Nehru Port in Navi Mumbai. Both ports have shipping, storage, and logistical services, and can handle dry, bulk, fluid cargoes, petroleum oil lubricants, crude products and LPG containers.

The first of the present-day docks of the Mumbai Port were built in the 1870s. Bombay Port Trust (BPT) was established as a corporation on June 26, 1873. Over the decades, the port underwent tremendous expansion, with the addition of berths and cargo handling capacities. However, Mumbai's expanding growth and population pressure constrained the growth of the port by the 1970s. This led to the establishment of the Nhava Sheva port across Mumbai Harbour in Navi Mumbai on the Konkan mainland. Nhava Sheva began operations in 1989, and most container traffic now flows through Nhava Sheva.

The skill gaps in this sector include:-

- Lack of knowledge of tax regimes, permit rules etc.
- Inadequate knowledge of hygiene, safety and first aid.
- Inadequate exposure to handle increasing tonnage and higher capacity trucks
- Inadequate knowledge of Bill of Lading and Letter of Credit (LCs)
- Inadequate knowledge of procedures related to Container Freight Stations (CFS) and Inland Container Depots (ICD)
- Inadequate ability with using WMS

5.13. Tourism and hospitality

Mumbai's name was derived from the Hindu Goddess Mumbadevi, is the most populous metropolitan city in India and is placed as the sixth most populated metropolis in the world. Mumbai presents architectural styles which are a blend of modern designs & centuries old Gothic influences too. Home to one of the largest film industries in the world, churning out more than 300 films a year - "Bollywood" as its popularly known as, is the hub of all things creative from theatre, arts, crafts, documentary to full on

entertainment films, literary and artistic activities too. Its rich heritage can be seen in its several museums, art galleries and libraries.

Mumbai has many tourists' attractions ranging from temples to beaches to churches and forts. The main tourist attractions include Siddhivinayak Temple, Mahalaxmi Temple, Tardeo Agiary Parsi Temple, Shri Swaminarayan Temple, Global Pagoda, Aksa Beach, Alibag, Bhuleshwar, Elephanta Caves, Juhu, Haji Ali Mosque, Kamala Nehru Park etc along with various other places of interest including Gateway of India, marine drive, worli sea face, CST station, Crawford market, BSE building etc.



The key skill gaps in this sector include:-

Front Desk Manager – Hotels

- Inadequate customer handling skills.
- Lack of proper communication skills.
- Inadequate knowledge of local region.

Restaurant Manager

- Lacks people management skills.
- Inadequate understanding of the cooking procedures of dishes and inability to explain the same to the guests.
- Lacks communication skills.

Housekeeping Executive

- Lacks people management skills.
- Inability to groom and train the housekeeping staff.

Tour operators / guides

- The district lacks a large number of professionally trained guides.
- Lack of soft skills

6. Recommendations

In the section below, we have presented recommendations for all the sectors which can lead to employment generation in the district, as well as those sectors which need major up-skilling. While the detailed recommendations follow, summary is given in the table below.

Table 141: Key recommendations for Mumbai and Mumbai Suburban districts- summary

Sector	For Government players	For private training providers	For Industry	For NSDC
Auto & auto components	<ul style="list-style-type: none"> ▪ Awareness generation among youth to join electrician, fitter, turner, painter, MMV, MMTM, mechanic diesel courses 	<ul style="list-style-type: none"> ▪ Courses such as diesel mechanic, painter, tractor mechanic, fitter, welder etc. 	<ul style="list-style-type: none"> ▪ Close collaboration with ITI and engineering colleges 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
BFSI	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Courses on customer relationship, sales, software application etc. 	<ul style="list-style-type: none"> ▪ Sharing of its knowledge repository with NSDC for formation of NOS in the sector 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
Building, construction and real estate	<ul style="list-style-type: none"> ▪ Setting up of construction academy ▪ Incentivise private training providers 	<ul style="list-style-type: none"> ▪ Courses on project management, geology, hydrology, hydraulics, electrical etc. 	<ul style="list-style-type: none"> ▪ Close collaboration with VTPs / NGOs providing training 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
Electronics and IT hardware	<ul style="list-style-type: none"> ▪ Work closely with industry ▪ Awareness generation on courses such as fitter, electricians, electronics, RAC 	<ul style="list-style-type: none"> ▪ Courses on fitter, machinist, electrician, electronic mechanics etc. 	<ul style="list-style-type: none"> ▪ Close collaboration with ITI and engineering colleges 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
Food processing	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Courses on food technology 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
Gems & jewellery	<ul style="list-style-type: none"> ▪ Incentivise private training providers 	<ul style="list-style-type: none"> ▪ Courses on latest designs and techniques used 	<ul style="list-style-type: none"> ▪ To collaborate with VTPs 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
Healthcare	<ul style="list-style-type: none"> ▪ Providing super-speciality courses in medical colleges ▪ Encourage medical tourism 	<ul style="list-style-type: none"> ▪ Courses on speciality treatments 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
IT & ITES	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Courses in collaboration with industry 	<ul style="list-style-type: none"> ▪ Collaboration with educational and training institutes 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training

Sector	For Government players	For private training providers	For Industry	For NSDC
				as well as SSCs
Leather & leather products	<ul style="list-style-type: none"> ▪ Incentivise leather cluster in Dharavi for capacity building 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
Media & entertainment	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Courses on latest technology used in serial and movie production as well as gaming and animation 	<ul style="list-style-type: none"> ▪ Close association with VTPs and NSDC 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
Organised retail	<ul style="list-style-type: none"> ▪ Incentivise private training providers / NGOs for training 	<ul style="list-style-type: none"> ▪ Courses on the entire value chain management 	<ul style="list-style-type: none"> ▪ Collaborate with VTPs / NGOs 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
Transportation, logistic & warehousing	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ BBA / MBA in logistics and supply chain management, MBA in port & shipping management and certificate courses 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
Tourism, travel and hospitality	<ul style="list-style-type: none"> ▪ Department of Tourism to upgrade skill development programmes 	<ul style="list-style-type: none"> ▪ Courses for hotels, tourist guides, tour operators etc. 	<ul style="list-style-type: none"> ▪ Work closely with Department of Tourism and VTPs 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs
Unorganised sector	<ul style="list-style-type: none"> ▪ Incentivise private training providers for training programmes 	<ul style="list-style-type: none"> ▪ Short term courses for domestic workers, security guards, facility management and beauticians 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as SSCs

6.1. Government players

❖ **Auto and Auto Components:** With time, the shift in the industry will be more towards auto servicing and dealership as the auto and auto component manufacturing companies look to shift their manufacturing premises out of Mumbai. Thus there is a need for specific auto servicing courses to be introduced at the ITIs. This apart, based on industry feedback, there is a shortage of students in the following trades:-

- Electrician
- Painter
- Fitter
- Turner
- Machinist
- Mechanic diesel
- MMV

- MMTM

However, if we look at the statistics on seating capacity for these trades in the ITI and compare it with the number of candidates enrolled in all of these ITI, we see that for most of these trades number of students enrolled is less than the seating capacity. This indicated that even though the Government has set up the required infrastructure for meeting the demand of the industry, it is not able to fill up the seats for the same. This leads to the requirement of generating awareness amongst the youth that such jobs have employment potential and that taking up such courses will help them in placements. Awareness generation programmes for this can be held in SSC pass outs for the same.

Only trades where enrolment is more than capacity is mechanic diesel, thus indicating a need for setting up more capacity for this trade.

❖ **Building, construction and real estate:** The Government may look at the following:

- In lines with the National Academy of Construction in Hyderabad, the Government of Maharashtra can establish a construction academy which will act as a parent body to train and employ eligible candidates in various trades of civil construction.
- Create construction specific trades to be taught at the existing ITIs. This will enable further use of existing infrastructure without much of additional capital expenditure from the side of the Government and also create a means of getting the youth to join the construction industry.
- The focus must be at creating skilling programs which can be delivered over a period of 6 to 9 months and conducted either after the working hours or in collaboration with their employers.
- Encourage industry to collaborate and provide training in construction and related activities
- Provide encouragement to private training providers who wish to provide training in this area

❖ **Electronics and IT hardware:** Focus areas:

- Directorate of Technical Education to focus more on providing practical training to the engineering students
- Directorate of Technical Education to place more focus on having guest lecturers from the industry
- Directorate of Vocational Education & Training to place more focus on private sector partnerships to introduce latest machinery and equipment as well as industry expertise into ITI. The same can be achieved by higher focus on 'adopt the ITI' scheme as well as setting up Centres of Excellence in PPP
- ITI trades where demand has been reported to be high are machinist, fitter, electricians, electronics mechanics and RAC. However, the statistics suggest that the number of students enrolled in 2012 vis-à-vis seating capacity in ITI shows that for fitter,

electrician, and electronic mechanic courses seating capacity is more. Thus indicating a need for awareness generation among SSC pass outs to opt for such courses. While for courses such as RAC seating capacity is short of student enrolment suggesting need for capacity creation for the same.

❖ **Gems and jewellery:**

- Encourage the industry to provide training to workers based on contemporary skill requirements
- Provide incentives to private players desirous of providing skilling in the industry

❖ **Healthcare Services:** The recommendations for the state government is on two fronts:-

- There is a need for introduction of further super specialised courses at the medical colleges to create a pool of super speciality doctors within the district. Some of the courses which can be looked at include:-
 - Mamography
 - Respiratory therapists
 - Advanced Cardiac care
 - Post-doctoral training in cancer biology etc.
- Need to promote the district as a medical tourism destination.

❖ **Leather and leather products:**

- To turn the focus of its training institutes in leather industry from tanning to leather products manufacturing (in line with changing industry demand)
- Provide incentives to the leather cluster in Dharavi for setting up of skilling infrastructure

❖ **Organised retail:** Organised retail is one of the biggest employment providers in the district and will continue to be one of the biggest contributors to the incremental manpower demand. Hence, in order to enhance employment opportunities for the unskilled people within the district, the Government can look to train the employment seekers in short term courses within the retail domain through its Skill Development Committees initiatives. It can also focus on providing incentives (initial seed capital etc.) to private training providers / NGOs who want to enter this domain for setting up training capacity.

❖ **Tourism, Travel and Hospitality:** There is a need on the part of the Department of Tourism to create a better tourism infrastructure including tourist information centres, local sight-seeing planning centres, taxis (cabs, buses etc.) specifically for the purpose of tourists etc. On the training front the Government needs to implement programs in order to train people in:-

- Tourist guides: It is essential to provide certification to such trained guides as it will enhance the credibility of the people and further the confidence of the tourists
- Tourist Operators
- Tourist cab Drivers

❖ **Unorganised sector:** Government can encourage and incentivise the private training providers / NGOs who work in this area and can create capacity for providing skills in areas such as domestic workers, facility management, security guards, beauticians etc.

6.2. Private training providers

The recommendations for the private training providers focus on the courses, category for which training needs to be provided:-

Sector	Training required
Auto & Auto components	<p>Further training is required (in terms of additional capacity and improved quality) for the following courses:-</p> <ul style="list-style-type: none"> ▪ Diesel Mechanic ▪ Painter ▪ Tractor mechanic ▪ Machine and tool Maintenance technicians ▪ Assembly fitter ▪ Vehicle servicing and repair technicians ▪ CNC Machine Operator ▪ Welder ▪ Short term courses in electrical components found in modern vehicles ▪ JIT, Kanban, 5S and other quality management techniques
Banking and Financial Services, Insurance	<ul style="list-style-type: none"> ▪ Customer handling and customer relationship management. ▪ RBI regulations and guidelines (product wise) ▪ Specific soft skills training programs ▪ Specific product sales and recovery. ▪ Training in banking softwares used by respective banks. ▪ Basic accounting and finance
Building, Construction industry and Real Estate services	<ul style="list-style-type: none"> ▪ Project Management skills ▪ Labour laws ▪ Safety management ▪ Conflict management ▪ Budgeting and cost control ▪ Inventory management ▪ Topics in geology, hydrology, hydraulics, electrical etc. ▪ Surveying ▪ Quality Assurance / Quality Control
Electronics and IT hardware	<ul style="list-style-type: none"> ▪ Advanced technology and use of latest machinery and equipment such as machining centre in place of lathe ▪ Practical application of theory learnt in ITI and engineering colleges ▪ Machinist ▪ Fitter ▪ Electrician ▪ Electronics mechanics ▪ RAC

Sector	Training required
Food Processing	<ul style="list-style-type: none"> ▪ TCA/TBA/ Tetra packaging technology and machine operation ▪ Boiler mechanic ▪ Blending and refining processes related ▪ Usage of chemical and natural preservatives ▪ Storage facility maintenance ▪ Food technology related short term courses for diploma / engineering graduates like food safety and standards, product specific training
Gems and Jewellery	<ul style="list-style-type: none"> ▪ Knowledge of intricate work ▪ Use of latest machinery ▪ Latest designs and trends in demand in the international market ▪ Manufacturing of silver jewellery and art jewellery as well (and not just gold and diamond) ▪ Jewellery processing ▪ Diamond setting ▪ Wax setting ▪ Polishing ▪ Rubber cutting
Healthcare Services	<ul style="list-style-type: none"> ▪ Blood bank technician ▪ Para medics ▪ Critical care nursing ▪ Training of support staff ▪ Courses in hospital administration practices ▪ Soft skills and effective communications training ▪ Training in hospital infection control procedures ▪ Medical equipment maintenance ▪ Respiratory therapist
IT & ITES	<ul style="list-style-type: none"> ▪ Business analyst / Business Intelligence related training ▪ Quality management in IT organisations ▪ Pre-sales and Sales of software product / services ▪ Customer management ▪ Effective presentation skills ▪ IT infrastructure management etc. ▪ Courses in Information Security
Media and Entertainment	<ul style="list-style-type: none"> ▪ Laser projection systems ▪ Digital cameras ▪ 3D / 4D ▪ Second screen experience applications ▪ Production designing

Sector	Training required
	<ul style="list-style-type: none"> ▪ Production and budgeting ▪ Graphic works ▪ Latest animation techniques ▪ Video editing ▪ Photography using latest equipment ▪ Editing
Organised Retail	<ul style="list-style-type: none"> ▪ Customer relationship management ▪ Customer service ▪ Store management ▪ Positioning of products in stores ▪ Handling customer complaints ▪ Effective communication
Transportation, Logistics, Warehousing and Packaging	<p>Private colleges and Deemed Universities should look to introduce specific courses like:-</p> <ul style="list-style-type: none"> ▪ BBA and MBA in Logistics and Supply Chain management ▪ MBA (Port and Shipping Management) ▪ Certification in Transportation and Logistics management <p>Also, it is essential to train the current employees within the sector in short duration courses like:-</p> <ul style="list-style-type: none"> ▪ Import and Export documentation ▪ Tax and Legal regulations ▪ Transportation models ▪ Inventory management
Tourism, Travel, Hospitality & Trade	<ul style="list-style-type: none"> ▪ Housekeeping ▪ Front desk management ▪ Chef training ▪ Travel desk operators ▪ Communication skills ▪ English Language Training ▪ Basic computer courses
Unorganised sector	<p>Short term courses to be introduced for the following:</p> <ul style="list-style-type: none"> ▪ Domestic workers ▪ Security guards ▪ Housekeeping ▪ Facility management personnel ▪ Beauticians

6.3. Industry

- ❖ **Auto and Auto Components:** The need on the part of the industry is to :-
 - Coordinate with colleges, ITI and training institutes to ensure the students get trained on latest machinery (by allowing the students some access to the machinery available in the plant)
 - Ensure the coverage of the courses is up-to-date to include the latest practices (like inclusion of electrical components)
 - Opt to provide guest lecturers in colleges and ITI
 - Partnership with ITI in PPP or 'adopt an ITI' model

- ❖ **Banking and Financial Services:** The industry already has a repository of training content / curriculum available with each of the major banks in the district. The industry may thus look to share the same with private training providers and BFSI SSC set up by NSDC in order to ensure proper training of the students who will eventually be employed at each of the banks / insurance companies etc.

- ❖ **Building, Construction and Real Estate services:**
 - The industry must look to collaborate with private (including NGOs) as well as Government training providers to provide training at their sites.
 - Also, support towards training is required in the form of materials and safety equipment which can be provided to trainees during this period to encourage both students as well as training providers to come forward.

- ❖ **Electronics and IT hardware:**
 - The industry needs to work closely with educational institutions such as engineering colleges and ITI to upgrade course curriculum
 - It needs to provide better exposure to students to its machinery and equipment in collaboration with educational institutions
 - It needs to proactively help the educational institutions by providing guest faculty from industry experts

- ❖ **Gems and jewellery:**
 - Work on continuous training of the workers and frame policies to retain them and reduce the attrition rate
 - Work in close collaboration with the private training providers

- ❖ **IT & ITES:**
 - Continue to focus on on-the-job training, in addition to working closely with education and training providers to bring them in line with the industry requirements

- ❖ **Media and entertainment:**
 - Needs to set up training academies / institutes in collaboration with vocational training providers in this area
 - Work closely with NSDC for defining training standards for itself

- ❖ **Organised retail:**
 - Needs to collaborate with training providers / NGOs who work in the skilling in this area
 - Need to focus on worker retention
- ❖ **Tourism travel and hospitality:**
 - Hotel industry needs to collaborate with Department of Tourism as well as private training providers to meet the requirements of skilled personnel
 - Tourist guide / tour operator associations can set up their own training programmes in collaboration model

6.4. NSDC

3. The NSDC can play a critical role in the below sectors by assisting and encouraging private players for offering training:-
 - Auto and Auto components
 - Banking and Financial Services
 - Building, construction industry and real estate
 - Education and skill development
 - Gems and jewellery
 - Healthcare services
 - IT & ITES
 - Leather and leather products
 - Media and entertainment
 - Organised retail
 - Transportation, logistics, warehousing and packaging
 - Tourism, travel, hospitality
 - Unorganised sector

4. This apart, the NSDC can also look to coordinate with the industry and respective SSCs in the following sectors to ensure setting up of NOS and certification and assessment standards for the following sectors:-
 - Auto and Auto components
 - Building, Construction and Real Estate
 - Food processing
 - Gems and Jewellery
 - Leather and leather products
 - IT & ITES
 - Media and entertainment
 - Organised retail
 - Tourism, travel and hospitality

2.18. NAGPUR

1. Introduction

Nagpur district is in the eastern part of the Maharashtra state (vidarbha region) in central India. It has a total land area of 9,892 sq. km., which is 3.2 per cent of the total State area. It is bordered on north by the Chhindwara district of Madhya Pradesh, on the east by the Bhandara district, on the south-east by Chandrapur district, on the west and south-west by Wardha district and on the north-west by Amravati district.

It is sub-divided into 14 sub-districts and has 1,628 villages. Majority of the population at 68 per cent lives in urban areas. Agriculture employs 39 per cent of the labour force (as of Census 2001). The remaining is in household industry (two per cent) and other workers¹⁶ at 59 per cent.

Nagpur is located at geographical centre of India - the zero milestone of India is in the city of Nagpur. The city is well connected and major highways (NH- 6 & 7) and major railway trunk route passes through the city. Important Central and state government offices and institutions are located in the city. There is a good industrial presence in the region leveraging the strategic location advantage of the city/region. The major crops grown in the district include paddy, jowar, soyabean, cotton, wheat and tur. The region is also famous for its horticulture crop cultivation. Nagpur city is famous throughout the country as “Orange city” for being a major trade centre of oranges cultivated in the region.

The district has a forest area of around 28 per cent of its total area which is high as compared to the state’s average (around 17 per cent) and the forest resources also contribute to the economy of the district. Teak wood, Bamboo, tendu leaves and gum are the important forest resources in the district.

Table 142: Comparison of Nagpur district with Maharashtra – key indicators

Indicator	Year	Nagpur	Maharashtra
Area, in sq.km.	2001	9,892	307,713
Percentage share in State geographical area, %	2001	3.21%	100%
No. of sub-districts	2011	14	353
No. of inhabited villages	2001	1,628	41,095
No. of households	2001	838,599	19,576,736
Forest area as a % of total geographical area	2001	28.00%	16.94%

Source: Census 2001, Census 2011

¹⁶ Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers are 'Other Workers'.

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Nagpur district has a population of 46.5 lakh persons – 4.14 per cent of the State population. Majority of the population (50 per cent) is concentrated in Nagpur (Urban) sub-district and the rest of the population is spread across the other 13 sub districts as follows: Hingna, Kamptee, Nagpur (rural) and Savner sub-districts at five per cent each, Katol, Narkhed, Ramtek and Umred sub-districts at four per cent each, Kalameashwar, Kuhl, Mauda and Parseoni sub-districts at three per cent each and Bhiwapur sub-districts at two per cent. While 62 per cent of the population in the district is in working-age group (15 to 59 years), only about 38 per cent is actually working i.e. work participation rate.

The district's literacy rate is 89.52 per cent, which is higher than the State average of 82.9 per cent, and also significantly higher than All-India average of 74 per cent. Male literacy at 93.76 per cent is higher than female literacy rate at 85.07 per cent.

Most of the population (68 per cent) lives in urban areas. The district has shown a significant increase in urban population from 45 per cent in 2001 to 68 per cent in 2011 census. Majority of the population is classified under other workers (59 per cent) which include occupation such as government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. This trend is usually seen in any urban regions.

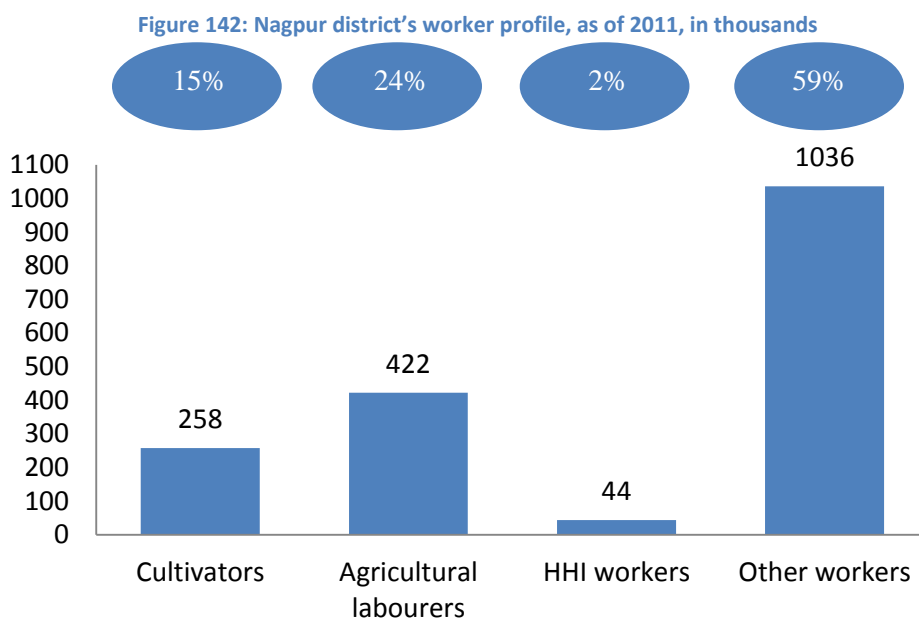
Table 143: Key demographic indicators

Indicator	Year	Nagpur	Maharashtra
Population, No.	2011	4,653,171	112,372,972
Decadal growth rate of population, %	2001-11	14.39	15.99%
District's share in State's population, %	2011	4.14%	100%
Urban population as a percentage of total population, %	2011	68%	45%
SC population, %	2001	17%	8.79%
ST population, %	2001	11%	15%
Sex ratio, No. of females per 1000 males	2011	948	925
Population density, per sq. km.	2011	470	365
Literacy rate, %	2011	89.52%	82.91%
Main workers, No.	2001	1,283,079	34,748,053
Marginal workers, No.	2001	255,270	6,425,298
Working age population* as a percentage of total	2001	62%	59%

Indicator	Year	Nagpur	Maharashtra
population, %			
Work participation rate [^] , %	2001	38%	42.50%
HDI Rank	2000	5	
HDI Index	2000	0.71	0.58

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011

The district has a total workforce of about 17.6 lakh persons. Of this, 15 per cent are cultivators, 24 per cent are agricultural labourers, two per cent are workers in household industry and 59 per cent are other workers.



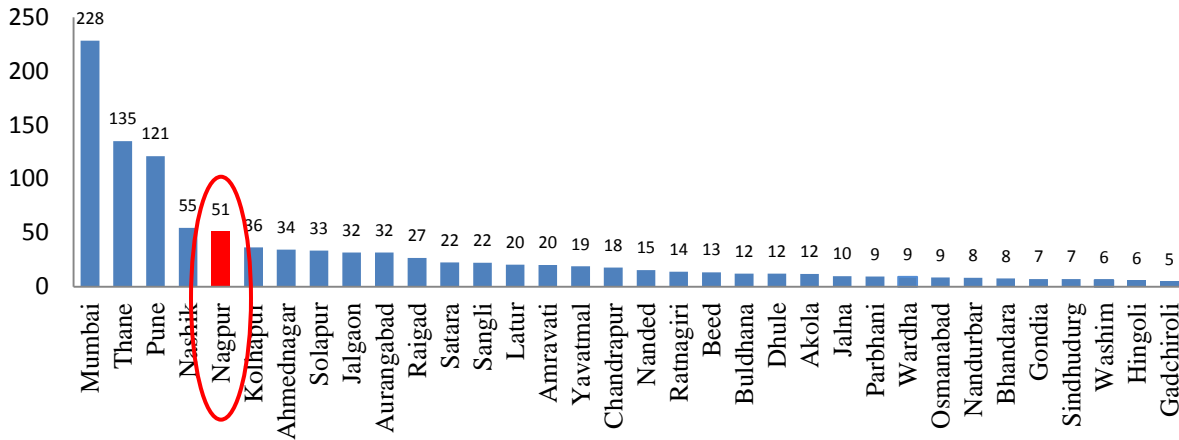
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Nagpur district had the fifth largest Gross District Domestic Product (GDDP) in Maharashtra at Rs 51,336 crore (4.8 per cent of the Gross State Domestic Product). In terms of per capita NDDP also, it ranked 5th amongst all the districts at Rs 96,458. This was higher than the State average of Rs 87,686.

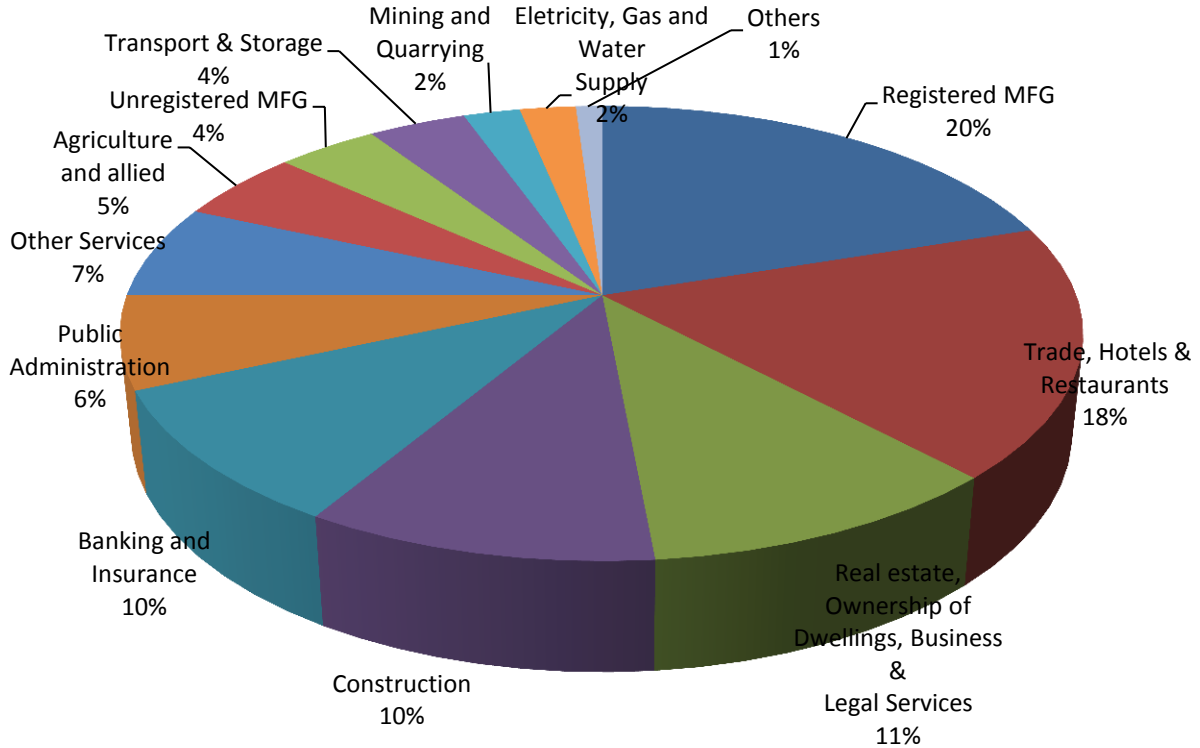
Figure 143: Gross District Domestic Product, in Rs thousand Crore, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly service based, with service sector's share in GDDP at 56 per cent in 2009-10. This is followed by secondary sector at 36 per cent and primary sector at eight per cent.

Figure 144: Sector wise distribution of Nagpur's GDDP, as of 2009-10, 100% = Rs 46,321 crore



Source: District Socio Economic Review of Nagpur

Agriculture: Of the total area of 986 thousand hectare in the district, over 65 per cent is cultivable area. Agriculture is mainly dominated by cultivation of paddy, jowar and wheat under food crops and cotton and soyabean under commercial crops. Horticulture crops such as orange, mango, lime and brinjal are also grown in the district. Floriculture is also gaining importance and flowers such as rose, shewanti and lily are grown.

Industry: Nagpur district is industrially rich and has various types of industries. As of September 2012, Nagpur district had 150 large size industries employing around 32,345 people. Majority of these industries are in the sectors such Manufacturing of metals, Manufacturing of machineries and equipment, Food processing, Textiles, Chemicals, and etc. There are some popular large companies present in the district such as Indo Ramam textiles, Haldiram's food international, Murli Industries, Mahindra & Mahindra Ltd, Lokmath newspapers Ltd, Dinshaw dairy food product pvt ltd, etc.

The district has 10,624 Micro, Small and Medium Enterprises (MSME), employing 110,683 persons. As of September 2012, the prominent MSME industries in the district were 'Fabricated metal products', 'Non-metallic Minerals', 'Food products and Beverages', 'Rubber and plastic products', 'Textiles' and 'other service activities'. Refer to the table in annexure for complete list of MSME industries and employment details. The district has 11 industrial areas, totalling 3,888 acres of land.

Services: As mentioned above, services account for 56 per cent of GDDP in Nagpur district. Of all the services, the key services in the district are of 'trade, hotels and restaurants' at 18 per cent, 'real estate, ownership of dwellings, business and legal services' at 11 per cent, 'banking and insurance' at 10 per cent, 'public administration' and other services at seven per cent each of GDDP, followed by 'transport and storage' at four per cent.

MIHAN project at Nagpur:

Multi-modal International Cargo Hub and Airport at Nagpur (MIHAN) is an airport project for the international airport, Nagpur. It is one of the biggest projects currently underway in the country in terms of investments.

The project consists of "two parts" namely:

- An international airport to act as a cargo hub
- A Special Economic Zone (SEZ) with residential zone

The project is expected to provide a huge boost for the Nagpur districts' economy. The SEZ will comprise of IT park, Health city, International school, etc. There will be various types of manufacturing and services industry operating out of this SEZ. The project has been initiated and construction work is undertaken currently. Based on discussions with stakeholders, the project is estimated to generate direct employment of about 1.5 lakh people and indirect employment of about 4.5 lakh people when it is fully functional.

2.3. State of education

As of 2011-12, Nagpur district had 3,694 schools. Of this, 48 per cent were primary schools, 27 per cent were upper primary schools and the remaining 25 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 648,837 while the student-teacher ratio was at 28 students per teacher. The student-teacher ratio was slightly better than the average ratio for the State at about 30 students per teacher.

Table 144: School and higher education infrastructure in Nagpur district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	3,694	643,837
General colleges	198	111,730
Technical education*	137	27,542

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

For general higher education, the district has 198 general colleges and 137 technical education institutes. For vocational training, Nagpur district had a total of 47 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, 17 were Government ITIs and remaining 30 were private ITIs. All the 47 ITIs together have a seating capacity of 7,436.

Table 145: Key ITI indicators in Nagpur district, as of March 2012

Indicator	Value
Total Number of it is	47
Number of Government ITIs	17
Number of Private it is	30
Total Seating capacity	7,436

Source: Department of Employment & Self Employment, Government of Maharashtra

Based on our discussions with the key stakeholders in Nagpur district, we have found that on an average, of all the students that pass out from an ITI in each year, around 50 to 60 per cent find jobs in the market. Rest of the people opt to pursue higher studies in polytechnic or general college. The average pass rate observed is around 90 per cent and the drop-out rate is around five to ten per cent. For details on courses offered by ITIs in Nagpur, refer to the table in annexure.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The government department offer courses in trades such as agriculture, textiles, education, IT, Manufacturing, etc. District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship Development) and MITCON Consultancy and Engineering Services Ltd. Self-employment promoting training programs such as electrician, mobile repairing, computer repairing, two-wheeler and four-wheeler repairing, motor rewinding, diesel engine mechanic etc. are conducted

through this scheme. Other job placement targeted courses such as Computer application, Hardware and Networking, Desktop publishing, Tally, etc, are also conducted by Government departments.

Majority of the private training centres in Nagpur district offers computer related courses. Some of the courses offered by them include MS-CIT, C++, Java, DTP, Tally, etc. MS-CIT course is preferred among the students/youth in the district as this course is a pre-requisite for getting a Government job in the state. Computer related jobs that are in demand in the district (as per the discussion with stake holders of the district) are data entry operations and computer based accounting (Tally). The other training areas provided by private training institutes include handicrafts, garment manufacturing and fashion designing, mobile repair and servicing, beauty culture, Photography, PC Maintenance, etc. For details of training institutes and courses offered, refer to table in annexures.

2.4. Youth aspirations

In the process of identifying the growth engines for the Nagpur district, we also held a discussion with a youth group in the district to understand their aspirations. They key points are summarised below:

- **Existing educational infrastructure in the district:** Youth in Nagpur believe that there are adequate educational institutes in the district to satisfy the districts' education infrastructure requirement. There are also adequate vocational training providers in Nagpur city offering various trades / courses. However, they observe that there are only few educational institutes (including schools) with good quality.
- **Preferred institutes:** Students prefer government institutes than private because of low fees, better infrastructure and adequate facilities. The important criteria for choosing any trade/course are the job opportunity for that trade and their interest in a particular field. Practical exposure is lacking in the training institutes.
- **Demand of additional training / courses:** Some students along with their main academic course pursue additional training courses on computer to increase their job opportunity. MS-CIT course, which aids in getting a government job, is preferred by the students. Few others pursue courses such as spoken English, computer language courses, typing, tailoring, etc.
- **Preference for higher education:** Most of the students in ITI prefer to pursue higher education either in Polytechnic or general colleges. Technical education students prefer to join post graduate courses in Mumbai/ Pune. They believe the exposure is good in these cities and job opportunity is high.
- **Job preference:**
 - First preference of students in ITI is to work in government sector mainly due to job security. Preferred sectors to work include IT, Automobile and other manufacturing industries. Most of the students are unwilling to work in shop floor / blue collar jobs.
 - Most of the technical education students (engineering graduates) prefer to get placed in an IT company. The main reason for preferring IT sector is because of high salary and white collar job

- **Youths' concern:** One of the concerns raised by the technical education students is that Nagpur lacks adequate industries like Mumbai and Pune and they prefer to get a job at Mumbai/Pune where established industries are available.

3. Developmental concerns

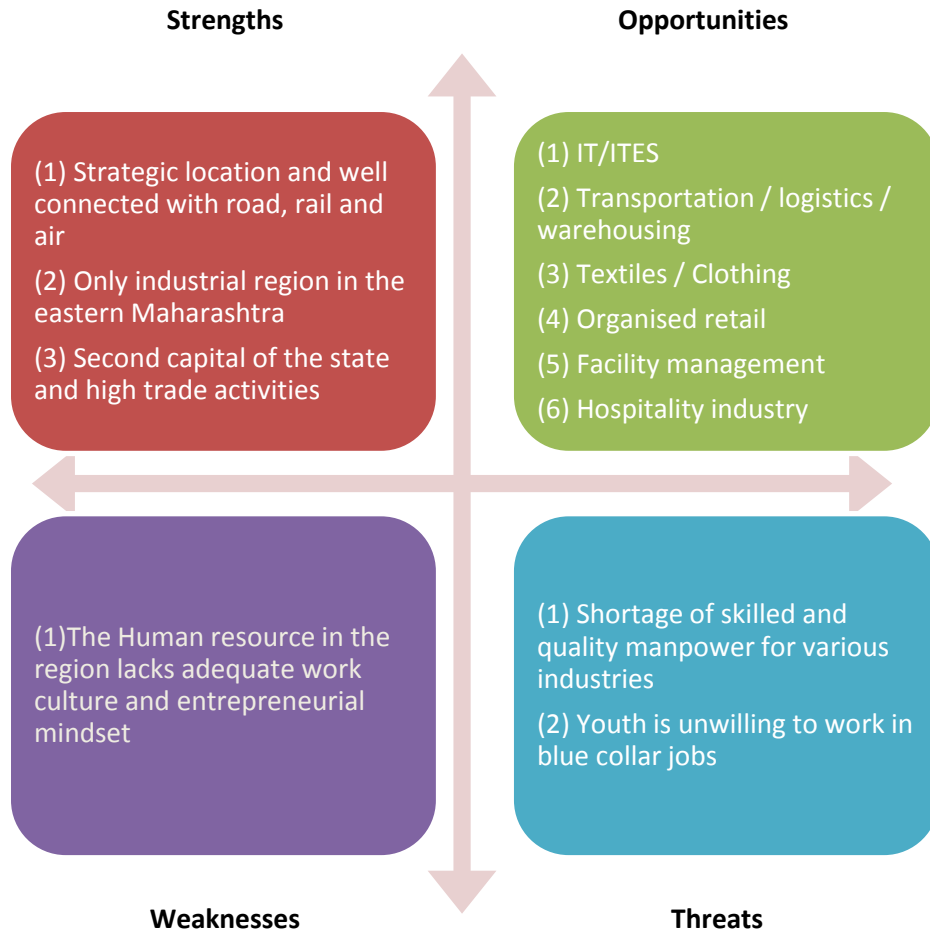
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Shortage of skilled manpower in the district:** The district has adequate industrial activity. However, industries in the region are facing shortage in getting skilled human resource for their work. For example in MIHAN project, construction work has started but skilled workers such as carpenter, welders are not available in adequate number. This has been the case with various industries such as logistics and warehousing, fabrication industry, organised retail, etc. These industries are not able to get skilled and quality manpower in the district.
- **Lack of adequate work culture in the region:** Based on our discussions with various industry players from different sectors, officers, academicians, etc., it is observed that the industrial workers in the region lack adequate work culture as expected by the industry. Casualness in the work and frequent absenteeism are sighted as some of the common problems faced by the industry. This could be a challenge for the region to turn as an industrial hub.
- **Less attractive industrial policy:** Industry players believe that the current industrial policy in the State is less industry friendly. The policy are not competitive or attractive as provided by other neighbouring states and are not able to compete with the industry players from those states. They expect some changes (eg. Reduction of tariffs) in the policy from the Government for them to be more competitive. The new industrial policy 2013, however, is expected to address some of these concerns.

SWOT analysis

Based on the diagnostics of the Nagpur district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 145: SWOT Analysis of Nagpur district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 7.9 lakh persons between 2012 and 2022. Sectors which will drive demand are expected to be organised retail, unorganised sector, other manufacturing, transportation and building, construction and real estate. Other sectors such as banking and financial services, education and skill development and healthcare services will also generate employment in the coming years in the district. The requirements for skilled personnel are likely to increase, as the maximum demand will be generated for semi-skilled and skilled workers.

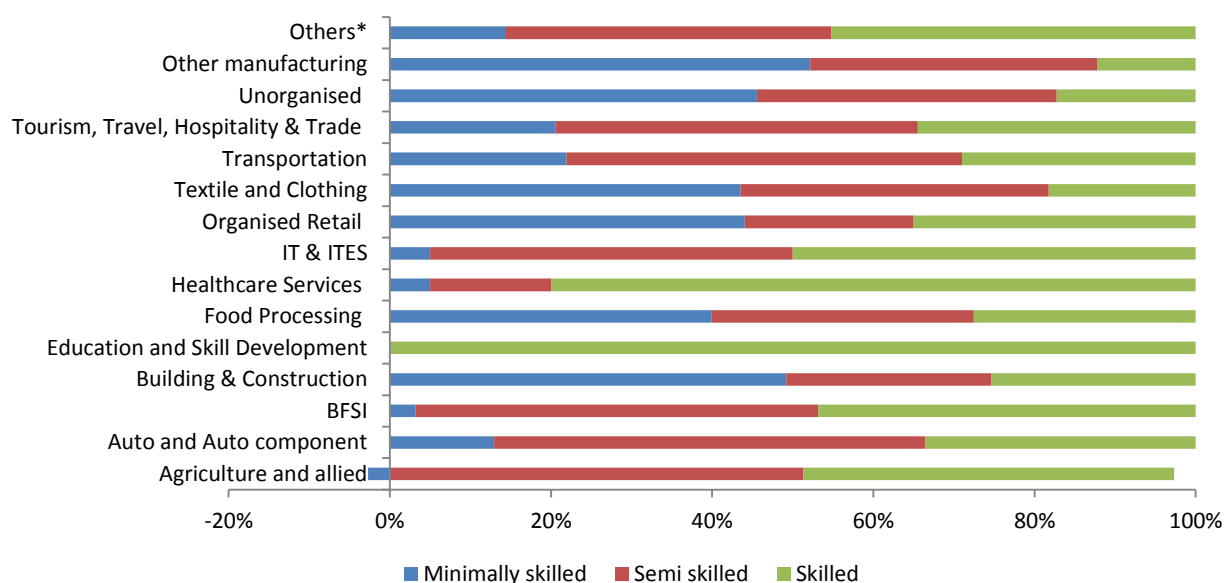
Table 146: Incremental demand of human resources in Nagpur – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	15,040	7,664	22,705
Auto and Auto component	4,819	7,610	12,429
BFSI	27,601	44,367	71,968
Building, Construction industry and Real Estate	81,590	113,232	194,822
Education and Skill Development	17,719	9,194	26,912
Food Processing	2,185	2,820	5,005
Healthcare Services	9,951	13,619	23,570
IT & ITES	4,871	7,458	12,329
Organised Retail	22,102	54,996	77,097
Textile and Clothing	7,040	8,923	15,963
Transportation, Logistics, Warehousing and Packaging	15,707	17,805	33,512
Tourism, Travel, Hospitality & Trade	10,380	15,114	25,494
Unorganised	98,693	139,390	238,083
Other manufacturing	13,804	22,724	36,528
Others*	772	860	1,632
Total	332,274	465,776	798,050

Source: IMaCS Analysis

^Unorganised sector includes domestic workers, handloom and handicrafts, beauticians, facility management personnel and security guards. *Others include chemicals and pharmaceuticals, Electronics and IT hardware and Furniture and Furnishings

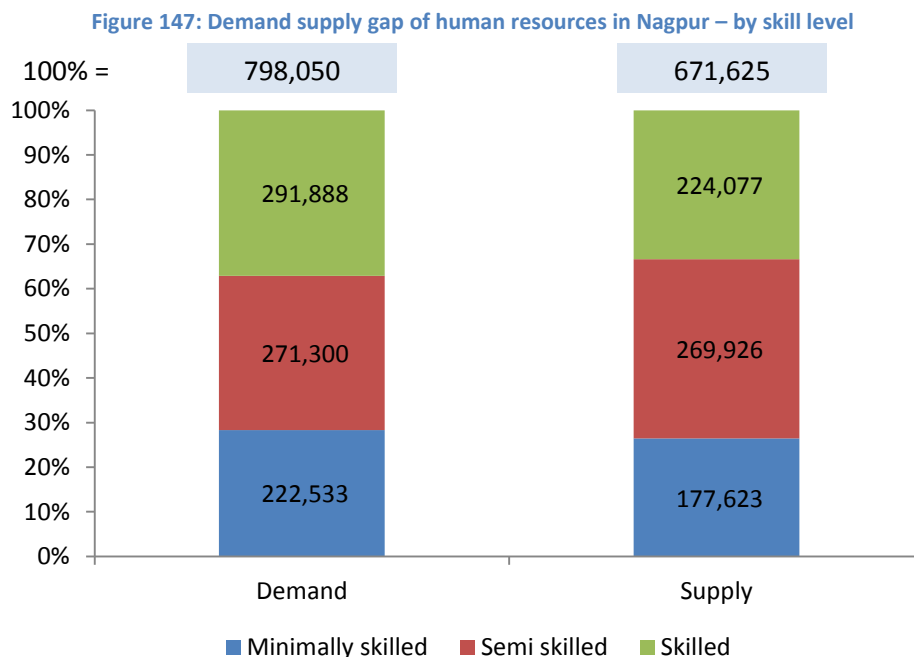
Figure 146: Incremental demand of human resources in Nagpur – by skill level



Source: IMaCS Analysis

^Unorganised sector includes domestic workers, handloom and handicrafts, beauticians, facility management personnel and security guards. *Others include chemicals and pharmaceuticals, Electronics and IT hardware and Furniture and Furnishings

We have estimated incremental supply of human resources in the district at 6.7 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be insufficient to meet the incremental demand in the district. The shortage of human resources is likely to be met by migrants coming into the district. The supply gap is expected to be faced at all skill levels.



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on our field surveys in Nagpur district, we have found out that sectors where skilling interventions are required are in sectors such textile and clothing, food processing, banking financial service insurance, construction, IT, organised retail, hospitality, media, transport logistics and warehousing, fabrication and unorganised sector. These sectors require skilled human resources and skilling intervention.

Table 147: Sectors where interventions are required in Nagpur district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Nagpur	Maharashtra
Agriculture		
Auto and Auto component		

High Growth Sectors identified by NSDC	Nagpur	Maharashtra
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		
Additional sectors	Nagpur	Maharashtra
Fabrication Industry (Engineering units)		

Source: IMAcS Analysis

5.1. Banking, Financial Service and Insurance

Banking and Financial Service is an important sector which acts as a backbone for economic activities. It aids commerce and trade activities happening in the region. Nagpur, being the second capital of the state and also a major industrial centre, large number of commercial transactions takes place daily. Almost all the scheduled commercial banks have their branch in Nagpur and banking is a major activity in the city of Nagpur. In fact, The Reserve Bank of India (RBI), the regulating body of commercial banks in India, has two branches in Nagpur in which one of it houses the country's entire gold assets.

Based on our discussions with the stakeholders, we observe the following in the banking sector:

- Skill gap is observed to be minimal in the sector as qualified graduates are recruited for the banking operation
- Periodical training is provided to the banking employees to upgrade the skills whenever required
- Communication and selling skill gaps is observed among salesman / sales executives
- Inadequate knowledge of the banks' products and offerings is also reported

Insurance is another segment where employment is generated. Awareness and importance on Insurance has increased among the public. Insurance products are broadly classified into life and non-life. There are many insurance companies offering various products for public. As like Banking, all the major Insurance firms such as LIC, ICICI prudential, HDFC Life, ICICI Lombard, Bajaj Allianz, etc. have their branch offices in Nagpur. In Insurance sector, major employment is generated in the sales / marketing department. Based on the discussion with the insurance industry players, the skill gaps observed among the insurance agents / sales executives are as follows:

- Lacks in depth knowledge in structuring the projects
- Inadequate financial planning skills
- Limited cross selling skills
- Inadequate ability to convince customer with the offering
- Lack of motivation to work continuously

5.2. Building, Construction industry and Real Estate services

The building, construction and real estate industry provides the services for commercial buildings, residential buildings and special areas like SEZs, theme parks, roads, bridges, ports, shipping, airports, urban infrastructure, and utilities. Nagpur is witnessing a good growth in terms in terms of infrastructure. Various commercial buildings, residential apartments, shopping malls, etc. have been built in the district recently.

There is also a huge requirement of skilled manpower for the on-going and future projects in the construction industry in Nagpur. The ambitious MIHAN project has been initiated and it includes construction of cargo hub, office spaces, residential complex, schools, etc. And there are also other commercial and residential building construction happening in other places of the city.



Based on the discussions with various stakeholders of the industry, there is a shortage of skilled manpower in the district. Based on our discussion with the stakeholders, we observe the following:

- There is a shortage of skilled human resource such as carpenter, mason, wiremen, etc. in the district
- Inadequate communication and team management skills among supervisors

- Skilled workers such as mason, bar bender, etc. are unable to coordinate with different teams / department of construction
- Unskilled workforce lacks adequate safety orientation and work place discipline

5.3. Food processing

Food processing is one of the major industries in Nagpur district. There are various types of food processing industries present in the district such as processing of fruits and vegetables, dairy, edible oil and grain based products. There is some large food processing industrial players present in the district such as Haldirams Food International Limited, Dinshaw Dairy Foods Pvt Ltd, Noga Foods, etc. There are also other industries which does manufacturing of food products to brands such as Parle, Sunfeast, etc. in the district. Nagpur region (Nagpur and nearby districts) are known for good cultivation of horticulture crops such as orange, lime, tomato, etc. and this has led to setting up of fruits and vegetable processing units in Nagpur. There are also many small scale industries involved in food processing sector. As of September 2012, the district had around 1,077 “Micro, Small and Medium Scale Enterprises (MSME)” units employing around 11,618 people.

There is a Dal mill cluster in Nagpur district in the name of ‘Nagpur Dal Miler’s Clusters’. There are around 125 milling units in the cluster providing employment to around 600 people. Milling units generally require unskilled and semi-skilled work force to operate their units. Based on discussions with the industry players in the district, there are no major skill gaps found among the milling workers.

There is also a food park in the Butibori MIDC area. In this food park, orange, lime, pineapple and tomato processing units are being set up. Based on our discussion with the industry players, the following skill gaps are observed:

- Inadequate / restrictive motivational skills
- Inadequate documentation skills / not conversant with e-reporting / working on computers among supervisors
- Inadequate knowledge of operations resulting in wastage
- Inadequate ability to undertake dicing / slicing at the entry level
- Lack of interest and knowledge in tracking the productivity and improve the same over a period of time
- Casualness in work and Inadequate knowledge on hygiene is observed among helpers / workers

Nagpur also has some food processing industry on the biscuit manufacturing segment. Popular biscuit brands such as Parle, Sunfeast, etc. have their manufacturing units in Nagpur (either as captive or contract units). Based on discussions with the industry players, skill gaps of the biscuit manufacturing segment in food processing industry are as follows:

- Machine operators have only limited ability to understand and use different settings of time, temperature on different machines for different biscuit products

- Inadequate read / write skills leading to problems in understanding verbal/ written communication about production schedule, specifications, etc.
- Inconsistency in following Quality standards and procedures
- Packaging issues – not able to pack consistently according to assortment chart in packing section

5.4. IT / ITES

Nagpur is slowly emerging as one of Information Technology (IT) hub in the state. There are around 160 companies providing IT services in the district. However, most of these companies are involved in providing secondary research services serving domestic markets and Business Process Outsourcing (BPO) units. There are few software development firms such as Persistent Systems Limited, Zeon Solutions, etc. The IT sector is emerging in the district. There are dedicated IT parks in the district and many companies are planning to start their services in the district.

MIHAN SEZ zone has a special IT park and few companies such as ADCC Infocad Pvt Ltd, Zeon Solution pvt ltd, etc. has started to operate from the IT Park. Some of the upcoming companies in the IT park includes Multi-National Companies (MNCs) such as Infosys, Tata Consultancy Services (TCS), Wipro Technology Pvt Ltd, etc. These companies are expected to generate employment in the IT service delivery sector and skill requirement for this sector is provided in the table in annexures.

Based on our discussions with the stakeholders, the skill gaps in BPO sector of Information Technology (IT) industry for executives and team lead job roles in the district are as follows:

Executives: (Voice / Non voice based)

- Inadequate attention to detail
- In sufficient communication skills
- Inadequate product / domain related knowledge
- Limited problem solving skills

Team Lead:

- Inadequate team handling qualities
- Inadequate business process knowledge
- Inability to motivate team members (who does repetitive work)

5.5. Media and entertainment (News print media segment)

Media is one of the important sectors in Nagpur. Being the second capital of the state, there are many activities happening and needs to be addressed by the media. Nagpur also houses the winter session of the Maharashtra assembly. There are various media that captures the political action and other events happening in the city and in the region.

Many popular newspapers have their editions in Nagpur. This includes English magazine such Times of India, The Hitavada, etc. and Marathi newspapers such as Lokmath, Sakal, etc. These media houses require quality journalist and reporters to cover the news. Based on discussion with the media players in

the district, the skill gaps in newsprint segment of media sector for different job roles in Nagpur district are as follows:

News reporter:

- Limited language skills (Using vocabulary, choice of words)
- Inadequate general knowledge
- Knowledge about the region / district of operation
- Working on deadlines
- Inability to collect news in advance for future
- Limited external reading

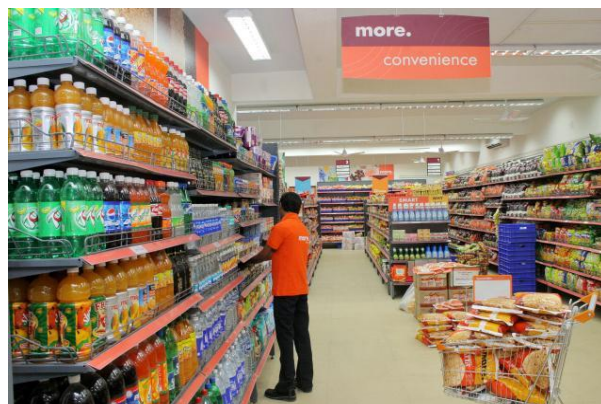
Sub editor:

- Lack of creativity
- Limited language skills (Inability to draw readers attention with their words)
- Inability to present with new design formats

5.6. Organised retail

Organised retail sector is growing in Nagpur. The major retail categories under organised retail sector are Clothing and Textiles, Footwear, Consumer Durables and Home appliances, Food and Grocery and Out of Home Food Services. There are retail outlets found in all the mentioned categories in Nagpur. Also, many new malls have come up in Nagpur city such as Empress Mall, Eternity mall, Poonam Mall, etc.

Popular retail outlets such as Big Bazaar, More, Brand Factory, Pantaloons, Lifestyle, etc. are present in Nagpur. Based on discussion with the retail industry players, there are some malls under construction and many retailers (exclusive and multi brand) will open their shops. The sector is expected to grow and generate employment in areas such store operation, sales men, etc.



Based on discussion with the stakeholders, the skill gaps in merchandising management and store operation of organised retail sector in the district are as follows:

Merchandising management segment:

- Inadequate understanding of customer needs

- Lack of adequate knowledge and skill to assess customer buying behaviour
- Inability to suggest for different store layouts and displays which will improve sales
- Inability to understand the customer taste and suggest accordingly
- Customer interaction skill gap is also reported

Store operation segment:

- Inadequate workforce management and relationship management skills
- Inadequate customer relationship skills
- Limited knowledge in latest product promotion
- Inadequate product knowledge (specification, usage, etc)
- In sufficient oral communication skills
- Inadequate queue management skills
- Inadequate knowledge in managing the cash box, billing system, credit card, debit card and other coupons/cards

5.7. Textile and Clothing

Nagpur region is one of the major textile and clothing hubs in the country. Availability of cotton from various districts of Nagpur and Amaravati division (Vidarbha region) has resulted in setting up of numerous textile related industries in the district. Availability of prime raw material (cotton) and suitable infrastructure have helped the development of the industry in the region. The foundation of Nagpur's textile industry was laid by TATA, one of the prominent industrial houses in India. It started the country's first textile mill popularly known as 'Empress Mills' on 1877 at Nagpur. Currently, many large industry players are present in the region such as Indorama Synthetic (I) Limited, Morarji Textiles, Woolworth India limited, Suryalakshmi Cotton Mills Ltd, etc. The phenomenon about textile industry in Nagpur region is that the presence of industrial players in entire value chain of textile products (Spinning, Weaving and Garmenting units). However, large players are present in spinning process and the garmenting process comprises of many small scale industries.



Spinning and Weaving Process:

Nagpur district has some of the large players in spinning such as Indo Rama Textiles Ltd, Indo Rama Textiles Ltd, Woolworth India Ltd, Morarji textiles, etc. These units also have weaving process within itself. These industries have been established in the district for many years. Based on the discussions with the industry players, there is a shortage of skilled manpower in the region. These units recruit people locally and provide 'in house' training to suit industry requirements. Based on our discussion with industry players, the skill gaps in spinning and weaving units of the textile sector in Nagpur are mentioned below:

- Inadequate knowledge about the entire spinning / weaving process
- Inability to work on different machines
- Other issues include non-skill related such as absenteeism, work – related behaviour, non-cooperation with supervisors, etc,

Garmenting Process:

Nagpur based garmenting units are known for making salwar, sherwani, kurta, etc. These units generally involve garmenting of woven fabric. There are around 500 garmenting units in Nagpur providing employment for about 10,000 people. These are small scale units and use conventional methods for garment manufacturing and lacks sophisticate machine and technology. The industry also was not able to compete due to lack of facilities since all the units are small sized in nature. There have been measures taken and a cluster development plan was proposed and approved in the guidelines of Micro & Small Enterprises – Cluster Development Programme (MSE-CDP).

The cluster will be called "Orange city garment cluster" and will have a common facility centre for these small enterprises. Various facilities are expected out of this common facility centre such as computerised embroidery machine, washing facilities for enzyme and chemical wash, etc. The facility centre will also have a dedicated training centre to train the employees in various functions of garmenting. The cluster development program is expected to provide benefits and scale up the production process into various types of products such as shirts, pants, blazers, etc. The existing skill gaps of these garmenting units are listed below based on our discussions:

- Inadequate quality control knowledge
- Inadequate knowledge of various sewing machine used
- Inadequate communication and leadership skills among shift in charge / supervisors
- Inability to work with different machine (sewing machine operator cannot work in button operation machine)
- Inadequate knowledge of basic machine maintenance
- Limited design knowledge (in embroidery, etc)
- Inability to detect flaws in the garment (during checking process)
- Casualness in the work

5.8. Transport, Logistics, Warehousing and Packaging

Nagpur is well connected by road, rail and air. The strategic location of Nagpur i.e. in the middle of the country makes it an ideal location for being a hub for logistics, warehousing and distribution centre. There are many logistic and warehousing players operating in the district leveraging on the location advantage.

The four important metropolitan cities of the country namely Delhi, Chennai, Mumbai and Kolkata are located around 1,000 kms from Nagpur. This is a great advantage for setting up warehouse and distribution centre in the city (please refer the figure below). One of the largest retail chain groups in the country, Future group, has set up their largest warehouse and distribution centre (Future Supply Chain) in the city.

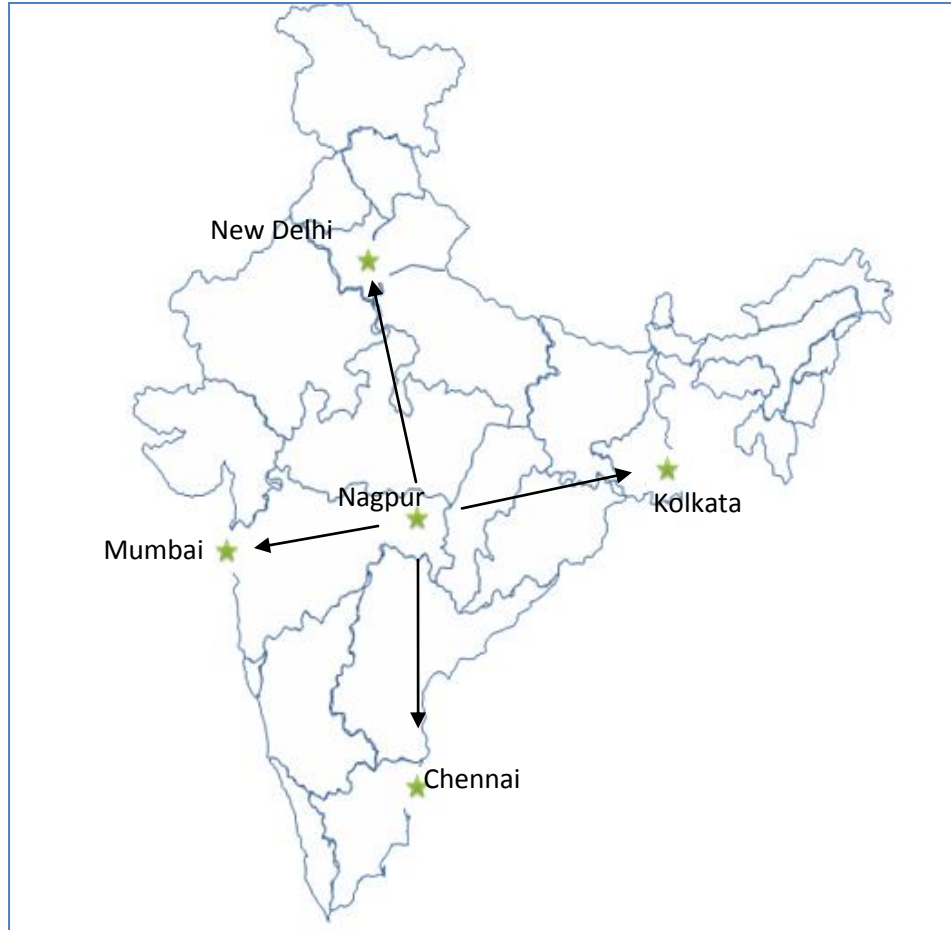
Multi-modal International Cargo Hub and Airport at Nagpur (MIHAN) project, once completed, will boost the logistics and warehousing sector to a greater extent and many more logistics companies will start their operations and will emerge as a logistics hub.



Road Logistics



Warehousing



Strategic location of Nagpur for being a logistics, warehousing and distribution hub

The sector is estimated to employ many people. Currently, there is a shortage of skilled manpower for logistics such as operating Material Handling Vehicle (MHV) (forklift, reach truck, etc.). Based on our discussions with logistics and warehouse industry players, skill gaps in the sector is listed in the below table.

Road logistics segment:

- Limited knowledge of optimising logistics cost
- In sufficient knowledge of taxation procedures, and documentation procedures
- Limited knowledge of interstate and inter country transportation and taxation laws
- Time management
- Inadequate knowledge of first aid and hygiene management among drivers
- Ignorance to safe driving practices among drivers
- In sufficient knowledge of hazardous material handling practices
- Low motivational levels (Drivers / Helpers)

5.9. Travel, Tourism, Hospitality and Trade (Hospitality segment)

Nagpur is the second capital of the state and the major industrial centre in eastern part of Maharashtra. The city is also a trading centre and commercial activities takes place in the city. There are many business travellers who visit Nagpur. Also, Nagpur is the only city with airport in the region and tourist travellers use this facility to visit nearby tourist attraction such as Tadoba Andhari Tiger Reserve in Chandrapur district. The hospitality industry in the centre is growing with the increasing number of visitors in the region.

There are star and business class hotels available in Nagpur. Popular hotels such as Radisson Blue, The Pride and Sun N Sand have established their premises in Nagpur. With the increasing number of industrial activities and with the upcoming MIHAN project, the hospitality industry in the district is expected to grow and generate employment in hotel operation segment.

The skill gaps in the Hospitality industry (Front office and Housekeeping operations) based on our discussions are mentioned below:

Front office operation:

- Knowledge of multiple languages is expected
- Inadequate knowledge of hotel offerings
- Inadequate knowledge about the locations and its significance
- In sufficient courtesy and discipline
- Inadequate communication skills

Housekeeping operation:

- Limitation in customer complaint management
- Inadequate communication skills and guest interaction skills
- Inability to use different types of cleaning agents for varied purposes
- Limited technical skills among maintenance technicians such as electrician, plumber, etc.

5.10. Unorganised Sector

Nagpur is a commercial and economic centre and provides employment to large number of people in the unorganised sector. Unorganised employees constitute the major workforce in the nation and provide support to various organised sector for smooth functioning. The unorganised employment can be in the form of self-employment (Eg. Pressing clothes, laundry, electrician, domestic worker, etc.) or in the form of employment with an organisation (Eg. Helper, assistant, etc.)

Most of the unorganised workers are engaged in industry such as Textile and Clothing, Construction, Transport and Logistics, etc. Since these industries are covered in their respective sector skill gaps, in this section we would be focussing on skill gaps observed in segments such as domestic workers, beauticians, facility management and security guards.

Domestic workers:

- Inadequate ability to perform multiple functions
- Inadequate knowledge of kitchen machines / equipment
- Inadequate ability to follow basic safety and hygiene practices

- Inadequate basic reading / writing knowledge
- Inadequate knowledge of cleaning specific types of utensils / crockery – e.g. glassware, non-stick cookware, etc
- Inadequate ability to wash different types of clothes separately, as required
- Inadequate knowledge and competency to undertake outside work
- Lack language skills (English and Hindi)

Beauticians:

- Insufficient knowledge on latest techniques and styles
- Inadequate knowledge in using modern tools for hair styling
- Inadequate ability to undertake different types of makeup – e.g. natural makeup, evening makeup, bridal makeup etc.
- Inadequate ability to understand the chemical combinations that are being used and its reactions
- Insufficient knowledge of first aid
- Insufficient knowledge of safety methods and procedures

Security Guards:

- Lack of knowledge about disaster management protocols
- Lack of customer service orientation and being arrogant
- Lack of knowledge of basic civil and criminal laws
- Inadequate knowledge in maintenance of records

5.11. Fabrication industry (Engineering units)

Nagpur district has a number of steel fabrication units. These units generally convert the semi-finished goods to finished product. There are both large and small players in this sector. Large players generally manufacture machines and machine components for various industry requirements such as textile, dairy, food processing, etc. Small industries are ancillary industries which generally aid the large player by manufacturing parts of the machine component. As of September 2012, there were around 1,637 “Micro Small and Medium sized Enterprises (MSME)” which manufacture fabricated metal products employing around 16,259 people. Based on discussions with the industry players in the sector, the skill gaps observed are mentioned below:

- Inadequate knowledge to perform multiple tasks among supervisors
- Inadequate people management skills among supervisors
- Inability to maintain standards and reduce wastage
- Inadequate knowledge about modern machineries used
- Inability to do work according to the specified instruction or requirement
- Lack of knowledge about the entire production process
- Casualness in the work and absenteeism issues are also reported

6. Recommendations

Recommendations for Nagpur district focuses on the sectors mentioned above in the skill gap section. Some of these sectors will have recommendations for the private sector which will directly translate to skills being developed and the others will need Government intervention to facilitate improvements.

While the detailed recommendations follow, summary is given in the table below.

Table 148: Summary of recommendations for Nagpur district

Sector	For Government players	For private training providers	For Industry	For NSDC
Banking and Financial Services Insurance	---	<ul style="list-style-type: none"> Offering courses in Banking and Insurance topics Follow the standard and recognised curriculum 	<ul style="list-style-type: none"> Conduct periodic 'in house' training for skill up gradation Recognise certificate programs done by the candidates 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Building, Construction industry and Real Estate services	<ul style="list-style-type: none"> Improve practical exposure in the existing construction related courses as per industry requirement Offer subsidies and stipend to trainees to promote training 	<ul style="list-style-type: none"> Offer Training programs for supervisors and skilled technicians 	---	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Food Processing	<ul style="list-style-type: none"> Provide training through departments and through VTPs 	<ul style="list-style-type: none"> Training in various trades in Food processing Industry tie – up for placements 	----	Interventions required through funding of private training as well as through SSCs
IT and ITES	---	<ul style="list-style-type: none"> Offer courses according to local industry requirements Provide authorised certificates recognised by the industry 	<ul style="list-style-type: none"> Continuing the existing 'internal' training for the employees periodically 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Media and Entertainment	---	---	<ul style="list-style-type: none"> Guidance from senior personnel which would help in improving the skill requirement 	---
Organised Retail	<ul style="list-style-type: none"> Training through Modular Employable Skills (MES) scheme 	<ul style="list-style-type: none"> Offer courses in retail store operation and marketing topic Up skilling courses can be offered for supervisor role Tie up with industry for placements 	---	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Textile and Clothing	<ul style="list-style-type: none"> Provide certification courses through MES 	<ul style="list-style-type: none"> Offer Certificate courses in Spinning, Weaving and Garmenting process of textile value chain Tie up with local 	<ul style="list-style-type: none"> Process specific 'in house' training practices to be continued A dedicated training centre to be set up in 	Interventions required through funding of private training as well as through SSCs

Sector	For Government players	For private training providers	For Industry	For NSDC
		industry for placements	the upcoming garment common facility centre	
Transportation, Logistics, Warehousing and Packaging	<ul style="list-style-type: none"> ▪ Offer certificate courses through MES 	<ul style="list-style-type: none"> ▪ Offer certificate Training programs for technicians ▪ Offer Diploma / P.G Diploma course for supervisory role 	---	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Tourism, Travel, Hospitality & Trade	---	<ul style="list-style-type: none"> ▪ Offer courses in Hospitality segment ▪ Tie up with industry for practical training, field visit and placement assistance 	<ul style="list-style-type: none"> ▪ Tie up with training providers for placement as skilled personnel is in need by the industry 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Unorganised Sector	<ul style="list-style-type: none"> ▪ Offer subsidies and stipend to trainees to promote training 	<ul style="list-style-type: none"> ▪ Offer certificate Training programs in segments such as domestic workers, beauticians, facility management and security guards ▪ Offering communication and etiquette training as a part of their course 	---	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Fabrication industry	<ul style="list-style-type: none"> ▪ Improve practical exposure in the existing practical infrastructure in the institutes to meet industry standards 	---	---	<ul style="list-style-type: none"> ▪ Assist Government institutes to improve their quality and meet industry requirement

6.1. Government players

- ❖ **Building, Construction industry and Real Estate services:** Already construction related courses run through government departments, Government ITIs and Vocational Training Providers. Based on discussions with industry players, the trainees from these courses lack adequate practical exposure and operational procedures. The quality of these courses needs improvement and adequate practical sessions (with modern equipment used in the industry) needs to be included. Government may also engage in providing subsidies to training providers, stipend to trainees, etc. as the trainees are from poor economic background and encourage them to participate in training program.

- ❖ **Food Processing:** Government can provide training in this sector. Some of the government departments such as DIC, Government ITIs and Vocational training providers are involved in providing training in food processing sector. The training can be scaled up and courses can be added / modified by consulting with industry players as per industry requirement. Some of the courses that can be provided by them are:

- Baker and Confectioner
- Milk and Dairy products making assistant
- Agro products maker
- Process food products making assistants
- Fruits and Vegetable processor

❖ **Organised Retail:** Government can conduct training programs through Modular Employable Skills (MES) scheme by Vocational Training Providers (VTP) on courses such as:

- Sales person (Retail)
- Senior Sales person (Retail)
- Retail operations

❖ **Textile and Clothing:** Government can also provide training in this sector through various institutions. There are Government Industrial Training Institutes (ITIs) which provides formal technical training and also vocation training (under Modular Employable Skills (MES)) scheme. There are various textile related courses available under this scheme and these can be implemented. Therefore, these institutes can provide vocational training in the courses such as:

Spinning and Weaving:

- Ginning operator
- Mixing Operator – Cotton mixing
- Blow room fitter
- Card fitter
- Comber fitter
- Warper
- Weaver

Apparel / Garments:

- Garment Cutter
- Basic Sewing Operator
- Tailor (Children / ladies / Gents / Suits)
- Garment checker
- Garment Ironer
- Garment Packer

The above mentioned are some indicative courses and industry participation is essential in deciding the courses and curriculum for training. There should be a tie up with industries for placement of eligible trainees.

❖ **Transportation, Logistics, Warehousing and Packaging:** Government can conduct training programs through Modular Employable Skills (MES) scheme by Vocational Training Providers (VTP) on courses such as:

- Loader
- Courier

- Material Handling Vehicles (MHV) Operators (Operating forklifts, reach truck, etc)
- ❖ **Unorganised Sector:** Government may engage in providing subsidies to training providers, stipend to trainees, etc. as the trainees are from poor economic background and encourage them to participate in training program. Training can be provided in areas such as domestic workers, beauticians, security guards etc.
- ❖ **Fabrication Industry (Engineering units):** Generally the fabrication industry requires people with ITI education in various trades such as machinist, fitter, welder, turner, etc. Most of the qualified / previously trained people in the industry are trained through Government ITI or Government sponsored training programs (MES, DIC sponsored training program, etc). Based on our discussion with the industry players, the trainees lack adequate practical exposure and machine operation capabilities. The Government institutions need to increase the practical sessions and ensure that the trainees fulfil the course requirements. The institutes can also tie up with the industries to get assistance such as practical training, field visits, guest lectures, apprenticeship training, placement assistance, etc. The institutes can also upgrade their curriculum in consultation with industry experts to suit local industry requirements.

6.2. Private training providers

- ❖ **Banking and Financial Services Insurance:** Nagpur has some training institutes in the sector which provides training for banking exams, insurance agent, tally, etc. Some of the other courses that can be provided by the private training providers as required by the industry are as follows:
 - Basics on Banking, Insurance and Finance
 - Accounts and Finance
 - Banking Correspondent
 - Marketing Financial products
 - Certificate programme in Business communication

The training providers need to associate and register with the relevant sector skill council and follow the standards set by them and issue authorised certificates for the successful candidates after training.

- ❖ **Building, Construction industry and Real Estate services:** The industry requires skilled human resource in various job roles. Training needs to be provided for supervisors and skilled technician. Some of the training areas that can be offered are as follows:

Supervisors:

- Surveying
- Project management techniques
- Inventory management
- Topics in geology, hydrology, hydraulics, electrical etc
- Safety management

- Labour laws and employee management
- Conflict management

Technicians:

- Masonry
- Carpentry
- Bar bending
- Plumbing
- Painting
- Welder
- Wireman
- Electrician

These are some of the indicative courses and not an exhaustive list. Adequate practical exposure should be part of the training program and authorised certificates need to be provided for the candidates after the completion of training programs.

- ❖ **Food Processing:** Nagpur region has various types of food processing units such as horticulture crops processing units (Fruits and Vegetable processing) and units which prepare snack, sweets, etc. (eg. Haldirams). Therefore training for these food processing units can be provided by private training providers. Some of the training that can be provided in this segment are as follows:

Fruits / Vegetable Processing:

- Knowledge of horticulture crops
- Preservation methods of various fruits and vegetables
- Processes of fruit/vegetable based products such as jam, fruit squash, pickles, etc.
- Sorting, grading and packing
- Usage of preservatives

Preparation of Sweets / Snacks:

- Preparation of North Indian / South Indian Snacks
- Preparation of Bengali / Ghee based / Milk and Khoya / Dry fruit based sweets
- Preparation of Namkeen and Savouries
- Properties of ingredients used

Basic quality standards, food safety, hygiene, etc. should be part of the curriculum of the above mentioned course program. These training providers should have interaction with industries for understanding their requirement and provide training accordingly. This would help the trainees in getting placed in the food processing unit on completion of training.

- ❖ **IT & ITES:** There are various types of courses offered by the IT private training providers from basic computer training courses to advanced module courses such as MS-CIT, DCA, PGDCA, C, C++, Java, etc. Along with the courses the candidates needs to be trained in following aspects as required by the industry:
 - Analytical ability

- Problem solving skills
- Communication skills (especially speaking and writing skills for client interaction)
- Reporting knowledge

Certificate programs can be offered for BPO industry (Voice based / Non – Voice based). The program should also include the above mentioned training areas. The training provider needs to provide authorised certificate after completion of training to the successful candidates.

❖ **Organised Retail:** Private training providers can provide training in retailing courses. Some of the training courses that can be offered are mentioned below:

- Sales and Marketing
- Customer relationship and sales
- Retail Store Operations
- Certificate program in Customer Service Skills – Retail Showroom
- Merchandising
- Up selling and Cross selling
- Product specific retail sales training - (example: Retail sales of white goods and electronic goods)

All these courses should include communication skills and basic etiquettes as a part of their curriculum. Upskilling courses for supervisors can be offered in topics such as Inventory management, Shelf life management, Promotion management, Statistical analysis of data, etc. Adequate industry partnership to place the trainees on successful completion of training is essential for successful implementation of the training program.

❖ **Textile and Clothing:** Private training centres should provide training according to the local industry requirements. Nagpur district has various units working on different functions of value chain in Textile and Clothing industry. Therefore, appropriate course needs to be designed and delivered to the trainees which could help them to get a job in the local units. There is also a requirement of upskilling training for the existing employees in the industries. So refresher and supervisory development courses may also be provided.

There are some major Spinning and weaving units present in the district. Some of the training courses that can be provided in this area are as follows:

- Certificate programme for spinning operator
- Certificate programme for weaving machine operator
- Refresher training for operators (short term course for experienced operators)
- Supervisory training program (covering aspects such as costing, inventory control, measures to improve productivity and quality, quality check methods, judging performance, maintenance, etc)

The garment process is also evolving in the district and there is a cluster program with common facility centre for garmenting units has been initiated. Therefore, skilling intervention is required for acquiring new skills to operate new machines and also upgrading their existing skills. Some of the courses that can be offered for garmenting process are as follows:

- Sewing machine operator
- Basic Tailoring
- Certificate in embroidery
- Certificate program for Garment checker & finisher
- Certificate program for Garment Packer (including ironing)

Private training providers need to have a tie-up with the local industry players to understand their requirement and provide training accordingly. They can also participate in designing the curriculum of the training as they are much aware about the latest advancement in the sector and the same can be implemented in the training. This would also ensure placement of the trainees as they are trained as per the industrial standards.

❖ **Transportation, Logistics, Warehousing and Packaging:** Private training providers can provide courses in the following areas:

- Logistics management
- Warehousing and storage
- Procurement and Inventory management
- Supply Chain management
- Transportation and Distribution management

Skilled supervisors / executives are required by the logistics companies and they are not able to get skilled and qualified person for these roles. Private education institutes can start these types of courses which are in demand from the industries. Some of the courses that can be offered are:

- Diploma in materials and logistics management
- Diploma in multi-modal transport and logistics management
- Post graduate diploma in Supply Chain management

Suitable course can be offered as required by the industry.

❖ **Tourism, Travel, Hospitality and Trade (Hospitality segment):** Private training providers can provide courses on hospitality segment as follows:

- Houseman (Basic)
- Room attendant
- Reception Asst. and Information Asst
- Bellboy
- Hospitality Asst

All these courses should include communication skills and basic etiquettes as a part of their curriculum because it is essential in hospitality industry. The Training provider needs to partner with industry players (hotels) for assistance in practical training, infrastructure facilities, field visits and placement assistance. This tie up will also ensure that the training is provided according to industry requirements.

- ❖ **Unorganised Sector:** Private training providers may provide training for these segments. Some of the training courses are mentioned below:

Table 149: List of indicative courses in Unorganised Employment (select sub segments) in Nagpur district

Domestic Workers	Beauticians	Facility Management	Security Guards
<ul style="list-style-type: none"> • Food Preparation • Food Serving • Housekeeping (Washing, Cleaning, etc) • Child care • Geriatric care 	<ul style="list-style-type: none"> • Basics of Beauty and Hair dressing • Makeup artist • Facial Therapists • Hair stylist • Beauty Therapists 	<ul style="list-style-type: none"> • Office Management • Building engineering and maintenance • Housekeeping 	<ul style="list-style-type: none"> • Security management • Fire protection and Safety management • Corporate Security training programme

The above mentioned courses are only illustrative and needs to be offered based on the local requirement. All these courses should include basic communication skills (read and write), etiquette and behavioural skills as they are required to perform their work effectively.

6.3. Industry

- ❖ **Banking and Financial Services Insurance:** Banking industry is well organised and they conduct regular periodic training for all the employees to upgrade their skills. This can be continued in future as well. Banking industry may also recognise the certificate program undergone by the candidate (Eg. Sales executive) during recruitment. This would encourage the aspirants to undergo appropriate training program and equip themselves with necessary skills.
- ❖ **Building, Construction industry and Real Estate services:** Industry can aid the training providers through infrastructure support, field visits, etc. Also, successfully trained candidate needs to be recognised and absorbed by the industry.
- ❖ **IT & ITES:** The Information Technology (IT) industry is well organised and they recognise the importance of training. All the IT companies have a training department and provide periodical training according to their requirement. The 'in house' training process will continue as the process requirement will vary from companies. Industry players can have a tie up with the training providers and assist them in designing courses, curriculum and placements.
- ❖ **Media and Entertainment:** Industry generally a general graduate / journalism graduate for the reporter job role. Since the job requires some natural skills (like creativity), industry needs to recruit suitable persons for the job. Experience and working on the field will help them to acquire the relevant skills for their job. Senior reporter (Editor) can give some 'on the work' training / guidance to improve their skills. The reporter needs to stay intuitive and learn through the work. They can also engage in communication skill training to improve their writing skills.

- ❖ **Organised Retail:** Industry generally provides training on specification and functionalities of the merchandise displayed, store operation and ERP software used. These training initiatives need to be continued by the industry. The industry should also have tie ups with training providers for placement as they require skilled human resources.

- ❖ **Textile and Clothing:** Industry can also play a crucial role in skilling the people in the sector. The spinning and weaving units in the district are large players and they engage in providing training to the new employees and periodical (refresher) training for existing employees. The new employee undergoes a formal training consisting of classroom based training (theory) and practical training. Basics of spinning and weaving are taught in the class room based training. And practical training is provided by a senior operator (one to one basis) in the production floor. This type of 'in house' and process specific training needs to be continued by the industry. For Garmenting process, the industry currently comprises of small players and 'in house' training may not be possible. There is a cluster initiative with a common facility centre is being set up for the garment manufacturers in the region. The industry players can utilise the common centre for training the people as per the requirement. The facility centre may have a dedicated training centre to provide skilling to the new and existing garment workers.

- ❖ **Travel, Tourism, Hospitality and Trade (Hospitality segment):** Hospitality industry requires skilled and trained human resource as they interact with various visitors directly. The industry in the district faces shortage in getting skilled manpower and they should encourage trained people to join the industry. The industry should have a tie up with training providers to get adequately trained human resource for their industry. They can assist them in providing infrastructure facilities, field visit, equipment facility, etc.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Banking and Financial Services Insurance
- ❖ Building, Construction industry and Real Estate services
- ❖ Food Processing
- ❖ IT & ITES
- ❖ Media and entertainment (mainly print media)
- ❖ Organised Retail
- ❖ Textile and Clothing
- ❖ Transportation, Logistics, Warehousing and Packaging
- ❖ Travel, Tourism, Hospitality and Trade (Hospitality segment)
- ❖ Unorganised Sector (domestic workers, beauticians, security guards etc.)
- ❖ Others - Fabrication and engineering units

2.19. Nanded

1. Introduction

Nanded lies at the northern part of Marathwada in the state of Maharashtra. Nanded came into existence as a separate district of Maharashtra from the division of Parbhani district on 1st May 1999. The district consists of two sub divisions namely Nanded and Basmath and five talukas namely Nanded, Basmath, Kalamnuri, and Aundha Nagnath and Sengaon. The district comprises of 1,546 villages with geographical area consisting of 10,528 sq. km out of which 8.30 per cent is covered with forest. It is predominantly a tribal region.

Table 150: Comparison of Nanded district with Maharashtra – key indicators

Indicator	Year	Nanded	Maharashtra
Area, in sq.km.	2001	10,528	307,713
Percentage share in State geographical area, %	2001	3.42%	100%
No. of sub-districts	2011	17	353
No. of inhabited villages	2001	1,546	41,095
No. of households	2001	527,875	19,576,736
Forest area as a percentage of total	2001	8.30%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Nanded district has a population of 33.56 lakh persons – 2.9 per cent of the State population. While 52 per cent of the population in the district is in working-age group (15 to 59 years), about 35.81 per cent is actually working i.e. work participation rate. The district's literacy rate is 76.94 per cent, which is lower than the State average of 82.91 per cent but higher than the All-India average of 74 per cent.

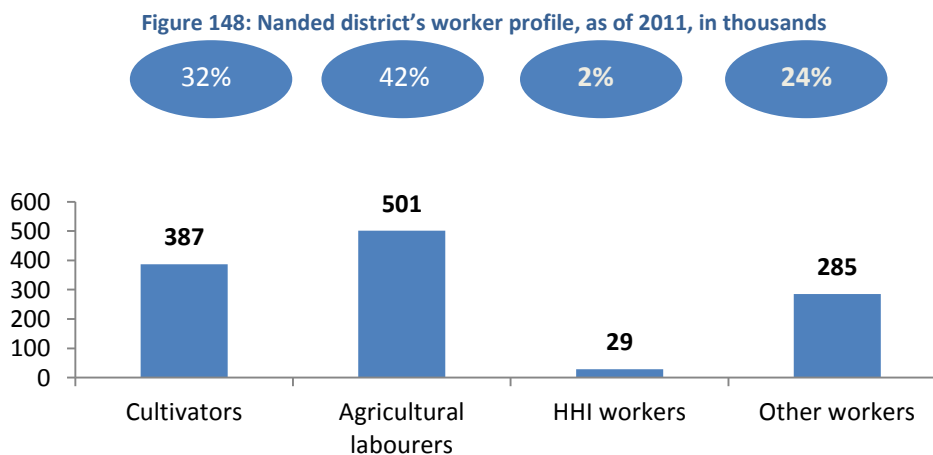
Table 151: Key demographic indicators

Indicator	Year	Nanded	Maharashtra
Population, No.	2011	3,356,566	112,372,972
Decadal growth rate of population, %	2001-11	16.70%	15.99%
District's share in State's population, %	2011	2.99%	100%
Urban population as a percentage of total population, %	2011	27%	45%
SC population, %	2001	17%	8.79%
ST population, %	2001	9%	15%

Indicator	Year	Nanded	Maharashtra
Sex ratio, No. of females per 1000 males	2011	937	925
Population density, per sq. km.	2011	319	365
Literacy rate, %	2011	76.94%	82.91%
Main workers, No.	2001	965,087	34,748,053
Marginal workers, No.	2001	236,950	6,425,298
Working age population* as a percentage of total population, %	2001	52%	59%
Work participation rate^, %	2001	35.81%	42.50%

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. It is also known as the labour force participation rate. Source: Census 2001, Census 2011

The district has a total workforce of about 12.02 lakh persons. Of this, 32 per cent are cultivators, 42 per cent are agricultural labourers, 2 per cent are workers in household industry and 24 per cent are other workers.



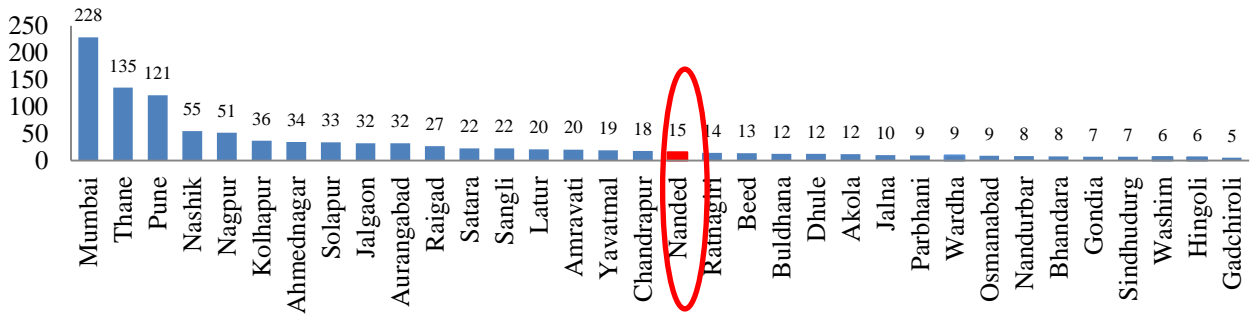
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2011-12, Nanded district had Gross District Domestic Product (GDDP) in Maharashtra at Rs 15,462 crore (3 per cent of the Gross State Domestic Product) ranks as 18th out of the total 35 districts in the state.

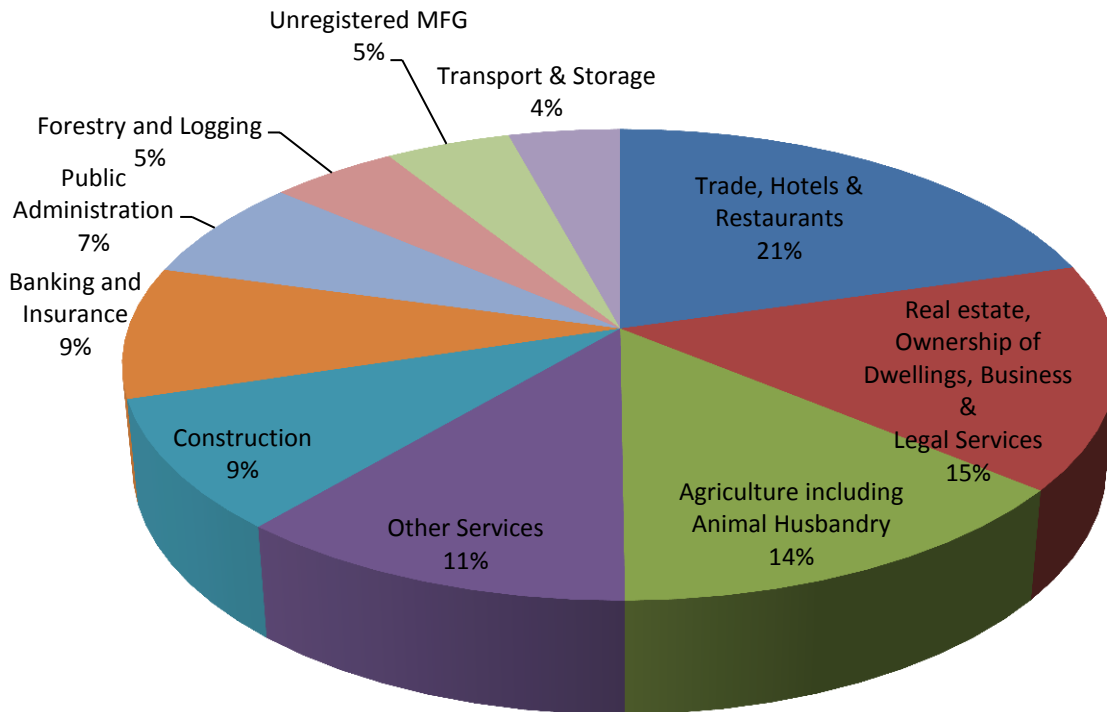
Figure 149: Gross District Domestic Product, in Rs crores, as of 2010-11



Source: Economic Survey of Maharashtra

Primary sector contributed 19 per cent, while secondary sector contributed 21 per cent and tertiary sector was the highest contributor with 60 per cent.

Figure 150: Sector wise distribution of Nanded's GDDP, as of 2009-10, 100% =13,104 crore



Source: Directorate of Economics and Statistics, Government of Maharashtra

Agriculture: The district economy is pre dominantly agriculture based with more than 74 per cent of the population dependent on agriculture directly or indirectly but agriculture's contribution to GDDP is meagre 14 per cent. Major crops grown in Nanded district are cotton, soyabean, jowar, pulses, sugarcane, banana, sweetlime etc. The district has a good fertile soil from Godavari basin.

Industry: The industrial activity is largely confined to agro processing units, ginning and pressing of cotton (about 50 of them are in operation), oil mills, pharmaceutical units and food and fruit processing. The Pharma specific SEZ is notified in Krushnoor MIDC on 150 hectares area. The 20 hectares land is allotted to Flamingo pharma which has already finished construction. The SEZ is well connected with Nanded State Highway. Some of the big industries present in the area are Jai Crops (investment of Rs. 56 crore), Pioneer Distilleries (investment of Rs. 75 crore), Advance Steel world Ltd (investment of Rs. 85 crore).

Services: Services sector accounts for 60 per cent of GDDP in Nanded district. Of all the services, the key services in the district are of 'Trade, Hotels and Restaurants' accounting for 21 per cent followed by 'real estate, ownership of dwellings, business and legal services' accounting for 15 per cent.

2.3. State of Education

As of 2011-12, Nanded district had 3,388 schools. Of this, 41 per cent were primary schools, 40 per cent were upper primary schools and the remaining 19 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 547,779 while the student-teacher ratio was at 30 students per teacher. The student-teacher ratio was the same as compared to the average ratio for the State at about 30 students per teacher. As far as general colleges are concerned there are 93 colleges with 49,691 students.

Table 152 : School and higher education infrastructure in Nanded district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	3,388	547,779
General colleges	93	49,691
Technical institutes*	32	7587

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

The number of industrial training institutes (ITIs) is 18 with a seating capacity of 2,829. As per our interaction with the students they feel the quality of education is much better than the nearby districts like Washim, Hingoli and other more backward districts.

Table 153: Key ITI indicators in Nanded district, as of October 2012

Indicator	Value
Total Number of ITIs	18
Number of Government ITIs	15
Number of Private ITIs	3
Total Seating capacity	2829

Source: Department of Employment & Self Employment, Government of Maharashtra

In addition to the above, the district has training infrastructure for different trades set up by both Government and private Institutions. The Government Departments offer courses in trades such as painting, wireman, welder, fitter, computer operator and programming assistant, foundryman, sheet metal worker etc. The private institutes provide courses such as handcraft and work experience, tailoring and cutting, construction supervisor, embroidery and fancy work etc.

2.4. Youth Aspirations

In the process of identifying the growth engines for the Nanded district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Willingness to pursue higher education:** Almost all the students want to pursue higher education but are constrained by finances and also they want to pursue it from government institutions as they firmly believe that it is more cost effective.
- **Entrepreneurial zeal:** Youth are highly risk averse and not inclined towards starting their own venture. They prefer a safer option and would want to join government or private job.
- **Migration trends:** As per our discussion youth prefer to study in Nanded from nearby districts like Hingoli, Washim etc. Some enterprising youth prefer to work in Pune or Mumbai. Nanded is not a preferable place for working after passing out of college.
- **Satisfaction with existing education infrastructure:** Youth are clearly biased towards studying for government institutions but feel that these institutions are not equipped with basic infrastructure like drinking water and clean toilets.

3. Developmental concerns

Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

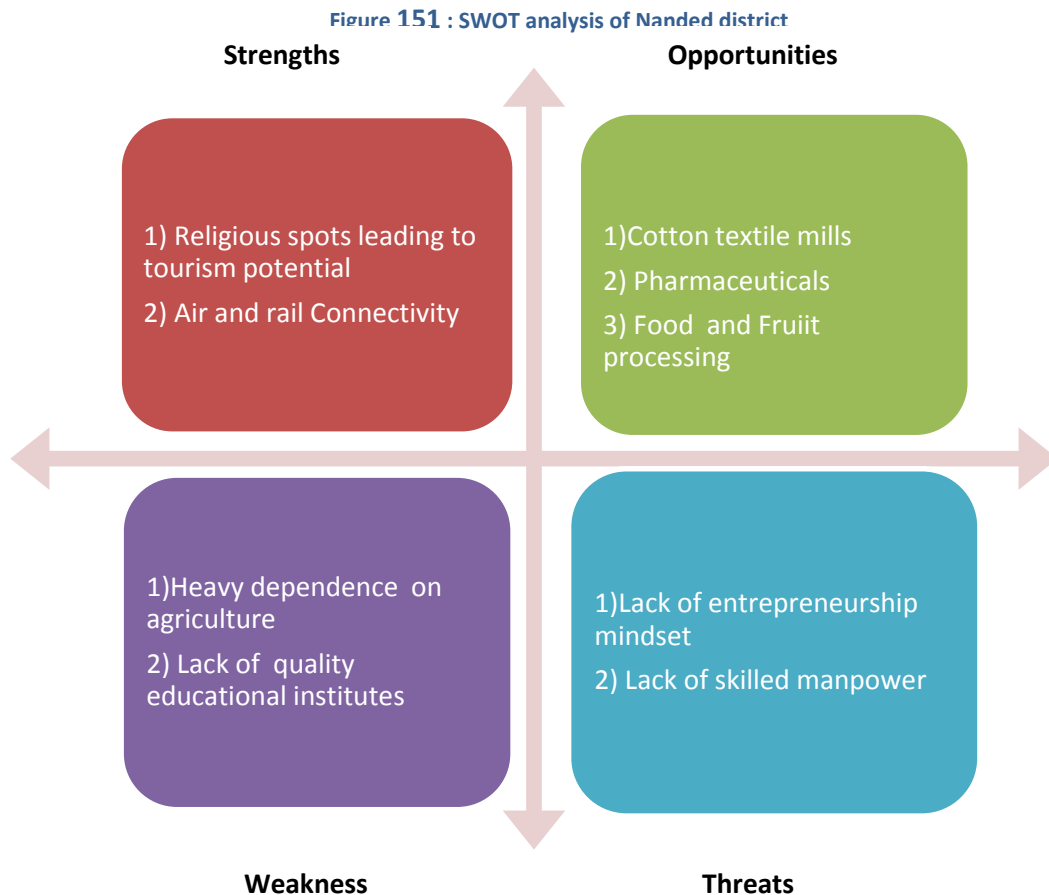
- **Lack of Entrepreneurship Spirit:** There is a lack of entrepreneurship spirit which is reflected in our discussions with the students and farmers. The students in ITIs look for employment after

passing out of the institutes rather than preferring to start something of their own. The complete aversion to risk taking is reflected in our discussions.

- **Lack of Skilled Manpower:** Based on our discussions with the stakeholders, we found out that there is a shortage of skilled manpower in the district. Even the youth who get educated and acquire skills in the district do not wish to work in the district and desire to move outside.

SWOT analysis

Based on the diagnostics of the Nanded, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 1.58 lakh persons between 2012 and 2022. Sectors which are likely to generate employment are mainly 'agriculture and allied', 'building, construction and real estate', 'BFSI' and 'education and skill development'.

However, sectors which are unique to Nanded are ‘food processing’, ‘textiles and clothing’ and ‘travel, tourism and hospitality’. The forecasts for these sectors are relatively low, as compared to the other sectors mentioned above. This is due to the fact that current and past trends have been used for forecasting. However, these sectors have immense potential due to availability of raw materials / factor endowments. If adequate investments materialise in these sectors (both from Government and private), then these sectors will generate employment much more than what has been forecasted as of now.

Table 154: Incremental demand of human resources in Nanded – by sector

Sector	2012-17	2018-22	2022-22
Agriculture and allied	22,462	11,446	33,909
Banking and Financial Services Insurance	10,579	17,005	27,584
Building, Construction industry and Real Estate	13,485	18,714	32,199
Education and Skill Development	13,690	6,596	20,286
Food Processing	2,509	3,238	5,747
Healthcare Services	4,238	5,800	10,037
Textile and Clothing	569	721	1,291
Transportation, Logistics, Warehousing and Packaging	4,203	4,765	8,968
Tourism, Travel, Hospitality & Trade	5,861	8,534	14,395
Others*	2,182	3,260	5,442
Total	79,209	79,358	158,567

Source: IMAcS Analysis

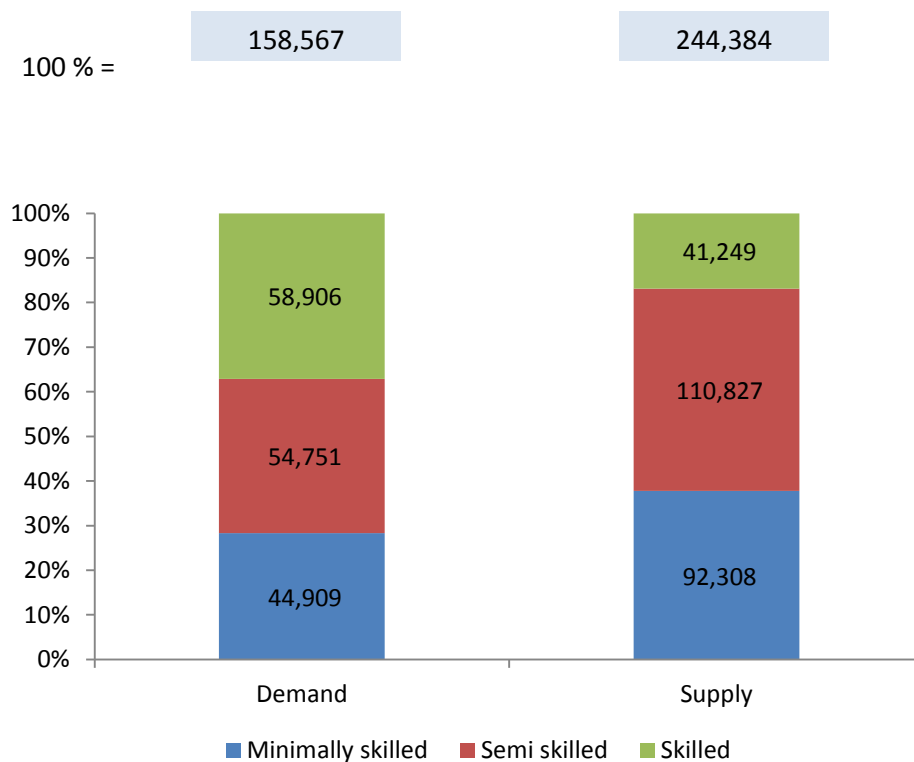
*Other sector include Auto and Auto component, chemicals and pharmaceuticals, furniture and furnishings and Other Manufacturing

Figure 152: Incremental demand of human resources in Nanded – by skill level



We have estimated incremental supply of human resources in the district at 2.44 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be more than the incremental demand in the district. Thus, indicating that all the people will not get absorbed in the district and will have to migrate out to other districts / States (as is reflected by current trends also). However, the incremental supply is leaning more towards minimally skilled workers, as against high demand for skilled workers in the district. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward. All the stakeholders need to work in conjunction to meet the skill shortage in the district.

Figure 153: Demand supply gap of human resources in Nanded – by skill level



Source: IMaCS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on our field surveys in Nanded district, we have found out that sectors where skilling interventions are required are mainly agriculture and allied sectors as close to two third of the population is dependent on agriculture based industries. In addition, food processing, textiles and

clothing, and travel, tourism and hospitality have also been identified as sectors where skilling interventions are required.

Table 155 : Sectors where interventions are required in Nanded– comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Nanded	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing - Fruit Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing – Cotton Ginning and Pressing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMaCS Analysis

The shortlisted sectors are at different stages of development and market evolution. Based on that, each one of them has separate skill requirements. While some require only skill up-gradation, some require new skills and even speciality skills.

5.1. Agriculture

More than 70 per cent of total working population in Nanded depends on agriculture for livelihood (Cultivators: 32 per cent and agriculture labourers: 42 per cent). The district is rich in agriculture produce like cotton, soybean, oil seeds, sugarcane, all types of pulses, jawar, maize, turmeric, chili, ginger and fruits like banana, amla, citrus fruits, grapes, kesar mango, custard apple, sweet lemon, pomegranate etc. There are 181 agro based units employing 2,339 people. There is a huge scope for expansion and growth of agro based industries.

Based on stakeholder's discussion, we have found out the following skill gaps which are faced by the sector in the district:

- Farmers lack the ability to use the latest technology
- They are unable to use the most productive seeds due to lack of knowledge and finance
- They are unaware of the different uses for a crop
- They are not able to use the most advanced machinery because of lack of knowledge about their capability to increase productivity and also lack of finance
- Unable to use the most advanced machinery because of lack of knowledge about their capability to increase productivity

5.2. Food processing – Fruit Processing

There is tremendous scope for setting up fruit processing units due to availability of raw materials such as sweet lime, lime, banana etc. Citrus AG - a multinational company has reserved 20 hectares land at Kushnoor MIDC for a fruit processing unit. Based on stakeholder's discussion, we have found out the following skill gaps which are faced by the sector in the district:

- Inadequate / restrictive motivational skills
- Inadequate documentation skills and not adept at handling computer
- Inadequate knowledge of operations resulting in wastage

- Inadequate ability to undertake dicing / slicing at the entry level
- Lack of interest and knowledge in tracking the productivity and improve the same over a period of time.
- Inadequate knowledge and ability to educate farmers on demand, advice on farming and wastage reduction.
- Inadequate communication skills to be able to motivate farmers for better quality and higher productivity.
- Inadequate ability to apply technical expertise and procedural knowledge in actual work situations, especially at the entry level.

5.3. Textiles & clothing - Cotton ginning and pressing Industry

Presently, there are 106 cotton based units employing 931 people in the district. There is ample cotton grown in the district. With cotton ginning and pressing industry requiring minimal investment from the industry, they can be the future growth engines. Based on stakeholder's discussion, we have found out that labour force is available for the sector and since the sector is not very technical in nature, no major skill gaps are faced.

5.4. Travel, tourism and hospitality

Nanded is known all over the world for its historically significant gurudwara (Sikh shrines). Sikhs come from all over the world to Nanded to pay a visit to the gurudwara. Along with gurudwara there are some forts and hot springs which are quite famous. Nanded can be developed as a tourist destination considering its religious significance.

Figure 154: Gurudwara situated in Nanded



Takhat Sachkhand Shri Hazur Abchalnagar Sahib Gurudwara

Takhat Sachkhand Shri Hazur Abchalnagar Sahib is the main Gurudwara of Nanded and is one of the five high seats of Authority of the sikhs. This is the place where Shri Guru Gobind Singhji breathed his last. The Gurudwara is situated in Nanded Town.

Figure 155: Kandhar fort



Kandhar Fort

Figure 156: Hot springs



Hot Springs

Hot Springs

Unkeshwar is famous for the temple dedicated to God Siva and the hot springs located close by the temple. These springs are said to possess medicinal value and cure skin diseases. The temperature of water in one tank stands at 42.20 C and is found to contain sulphur in water springs.

Based on stakeholder's discussion, we have found out the following skill gaps which are faced by the sector in the district

- HODs, front office executives and guest relation executives are mostly graduates in hotel management from Mumbai. Such personnel are not available in the district.
- Reservation in-charge, bell boys, housekeeping etc. are from HSC pass outs and references and are available from within the district. However, practical experience is lacking.
- Maintenance personnel (electrician, plumbing etc.) are mostly hired from ITIs or those holding PWD licenses, but they lack practical exposure.
- Key skill gaps faced include: communication skills, telephone etiquettes, body language, lack of practical knowledge etc.
- Attrition rate is very high, especially at lower skill levels

6. Recommendations

Nanded has 74 per cent of the population involved in agricultural activities. Among these 47 per cent are marginal workers. These workers are unemployed or are under disguised unemployment during the lean season. The Government can take up various activities as mentioned below to empower the farmers so that they earn more.

Table 156 : Key Recommendations for Nanded District

Sector	Government	Private training providers	Industry	NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Department of Agriculture can disseminate training in soil health etc. to farmers. ▪ Promote training in allied activities like pottery, plumbing etc. 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a
Food processing - Fruit	<ul style="list-style-type: none"> ▪ Provide training in fruit processing through Department of Agriculture ▪ Subsidise private training 	<ul style="list-style-type: none"> ▪ They can provide training to workers by collaborating with industries 	<ul style="list-style-type: none"> ▪ Outsource the training to private training providers and create a win-win model 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Cotton ginning and pressing	<ul style="list-style-type: none"> ▪ Subsidise private training ▪ CFC based training 	<ul style="list-style-type: none"> ▪ They can provide training to workers by collaborating 	<ul style="list-style-type: none"> ▪ Industries can join hand and establish a CFC and use that 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private

Sector	Government	Private training providers	Industry	NSDC
		with industries	for providing training also to its manpower	training as well as through SSCs
Travel, tourism and hospitality	<ul style="list-style-type: none"> ▪ Provide training through Department of Tourism ▪ Subsidise private training 	<ul style="list-style-type: none"> ▪ Skilling based on functional roles such as hospitality establishment, tour guides etc. 	<ul style="list-style-type: none"> ▪ Collaborate with Department of Tourism and also private VTPs for training of the manpower 	Interventions required through funding of private training as well as through SSCs

6.1. Government players

❖ **Agriculture and allied:** The district is predominantly agrarian with 74 per cent of the population dependent on it for their livelihood. The district has a high number (47 per cent) of marginal farmers, which lead to the case of disguised unemployment during the lean season. Thus, efforts need to be made by the local Government authorities to mobilise such farmers in productive employment opportunities during lean season. There is also an urgent need to educate the farmers about different ways to improve the productivity of crops and also make them aware of the different Government schemes available at their disposal.

The Department of Agriculture needs to focus on promotion of allied activities as a source of income for agricultural labourers. For this the department can skill them in the following allied activities (list in indicative):

- Diversified farming which includes horticulture, dairy and animal husbandry
- Soap and spice manufacturing
- Carpentry
- Pottery
- Bee- keeping, honey extraction and processing

Along with this the Government can disseminate knowledge and techniques w.r.t the following to the farmers

- Soil health
- Micro irrigation
- Organic farming
- Watershed development

And other initiatives can be taken to create an interest among farmers about new farming technologies.

- ❖ **Fruit Processing:** Provide training in fruit processing through Department of Agriculture and subsidise private training programmes.
- ❖ **Textiles & clothing - Cotton ginning and pressing:** There needs to be increased focus of the Government on this sector as this is an employment incentive sector.
 - Subsidise private training programmes.

- Facilitate setting up of the Common Facility Centre (CFC), which is not present as of now. The CFC can also house the testing facilities in addition to housing common processing facility for surgical cotton.
- Assist setting up of testing facilities required in the CFC for testing strength and length of the fibre, percentage of moisture etc.
- ❖ **Travel, tourism and hospitality :** It needs to focus on the following
 - Provide training through Department of Tourism
 - Subsidise private training programmes

6.2. Private Training providers

- ❖ **Fruit Processing:** They can tie up with large and medium food processing industries to provide training to workers. The fund can be provided by the industries. Industries can focus on their core activities by outsourcing the training part to private training providers.
- ❖ **Cotton ginning and pressing:** They can provide training to workers by collaborating with industries. This can be win-win model as the industries can concentrate on their core activities and private training providers can focus on training.
- ❖ **Travel, tourism and hospitality:** They can play a vital role by providing skilling based on functional roles such as courses in hospitality management, tour guides etc.

6.3. Industry

- ❖ **Fruit Processing:** Industry can tie up with private training providers to outsource training requirements and at the same time create a win-win model.
- ❖ **Textiles and clothing - Cotton ginning and pressing:** The units in the same industry should join hands with the private training institutes as well as the Government for setting up of CFC. It can also collaborate with NSDC to provide training. They could also collaborate with ITIs in the district where the land and building is already provided by the Government. This land and building can be used for training the new recruits.
- ❖ **Travel tourism and hospitality:** Provide training to the manpower in both tourism and hospitality in collaboration with Department of Tourism as well as private VTPs.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Agriculture and allied
- ❖ Fruit Processing – sweetlime, lime, banana etc.
- ❖ Textiles and clothing - Cotton ginning and pressing
- ❖ Travel tourism and hospitality

2.20. NANDURBAR

1. Introduction

Nandurbar district was carved out of the Dhule district in 1998. The district headquarters for Nandurbar district is located at Nandurbar city. The district is in the northwest corner (Khandesh Region) of Maharashtra. It is bounded to the south and south-east by Dhule district, to the west and north is the state of Gujarat, to the north and north-east is the state of Madhya Pradesh. Nandurbar city has an average elevation of 210 metres (688 feet). It has mainly hilly region and has 'Toranmal' which is 2nd most famous hill station after Matheran in Maharashtra.

Nandurbar district has a total land area of 5,995 sq. km. and a population density of 276 people per sq. Km. It is sub-divided into six sub-districts (talukas) –Nandurbar, Shahada, Navapur, Akkalkuwa, AkraniMahal (also called Dhadgaon) and Taloda; and has about 935 villages. Majority of the population at 83 per cent lives in rural areas. Agriculture is the main occupation, employing 81.6 per cent of the labour force (as of Census 2001). The remaining is in household industry (1.7 per cent) and other workers¹⁷ at 16.8 per cent.

Table 157: Comparison of Nandurbar district with Maharashtra – key indicators

Indicator	Year	Nandurbar	Maharashtra
Area, in sq.km.	2001	5,955	307,713
Percentage share in State geographical area, %	2001	1.94%	100%
No. of sub-districts	2001	6	353
No. of inhabited villages	2001	935	41,095
No. of households	2001	245,421	19,576,736
Forest area as a % of total geographical area	2001	20.8%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Nandurbar district has a population of 16.46 lakh persons – 1.5 per cent of the State population. While 54 per cent of the population in the district is in working-age group (15 to 59 years), about 47 per cent is actually working i.e. work participation rate.

¹⁷ Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers, are 'Other Workers'.

The district's literacy rate is 63.04 per cent, which is significantly lower than the State average of 82.91 per cent, and the All-India average of 74 per cent. If things are looked out at gender wise, male and female literacy were 71.98 and 53.90 respectively, with the male literacy being much higher than the female literacy.

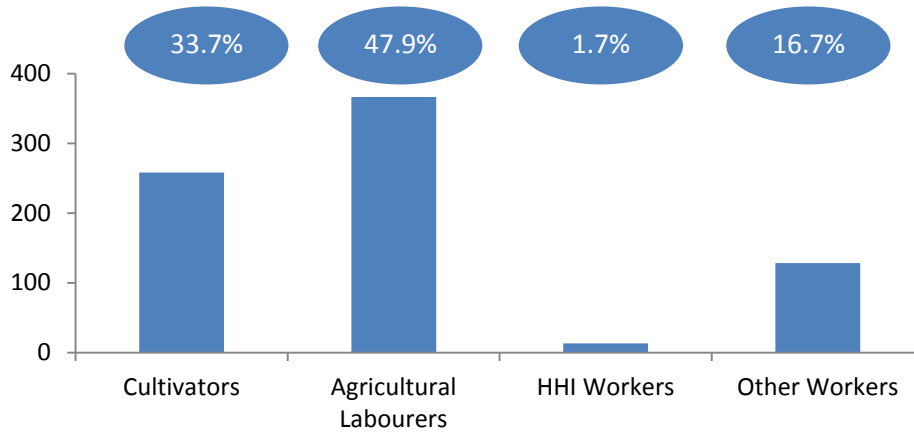
Table 158: Key demographic indicators

Indicator	Year	Nandurbar	Maharashtra
Population, No.	2011	1,646,177	112,372,972
Decadal growth rate of population, %	2001-11	25.50%	15.99%
District's share in State's population, %	2011	1.46%	100%
Urban population as a percentage of total population, %	2001	17%	45%
SC population, %	2001	3%	8.79%
ST population, %	2001	66%	15%
Sex ratio, No. of females per 1000 males	2011	972	925
Population density, per sq. km.	2011	276	365
Literacy rate, %	2011	63.04%	82.91%
Main workers, No.	2001	458,321	34,748,053
Marginal workers, No.	2001	151,712	6,425,298
Working age population* as a percentage of total population, %	2001	54%	59%
Work participation rate^, %	2001	47%	42.50%
HDI	2000	0.2	0.58

**Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011*

The district has a total workforce of about 7.7 lakh persons. Of this, 33.7 per cent are cultivators, 47.9 per cent are agricultural labourers, 1.7 per cent are workers in household industry and 16.7 per cent are other workers.

Figure 157: Nandurbar district's worker profile, as of 2011, in thousands



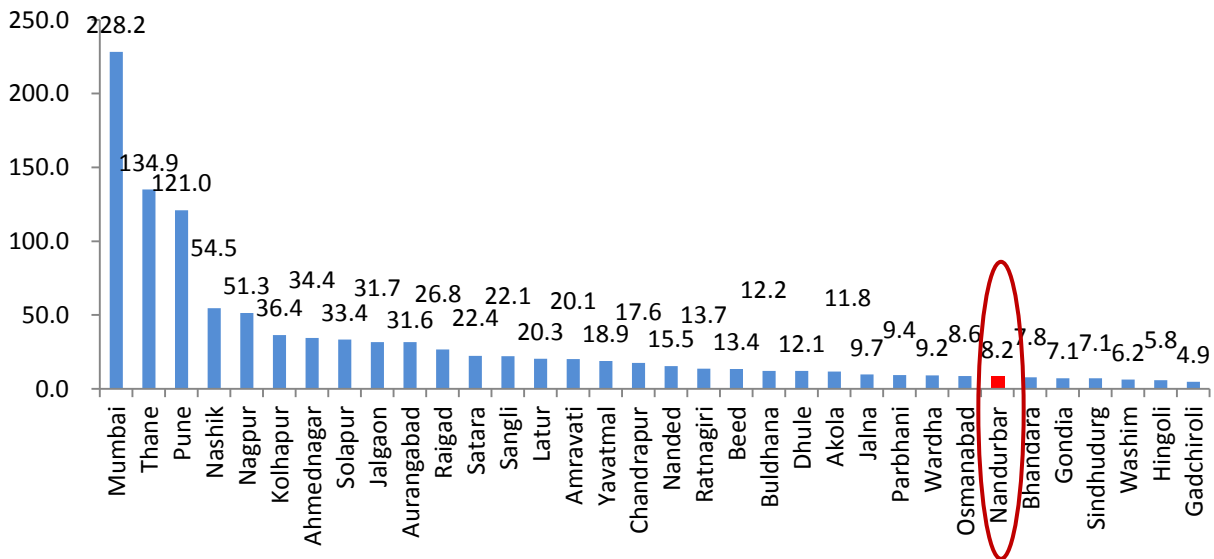
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Nandurbar district stood 28th in terms of Gross District Domestic Product (GDDP) in Maharashtra at Rs 8,214 crore (0.77 per cent of the Gross State Domestic Product). In terms of per capita GDDP, it was 24th amongst all the districts of Maharashtra at Rs 52,923. This was lower than the State average of Rs 87,686.

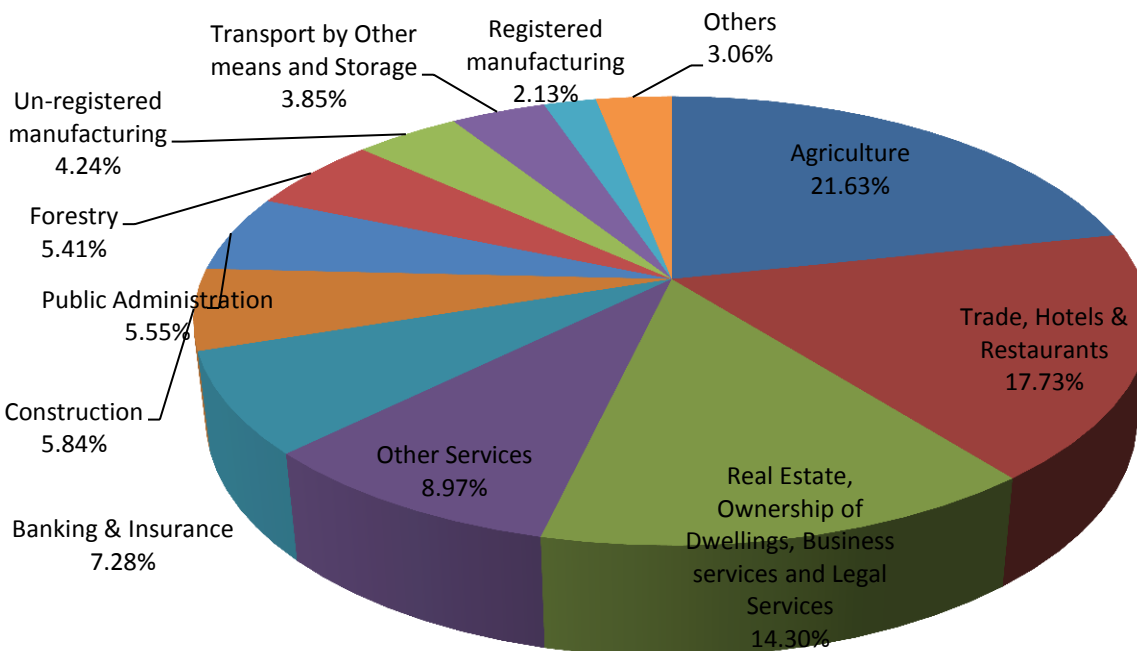
Figure 158: Gross District Domestic Product, in Rs thousand crore, as of 2010-11



Source: Maharashtra Directorate of Economic and Statistics

The district economy is pre-dominantly service based, with service sector's share in GDDP at 59 per cent in 2009-10. This is followed by primary sector at 27 per cent and primary sector at 13 per cent.

Figure 159: Sector wise distribution of Nandurbar's GDDP, as of 2009-10, 100% = Rs 5,319 crore



Source: District Socio-Economic Review

Agriculture: Of the total area of 5,955 sq. km. in the district, over 3,970 sq. km. constitutes the net sown area (cultivated land). Agriculture is mainly dominated by cultivation of jowar, wheat and rice under food crops, cotton and sugarcane under commercial crops and various fruits like mango, custard apple, strawberries and chillies. Part of Nandurbar & Shahada talukas along the Tapi river basin has rich black cotton soil with good water holding capacity.

Industry: As of 2012, Nandurbar district had nine large scale industrial units, employing 3,195 persons and 520 MSMEs providing sustenance to about 4,337 people. About Rs. 151.15 crore had been made in the form of investment in the large enterprises with most of the units engaged in sugar processing, cotton ginning or paper manufacturing. The district has just one industrial area in Navapur taluk spread over an area of about 64 hectares all of which has been allocated – housing about 41 units

Services: As mentioned above, services account for 59.5 per cent of GDDP in Nandurbar district. Of all the services, the key services in the district are of 'trade, hotels and restaurants' at 17.7 per cent of GDDP, followed by 'real estate, ownership of dwellings, business and legal services' at 14.3 per cent, other services at nine per cent and 'Banking and Insurance' at 7.3 per cent.

2.3. State of education

As of 2011-12, Nandurbar district had 1,938 schools. Total student enrolment in all the schools was 249,053 while the student-teacher ratio was high at 28 students per teacher. The student-teacher ratio was lesser than the average ratio for the State at about 30 students per teacher.

Table 159: School and higher education infrastructure in Nandurbar district, as of March 2011

Particulars	No. of institutes	No. of students
Schools	1,938	249,053
General colleges	27	18,034
Technical education*	13	1,873

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

For general higher education, the district has 27 general colleges and 13 technical education institutes. For vocational training, Nandurbar district had a total of 10 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, eight were Government ITIs, two were private ITIs. All the 10 ITIs together have a seating capacity of 2,380.

Table 160: Key ITI indicators in Nandurbar district, as of March 2012

Indicator	Value
Total Number of ITIs	10
Number of Government ITIs	8
Number of Private ITIs	2
Total Seating capacity	2,380

Source: Department of Employment & Self Employment, Government of Maharashtra

Based on our discussions with the key stakeholders in Nandurbar district, we have found that on an average, of all the students that pass out from an ITI in each year, about 70 per cent find jobs in the market.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The Government Departments offer courses in trades such as animal husbandry, hand-in-hand microfinance, teacher education and evaluation, policy planning, personality development etc. District Industries Centre (DIC) provides training relating to industries and service sector through MCED (Maharashtra Centre for Entrepreneurship Development) and MITCON Consultancy and Engineering Services Ltd. Self employment promoting training programs such as mobile repairing, electrician, tailoring, beautician etc. are also conducted through this scheme. The private training institutes are offering courses in teacher's training, tailoring, computer training and nursing.

2.4. Youth aspirations

In the process of identifying the growth engines for the Nandurbar district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Migration trends:** Most students who score more than 60 per cent prefer to go outside the district towards Nashik, Pune etc for higher studies. For jobs, the preference amongst students both from colleges as well as other technical training institutes like ITIs is to migrate to bigger cities like Nashik, Pune, Mumbai etc. for better pay and the attraction of living in a big city.
- **Satisfaction with existing education infrastructure:** The students were satisfied with the training infrastructure available but felt that there was a need for establishment of an active placement cell across all departments / courses in order to get companies for campus recruitment and get placed. Also, they felt that there was a need for additional engineering and medical colleges within the district. In case of ITI students, they want additional training in:-
 - English communication and soft skills
 - Higher order computer training
- **Job preference:** Amongst category of jobs, the ITI students prefer to join Government departments and Government companies over any private sector companies while college students prefer to work in private companies more than Government ones.

3. Developmental concerns

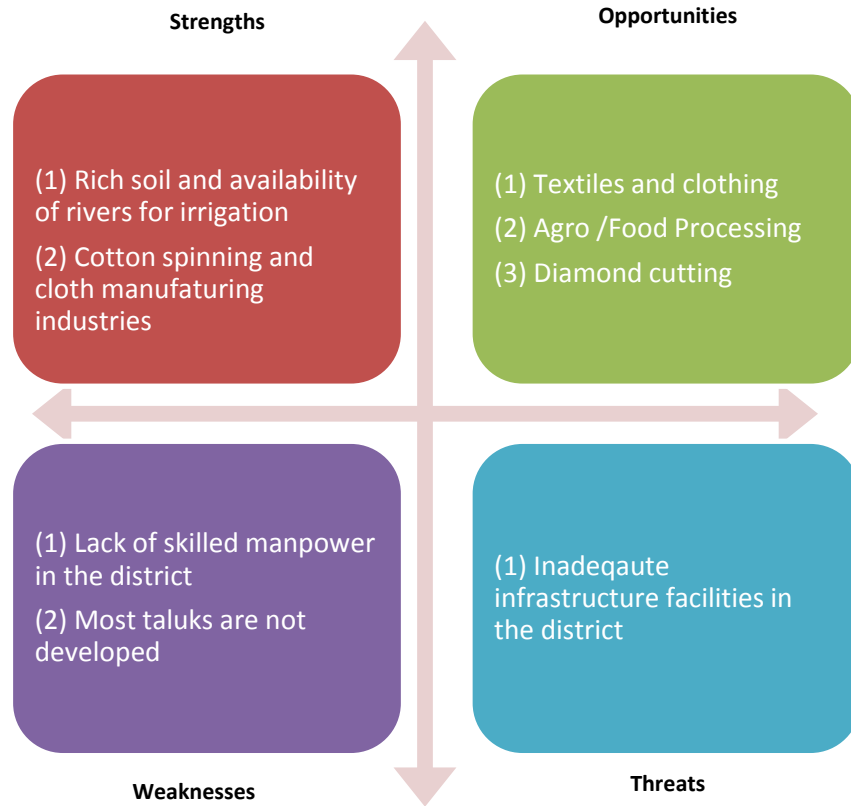
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Lack of adequate Educational infrastructure:** Nandurbar is one of the most backward districts in the country and one major factor contributing to the same is the lack of quality educational infrastructure in the district, especially for higher education. It has been observed that most students who achieve more than 60 per cent in their SSCs go out of the district to Nashik, Pune etc for higher education. There are no medical colleges in the district and very few engineering and general colleges which pushes the students to look for options outside the district.
- **Migration of Workers:** This is as a result of lack of industrialisation within the district as well as a strong diamond cutting industry in Surat, Gujarat which is about just 170 kms from the district center. Constant migration of skilled workers to other districts / states leads to a shortage of manpower as against what is the current need of the employers in the district.

SWOT analysis

Based on the diagnostics of the Nandurbar district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented in figure below.

Figure 160: SWOT Analysis of Nandurbar district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 63,209 persons between 2012 and 2022. Sectors which will drive demand are expected to be agriculture and allied, building, construction and real estate. The requirements for skilled personnel are likely to increase, as the maximum demand will be generated for semi-skilled and skilled workers.

However, sectors which are unique to Nandurbar are ‘food processing’ and ‘textiles and clothing’. The forecasts for these sectors are low, as current and past trends have been used for forecasting. However, these two sectors have immense potential due to availability of raw materials. If adequate investments materialise in these sectors (both from Government and private), then these sectors will generate employment much more than what has been forecasted as of now.

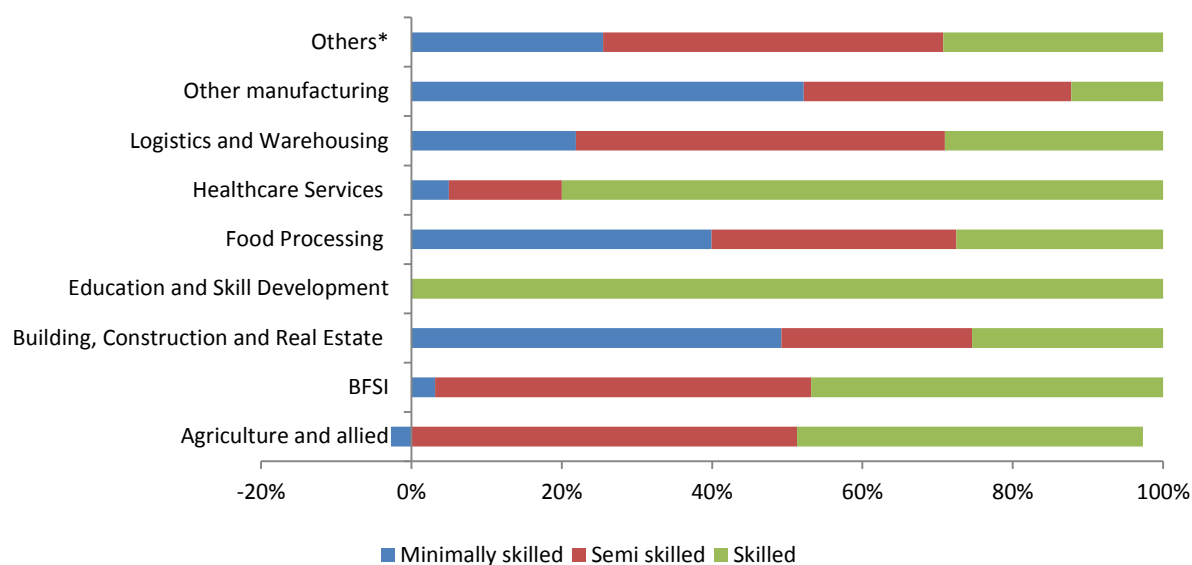
Table 161: Incremental demand of human resources in Nandurbar – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	12,585	6,413	18,998
BFSI [^]	3,818	6,137	9,955
Building, Construction and Real Estate	5,442	7,552	12,994
Education and Skill Development [^]	7,639	3,300	10,939
Food Processing	725	935	1,660
Healthcare Services [^]	1,359	1,860	3,219
Logistics and Warehousing	1,697	1,924	3,621
Other manufacturing	423	696	1,119
Others	296	408	704
Total	33,983	29,226	63,209

Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, auto and auto components, furniture and furnishings and Textile and clothing
[^]For smaller districts such as Nandurbar as the district economy grows, sectors such as BFSI, Education and Healthcare will become the major employment generators incrementally.

Figure 161: Incremental demand of human resources in Nandurbar – by skill level



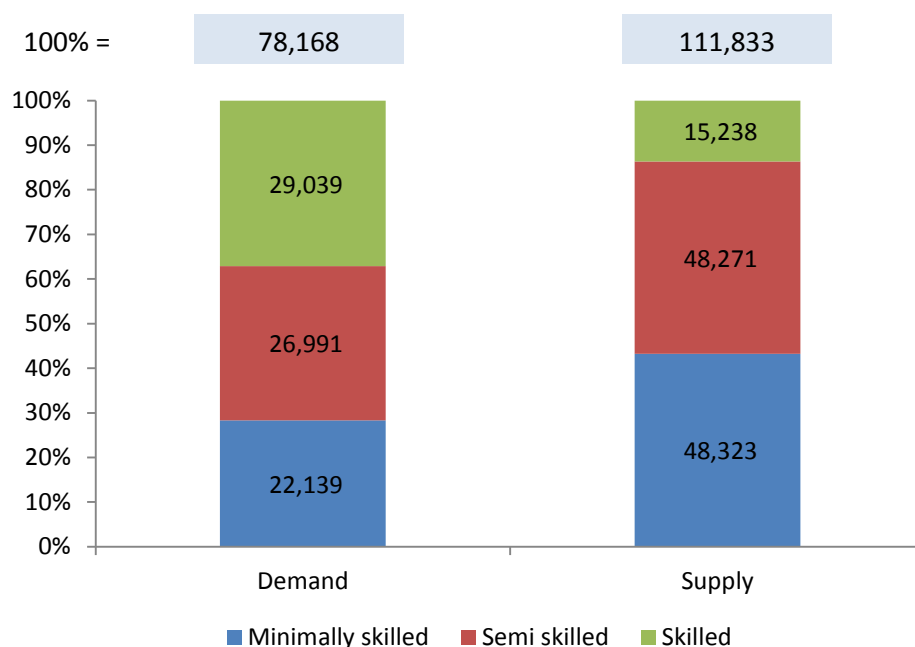
Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, auto and auto components, furniture and furnishings and Textile and clothing

We have estimated incremental supply of human resources in the district at 1.11 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply is much higher than the incremental demand in the district. This surplus of human resources is likely to migrate to the neighbouring state of Gujarat, especially to the city of Surat for jobs in textile and diamond cutting (as is currently the trend). However, the incremental supply is significantly low in the

skilled category vis a vis the incremental demand within the district for the said category. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward. All the stakeholders need to work in conjunction to meet the skill shortage in the district in the skilled category.

Figure 162: Demand supply gap of human resources in Nandurbar – by skill level



Source: IMaCS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

As discussed in the section above, while employment will be generated across many sectors, in this section, we have identified especially those sectors which require skilling interventions in the district – mainly food processing and textiles & clothing. Identification of such sectors has been based on the diagnostics above, our observations during the primary survey and discussions with the key stakeholders in the district.

Table 162: Sectors present in Nandurbar district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Nandurbar	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		

High Growth Sectors identified by NSDC	Nandurbar	Maharashtra
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing (Chilli / Fruit processing)		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		
Others – diamond cutting		

Source: IMAcS Analysis

For the sectors identified above, we have mapped the skill requirements and the gaps faced by the sector in the section below.

5.1. Agro / Food Processing

Chilli processing has been one of the key activities within the district with the presence of a Red Chilli cluster consisting of about 35 to 40 industries each providing employment to about 20 to 30 people. Most of the chilli produce is sold in Gujarat, Madhya Pradesh, West Bengal and Chattisgarh. As the industry grows, there is a need for a specific Chilli park to come up to further enable the growth as well as specific training to farmers with regards to various types of chillies – most suitable for processing companies to sell it in the open market.

The skill gaps in this sector for various job roles include:-

Farm Worker / farmer (Chilli):-

- Lack of knowledge in proper use of fertilisers leading to bad crop
- Lack of knowledge of chilli drying process.
- Lack knowledge of various types of chillies that can be grown to maximise revenue for themselves

Machine Operator:-

- Even those who are trained before the job have to be re-trained, especially on running of machines, as the training institutes do not have good machine infrastructure.
- Lack of effective communication skills.
- Lack of knowledge of safety hazards.

Manager / Supervisor:-

- Such skills sets are not available within the district as well as people from outside do not prefer to work in such rural district.
- Lacks people management skills
- Lacks quality control skills

Furthermore, the district has potential in the fruit processing industry especially in the cases of mango, custard apple and strawberries. No specific industry exists in this domain as of today but training may be given to the farmers in the fields of:-

1. Drying
2. Pulp treatment
3. Packaging etc.

5.2. Textiles and clothing industry

Nandurbar has a strong base in terms of cotton grown locally which further stimulates the growth of cotton ginning and yarn making companies. This apart the district also has a textile cluster in Navapur which manufactures Polyester grey fabric. There are about 51 MSME companies in the cluster having a turnover of more than Rs 130 crore (FY12) and employing about 1290 people directly.

The Skill gaps in this sector includes:-

- Lack of availability of sufficient manpower.
- Lack of willingness of workers to work at the factories
- Improper communication skills
- Lack of man-management skills to manage shop floor personnel.
- Inadequate practical knowledge of tools
- Most of the managerial / supervisory staff are hired from bigger cities like Nashik, Pune etc. as people with such skills are not available within the district
- Major issues include non skill related such as absenteeism, work – related behaviour, non co operation with supervisors, etc,
- Inadequate knowledge about the entire spinning process

5.3. Others – diamond cutting

Nandurbar is essentially a rural district with very minimal industrial or service based setups which provide employment within the district itself (as compared to the neighbouring districts like Nashik and Jalgaon). Hence, as indicated before, most of the man power migrates to the nearby state of Gujarat to work, particularly in the textile and diamond cutting industries of Surat. Thus, training infrastructure

needs to be setup within the district in order to skill the people within said sectors so that they may become competitive and seek gainful employment in the neighbouring Surat region.

6. Recommendations

Recommendations for Nandurbar district focus on the sectors of textile and food processing industries. While the detailed recommendations follow, summary is given in the table below.

Table 163: Key recommendations for Nandurbar – summary

Sector	For Government players	For private training providers	For Industry	For NSDC
Food Processing – Chilli	<ul style="list-style-type: none"> ▪ Setup training infrastructure in courses like BSc Agriculture. 	Training to be given in: <ul style="list-style-type: none"> ▪ Sensory and instrumental methods in texture analysis of processed foods ▪ Modern techniques of chilli processing – including operation of modern machines. ▪ Solvent extraction and Enrichment processes ▪ Separation of colour and pungency – methods and processes ▪ Essentials of packaging technology for distribution and marketing of food products etc. 	<ul style="list-style-type: none"> ▪ Work in collaboration with VTPs for training of workforce 	Interventions required through funding of private training as well as through SSCs
Textile industry	<ul style="list-style-type: none"> ▪ Increase the number of seats for turner, fitter and other ITI trades mentioned for private players 	<ul style="list-style-type: none"> ▪ Machine operator, Power loom assistant, packaging, basic yarn and dyeing related courses for the 10th/ 12th pass candidates ▪ ITI related trades : Turner, Fitter, Machinist etc. 	<ul style="list-style-type: none"> ▪ Work in collaboration with VTPs for training of workforce 	Interventions required through funding of private training as well as through SSCs
Others – diamond cutting	<ul style="list-style-type: none"> ▪ Train people in diamond cutting and textile trades through schemes such as those of DRDA. 	Provide training in diamond cutting to meet the demand of the industry in neighbouring Surat in the State of Gujarat	NA	Interventions required through funding of private training as well as through SSCs

6.1 Government

- ❖ **Food Processing (Chilli):** Currently, the chilli industry within the Nandurbar district is at its nascent stages. While a lot of small to medium sized companies are involved in the process of chilli extraction and powdering and marketing the same, various other value adding by-products

can also be manufactured and sold. Training can be provided for the same by Department of Agriculture. Currently there is no training infrastructure in the district specific to this sector. But as time goes and the sector develops further both in terms of business and technologically, following courses may be looked to introduced in nearby government colleges to address the gap:-

- a. B. Sc. Agriculture
- b. B. Tech. Agriculture Engineering
- c. Certification in Chilli farming and drying
- d. Food Safety and Standards.

- ❖ **Textile Cotton Processing:** The district is rich in terms of cotton crop production but there is not enough number of cotton processing / ginning units due to which a lot of raw / baled cotton is transported to adjoining districts as well as Gujarat State for further processing. The district presents an opportunity for further employment within the district itself if investments are made and encouraged by the government to setup cotton ginning / spinning and other downstream industries. Also, there is a need for further increase the number of seats in ITIs in the above mentioned trades as there is a significant demand for the same in the district.
- ❖ **Others (diamond cutting for migratory manpower):** As mentioned earlier, a large portion of the manpower in the district moves to neighbouring city Surat (State of Gujarat) to work in the diamond cutting and textile industries. Hence the government can look to train such rural youth in specific diamond cutting, spinning, weaving and dress making trades through existing training schemes such as those of DRDA in order for such people to get gainful employment outside the district.

6.2 Private Training Providers

The recommendations for the private training providers focus on the courses, category for which training needs to be provided:-

Sector	Category / Activity	Training required
Food Processing - Chilli	NA	Opportunity for short term courses in:- <ul style="list-style-type: none"> ▪ Sensory and instrumental methods in texture analysis of processed foods ▪ Modern techniques of chilli processing – including operation of modern machines. ▪ Solvent extraction and Enrichment processes ▪ Separation of colour and pungency – methods and processes ▪ Essentials of packaging technology for distribution and marketing of food products ▪ Drying of food products: Principles, practices

Sector	Category / Activity	Training required
		and industrial applications <ul style="list-style-type: none"> ▪ Quality and safety practise related to chilli processing
Textile – Cotton Spinning	10 th , 12 th pass	<ul style="list-style-type: none"> ▪ Textile Machine operation and power loom assistant ▪ Basics of Yarn making and dyeing ▪ Quality Checking procedures in textile ▪ Packaging of products ▪ Safety Skills training including fire fighting ▪ Soft Skills training
	ITI Grade	<ul style="list-style-type: none"> ▪ Turner ▪ Fitter ▪ Machinist ▪ Maintenance Operator ▪ Quality and environment management skills ▪ Safety Skills training including fire fighting

6.3 Industry

- ❖ **Food Processing:** Work in collaboration with VTPs for training of workforce for chilly processing and marketing.
- ❖ **Textile cotton spinning:** Work in collaboration with VTPs for training of workforce in cotton ginning and spinning sectors.

6.4 NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Food Processing (Chilli)
- ❖ Textiles and clothing - Cotton Spinning
- ❖ Diamond cutting for migratory manpower (migrating to Surat for working in diamond industry)

2.21. NASHIK

1. Introduction

Nashik is the 4th biggest district of Maharashtra in terms of Gross District Domestic Product. Nashik city, which serves as the district headquarters is the fourth largest city of Maharashtra and also third most industrialized city in Maharashtra. The region is also of tremendous importance from a historical and mythological perspective with Lord Rama having believed to have lived in Panchvati during his ‘*vanvas*’. It is one of the four places in India where Kumbh Mela is conducted on a rotational basis. Also, Godavari – known as Ganges of the South originates from Trimbakeshwar in Nashik.

Nashik district has an area of 15,530 square kilometres. It is bounded by Dhule district to the north, Jalgaon district to the east, Aurangabad district to the southeast, Ahmadnagar district to the south, Thane district to the southwest, and the state of Gujarat to the west and the northwest.

There are 1,923 villages in the district and it is sub-divided into 16 taluks. Majority of the population though still (57 per cent) lives in rural areas. Cultivators and Agricultural labourers together are a major class of the workers in the district, employing 62.4 per cent of the labour force (as of Census 2001) followed by other workers¹ (35.4 per cent) and household industry at 2.2 per cent.

The district has also been identified as tribal by the State Government with as many as eight out of 16 talukas viz Surgana, Peth, Igatpuri, Kalwan, Baglan, Dindori, Trimbakeshwar and Nashik identified as tribal blocks. Nashik is also known as Mini Maharashtra, because the climate and soil conditions of Surgana, Peth, Igatpuri resembles with Konkan, Niphad, Sinnar, Dindori, Baglan blocks are like Western Maharashtra and Yeola, Nandgaon & Chandwad blocks are like Vidarbha Region. Apart from Godavari, other rivers originating in Nashik include Girna, Darna, Mosam, Aram, Vaitarna, Manyad and Kadwa.

Table 164: Comparison of Nashik district with Maharashtra – key indicators

Indicator	Year	Nashik	Maharashtra
Area, in sq.km.	2001	15,530	307,713
Percentage share in State geographical area, %	2001	5.05%	100%
No. of sub-districts	2011	16	353
No. of inhabited villages	2001	1,923	41,095
No. of households	2001	915,137	19,576,736
Forest area as a % of total geographical area	2001	17.26%	

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Nashik district has a population of 61.1 lakh persons - 5.4 per cent of the State population. While 57 per cent of the population in the district is in working-age group (15 to 59 years), about 44 per cent is actually working i.e. work participation rate.

The district's literacy rate is 80.96 per cent, which is marginally lower than the State average of 82.91 per cent but higher than the All-India average of 74 per cent. Male literacy at 88.03 per cent is much higher than female literacy rate at 73.43 per cent.

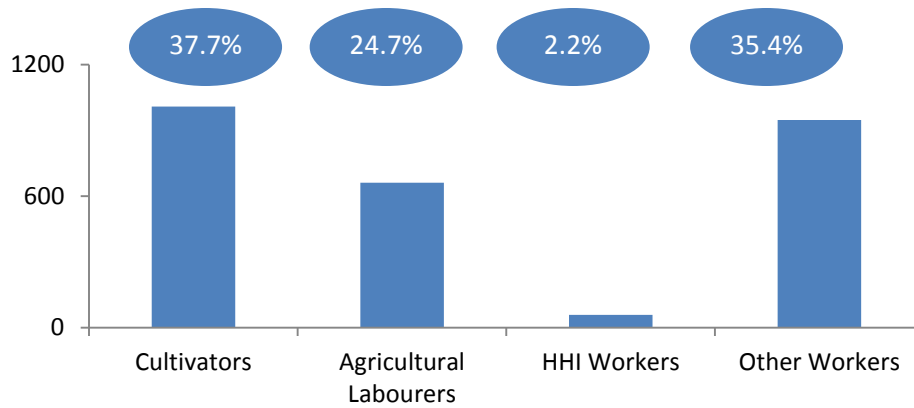
Table 165: Key demographic indicators

Indicator	Year	Nashik	Maharashtra
Population, No.	2011	6,109,052	112,372,972
Decadal growth rate of population, %	2001-11	22.33%	15.99%
District's share in State's population, %	2011	5.44%	100%
Urban population as a percentage of total population, %	2001	43%	45%
SC population, %	2001	9%	8.79%
ST population, %	2001	24%	15%
Sex ratio, No. of females per 1000 males	2011	931	925
Population density, per sq. km.	2011	393	365
Literacy rate, %	2011	80.96%	82.91%
Main workers, No.	2001	1,911,340	34,748,053
Marginal workers, No.	2001	274,233	6,425,298
Working age population* as a percentage of total population, %	2001	57%	59%
Work participation rate^, %	2001	44%	42.50%
HDI	2001	0.51	0.58

**Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011, Maharashtra Human Development Report 2005*

The district has a total workforce of about 26.7 lakh persons. Of this, 37.7 per cent are cultivators, 24.7 per cent are agricultural labourers, 2.2 per cent are workers in household industry and 35.42 per cent are other workers.

Figure 163: Nashik district's worker profile, as of 2011, in thousands



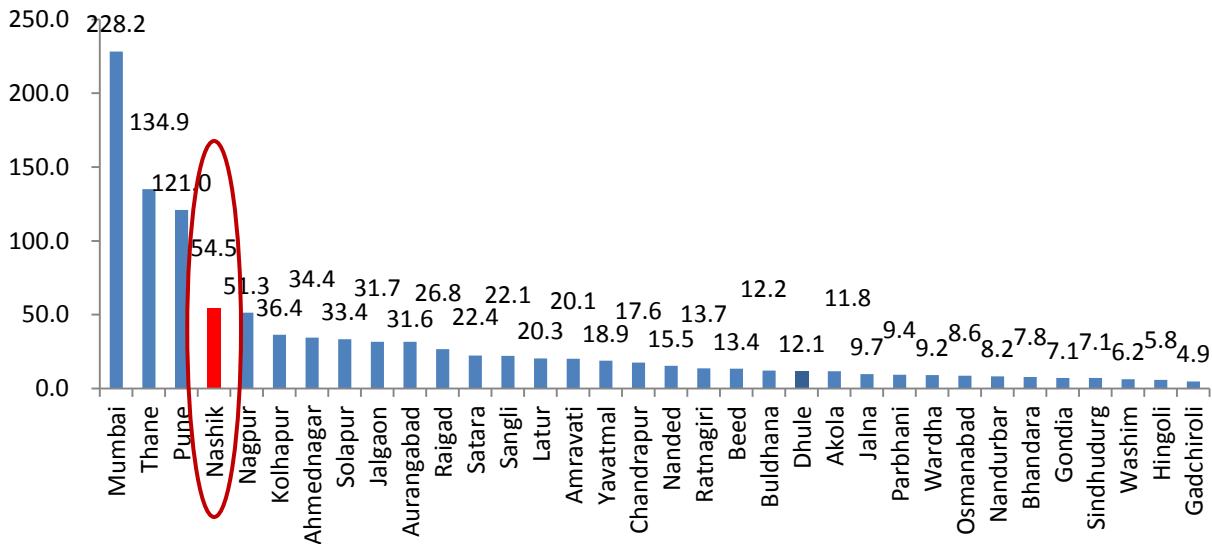
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2008-09, Nashik district had the fourth largest Gross District Domestic Product (GDDP) in Maharashtra at Rs 54,512 crore (5.1 per cent of the Gross State Domestic Product). In terms of per capita GDDP, it ranked sixth amongst 35 districts at Rs 84,982. This was slightly lower than the State average of Rs 87,686.

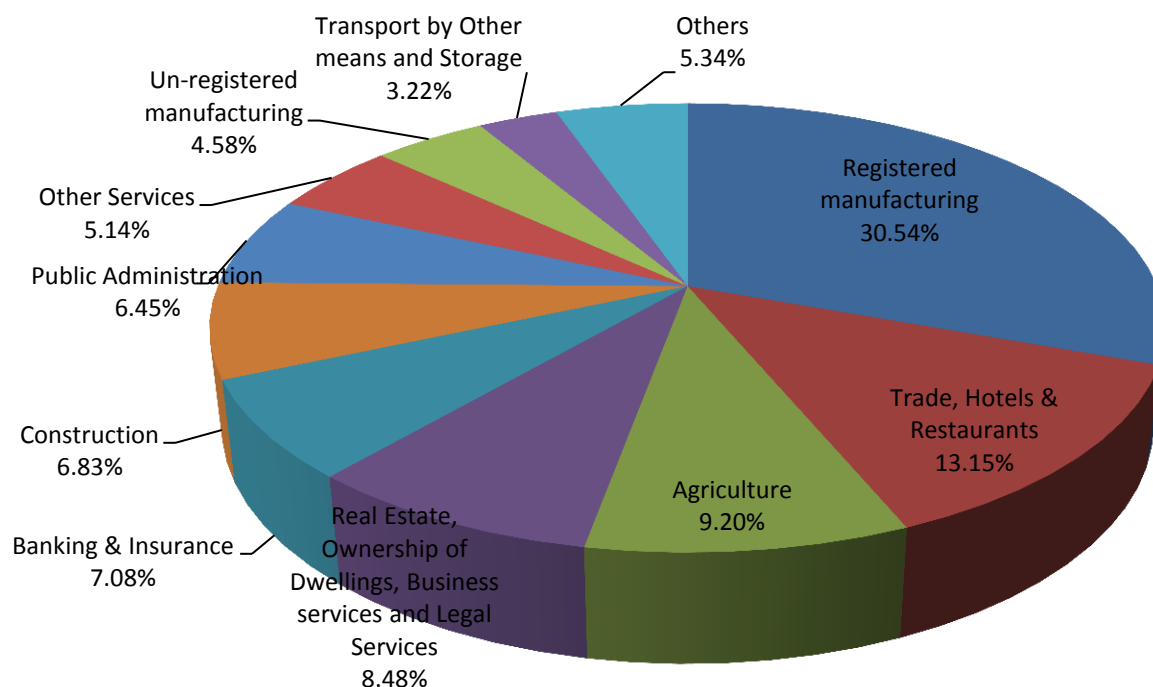
Figure 164: Gross District Domestic Product, In Rs thousand crore, as of 2008-09



Source: Maharashtra Directorate of Economic and Statistics

The district economy has an equivalent mix of manufacturing and service based industries, with service sector's share in GDDP at 45.4 per cent and in 2009-10. This is followed by secondary sector at 43.5 per cent and primary sector at 11.1 per cent.

Figure 165: Sector wise distribution of Nashik's GDDP, As of 2009-10, 100% = Rs 45,465.26 crore



Source: Nashik District at a Glance 2009-10

Agriculture: Of the total area of 15,530 sq. Kms. in the district, about 55.7 per cent is the net sown area (cultivated land). Agriculture is mainly dominated by cultivation of bajra, maize and paddy under food crops and sugarcane under commercial crops. Nashik is also well known for grapes and onions. Also it is rich in other horticulture and vegetable resources.

Industry: As of 31st March 2012, Nashik district had more than 210 large and medium scale industrial units, employing over 35,000 persons. The major companies include Mahindra & Mahindra, Ceat, Bosch, ABB, Siemens, Glenmark, MYLAN, VIP, Samsonite, WNS, Sula Vineyards, Kirloskar Oil Engines, Coca Cola, Hindustan Aeronautics Limited, Jyothi Structures, Shalimar Paints etc. End products manufactured included automobiles and auto components, plastic processed products, pharmaceuticals, Engineering equipment, IT & ITES services, wine, Air force aircrafts etc.

Nashik also has 14,559 micro and small scale enterprises, employing 109,773 persons. As of July 2012, majority of these included manufacture of basic metals, fabricated metal products, electrical, machinery and apparatus, rubber and plastic products, chemicals and chemical products etc. Also, the district has six industrial areas, totalling 1,833.5 hectares of land.

Services: As mentioned above, services account for 45.4 per cent of GDDP in Nashik district. Of all the services, the key services in the district are of trade, hotels and restaurants at 13.2 per cent, followed by real estate, ownership of dwellings, business and legal services at 8.5 per cent and banking and insurance at 7.08 per cent of GDDP.

2.3.State of education

As of 2011-12, Nashik district had 5,157 schools. Total student enrolment in all the schools was 931,685 while the student-teacher ratio was high at 35 students per teacher. The student-teacher ratio was higher to the average ratio for the State at about 30 students per teacher.

Table 166: School and higher education infrastructure in Nashik district, as of March 2011

Particulars	No. of institutes	No. of students
Schools	5,157	931,685
General colleges	117	101,175
Technical education*	86	18,345

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

For general higher education, the district has 117 general colleges and 86 technical education institutes. For vocational training, Nashik district had a total of 40 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, 18 were Government ITIs, 22 were private ITIs.

Table 167: Key ITI indicators in Nashik district, as of March 2012

Indicator	Value
Total Number of ITIs	40
Number of Government ITIs	18
Number of Private ITI	22
Total Seating capacity	8530

Source: Department of Employment & Self Employment, Government of Maharashtra

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The Government Departments offer courses in trades such as animal husbandry, hand-in-hand microfinance, teacher education and evaluation, policy planning, personality development etc. District Industries Centre (DIC) provides training relating to industries and service sector through MCED (Maharashtra Centre for Entrepreneurship Development) and MITCON Consultancy and Engineering Services Ltd. Self employment promoting training programs such as mobile repairing, electrician, tailoring, beautician etc. are also conducted through this scheme.

2.4. Youth aspirations

In the process of identifying the growth engines for the Nashik district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Willingness to pursue higher education:** Most students want to pursue further higher education in their respective fields and feel the need for a career counselling based approach. Students feel that information on all career options and the means to go by each should be made available at the high school level itself.
- **Migration trends:** Students do not have a location preference. Open to working in both Nashik or in cities like Pune, Mumbai etc depending on the course each of them is undergoing. (Commerce students want to work in Mumbai as against Nashik or Pune)
- **Satisfaction with existing education infrastructure:** The feedback received was that there was need for more number of engineering and medical colleges within the district. Also, students asserted a need for establishment of an active placement cell across all departments / courses in order to get companies for campus recruitment and get placed. Training institutes in Nashik have adequate infrastructure for training. The youth feels that quality of courses and teachers is average. Also, the ITI students want training want additional training in:-
 - Knowledge of latest machinery
 - English communication and soft skills
 - Interview preparation skills
 - Higher order computer training
- **Job preference:** Students prefer white-collar jobs as compared to blue collar and manual jobs. Similar to other districts, the ITI students have a preference towards government jobs as against private sector ones while it is vice versa with the college students.

3. Developmental concerns

Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

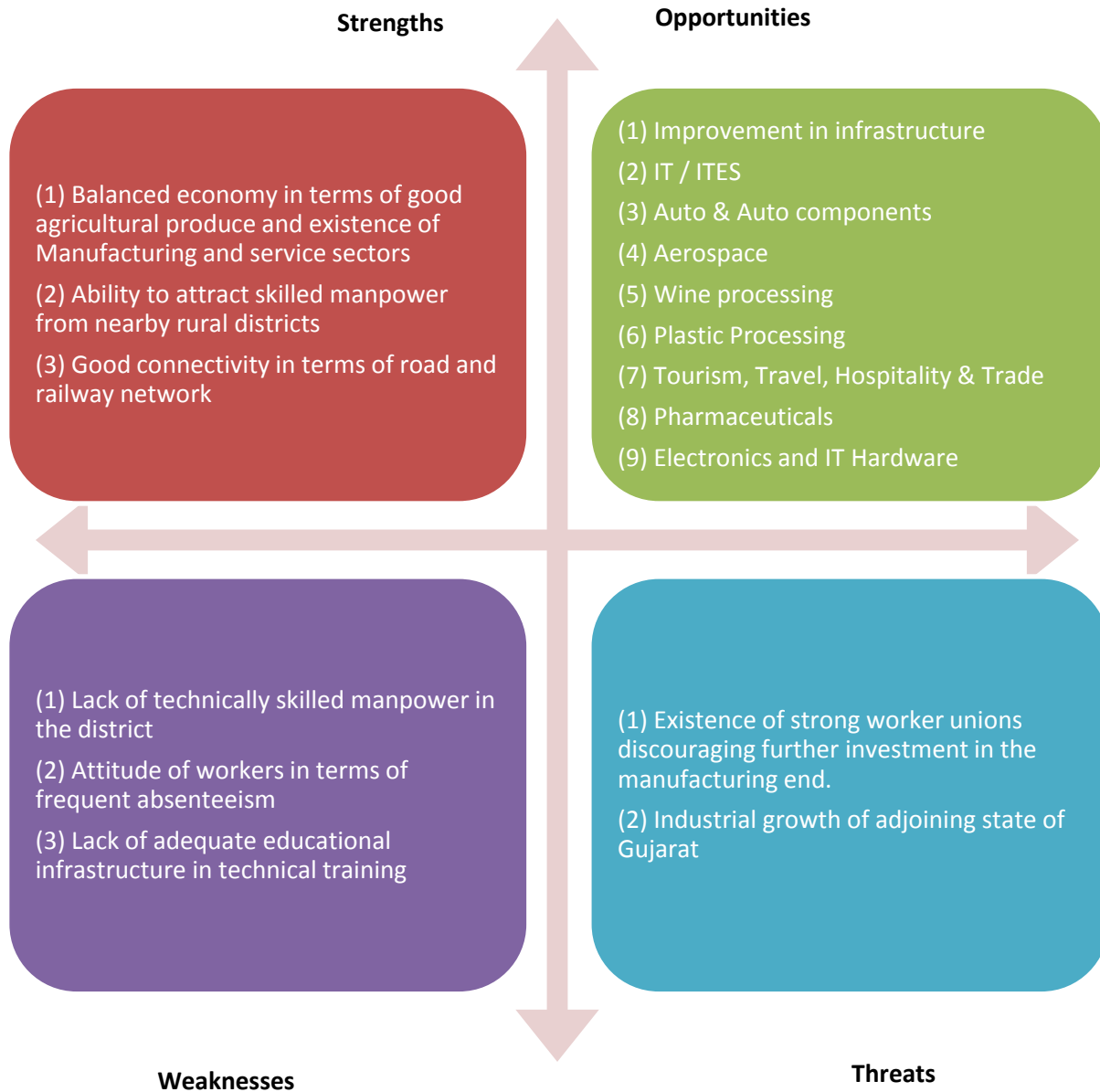
- **Existence of strong unionism:** Nashik is one of the oldest industrialised cities of Maharashtra. Various automobile, auto ancillary and engineering / electrical systems' units have been in existence for more than 15 to 20 years. And most of such companies have put their growth plans on hold due to the existence of strong, politically backed labour unions which have time and again affected the productivity of these companies.
- **Shortage of technically skilled manpower within the district:** While the district has many educational institutions providing education and training to the locals it is still inadequate when compared to the demand in case of the technically skilled manpower (Engineering / Diplomas / ITI). Students move towards districts like Pune for the same. There is thus a need to ramp up on quality technical training institutes within the district. Also, there are not many medical colleges

in the district and fewer engineering colleges (compared to demand) which pushes the students to look for options outside the district.

SWOT analysis

Based on the diagnostics of the Nashik district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 166: SWOT Analysis of Nashik district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 5.39 lakh persons between 2012 and 2022. Sectors which will drive demand are expected to be building, construction and real estate, organised retail and banking, financial services and insurance.

However, sectors which are unique to Nashik are 'auto and auto components', 'chemicals and pharmaceuticals', 'electronics and IT hardware', 'IT & ITES', and 'travel, tourism and hospitality'.

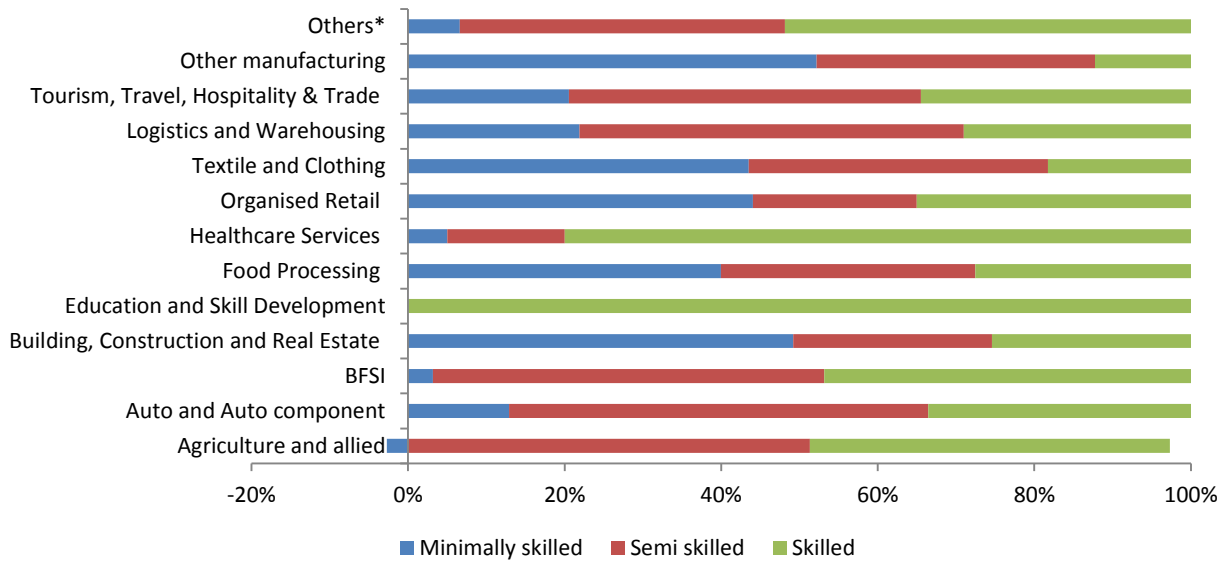
Table 168: Incremental demand of human resources in Nashik – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	34,499	17,580	52,079
Auto and Auto component	14,727	22,770	37,497
BFSI	21,635	34,778	56,413
Building, Construction industry and Real Estate	54,345	75,421	129,766
Chemicals & pharmaceuticals	1,304	1,373	2,677
Education and Skill Development	25,879	11,536	37,415
Electronics and IT hardware	549	575	1,124
Food Processing	5,394	6,959	12,353
Healthcare Services	7,646	10,464	18,110
Organised Retail	23,875	59,409	83,284
Textile and Clothing	2,267	2,873	5,141
Transportation, Logistics, Warehousing and Packaging	13,227	14,994	28,221
Tourism, Travel, Hospitality & Trade	8,698	12,665	21,364
Other manufacturing	19,928	32,805	52,732
Others	2,255	2,439	4,695
Total	234,376	304,694	539,070

Source: IMaCS Analysis

**Others include furniture and furnishings. Numbers for IT&ITES sector for Nashik have not been calculated separately. Please refer to the State profile for consolidated IT & ITES numbers for the State.*

Figure 167: Incremental demand of human resources in Nashik – by skill level

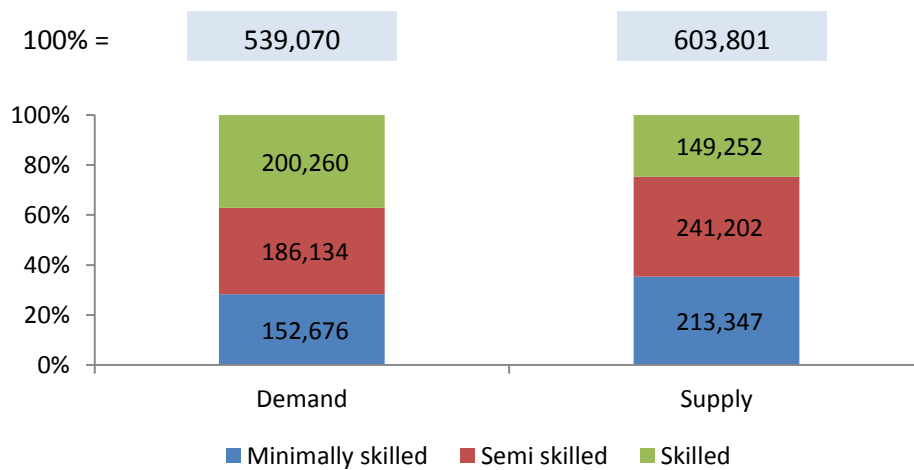


Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, electronics, and furniture and furnishings.

We have estimated incremental supply of human resources in the district at 6.03 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be marginally higher than the incremental demand in the district. However, the incremental supply is leaning more towards minimally skilled workers, as against skilled workers. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward. All the stakeholders need to work in conjunction to meet the skill shortage in the district.

Figure 168: Demand supply gap of human resources in Nashik – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile

5. Skill mapping

As discussed in the section above, while employment will be generated across many sectors, in this section, we have identified especially those sectors which require skilling interventions in the district. Identification of such sectors has been based on the diagnostics above, our observations during the primary survey and discussions with the key stakeholders in the district.

Table 169: Sectors where interventions are required in Nashik district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Nashik	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		
Additional sectors	Nashik	Maharashtra
Plastic Processing		
Wine Processing - Cluster		
Paithani Saree Cluster		
Raisin Making Cluster		

Source: IMaCS Analysis

For the sectors identified above, we have mapped the skill requirements and the gaps faced by the sector in the following section.

5.1. Auto & Auto Components

One of the biggest and preferred employers in the district is Mahindra & Mahindra. The unit in itself has given birth to a lot of small and medium component manufacturers in the district. Some of the other bigger companies in the district in the auto and auto component space include Bosch, ThyssenKrupp, CEAT tyres, Lear Corporation, Kirloskar Oil Engines, Mahindra Sona Ltd, XLO India, Precision Auto Industries Pvt Ltd etc. Also, most of the small and micro industries within the district fall in the 'Manufacture of Fabricated Metal Products' (1312 units providing employment to about 12,553 people) and 'Machinery and Equipment' (941 units and 11,243 people employed) categories both of which support the automobile industry in the district.

The skill gaps as observed within the Automobile and Auto component manufacturing industry of Nashik are as follows:-

Manager / supervisor:-

- Insufficient understanding of automobiles, their sub-systems and functions of important parts such as suspension, exhaust, fuel system, coolant circuit, etc.
- Inadequate knowledge across all facets of the company's business.
- Inability to communicate clearly to workmen and immediate supervisors / manager.
- Inadequate knowledge of quality management systems

Machine Operators:-

- Inadequate knowledge in understanding geometry, dimensions, and tolerances
- In sufficient instrumentation knowledge
- Limited knowledge of machine tool maintenance
- Limited Conformance to HR guidelines including time management, attendance, cleanliness, work place neatness etc
- Lack of Knowledge of dimensioning and tolerances
- In sufficient understanding of weld testing techniques
- Inadequate comprehension of assembly/fitting SOP
- Inability to use the machine tools for assemble
- Inadequate quality inspection methods and quality management

Sales and Marketing:-

- Inadequate understanding of the technical requirements
- Inability to understand the criticality of technical and delivery deadlines
- Inadequate communication skills

5.2. Chemicals & Pharmaceuticals

The district is home to many renowned pharmaceutical companies like Cipla, GlaxoSmithKline, Mylan Laboratories, Precise Bio Pharma, GenRx etc. The traditional pharmaceutical companies have been

operational in the district for more than 10 years now. But the district is now seeing further growth in terms of mid-size pharma and bio-tech / pharma companies coming up slowly.

The skill gaps identified within this sector in Nashik are:-

- Inadequate knowledge of chemical compounds and laboratory testing processes
- Inadequate practical orientation and exposure to machines
- Inadequate ability/knowledge to work in the following:
 - Clean Room
 - Air Handling units
 - Current Good Manufacturing Practices (cGMP) standards
- Lack ability to develop and comply with a Preventive Maintenance schedule.
- Inadequate orientation towards quality management
- Inadequate understanding of intellectual property management
- Inadequate understanding of regulatory aspects
- Inadequate people management and leadership skills
- Inadequate know how of latest lab practices.
- Inadequate knowledge of FD approvals and documentation practices.

5.3. Electronics (Electrical components)

Major electrical, electronics / embedded systems and electrical components companies like Crompton Greaves, ABB, Schnieder Electrical, Seimens, TDK Epcos, Bajaj CFLs etc. have established their base in Nashik making it one of the chief industrial cities of Maharashtra. Also, there are about 459 MSME units in the district employing about 7000 people in the Electrical, Machinery and apparatus product segment.

The skill gaps identified in this sector include:-

Line Supervisor

- Lacks industry specific practical exposure.
- Engineering students lack basic / fundamental understanding of instrumentation / engineering concepts.
- Lacks communication skills.

Production Manager

- Inadequate project and people management skills.
- Inability to prepare or understand budgeting and costing related aspects of production

5.4. IT & ITES

Nashik is also emerging as a Business process outsourcing (BPO/IT) destination and is in list of the selected Tier II cities for BPO/IT companies. Currently there is One Private IT Park Named Vascon IT Park, and another under construction at Ambad named Anand Mahindra IT Park. ESDS Software Ltd,

GloStream and Hostgator India, Application Nexus, WNS, Winjit Technologies, I-Tech System, Netwin, Cognifront, Datamatics, etc. are few of the IT Companies in Nashik.

Process manager:-

- Lack of understanding from a business perspective.
- Lack of proper communication and customer handling skills.
- Inadequate knowledge of the best practices in the market within each of the processes.

Domain Specialist / Team Leads

- Inadequate business and process related knowledge.
- Inability to manage team members along with project deliverables.
- Lack of proper communication skills.

Analyst – KPO

- Inadequate domain knowledge especially for the markets the customer belongs to.
- Lack of proper communication (oral and written) skills.
- Inability to do repetitive work with equal consistency and quality.

Voice process executives – BPO

- Inadequate communication skills.
- Inability to handle disgruntled customers effectively.
- Lack of proper process/ product knowledge.
- Inadequate process compliance.

Non voice process executives – BPO

- Inadequate knowledge of business related tools.
- Lack of proper understanding of the process / product being handled.
- Inadequate communication skills.
- Inability to do repetitive tasks.

5.5. Tourism, Travel, Hospitality & Trade

It is believed that when Lord Ram left Ayodhya for his exile, he spent most of his time in the forests of Nashik. Nashik is a unique blend of ‘civilization and modernization’ with the presence of various places of religious and historical importance as well as growth as a prominent business district of Maharashtra. Also known as the ‘City of Temples’ it is one of the holiest places for Hindus with thousands of tourists visiting every year. With the scenic beauty of Sahyadri range of mountains merged with vineyards and agricultural fields and a busy hub of industrial activities. With the onset of monsoons and the start of Kumbhmela, Nashik becomes a go-to place for tourists with Historical Caves, Temples, holy rituals, museums etc.

Some of the prominent places of interest in Nashik are:-

1. Trimbakeshwar Temple

Trimbakeshwar is one of the twelve Jyotirlingas in India. The reasons for its being so sacred are - Godavari river originates in this place, its a place of Tri-Sandhya Gayatri, and believed to be the birth place of Lord Ganesha, a place of the first Nath of Nath Sampradaya consisting of Gorakhnath and others. This is the holiest place to perform Shraddha ceremony. Nirnaya Sindhu - a religious book of Hindus, mentions that this place, where Sahyadri mountain and Godavari river exist is very purifying on the whole earth and is therefore very important for performing Shraddha ceremony.



2. Dhammagiri – Igatpuri

Vipashyana International Academy is located at Igatpuri. It was established in 1976 with the aim to conduct Vipassana Courses for those in search of peace of mind and harmony. Known as Dhammagiri, it is located in Igatpuri, 40 kms away from Nashik City, on Bombay-Agra road. This world famous meditation centre offers techniques which relieve mental stress and promote inner peace.

The skill gaps identified within this sector are:-

Front Desk Manager – Hotels

- Inadequate customer handling skills.
- Lack of proper communication skills.
- Inadequate knowledge of local region.

Restaurant Manager

- Lacks people management skills.
- Inadequate understanding of the cooking procedures of dishes and inability to explain the same to the guests.
- Lacks communication skills.

Housekeeping Executive

- Lacks people management skills.
- Inability to groom and train the housekeeping staff.

Tour operators / guides

- The district lacks a large number of professionally trained guides.
- Lack of soft skills

5.6. Plastic Processing

Nashik is also a major hub for plastic processing companies apart from the nearby district of Jalgaon. Various big and small scale industries are operational in the district providing employment to more than six to seven thousand people within the district.

VIP and Samsonite are some of the big companies within the district which are involved in manufacture of luggage / travel case products while there exist about 923 small and micro companies within the 'Rubber and Plastic' products segment.

The Skill Gaps in this sector include:-

- Lack of knowledge of proper safety skills
- Inadequate knowhow of tool and dye making processes
- Inadequate process and people management skills.
- No proper communication skills

5.7. Wine Processing

Nashik is known as 'Wine Capital Of India' with many wine industries. Some of large and medium companies in this space include Sula Vineyards, Prathemesh Wine Pvt Ltd, Nashik Vinters Pvt Ltd etc.

Nashik also has a wine cluster which is home to about 40 functioning wineries and providing direct employment to about 1800 people and about 45000 people indirectly. As of 2010-11, the wineries in the cluster had a total turnover of Rs. 95 crore with about 5 crore in exports. At present Wine Industries from Nashik region area is finding it very difficult to sustain in the competitive market due to lack of facilities like testing, processing, quality checking, modernized technology, packaging leading to huge wastages.

Other problems faced by the sector include:-

- Lack of awareness & willingness in India about Wine Tourism & Wine Culture
- Unconventional manufacturing methods.
- Non-availability of adequate infrastructure and processing facility.
- Lack of awareness of improved technology, machinery, etc.
- No standardized manufacturing techniques and quality of products.
- Poor packing techniques and lack of cleanliness and hygiene.
- Threats out of OIV norms and quality requirement for Export of Wine.
- Competition with imported wines.
- No facility to use wastage of manufacturing by products.

The skill gaps faced by the industry (and cluster) include:-

- Lack of availability of people with knowledge of the bottling process.
- Grape farmers have inadequate knowledge of pruning methods, usage of fertilizers, plucking and storage.
- Supervisors or Managers do not have adequate know-how of the entire wine making process – especially fermentation, clarification and bottling.
 - Marketing personnel lack knowledge of the different varieties of wines in terms of texture, taste, grape variety, year of processing etc.
- Lack of communication and customer handling skills.

5.8. Paithani Saree cluster

Paithani is a variety of sari, named after the Paithan town in Aurangabad Maharashtra state where they are woven by hand. Made from very fine silk, it is considered as one of the richest saris in Maharashtra. Paithani is characterised by borders of an oblique square design, and a pallu with a peacock design. Plain as well as spotted designs are available. Among other varieties, single colored and kaleidoscope-colored designs are also popular. The kaleidoscopic effect is achieved by using one color for weaving lengthwise and another for weaving widthwise.



Nashik district has a cluster setup for Paithani sarees at Yeola which has about 725 micro units (3000 looms approx) and employing about 3000 people directly. The problems faced by the cluster unit in Nashik include absence of local :-

- Silk reeling Technology.
- Silk Twisting
- Designing on Dobby & Jaquard
- Silk Dyeing & Printing
- Silk weaving
- Power loom setting & maintenance
- No local production of mulberry silk
- Marketing of the Paithani

The skill gaps for the sector include:-

- The power loom operator does not know to operate or undertake repair maintenance of the same
- Lack of knowledge of quality checking

5.9. Raisin cluster

Nashik Zilla Bedana Utpadak Cluster (Nashik District Raisin manufacturers' Cluster) - a nonprofit organisation - was formed on 10th February 2009 under Central Government's MSME CDP (Micro Small and Medium Enterprises Cluster Development Programme). The main objective was to make available to the cluster members the common facilities like:-

- Procurement of complete process line for raisins for grading on the basis of size, colour (Colour sorter), cleaning, washing, drying, sterilization, and packing.
- To make available cold storage facility for the storage of raisins.
- Promote / advertise and sell the produce in national and international markets, so that the raisins from Nashik district will be world renowned.

India is the tenth largest grape producing country in the world. In India, Maharashtra is the largest producer of grapes. In Maharashtra, Nashik, with more than 60000 hectares (approximately 1.50 lakh acres) area under grapes, is the top producer. This presents with a huge scope for raisin sector.

The cluster has 2,180 units and produces about 9,500 to 10,000 MT of yellow raisins and 2,000 to 2,500 MT of green raisins, mostly for exports. Some of the issues faced by the cluster include:-

- Lack of modern machinery
- Need for marketing
- Unavailability of proper testing laboratory
- Unavailability of finance

No particular skills are required for this sector, except for proper sun drying techniques which can be done by the farmer himself / herself. Or a person to operate a dehydrater machine may be employed if such machines made available.

5.10. Others

In addition to the sectors mentioned above, Nashik district is also home to many manufacturing and engineering based industries. While most of them don't have any employment generation or expansion plans in the next few years, they have reported shortage of skilled manpower in some of the key functions like mechanics, plumbers, electricians, masons, welders, metallurgy (diploma / engineer) etc.

6. Recommendations

Recommendations for Nashik district focus on the following sectors:

Table 170: Key recommendations for Nandurbar – summary

Sector	For Government players	For private training providers	For Industry	For NSDC
Auto & Auto Components	<ul style="list-style-type: none"> ▪ Need to upgrade on the machinery currently available at various ITIs as well as the curriculum. ▪ Partner with industry either through traditional MoUs or by putting up the various ITIs for adoption. ▪ Increase the number of seats for trades like fitter, welder, carpenter, electrician etc at the various ITIs in the district 	<ul style="list-style-type: none"> ▪ CNC Machine Operator ▪ Machine Maintenance technicians ▪ Assembly fitter ▪ Vehicle servicing and repair technicians ▪ Welder ▪ Electrician ▪ Short term courses in electrical components found in modern vehicles ▪ Foundry technology courses ▪ Rubber: treading and re-treading of tyres 	<ul style="list-style-type: none"> ▪ Partner with ITIs and various private training institutes in order to provide relevant machinery to train the people 	Interventions required through funding of private training as well as through SSCs
Pharmaceuticals	<ul style="list-style-type: none"> ▪ Setup a panel of industry and academia which can suggest changes to the curriculum on a regular basis. 	<ul style="list-style-type: none"> ▪ Basics of documentation ▪ International laws and standards ▪ Instrumentation in pharmaceutical industry ▪ Intellectual Property Rights and its implications ▪ Cleanliness and hygiene management ▪ Safety standards 	<ul style="list-style-type: none"> ▪ Work with the academic institutions and give them constant feedback with respect to the changing processes and regulations 	Interventions required through funding of private training as well as through SSCs
Electronics (Electrical components)	<ul style="list-style-type: none"> ▪ Up gradation of courses to include more industry and practical exposure 	<ul style="list-style-type: none"> ▪ Railway Signalling systems ▪ Programmable Logic Controller – Industrial uses ▪ Hardware architecture of DCS ▪ Applications of SCADA software ▪ PLC Advance instructions ▪ Soft skills and industrial setup orientation training 	<ul style="list-style-type: none"> ▪ Interact more with the academia and allow more students to gain practical exposure on their machines 	Interventions required through funding of private training as well as through SSCs
IT & ITES	<p>Setting up various institutes in rural areas by the Department of IT, BT and S & T which will train the people in various courses like:-</p> <ul style="list-style-type: none"> - English speaking courses - Customer handling skills - Other soft skills - Basic computing skills 	<ul style="list-style-type: none"> ▪ Documentation and customer interaction ▪ Voice modulation, spoken English etc ▪ Courses in Information Security ▪ Business analyst / Business Intelligence related training ▪ Quality management in IT organisations ▪ Pre-sales and Sales of software product / services 	<ul style="list-style-type: none"> ▪ Working in close collaboration with VTPs 	Interventions required through funding of private training as well as through SSCs
Tourism, Travel, Hospitality &	<ul style="list-style-type: none"> ▪ Training to be given for:- 	<ul style="list-style-type: none"> ▪ Housekeeping ▪ Front desk management 	<ul style="list-style-type: none"> ▪ Collaboration with Department of 	NA

Sector	For Government players	For private training providers	For Industry	For NSDC
Trade	<ul style="list-style-type: none"> ○ Tourist guides ○ Tour operators ○ Tourist Cab Drivers 	<ul style="list-style-type: none"> ▪ Chef training ▪ Travel desk operators ▪ Communication skills ▪ Training in languages like English and Hindi ▪ Basic computer courses 	Tourism as well as VTPs for training of existing and new manpower	
Plastic Processing	<ul style="list-style-type: none"> ▪ Increase the number of seats in the plastic processing (COE) and Tool & Dye making trades 	<ul style="list-style-type: none"> ▪ Need for more ITI related trades with specific focus on industry related aspects – CNC machinist, Tool & Dye making, turner, electricians, Plastic Processing etc ▪ Mechanical Machine and Tool Maintenance ▪ Packaging and Quality inspection of plastic products ▪ Chemical process of manufacturing hard luggage including training in usage of poly carbonate bonds ▪ Frame Bending 	NA	Interventions required through funding of private training as well as through SSCs
Wine Processing	<ul style="list-style-type: none"> ▪ Provide technical knowhow from across the globe 	<ul style="list-style-type: none"> ▪ Crushing, Pressing and Fermentation processes ▪ Boiler mechanic ▪ Blending and refining processes related ▪ Usage of chemical and natural preservatives ▪ Bottling methods and technology ▪ Storage facility maintenance 	<ul style="list-style-type: none"> ▪ Collaborate with VTPs 	Interventions required through funding of private training as well as through SSCs
Paithani Saree cluster	<ul style="list-style-type: none"> ▪ Setup a training centre within the cluster 	<ul style="list-style-type: none"> ▪ Basics of power loom operation ▪ Repair and maintenance of Power loom machines ▪ Silk reeling, twisting, dyeing weaving, printing related courses ▪ Soft skills ▪ Sales and Marketing related training 	<ul style="list-style-type: none"> ▪ Collaborate with VTPs on a cluster level 	Interventions required through funding of private training as well as through SSCs
Raisin making cluster	<ul style="list-style-type: none"> ▪ Help for tie- up with technical institutes. 	<ul style="list-style-type: none"> ▪ Techniques of sun drying ▪ Dehydrator operation and maintenance ▪ Packaging techniques and practices ▪ Sales and Marketing related courses 	<ul style="list-style-type: none"> ▪ Collaborate with VTPs on a cluster level 	Interventions required through funding of private training as well as through SSCs

6.1. Government

- ❖ **Auto & Auto Components:** There is an urgent need to upgrade on the machinery currently available at various ITIs as well as the curriculum. With regards to the auto and auto

components industry, the technology and practices currently being followed in the industry is far ahead and students passing out of ITIs are found in-adept at working on the latest machinery. Thus the government should look at an overhaul of the technical training being imparted at various ITIs. One other option to be looked at is partnering with industry either through traditional MoUs or by putting up the various ITIs for adoption. Also, the government needs to look to increase the number of seats for trades like fitter, welder, carpenter, electrician etc at the various ITIs in the district.

- ❖ **Pharmaceuticals:** The industry feedback has largely focused on the lack of knowledge of current processes and methods followed by the industry as well as with regards to the regulations to be followed with respect to drugs being exported to foreign markets. Thus there is a need for constant up gradation of pharmaceutical courses taught at various colleges. The government should look to setup a special panel of industry and academia which can suggest changes to the curriculum on a regular basis.

- ❖ **Electronics / Electrical Components:** The need at the government's end is to ensure that the courses being taught at various colleges are up to date as per the industry standards. Students currently lack enough practical exposure and this need to be ensured at the curriculum design stage itself.

- ❖ **IT & ITES:** IT Enabled Services which include various BPO and KPO companies do not require very high level of skill sets and hence the Government can look to leverage these advantages in providing employment to the rural population. The recommendation here is towards setting up various institutes in rural areas by the Department of IT, BT and S & T which will train the people in various courses like:-
 - English speaking courses
 - Customer handling skills
 - Other soft skills
 - Basic computing skills

This will create a possible workforce who can handle voice based and certain non voice based process in a BPO / KPO company. This can also enable setting up of low cost BPOs by various corporates and create further jobs within the district.

- ❖ **Travel, Tourism and Hospitality:** There is a need on the part of the Department of Tourism / MTDC to implement programs in order to train people in:-
 - Tourist guides: These people need specific training in:-
 - Knowledge of the significance of each of the places they operate in.
 - Effective communication skills with proficiency in English and Hindi languages
 - Ability to help out foreign tourists especially to travel around the district

It is essential to provide certification to such trained guides as it will enhance the credibility of the people and further the confidence of the tourists

- Tourist Operators: These people need specific training in:-
 - Route planning and optimisation
 - Ability to liaison with airline, hotels and local community
 - Ability to manage tourist expectations
 - Ability to converse in English and Hindi languages
- Tourist cab Drivers: These people need specific training in:-
 - Effective driving skills
 - Complete knowledge of all routes within the district to all major tourist locations
 - Ability to converse in English and Hindi languages

- ❖ **Plastic Processing:** There exists a demand for technically skilled manpower within the district with specific focus on plastic processing. Thus it is essential to increase the number of seats in the plastic processing (COE) and Tool & Dye making trades. Also the government must encourage the industries within the region to work with ITIs and other training institutes in the field of machinery and technology training.

- ❖ **Wine Processing:** In order to further encourage the growth of the sector as well as the cluster within the district, the government must help by providing further technical know-how from across the globe.

- ❖ **Paithani Saree Cluster:** There is a need for infrastructural intervention from the government's end in the form of:-
 - Setup a training centre within the cluster to impart training in :-
 - Quality testing
 - Low material wastage
 - Modern means to reel, twist, weave, dye and print on silk
 - Changing customer preference for designs
 - Provide training in marketing for the cluster and market linkages through which the products manufactured can be exported.

- ❖ **Raisin Making Cluster:** There is an immediate need for the government to support the cluster through help for tie- up with technical institutes to provide the basic know-how in modern practices in drying of grapes and also for farmers to grow the best possible variety of grapes with optimum use of fertilizers.

6.2. Private Training Providers

The recommendations for the private training providers focus on the courses, category for which training needs to be provided:-

Sector	Training required
Auto & Auto	<ul style="list-style-type: none"> ▪ CNC Machine Operator

Sector	Training required
components	<ul style="list-style-type: none"> ▪ Machine Maintenance technicians ▪ Assembly fitter ▪ Vehicle servicing and repair technicians ▪ Welder ▪ Electrician ▪ Short term courses in electrical components found in modern vehicles ▪ Foundry technology courses ▪ Rubber: treading and re-treading of tyres
Pharmaceuticals	<ul style="list-style-type: none"> ▪ Basics of documentation ▪ International laws and standards ▪ Instrumentation in pharmaceutical industry ▪ Intellectual Property Rights and its implications ▪ Cleanliness and hygiene management ▪ Safety standards
Electronics / Electrical components	<ul style="list-style-type: none"> ▪ Railway Signalling systems ▪ Programmable Logic Controller – Industrial uses ▪ Hardware architecture of DCS ▪ Applications of SCADA software ▪ PLC Advance instructions ▪ Soft skills and industrial setup orientation training
IT & ITES	<ul style="list-style-type: none"> ▪ Documentation and customer interaction ▪ Voice modulation, spoken English etc ▪ Courses in Information Security ▪ Business analyst / Business Intelligence related training ▪ Quality management in IT organisations ▪ Pre-sales and Sales of software product / services
Tourism, Travel, Hospitality & Trade	<ul style="list-style-type: none"> ▪ Housekeeping ▪ Front desk management ▪ Chef training ▪ Travel desk operators ▪ Communication skills ▪ Training in languages like English and Hindi ▪ Basic computer courses
Plastic Processing	<ul style="list-style-type: none"> ▪ Need for more ITI related trades with specific focus on industry related aspects – CNC machinist, Tool & Dye making, turner, electricians, Plastic Processing etc ▪ Mechanical Machine and Tool Maintenance ▪ Packaging and Quality inspection of plastic products ▪ Chemical process of manufacturing hard luggage including training in

Sector	Training required
	usage of poly carbonate bonds <ul style="list-style-type: none"> ▪ Frame Bending
Wine Processing	<ul style="list-style-type: none"> ▪ Crushing, Pressing and Fermentation processes ▪ Boiler mechanic ▪ Blending and refining processes related ▪ Usage of chemical and natural preservatives ▪ Bottling methods and technology ▪ Storage facility maintenance
Paithani Saree cluster	<ul style="list-style-type: none"> ▪ Basics of power loom operation ▪ Repair and maintenance of Power loom machines ▪ Silk reeling, twisting, dyeing weaving, printing related courses ▪ Soft skills ▪ Sales and Marketing related training
Raisin Making cluster	<ul style="list-style-type: none"> ▪ Techniques of sun drying ▪ Dehydrator operation and maintenance ▪ Packaging techniques and practices ▪ Sales and Marketing related courses

6.3. Industry

- ❖ **Auto & Auto Components:** Partner with ITIs and various private training institutes in order to provide relevant machinery to train the people on (as they are very expensive)

- ❖ **Pharmaceuticals:** The industry needs to work with the academic institutions and give them constant feedback with respect to the changing processes and regulations so that the students are ready with respect to these aspects when they start on their jobs.

- ❖ **Electronics / Electrical Components:** The industry needs to interact more with the academia and allow more students to gain practical exposure on their machines and setup so that the students are able to apply what they learn.

- ❖ **IT & ITES:** There is a huge scope for development of the sector within the district. Availability of adequate manpower to work within the voice and non voice processes is a strength for the district. Hence the industry must look to build capacity within the district by collaborating with the VTPs. And offer employment. The advantage to the companies is in the form of relatively cheaper workforce as compared to the bigger cities like Hyderabad, Bangalore, Gurgaon, Mumbai etc.

- ❖ **Travel, Tourism and Hospitality:** Need to develop manpower both in the tourism and hospitality sector in collaboration with Department of Tourism as well as VTPs.

- ❖ **Paithani saree / Wine Processing:** Need to collaborate training for both sectors at a cluster level in collaboration with the VTPs.

6.4. NSDC

5. The NSDC can play a critical role in the below sectors by assisting and encouraging private players to offer the mentioned courses within the region:-

- Auto and Auto components
- Pharmaceuticals
- Electronics and Electricals
- IT and ITES
- Travel Tourism and Hospitality
- Plastic Processing
- Wine Processing

6. This apart, the NSDC should also look to coordinate with the industry and respective SSCs in the following sectors to ensure setting up of NOS and certification and assessment standards for the following sectors:-

- Auto and Auto components
- Electronics and Electricals
- IT and ITES

2.22. Osmanabad

1. Introduction

Osmanabad district lies in the southern part of state. Most of the district area is rocky while the remaining part is plain. It is located 600 meters above sea level. A small mountain Balaghat surrounds the district. The tehsils that lie in the range of the mountains are Bhoom, Washi, Kalamb, Osmanabad and Tuljapur tehsil. Some part of the major rivers like Godawari and Bhima come under this district.

Table 171: Comparison of Osmanabad district with Maharashtra – key indicators

Indicator	Year	Osmanabad	Maharashtra
Area, in sq.km.	2001	7,569	307,713
Percentage share in State geographical area, %	2001	2.46%	100%
No. of sub-districts	2011	9	353
No. of inhabited villages	2001	729	41,095
No. of households	2001	295,750	19,576,736
Forest area as a percentage of total geographical area	2001	1%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analyzed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Osmanabad district has a population of 16.6 lakh persons – 1.48 per cent of the State population. While 52 per cent of the population in the district is in working-age group (15 to 59 years), about 39 per cent is actually working i.e. work participation rate. The district's literacy rate is 76.33 per cent, which is slightly lower than the State average of 82.91 per cent but higher than the All-India average of 74 per cent.

Table 172: Key demographic indicators

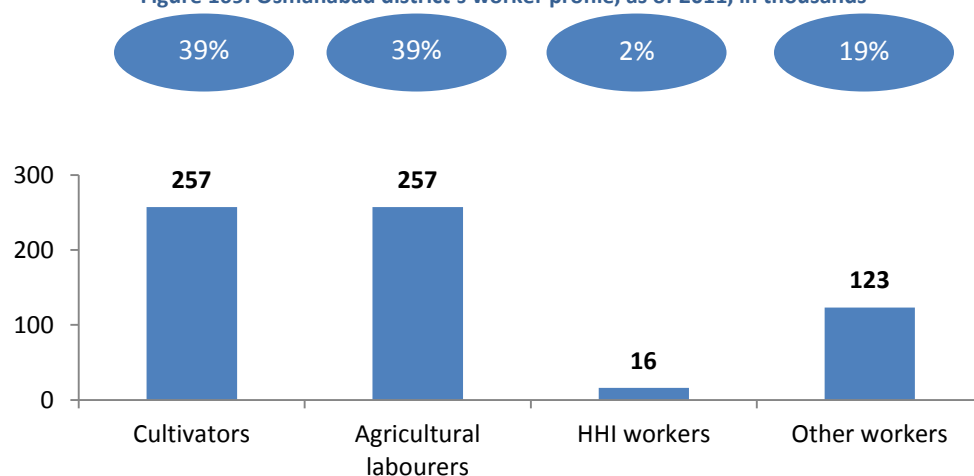
Indicator	Year	Osmanabad	Maharashtra
Population, No.	2011	1,660,311	112,372,972
Decadal growth rate of population, %	2001-11	11.69	15.99%
District's share in State's population, %	2011	1.48%	100%
Urban population as a percentage of total population, %	2011	17%	45%
SC population, %	2001	17%	8.79%
ST population, %	2001	2%	15%
Sex ratio, No. of females per 1000 males	2011	920	925
Population density, per sq. km.	2011	219	365
Literacy rate, %	2011	76.33%	82.91%

Indicator	Year	Osmanabad	Maharashtra
Main workers, No.	2001	555,202	34,748,053
Marginal workers, No.	2001	98,320	6,425,298
Working age population* as a percentage of total population, %	2001	52%	59%
Work participation rate^, %	2001	39%	42.50%

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011

The district has a total workforce of about 6.53 lakh persons. Of this, 39 per cent are cultivators, 39 per cent are agricultural labourers, three per cent are workers in household industry and 19 per cent are other workers.

Figure 169: Osmanabad district's worker profile, as of 2011, in thousands



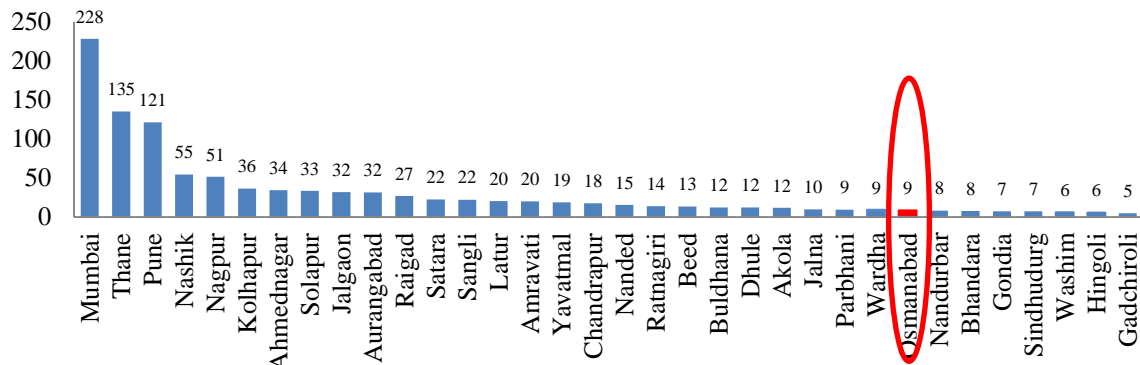
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2011-12, Osmanabad district had Gross District Domestic Product (GDDP) in Maharashtra at Rs 8,605 lakh (1.5 per cent of the Gross State Domestic Product). It ranks as 27th out of the total 35 districts in the state.

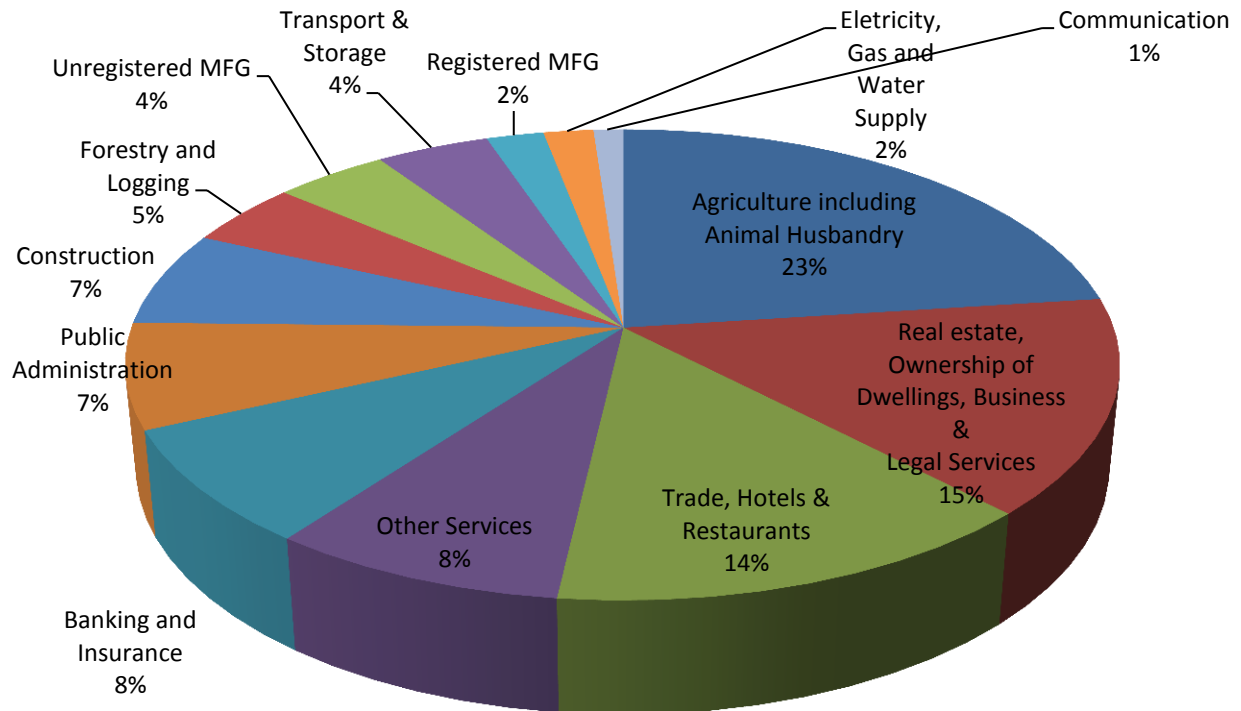
Figure 170: Gross District Domestic Product, in Rs. 8,605 crores, as of 2010-11



Source: Economic Survey of Maharashtra

Primary sector has contributed 28 per cent, while secondary sector has contributed 20 per cent and tertiary sector has contributed 52 per cent.

Figure 171: Sector wise distribution of Osmanabad's GDDP, as of 2009-10, 100% =6,809 crores



Source: Directorate of Economics and Statistics, Government of Maharashtra

Agriculture: Agriculture including animal husbandry contributes 20 per cent to the total GDDP of Osmanabad. The majority of land is used for Tur cultivation which is 17 per cent followed by Soyabean which has 16 per cent, third being Jowar being 10 per cent.

Industry: The district is industrially backward. The industrial activity is largely confined to sugar based units. The key reason as to why industrial development is difficult is because of lack of infrastructure like good road connectivity, inconsistent power supply and shortage of water supply.

Services: Service sector contributes 56 per cent of GDDP to Osmanabad's economy. Of all the services, the key services in the district are of 'real estate, ownership of dwellings, business and legal services' accounting for 15 per cent, followed by 'Trade, Hotels and Restaurants' accounting for 14 per cent.

2.3.State of Education

As of 2011-12, Osmanabad district had 1,669 schools. Of this, 34 per cent were primary schools, 41 per cent were upper primary schools and the remaining 25 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 239,040 while the student-teacher ratio was high at 27 students per teacher. The student-teacher ratio was slightly better as compared to the average ratio for the State at about 30 students per teacher. Similarly the number of general colleges and technical institutes happens to be 63 and 15 respectively. Furthermore, the number of industrial training institutes (ITIs) is 13 with a seating capacity of 1,705.

Table 173 : School and higher education infrastructure in Osmanabad district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	1,669	239,040
General colleges	63	27,443
Technical institutes*	15	1,948

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *Excluding non-AICTE diploma courses*

Table 174 : Key ITI indicators in Osmanabad district, as of October 2012

Indicator	Value
Total Number of ITIs	13
Number of Government ITIs	7
Number of Private ITIs	6
Total Seating capacity	1,705

Source: Department of Employment & Self Employment, Government of Maharashtra

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The Government Departments offer courses in multiple trades some of which are welder, carpenter, mason, wireman, painter, dress making, fruit vegetable processing, electronics, fitter etc. The Private institutes offer courses in handicraft, tailoring and cutting, welding, welder cum fabricator, wireman assistant, basic fashion designing, garment manufacturing etc.

2.4. Youth Aspiration

In the process of identifying the growth engines for the Osmanabad district, we also held a discussion with a youth group in the district to understand their aspirations. The key points are summarised below:

- **Willingness to pursue higher education:** Most of the youth want to pursue higher education but are constrained due to financial obligation. They are inclined towards government institutions as it has a better infrastructure and low fees.
- **Entrepreneurial zeal:** The youth is not inclined towards starting their own business, as they are highly risk averse. The preference is to go for Government or private jobs only, as they provide a secure source of income. Based on our discussions, we found that only about four to five per cent of the students want to go for self-employment opportunities.
- **Migration trends:** Most of the youth studying in Osmanabad are from the same district. Students don't want to work in industrial towns like Aurangabad or Pune until and unless compensated well.
- **Satisfaction with existing education infrastructure:** Even though there is high preference to study from Government educational institutions, the youth feel that these institutions are not equipped with even the basic infrastructure such as drinking water and working toilets.

3. Developmental concerns

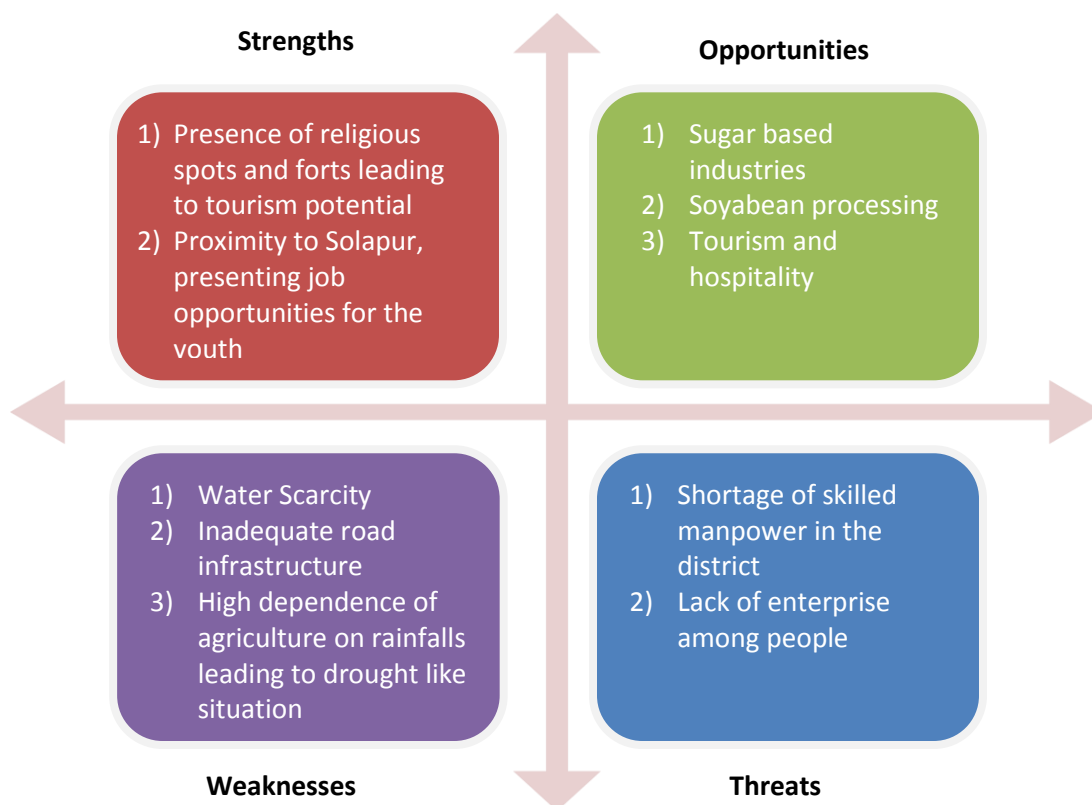
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Water Scarcity:** There is a huge water scarcity in Osmanabad. The net irrigated area is 21.71 per cent of the total net sown area. The drought affected talukas are Osmanabad, Tuljapur, Omerga, Lohara, Bhum, Paranda, Kallam and Washi. Water provided through irrigation is not sufficient. Industries will need water for their factories and in this situation the district is not able to attract industries as they will not be able to fulfil their water requirements.
- **Lack of Skilled people:** There is severe lack of skilled people in Osmanabad. The mindset of the people also needs to be changed as regards to skill development. As far as colleges are concerned there is only one private engineering college in the district, one Government diploma college and one private pharmacy college.
- **Lacking in Enterprise:** There is a lack of initiative and pro-activeness in youth. The students in ITI want to work after passing out of the institute. Even if they are given financial assistance for setting up their units, they are not willing to take the extra risk which comes with starting a new unit.

SWOT analysis

Based on the diagnostics of the Osmanabad, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 172 : SWOT analysis of Osmanabad District



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 1.10 lakh persons between 2012 and 2022. Sectors which are likely to generate employment are mainly 'agriculture and allied', 'building, construction and real estate' and 'travel, tourism and hospitality'.

In addition, sector which is unique to Osmanabad is ‘food processing’ - soyabean. The forecasts for this sector are low, as current and past trends have been used for forecasting. However, the sector has immense potential due to availability of raw materials. If adequate investments materialise in the sector (both from Government and private), then these sector will generate employment much more than what has been forecasted as of now.

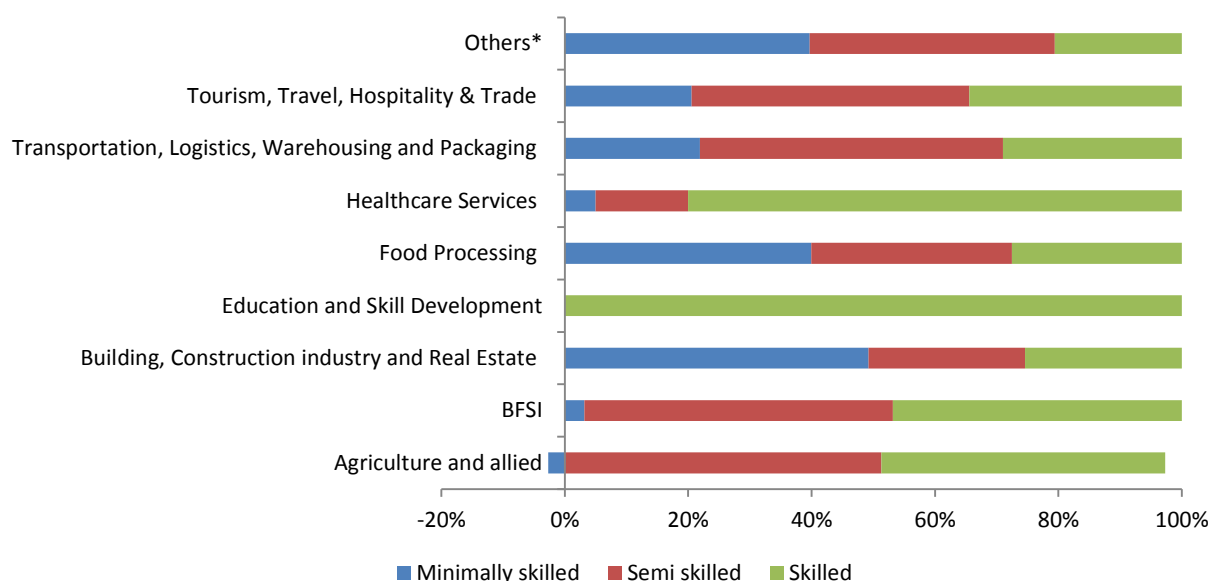
Table 175: Incremental demand of human resources in Osmanabad – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	13,005	6,627	19,632
BFSI	5,647	9,078	14,725
Building, Construction industry and Real Estate	7,736	10,736	18,472
Education and Skill Development	8,393	3,499	11,891
Food Processing	1,131	1,460	2,591
Healthcare Services	3,448	4,718	8,166
Transportation, Logistics, Warehousing and Packaging	2,109	2,390	4,499
Tourism, Travel, Hospitality & Trade	10,665	15,529	26,193
Others	1,645	2,352	3,998
Total	53,779	56,389	110,168

Source: IMAcS Analysis

*Other sector include Auto and Auto component, chemicals and pharmaceuticals, furniture and furnishings, Textile and Clothing and Other manufacturing.

Figure 173: Incremental demand of human resources in Osmanabad – by skill level

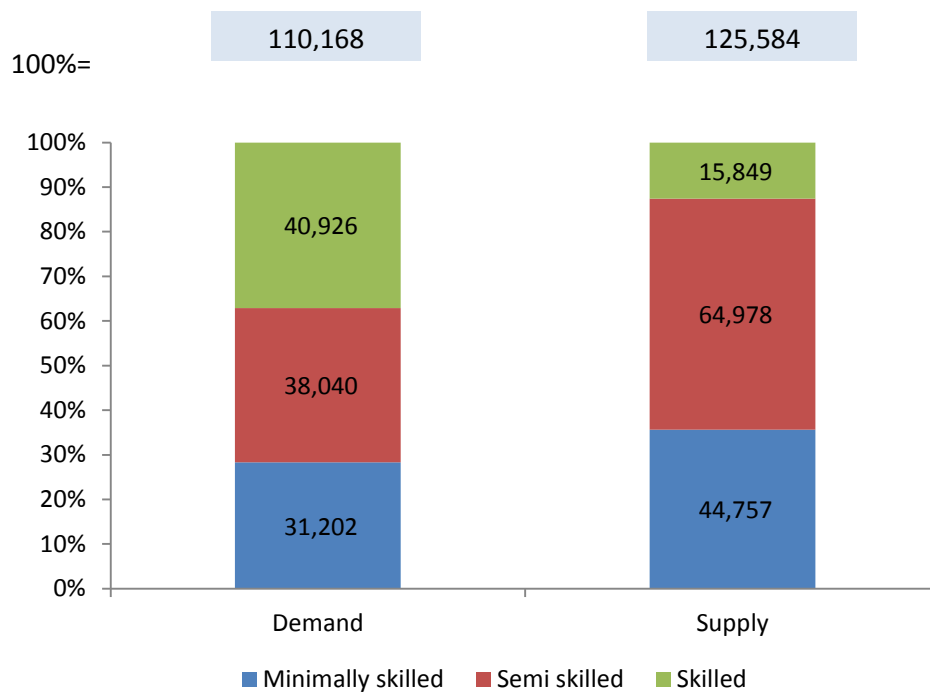


Source: IMAcS Analysis

* Other sector include Auto and Auto component, chemicals and pharmaceuticals, furniture and furnishings, Textile and Clothing and Other manufacturing

We have estimated incremental supply of human resources in the district at 1.25 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be more than the incremental demand in the district. Thus, indicating that all the people will not get absorbed in the district and will have to migrate out to other districts / States (as is reflected by current trends also). However, the incremental supply is leaning more towards minimally skilled workers, as against high demand for skilled workers in the district. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward.

Figure 174: Demand supply gap of human resources in Osmanabad – by skill level



Source: IMACS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

As discussed in the section above, while employment will be generated across many sectors, in this section, we have identified especially those sectors which require skilling interventions in the district – mainly agriculture and allied, food processing and travel, tourism and hospitality. Identification of such sectors has been based on the diagnostics above, our observations during the primary survey and discussions with the key stakeholders in the district.

Table 176 : Sectors where interventions are required in Osmanabad– comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Osmanabad	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing – Soya processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMaCS Analysis

The shortlisted sectors are at different stages of development and market evolution. Based on that, each one of them has separate skill requirements. While some require only skill up-gradation, some require new skills and even speciality skills. Sector wise details are given in Table 6 below:

5.1. Agriculture

More than 75 per cent of total working population in Osmanabad depends on agriculture for livelihood

(Cultivators: 39 per cent and agriculture labourers: 39 per cent) and rest are engaged in service based industries and also small and medium scale industries.

Based on our stakeholders' discussions we have identified the following skill gaps for farmers:

- Lack the ability to use the latest technology
- Unable to use the most productive seeds due to lack of knowledge and finance
- Lack of storage space leads to selling them cheap and sometimes at a loss
- Unaware of the different uses for a crop

- Unable to use the most advanced machinery because of lack of knowledge about their capability to increase productivity

5.2. Soyabean Processing

In Osmanabad, 16 per cent of the cultivable land is allotted for soya bean production. Currently there are no soya bean processing plants but there is tremendous potential for the same in the future. Once the sector comes up, skill development exercises can be undertaken both by the Government departments as well as vocational training institutions.

5.3. Tourism and Hospitality

There are many historical monuments and religious temples. There are many temples and forts of historical importance. Some of them are shown below:

Figure 175 : Tuljabhavani Mandir



Figure 176 : Kunthalgiri Mandir



Fort and Caves

Figure 177 : Naldurg Fort



Figure 178 : Paranda Fort



Based on our stakeholders' discussions we have identified the following skill gaps for the sector:

- People with this kind of skill-set don't prefer to stay in Osmanabad and work. They prefer to move to nearby hubs like Pune.
- People with the required skillset are difficult to get
- Experienced people prefer to work in other tourist attractions like Aurangabad

6. Recommendations

Recommendations for Osmanabad district focus on food processing industries as well as travel, tourism and hospitality. In addition to these, agriculture and allied sectors also contribute significant number of employment generation in the district and need up-skilling efforts to increase farmer productivity and income.

Table 177 : Key Recommendation for Osmanabad District

Sector	Government	Private training providers	Industry	NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Department of agriculture should empower the farmers by training them in skills to increase income 	n/a	n/a	n/a
Food processing - Soya	<ul style="list-style-type: none"> ▪ Training facilities can be provided once the sector comes up in the district ▪ Incentives can be provided to VTPs for the same 	<ul style="list-style-type: none"> ▪ Provide training in collaboration with industry 	<ul style="list-style-type: none"> ▪ It can tie up with the private training providers to provide training 	Interventions required through funding of private trainings as well as through SSCs

Sector	Government	Private training providers	Industry	NSDC
Tourism and Hospitality	<ul style="list-style-type: none"> ▪ Training can be given through Department of Tourism for tourism and hospitality sectors ▪ Training can be subsidised for the VTPs 	<ul style="list-style-type: none"> ▪ Provide short duration courses in the area of <ul style="list-style-type: none"> — Front office management — Sales and marketing 	<ul style="list-style-type: none"> ▪ Collaboration with Department of Tourism and VTPs for training of manpower 	Interventions required through funding of private trainings as well as through SSCs

6.1. Government

- ❖ **Agriculture and allied;** The Department of Agriculture could take various training programmes for farmers in collaboration with NSDC which would help farmers earn more income from agriculture. The programmes could have the following objectives:
 - Soil health improvement
 - Efficient use of water with in-situ moisture conservation and micro irrigation
 - Crop planning according to agro climatic conditions
- ❖ **Food Processing – Soya;** Training facilities can be provided by Department of Agriculture once the sector comes up in the district. Incentives can also be provided to VTPs for the same.
- ❖ **Tourism and hospitality;** Training can be given through Department of Tourism for tourism and hospitality sectors. Training can be subsidised for the VTPs.

6.2. Private training providers

- ❖ **Food processing - Soya;** Currently, there are no soybean processing units in the district. Once the industry comes up, the private training institutes can directly collaborate with the industry for meeting their training requirements.
- ❖ **Travel, tourism and hospitality;** It should provide short duration courses in the field of
 - Front office management
 - Sales and Marketing
 - Accommodation operations
 - Cab drivers
 - Tour operators
 - Tour guides

6.3. Industry

- ❖ **Food Processing – Soya;** It can tie up with the private training providers to provide training
- ❖ **Tourism and hospitality;** Collaboration with Department of Tourism and VTPs for training of manpower

6.4.NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Food Processing – Soyabean processing
- ❖ Tourism and hospitality

2.23. Parbhani

1. Introduction

Parbhani became a district on 1st may 1960. It is one of the eight districts of Marathawada region in Maharashtra state of India. It was previously known as, Prabhavatinagar. Known for its dense population - Parbhani city is headquarter of this district. The district has a total area of 6,214 sq.km – about two per cent of the State area. It is mainly agrarian with about 76 per cent of the workforce engaged in agriculture and allied activities as either cultivators or agricultural labourers.

Table 178: Comparison of Parbhani district with Maharashtra – key indicators

Indicator	Year	Parbhani	Maharashtra
Area, in sq.km.	2001	6,214	307,713
Percentage share in State geographical area, %	2001	2.02%	100%
No. of sub-districts	2011	10	353
No. of inhabited villages	2001	830	41,095
No. of households	2001	278,702	19,576,736
Forest area as a percentage of total geographical area	2001	1.55%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analyzed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Parbhani district has a population of 18.35 lakh persons – 1.6 per cent of the State population. While 51 per cent of the population in the district is in working-age group (15 to 59 years), about 36 per cent is actually working i.e. work participation rate. The district's literacy rate is 75.22 per cent, which is lower than the State average of 82.91 per cent but higher than the All-India average of 74 per cent.

Table 179: Key demographic indicators

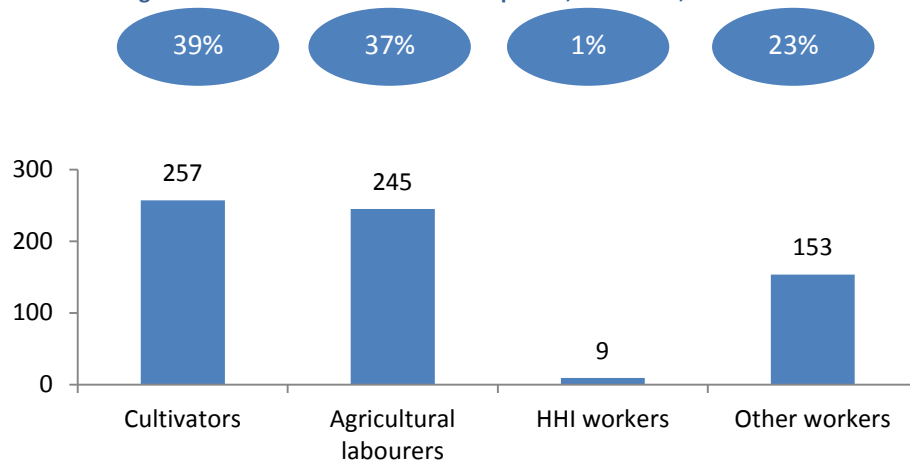
Indicator	Year	Parbhani	Maharashtra
Population, No.	2011	1,835,982	112,372,972
Decadal growth rate of population, %	2001-11	20.18	15.99%
District's share in State's population, %	2011	1.63%	100%
Urban population as a percentage of total population, %	2011	31%	45%
SC population, %	2001	10%	8.79%
ST population, %	2001	2%	15%
Sex ratio, No. of females per 1000 males	2011	940	925

Indicator	Year	Parbhani	Maharashtra
Population density, per sq. km.	2011	295	365
Literacy rate, %	2011	75.22%	82.91%
Main workers, No.	2001	559,917	34,748,053
Marginal workers, No.	2001	84,835	6,425,298
Working age population* as a percentage of total population, %	2001	51%	59%
Work participation rate^, %	2001	36%	42.50%

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011

The district has a total workforce of about 6.64 lakh persons. Of this, 39 per cent are cultivators, 37 per cent are agricultural labourers, one per cent is workers in household industry and 23 per cent are other workers.

Figure 179: Parbhani district's worker profile, as of 2011, in thousands



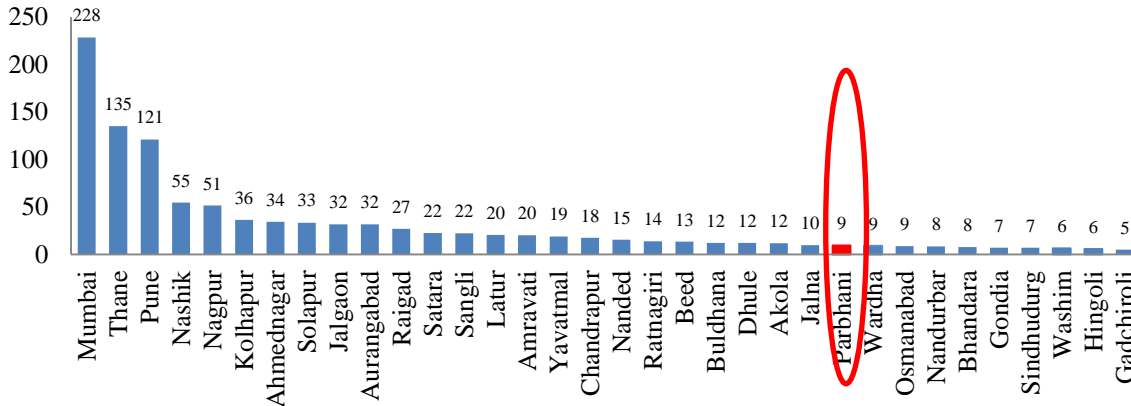
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2011-12, Parbhani district had Gross District Domestic Product (GDDP) in Maharashtra at Rs. 9,424 crore (0.92 per cent of the Gross State Domestic Product). It ranks as 26th out of the total 35 districts in the state.

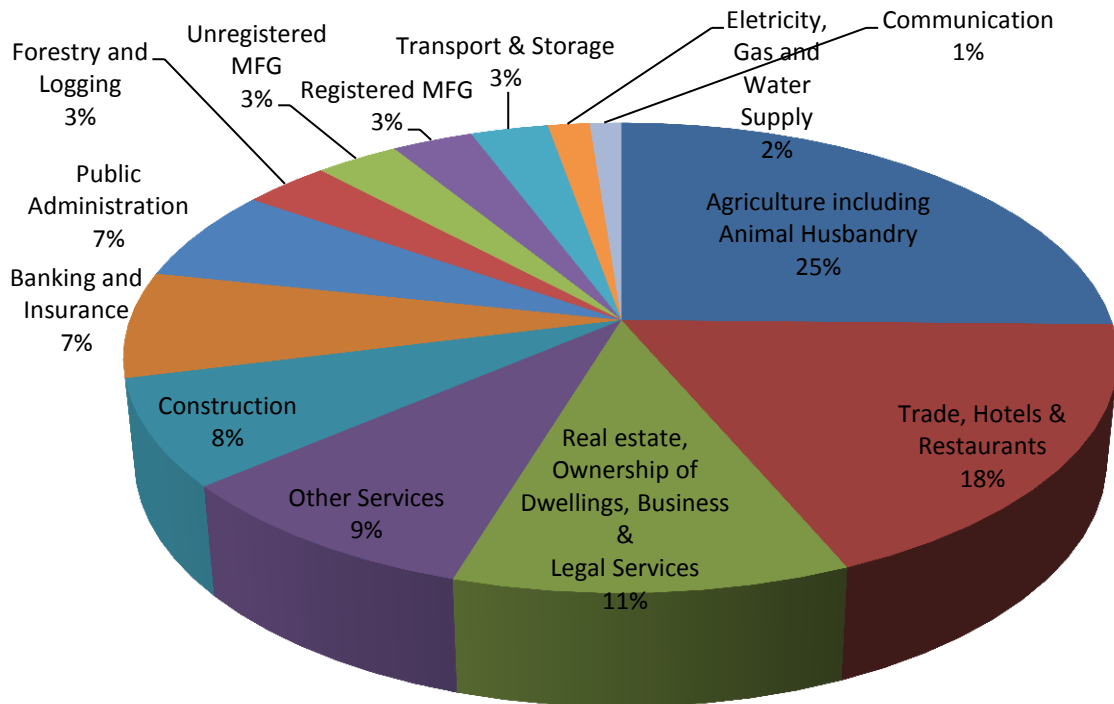
Figure 180: Gross District Domestic Product, in Rs 9424 crores, as of 2010-11



Source: Economic Survey of Maharashtra

As of 2009-10, primary sector's contribution was 28 per cent, secondary sector's contribution was 21 per cent and tertiary sector's contribution was 51 per cent.

Figure 181: Sector wise distribution of Parbhani's GDDP, as of 2009-10, 100% = Rs. 8,303 crores



Source: Directorate of Economics and Statistics, Government of Maharashtra

Agriculture: Parbhani is primarily an agrarian district where agriculture provides means of livelihood to 76 per cent of the population. Crops are cultivated in two seasons namely Kharif and Rabi. The key crops cultivated are cotton, sorghum, soybean, green gram, black gram and pigeon pea. Cotton has the maximum land under cultivation (34 per cent) followed by sorghum (16 per cent) and soybean (11 per cent). The soils are mostly black varying in texture from clay to clay loams. Sandy loam soils are present in hilly areas. While lighter soils suit *kharif* crops like jowar, bajri, groundnut, etc., deep soils are favourable to *rabi* crops like cotton, jowar, and gram.

Industry: It is an industrially backward district with hardly any industries present in the district. In the vision statement for the next five years the district administration is focusing on Cotton industries, Dal mill and oil mills. The industrial activity is also present in terms of small and micro cotton and ginning oil mills. There are 84 small and micro units at present. The expanding market for milk and milk products and short gestation are encouraging the entrepreneurs to take up this activity on commercial line as the supply is 1.5 lakh litres every year and demand is 6 lakh litres.

Services: As mentioned earlier, services account for 51 per cent of GDDP in Parbhani district. Of all the services, the key services in the district are of 'Trade, Hotels and Restaurants' accounting for 18 per cent followed by 'real estate, ownership of dwellings, business and legal services' accounting for 11 per cent.

2.3. State of Education

As of 2011-12, Parbhani district had 1,531 schools. Of this, 38 per cent were primary schools, 43 per cent were upper primary schools and the remaining 18 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 311,475 while the student-teacher ratio was high at 29 students per teacher. The student-teacher ratio was slightly better as compared to the average ratio for the State at about 30 students per teacher. As far as colleges are concerned there are 66 general colleges and 13 technical colleges which include engineering colleges. Parbhani is also home to one Agriculture University - Marathwada Krishi Vidyapeeth, Parbhani. Students from this university get placed into multinational companies like ITC, HUL etc. Furthermore the number of industrial training institutes (ITIs) is 10 with a seating capacity of 1580.

Table 180: School and higher education infrastructure in Parbhani district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	1531	311,475
General colleges	66	24,028
Technical institutes*	13	3,158

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *Excluding non-AICTE diploma courses*

Table 181: Key ITI indicator in Parbhani district as of October 2012

Indicator	Value
Total Number of ITI	10
Number of Government ITI	9
Number of Private ITI	1
Total Seating capacity	1,580

Source: Department of Employment & Self Employment, Government of Maharashtra

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The Government Departments offer courses in multiple trades some of which are mechanic carpenter, welder, carpenter, mechanic diesel, mechanical motor vehicle, electrician, surveyor, mechanical radio, cutting and sewing, stenographer etc. Private institutes offer courses in electrician, handicraft and work experience teacher, garment manufacturing and fashion designing, electrical wireman etc.

2.4. Youth Aspiration

In the process of identifying the growth engines for the Parbhani district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Willingness to pursue higher education:** Most of the youth want to study further so as to develop skills and get good job opportunities. They are biased towards Government institutes, which have low fees and better job prospects.
- **Entrepreneurial zeal:** The youth is not inclined towards starting their own business, as they are highly risk averse. The preference is to go for Government or private jobs only, as they provide a secure source of income. Based on our discussions, we found that only about one to two per cent of the students want to go for self-employment opportunities.
- **Migration trends:** Most of the students are from the district itself. They want to work in industrial towns like Aurangabad and Pune so that they get good salaries and better working ambience.
- **Satisfaction with existing education infrastructure:** Even though there is high preference to study from Government educational institutions, the youth feel that these institutions are not equipped with even the basic infrastructure such as drinking water and working toilets.
- **Job preference:** Most of the students want to work in electronics or auto industry as they feel the salaries are good.

3. Developmental concerns

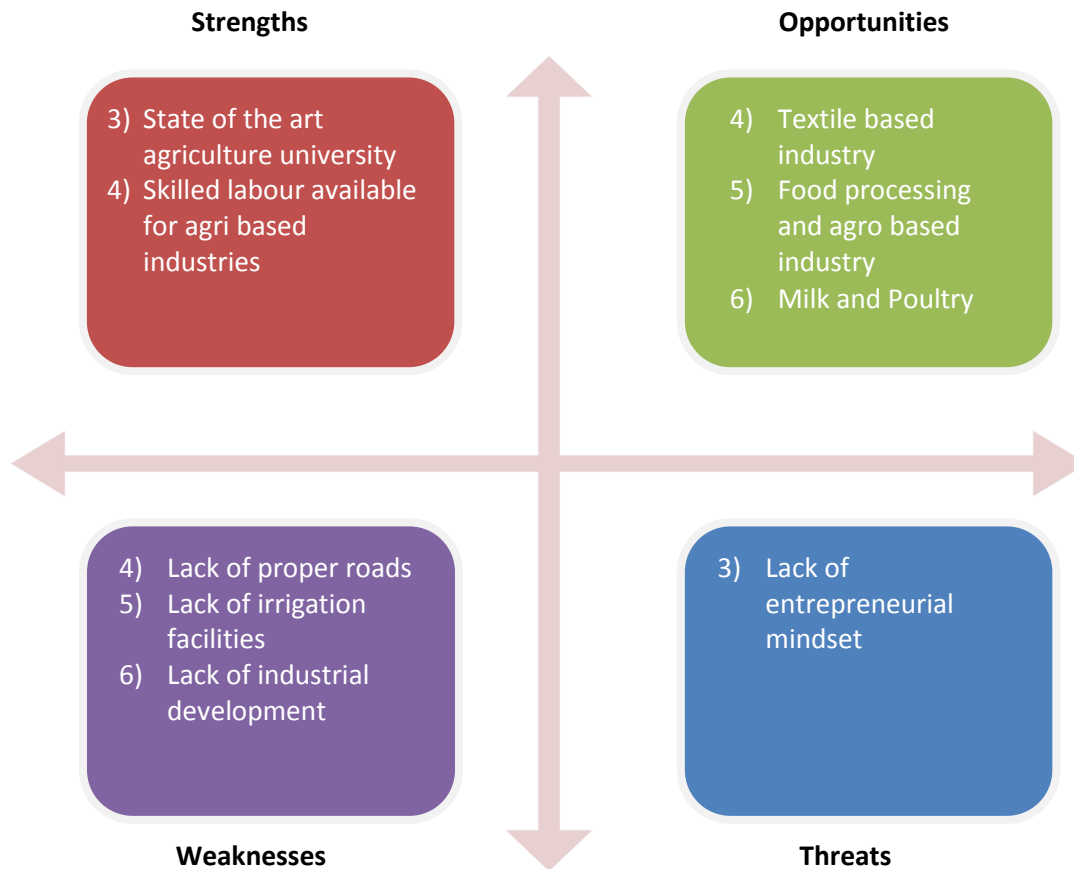
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Weak Infrastructure:** There is a lack of general infrastructure in the district. The roads are not properly maintained, there are no proper hotels in the district. Water is scarce in the district. Infrastructure needs to be upgraded on all these parameters to attract industries.
- **Lack of entrepreneurship spirit:** There is a lack of initiative and pro-activeness among young people in the district. The students in ITI want to work after passing out of the institutes. Even if they are given financial assistance for setting up their units, they are not willing to take the extra risk which comes with starting a new unit.

SWOT analysis

Based on the diagnostics of the Parbhani, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 182: SWOT analysis of Parbhani district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 85,484 persons between 2012 and 2022. Sectors which are likely to generate employment are mainly 'agriculture and allied', 'building, construction and real estate' and 'BFSI'.

However, sector which is unique to Parbhani is 'textiles and clothing'. The forecasts for the sector are low, as current and past trends have been used for forecasting. However, the sector has immense potential due to availability of raw materials. If adequate investments materialise in the sector (both from Government and private), then these sectors will generate employment much more than what has been forecasted as of now.

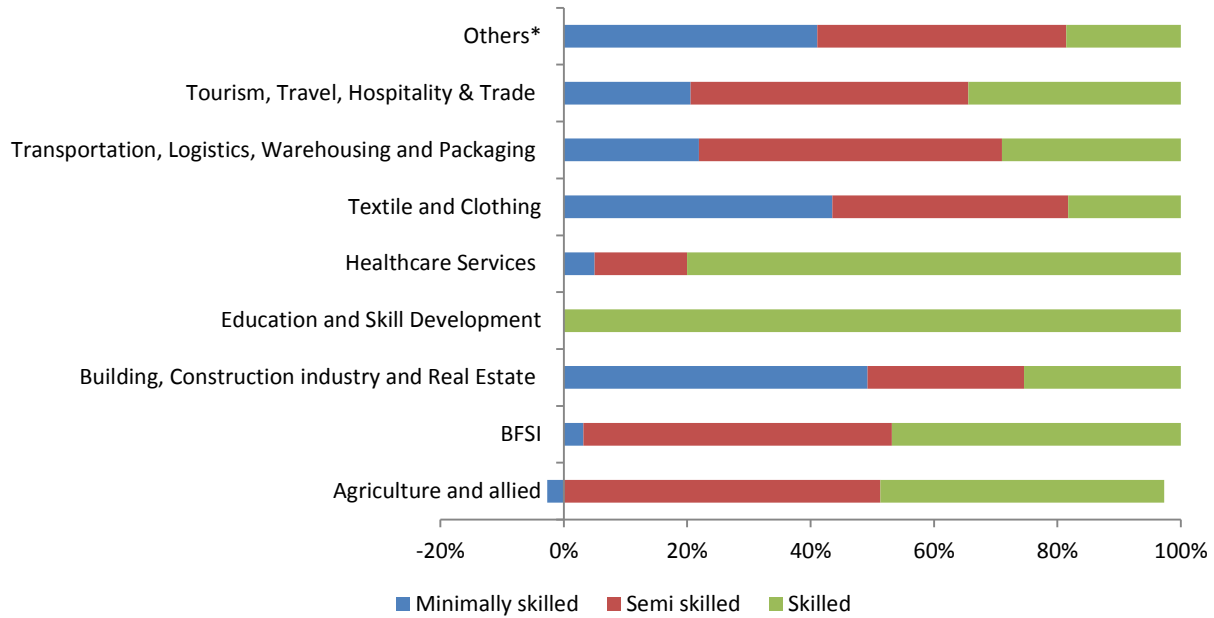
Table 182: Incremental demand of human resources in Parbhani – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	12,204	6,219	18,422
Banking and Financial Services Insurance	5,727	9,206	14,933
Building, Construction industry and Real Estate	10,590	14,698	25,288
Education and Skill Development	6,947	3,467	10,414
Healthcare Services	1,482	2,028	3,510
Textile and Clothing	270	342	611
Transportation, Logistics, Warehousing and Packaging	2,174	2,464	4,638
Tourism, Travel, Hospitality & Trade	2,117	3,082	5,198
Others	944	1,525	2469
Total	42,453	43,031	85,484

Source: IMaCS Analysis

Other sector include auto and auto component, food processing, furniture and furnishings and Other manufacturing

Figure 183: Incremental demand of human resources in Parbhani – by skill level

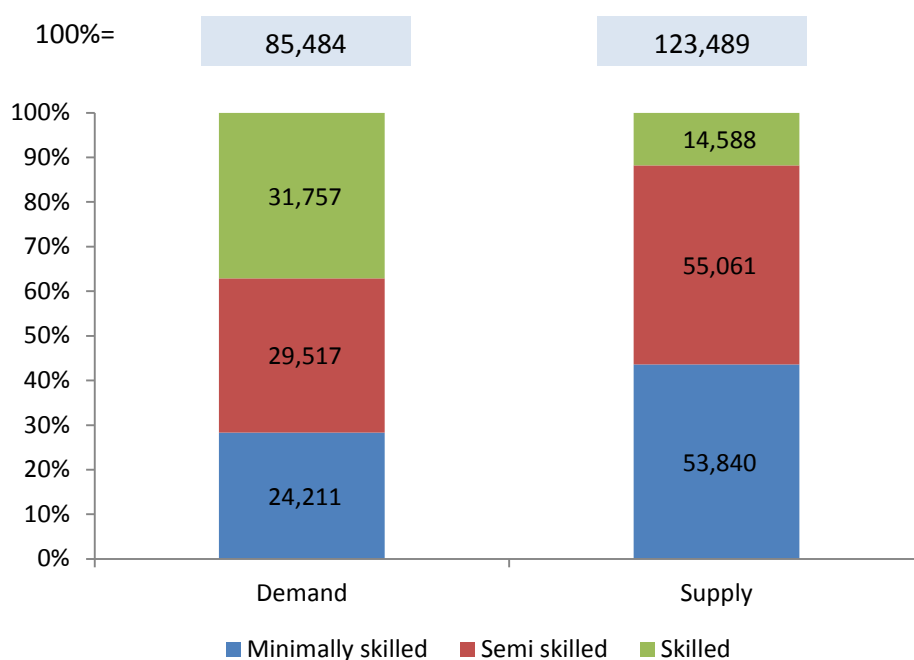


Source: IMAcS Analysis

* Other sector include auto and auto component, food processing, furniture and furnishings and Other manufacturing

We have estimated incremental supply of human resources in the district at 123,489 persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be more than the incremental demand in the district. Thus, indicating that all the people will not get absorbed in the district and will have to migrate out to other districts / States (as is reflected by current trends also). However, the incremental supply is leaning more towards minimally skilled workers, as against high demand for skilled workers in the district. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward. All the stakeholders need to work in conjunction to meet the skill shortage in the district.

Figure 184: Demand supply gap of human resources in Parbhani – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on our field surveys in Parbhani district, we have found out that sectors where skilling interventions are required are agriculture and allied sectors as more than 80 per cent of the population is dependent on agriculture and allied industries. In addition, skilling interventions can take place in the textiles and clothing sector.

Table 183: Sectors where interventions are required in Parbhani– comparison with Maharashtra

(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Parbhani	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		

High Growth Sectors identified by NSDC	Parbhani	Maharashtra
Food Processing – Dal Mills		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMAcS Analysis

The shortlisted sectors are at different stages of development and market evolution. Based on that, each one of them has separate skill requirements. While some require only skill up-gradation, some require new skills and even speciality skills.

5.1. Agriculture

More than 75 per cent of total working population in Parbhani depends on agriculture for livelihood (Cultivators: 39 per cent and agriculture laborers: 37 percent) and rest 24 per cent are engaged in service based industries and also small and medium scale industries. Agriculture and allied activities are the dominant activity where 76 per cent of the laborers are engaged directly or indirectly.

The main kharif crops cultivated are Cotton, Sorghum, Soybean, Green Gram, Black Gram and pigeon pea. While Sorghum is the only Rabi crop grown in this district. Cotton has the maximum land under cultivation (34 per cent) followed by sorghum (16 per cent) and soybean (11 per cent).

Based on our stakeholders' discussions, we found out that the farmer's:

- Lack the ability to use the latest technology
- Unable to use the most productive seeds due to lack of knowledge and finance
- Unaware of the different uses for a crop
- Unable to use the most advanced machinery because of lack of knowledge about their capability to increase productivity

5.2. Cotton Ginning and Pressing

This sector has a huge potential to grow in this district since 34 per cent of the cultivable land is under cotton. Raw material is easily available for this industry in Parbhani district. Furthermore this district has cheap labour available. There is also a cluster available for cotton ginning and pressing. There are 29

units in the cluster employing 1500 people and turnover of the cluster is Rs.750 corers. The sector can grow further if the required investments materialize.

Based on our stakeholders' discussions, we found out that;

- People are available but have issues like high absenteeism, not maintaining fixed working hours etc
- People are not professional in these type of jobs although are available quite easily.

6. Recommendations

Recommendations for Parbhani district focus on textile and clothing sector. In addition to these, agriculture and allied sectors also contribute significant number of employment generation in the district and need up-skilling efforts to increase farmer productivity and income.

Table 184 : Key Recommendations for Parbhani District

Sector	Government	Private training providers	Industry	NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Department of Agriculture can disseminate knowledge of soil health etc to farmers. ▪ Promote training in allied activities like pottery , plumbing etc. 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a
Textiles & clothing - Cotton Ginning and Pressing	<ul style="list-style-type: none"> ▪ Cluster based training can be provided 	<ul style="list-style-type: none"> ▪ They can provide training to workers by collaborating with industries 	<ul style="list-style-type: none"> ▪ Training in collaboration with VTPs 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs

6.1. Government

❖ **Agriculture and allied;** Department of Agriculture can focus on providing training in some of the following areas:

- Micro irrigation
- Organic farming
- Post-harvest management

There are many allied activities where the Government can give training to encourage supplementary sources of income. These include:

- Pottery
- Plumbing
- Sericulture which includes silk, milk and honey scheme
- Livestock development

❖ **Textiles and clothing - Cotton ginning and pressing;** There needs to be increased focus of the Government on this sector as this is an employment incentive sector.

- It can establish training institutes in collaboration with NSDC and industry. Industry can bring the latest technology while the government can give the land and building.
- It must also incorporate special courses in ITI focussed on textile sector.
- Promotion of cluster training programmes where training of the whole cluster can be handled.

6.2. Private training providers

- ❖ **Cotton ginning and pressing;** They can tie up with the cluster/industry to train the workers. It would immensely beneficial if the industry can only focus on their core activities.

6.3. Industry

- ❖ **Cotton ginning and pressing;** Industry can collaborate directly with VTPs for meeting the skill development needs at the cluster level for the industry. Direct tie-ups can be explored with ITI as well for sourcing of trained manpower.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Textiles and clothing - Cotton ginning and pressing

2.24. PUNE

1. Introduction

The district of Pune lies in western Maharashtra. It is bounded by Thane district in northwest, Raigad district to the west, Satara district to the south, Solapur district to the southeast, and Ahmednagar district to the north and northeast. The district spans an area of 15,643 square kilometers. The district headquarters is Pune city, which is one of the most industrialized cities in India. The Pune Municipal Corporation and the Pimpri Chinchwad Municipal Corporation divisions of Pune house several of the national and global industries which offer opportunities to skilled professionals.

In addition to the industrial might of Pune, the district is also regarded as an education hub with its deep cultural and intellectual roots. In fact, Pune is often referred to as the 'Oxford of the East' due to its numerous venerable institutions of education.

The hospitality and tourism sector is also synonymous with Pune, with Pune serving as the destination to numerous business travellers and also as a gateway to the picturesque location of Lonavala – nestled in the Sahyadri ranges. Pune has also benefited from the IT and ITes sector booms which have resulted in a lifestyle change for the city.

Today, Pune district, with its good infrastructure and industrial opportunities acts as one of the main centers where skilled youth are attracted in search of opportunities.

Table 185: Comparison of Pune district with Maharashtra – key indicators

Indicator	Year	Pune	Maharashtra
Area, in sq.km.	2001	15,643	307,713
Percentage share in State geographical area, %	2001	5.08%	100%
No. of sub-districts	2011	15	353
No. of inhabited villages	2001	1,844	41,095
No. of households	2001	1,517,041	19,576,736
Forest area as a % of total geographical area	2001	10.95%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Pune district has a population of about 94 lakh persons – 8.39 per cent of the State population. Majority of the population – about 37 per cent of the population is concentrated in the Pune

city, about five per cent in Baramati, Dhaund and Indapur talukas and the remaining in the other talukas. While 62 per cent of the population in the district is in working-age group (15 to 59 years), about 41 per cent is actually working i.e. work participation rate.

The district's literacy rate is 87.19 per cent, which is higher than the State average of 82.91 per cent and the All-India average of 74 per cent. Male literacy at 92.72 per cent is significantly higher than female literacy rate at 81.13 per cent.

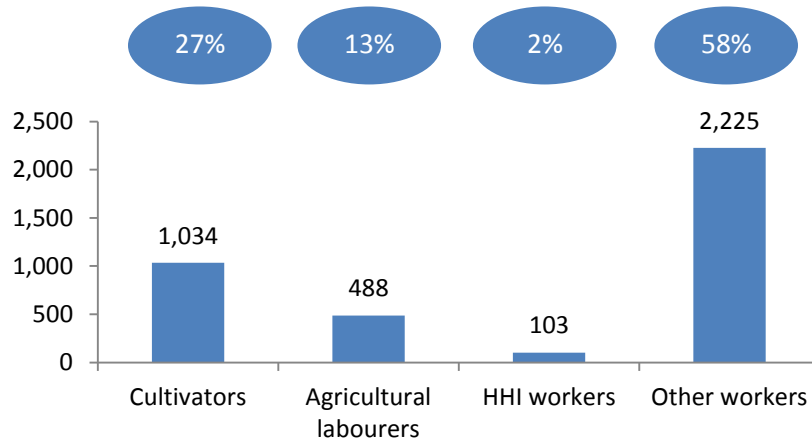
Table 186: Key demographic indicators

Indicator	Year	Pune	Maharashtra
Population, No.	2011	94,26,959	112,372,972
Decadal growth rate of population, %	2001-11	30.34	15.99%
District's share in State's population, %	2011	8.39%	100%
Urban population as a percentage of total population, %	2011	61%	45%
SC population, %	2001	11%	8.79%
ST population, %	2001	4%	15%
Sex ratio, No. of females per 1000 males	2011	910	925
Population density, per sq. km.	2011	603	365
Literacy rate, %	2011	87.19%	82.91%
Main workers, No.	2001	2,645,429	34,748,053
Marginal workers, No.	2001	309,053	6,425,298
Working age population* as a percentage of total population, %	2001	62%	59%
Work participation rate^, %	2001	41.00%	42.50%
HDI Rank	2000	4	
HDI Index	2000	0.76	0.58

**Working age population is the population in the age-group of 15 to 64 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011*

The district has a total workforce of about 38.50 lakh persons. Of this, 27 per cent are cultivators, 13 per cent are agricultural labourers, two per cent are workers in household industry and 58 per cent are other workers.

Figure 185: Pune district's worker profile, as of 2011, in thousands



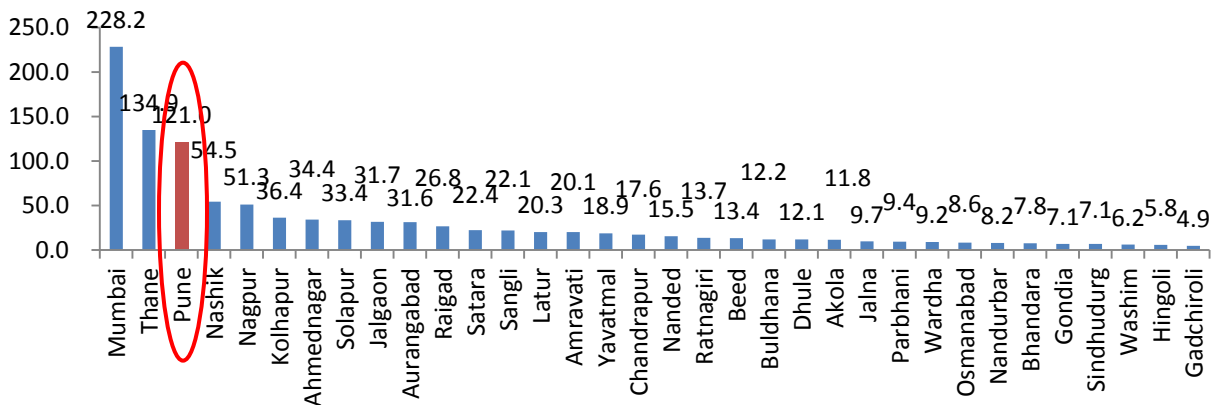
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2011-12, Pune district had 3rd largest Gross District Domestic Product (GDDP) in Maharashtra at Rs 12,103 crore (11.3 per cent of the Gross State Domestic Product). The per capita NDDP of Pune was Rs. 127,716, making it the second highest in the state among 35 districts.

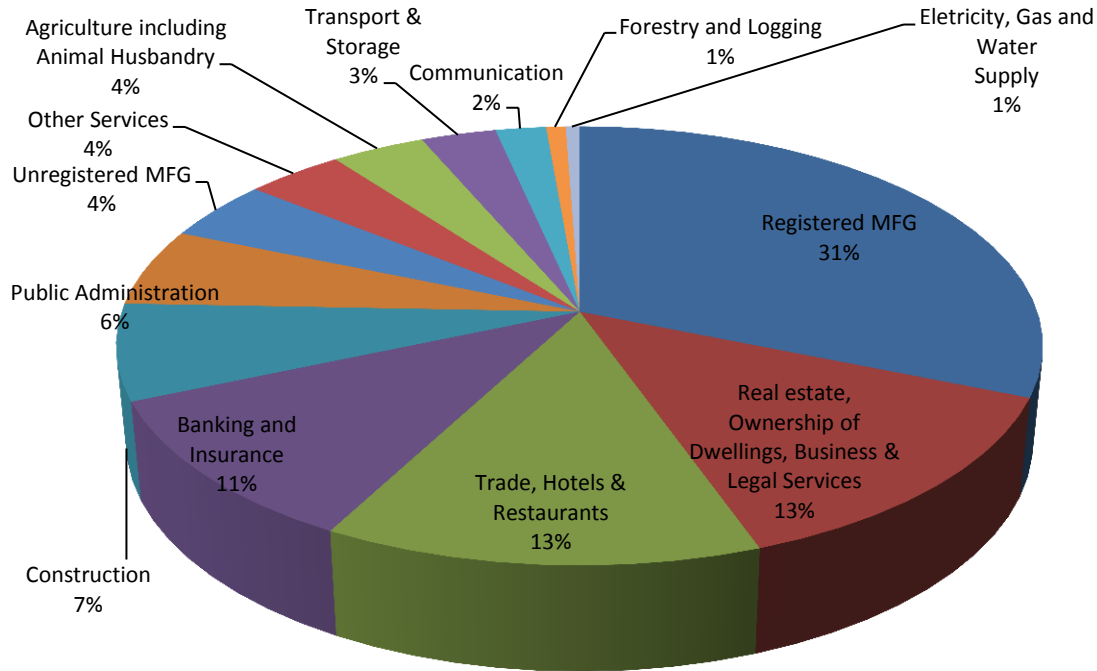
Figure 186: Gross District Domestic Product, in Rs thousand crores, as of 2011-12



Source: Economic Survey of Maharashtra, 2011-12

The district economy is pre-dominantly service based, with service sector's share in GDP at 52 per cent in 2011-12. This is followed by secondary sector at 43 per cent and primary sector at five per cent.

Figure 187: Sector wise distribution of Pune's GDDP, as of 2011-12



Source: Pune District Socio-Economic Review

Agriculture: Pune district has a net sown area of 945,000 hectares in which major crops like sorghum, paddy, wheat, maize are cultivated. The district has rivers like Bhima, Pushpavati, Ghod and Bhama which aid in agriculture. The output of the agricultural produce feeds into the many agro based processing units in the district.

Industry: As of 2012, Pune had 642 large and 27,683 MSME units registered. The MSME units paved way for the employment of about 1.5 lakh people with an investment of Rs. 4.01 lakhs. These units span across both manufacturing and service sectors. There are 10 industrial areas in the district with the largest one being the Pimpri area with an area of about 1224 hectares. In addition to the industrial areas, there are several IT and SEZ zones to aid the growth of the sectors.

Services: As mentioned above, services account for 52 per cent of GDDP in Pune district. Of all the services, the key services in the district are 'real estate, ownership of buildings and business and legal services' at 13 per cent, 'trade, hotel and restaurants' at 13 per cent and 'banking and insurance' at 11 per cent.

2.3.State of education

As of 2011-12, Pune district had 6,018 schools, with 1,233,725 students enrolled. Of this, 51 per cent were primary schools, 28 per cent were upper primary schools and the remaining 21 per cent were secondary and higher secondary schools. The student-teacher ratio was at 19 students per teacher. The student-teacher ratio is much better than the average ratio for the State, at about 30 students per teacher.

Table 187: School and higher education infrastructure in Pune district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	6,018	1,233,725
General colleges	266	206,008
Technical education*	321	62,110

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai, *Excluding non-AICTE diploma courses*

For general higher education, the district has 266 general colleges, while for technical education, the district has 321 institutes that have 62,110 students enrolled.

For vocational training, Pune district had a total of 63 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, 16 were Government ITIs and the remaining 47 are private ITI. All the 63 ITIs together have a seating capacity of 15,577.

Table 188: Key ITI indicators in Pune district, March 2012

Indicator	Value
Total Number of ITI	63
Number of Government ITIs	16
Number of Private ITIs	47
Total Seating capacity	15,577
Student pass rate	90%
Student drop-out rate	5-10%

Source: Directorate of Vocational Education & Training, Mumbai and IMaCS Primary survey

Based on our discussions with the key stakeholders in Pune district, we have found that on an average, of all the students that pass out from an ITI in each year, about 80 per cent find jobs in the market due to the higher number of opportunities present within the district. The average pass rate observed is around 90 per cent and the drop-out rate is around five to ten per cent. For details on courses offered by ITIs in Pune refer to the table in annexure.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship

Development). The courses are aimed at self-employment, empowerment and entrepreneurship. Some of the courses offered are paramedical, garmenting, beauty culture, machining, mobile repairing, UPS repairing, etc.

The private training institutes offer courses in desktop publishing, tailoring and cutting, diesel mechanic, building safety, hotel management, ward assistant, auto electrician, construction supervisor, computer operator, MS Office training, etc. For details of training institutes and courses offered, refer to table in annexure.

2.4 Youth aspirations

In the process of identifying the growth engines for the Pune district, we also held a discussion with a youth group in the district to understand their aspirations. The key points are summarised below:

- **Willingness to pursue higher education:** Majority of the youth want to pursue higher education as they feel it will add to their career prospects.
- **Entrepreneurial zeal:** The youth is not inclined towards starting their own business, as they feel that Pune is blessed with adequate opportunities where they can make their mark.
- **Satisfaction with existing education infrastructure:** The youth are satisfied with the infrastructure and many want to replicate the Aundh ITI model where an industry promotes an ITI to make it a place of excellence.
- **Demand for additional training / courses:** Youth feel that IT related training must be offered more as that would give them an edge in the MNCs where they want to be placed.
- **Job preference:** Most students want to take up job opportunities in the auto sector as they feel that is the sector which will grow in the coming years and also offer good pay.

3. Developmental concerns

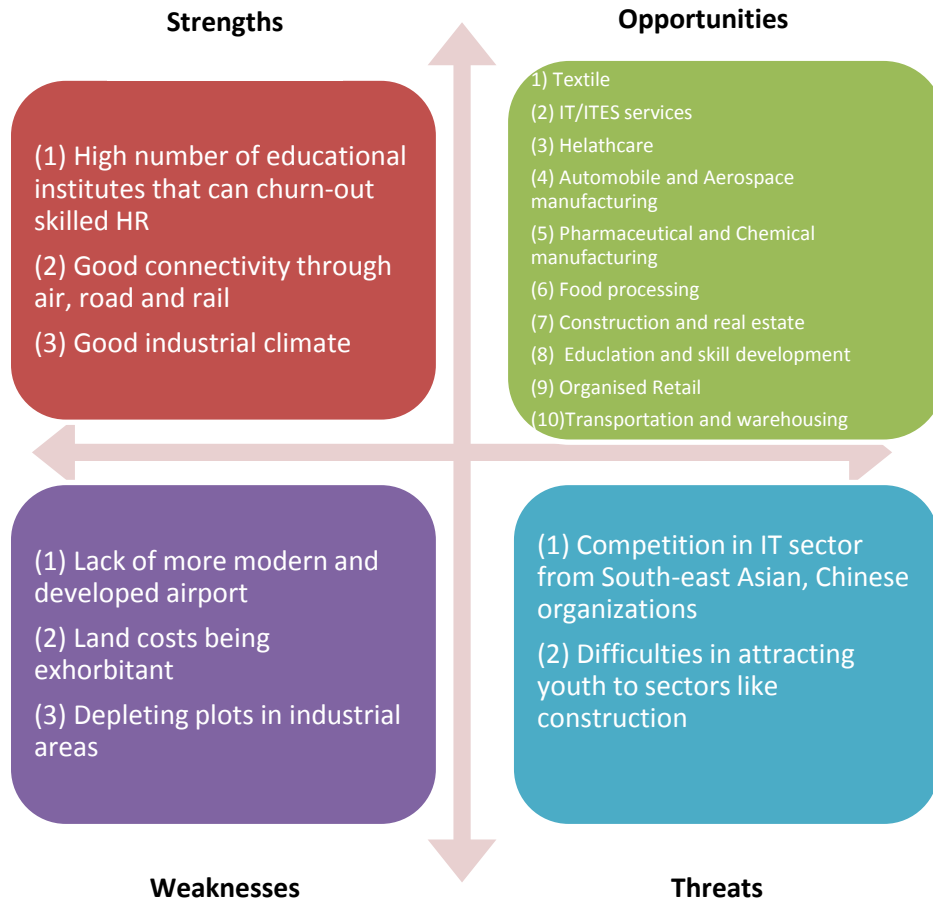
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Perception of youth:** With the skilled youth in the district having the perception that 'blue collared jobs' are not socially acceptable with the advent of the IT culture, majority of the MSME units which actually require the skilled youth in their payrolls are finding it difficult to attract them to the sector. Once attracted, there is also the difficulty in retaining them on the shop-floor.
- **Airport development:** Even though Pune district does have an airport in Pune city, this is not a fully fledged airport which can handle the heightened passenger and cargo flows. A more modern and better developed airport with more facilities will help the overall business climate.

SWOT analysis

Based on the diagnostics of the Pune district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 188: SWOT Analysis of Pune district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 2.85 million persons between 2012 and 2022. Sectors which will drive demand are expected to be auto and auto components, BFSI, IT & ITES, organized retail, unorganised sector and building, construction and real estate. The requirements for skilled personnel are likely to increase, as the maximum demand will be generated for semi-skilled and skilled workers.

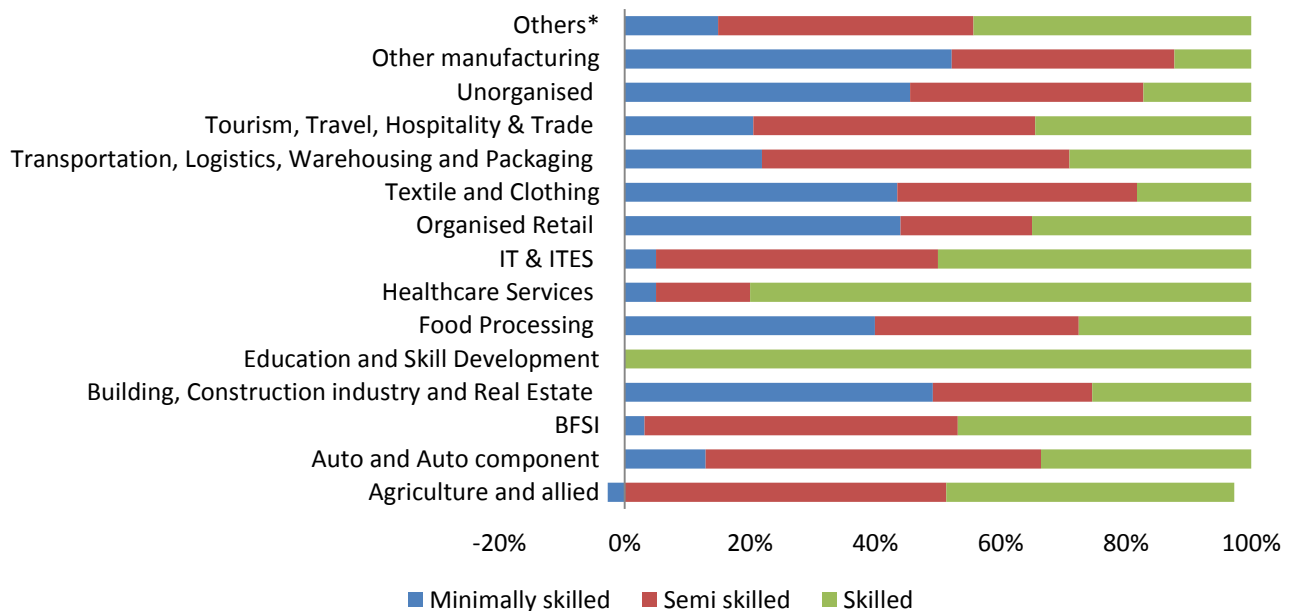
Table 189: Incremental demand of human resources in Pune – by sector

Year	2012-17	2018-22	2012-22
Agriculture and allied	29,554	15,060	44,614
Auto and Auto component	64,191	99,004	163,195
BFSI	58,303	93,721	152,024
Building, Construction industry and Real Estate	147,083	204,125	351,208
Education and Skill Development	39,069	18,062	57,131
Food Processing	4,388	5,661	10,049
Healthcare Services	20,064	27,458	47,522
IT & ITES	174,487	267,169	441,655
Organised Retail	229,130	570,150	799,280
Textile and Clothing	3,836	4,862	8,697
Transportation, Logistics, Warehousing and Packaging	31,414	35,611	67,025
Tourism, Travel, Hospitality & Trade	23,394	34,064	57,458
Unorganised	217,206	308,610	525,817
Other manufacturing	45,853	75,483	121,335
Others*	2,453	2,736	5,188
Total	1,090,425	1,761,775	2,852,199

Source: IMaCS Analysis

^Unorganised sector includes domestic workers, handloom and handicrafts, beauticians, facility management personnel and security guards. *Others include chemicals and pharmaceuticals, electronics, gems and jewellery and furniture and furnishings.

Figure 189: Incremental demand of human resources in Pune – by skill level

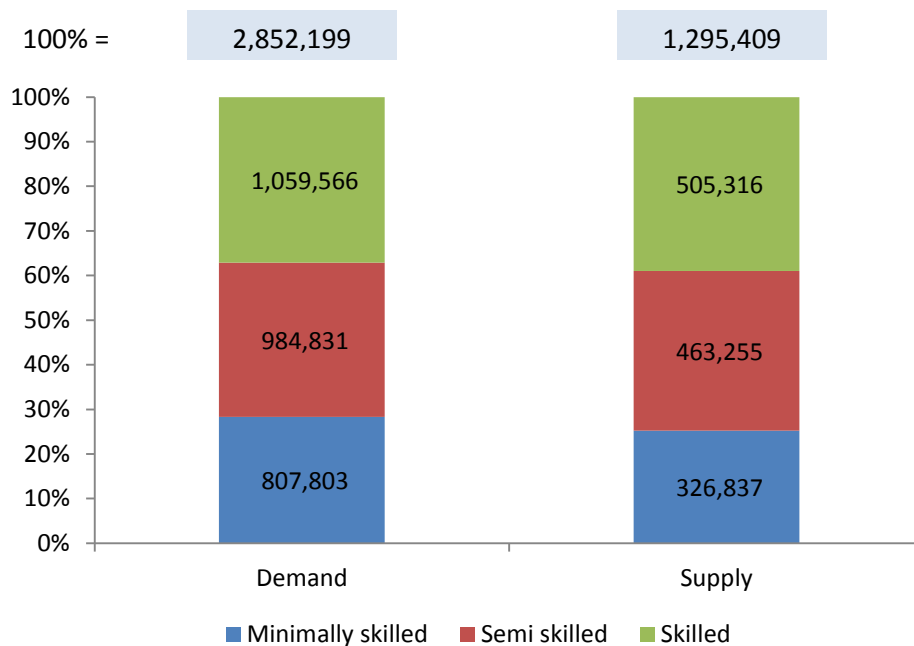


Source: IMaCS Analysis

^Unorganised sector includes domestic workers, handloom and handicrafts, beauticians, facility management personnel and security guards. *Others include chemicals and pharmaceuticals, electronics, gems and jewellery and furniture and furnishings.

We have estimated incremental supply of human resources in the district at 1.29 million persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be insufficient to meet the incremental demand in the district. The shortage of human resources is likely to be met by migrants coming into the district. The demand supply gap is more acute at the skilled level. Thus, this leads to huge skilling potential. All the stakeholders need to work in conjunction to meet the skill shortage in the district.

Figure 190: Demand supply gap of human resources in Pune – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on our field surveys in Pune district, we have found out that there are 12 sectors where skilling interventions are required. There is shortage of skilled manpower for functional skills such as fitting, electrical, welding, metallurgy, masonry etc. These trades also need to be offered to the youth. Finally, about 40 per cent of the population is engaged in agriculture and allied activities. Thus, interventions can be undertaken for this sector also.

Table 190: Sectors where interventions are required in Pune district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Pune	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMAcS Analysis

For the sectors identified above, we have mapped the skill requirements and the gaps faced by the sector in the section below.

5.1. Auto and auto component

The district of Pune is the foremost auto hub in Maharashtra. Supported by the auto and component cluster in Pimpri area and the Baramati auto cluster, the areas of Chakan, Pimpri have attracted all the major auto players of the world like Volkswagen, Fiat, Cummins, Mercedes Benz, Mahindra and Mahindra, etc. to set their shop floor in the district. With the Up-gradation of existing testing and homologation facilities at Automotive Research Association of India (ARAI) in Pune and the expansion plans of the corporates on the anvil, the employment opportunities in Pune for the sector look to be on the rise.

Some of the key skill gaps observed in this sector are:

- Less awareness about modern production techniques like lean production, Just In Time, etc
- Softer aspects of management like leadership and team guiding skills need to be built
- Lack the discipline to come and put in the required hours of work

- Absenteeism and attrition of the shop-floor workers
- Limited knowledge in using multiple quality control equipments and tools
- Inadequate understanding of the quality standards of the industry

5.2. Banking, Financial Service and Insurance

Banking and Financial Service is an important sector which acts as a backbone for economical activities. It aids commerce and trade activities happening in the region. Pune, being the one of the main industrial centers of the state, large number of commercial transactions takes place daily. Almost all the scheduled commercial banks have their branch in Pune and banking is a major activity in the city of Pune.

The skills gaps in Retail Banking sector of Banking, Financial service and Insurance are mentioned below:

- Limited selling skills, especially cross selling and up selling
- Inadequate communication skills
- Limited understanding of the banks products
- Difficulty in comprehending the unstated needs of the customer
- Inadequate knowledge of banking law and practice
- Understanding of banking process
- In sufficient Know Your Customer (KYC) understanding
- Limited computer knowledge

Insurance is another segment where employment is generated. Awareness and importance on Insurance has increased among the public. Insurance products are broadly classified into life and non life. There are many insurance companies offering various products for public. As like Banking, all the major Insurance firms such as LIC, ICICI prudential, HDFC Life, ICICI Lombard, Bajaj Allianz, etc. have their branch offices in Pune. In Insurance sector, major employment is generated in the sales / marketing department. The youth must be trained to handle the customer facing roles. Key skill gaps in the Insurance sector are listed below:

- In depth knowledge in structuring the projects
- Inadequate financial planning skills
- Cross selling skills
- Time management and target management
- Inadequate awareness of the regulations, compliance, and product which results in wrong entries

5.3. Building, Construction industry and Real Estate services

The building, construction and real estate industry provides the services for augmenting the commercial buildings, residential buildings and special areas like SEZs, theme parks, roads, bridges, ports, shipping, airports, urban infrastructure, and utilities in the district.

In a rapidly expanding district like Pune, this sector assumes importance due to the role it plays in ramping up the core infrastructural services in the district. Pune has requirement both in the building of the commercial spaces as well as residential areas. Some of the key hotspots of real estate and commercial development in Pune include Aundh, Hinjewadi, Pimpri, Chinchwad, Chakan, Shivaji nagar, Model Colony, Katraj, and Warde amongst others. The key reasons attributed for this boom are:

- Increased business opportunities
- The boom of the service sector
- Increased spending power
- Increased influx of immigrants into the city and suburbs
- Changing lifestyle pattern expecting well planned and constructed localities

Thus, the sector requires more skilled personnel to take it forward. Some of the key skill gaps exhibited in this sector are:

- Inadequate project management skills
- Difficulty in controlling cost and finances
- Inadequate resource management skills
- Inadequate planning skills
- Time management and target management
- Co-ordination skills with other skilled teams
- Workers lack of motivation
- Workers lack of innate pride in working in construction sector
- High attrition in the workers

5.4. Chemical and Pharmaceuticals

Chemicals and pharmaceuticals sector has made in-roads in Pune district with several reputed firms like Emcure, Centaur, Hindusthan Antibiotics, Kimberly Clark Lever Limited, etc. Though these firms are able to attract the skilled youth to work in the organizations, there is the requirement to build speciality skills in this sector.

Some of the key skill gaps exhibited in this sector are:

- Most of the work in chemicals and pharmaceutical industry is automated, thus scope for employment generation is limited.
- On-the-job training is held by most companies.
- One of the key issues faced by the companies is load shedding.
- ITI trades from which hiring is done are: Attendant Operator in Chemical Plant (AOCP), MMCP, boiler attendant and wireman.

5.5. Education and Skill Development

Pune district is given the name of 'Oxford of the East' due to the quality and heritage of the educational institutes in the district. The district has several revered institutes for education like the Pune University, Fergusson College, ILS Law College, Symbiosis Institutes, D Y Patil College, amongst many others. There are about 321 technical education institutes which have admitted over 62,000 students.

The need of the hour for the district now is to make the education market-oriented. Majority of the students get educated and placed in the multitude of organizations in Pune but find it difficult to adapt to the job requirements. Thus, the education landscape of the district needs to be improved upon to build a pipeline of market-relevant skilled human resources. Mainly, there is capacity building required at the staff level to experiment various pedagogy and to make the education market oriented.

Fergusson College



Symbiosys Institute



5.6. Food Processing

The food processing sector in Pune is fairly well developed with multiple food products being processed – like fruits, vegetables, chikkis, frozen products, ready-to-eats, etc. The fruits and vegetables processing is lead by the Fruits and Vegetables cluster and the chikki processing is lead by the Chikki cluster in Lonavala. Infact the chikki cluster was started very modestly 125 years ago and today has over a 100 units which manufacture namkeens and chikkis.

The key reasons for the success of the food processing industry in Pune are due to the following:

- Well connected with air, rail and road services, which ensure that the raw materials are saved from spoilage wastage
- Good market connectivity
- Presence of agro-strong districts like Satara, Solapur which supply quality raw material
- Able to exploit the changing eating habits of the population due to the easy access to the end consumers

The skill gaps for this sector reflects the need for R&D, superior packaging, awareness of health standards and marketing required in the sector now.

5.7. IT and ITes

The growth of the IT and ITes sectors in Pune has given rise to the comparison with Bangalore with majority of the industry players referring to Pune being ‘Banglored’ – mainly due to the number of the hiring and job opportunities across this sector. More campus hire phenomenon is occurring across Pune with IT majors like Cognizant hiring about 350 students from the College of Engineering Pune and the

Sinhgad Institute of Technology also giving about 700 students to the sector. The leading IT and ITeS firms in Pune include Tata Consultancy Services, Infosys, Cummins Infosystems, Wipro Technologies, Tech Mahindra, Capgemini, Fluent India, Symphony Services, Accenture amongst others. To encourage this boom, special IT parks have been set-up by the district administration.

Infosys Pune



Majority of the IT& ITES companies provide on-the-job training. Some of the key skill gaps faced by the industry include:

- Lack of in-depth understanding of hardware related information
- Lack of understanding for delivering complex situations
- Lack of client handling and managerial skills
- Lack of practical knowledge
- Inadequate soft skills and communication skills
- Insufficient knowledge across domains
- Limited understanding of overall business dynamics
- Limited presentation skills
- Limited understanding of competitive products
- Inadequate report writing skills
- Inadequate team management skills

5.8. Healthcare

Pune along with Mumbai can be regarded as the Medical capital of Maharashtra. With internationally renowned hospitals like RubyHall, Symbiosys Healthcare, Sahyadri Hospitals, Apollo Hospitals being present in the district, it has carved a name for itself in healthcare. In addition to the private hospitals, there are 48 allopathic hospitals in the district with have bed capacity of about 3,500. In addition there are ayurvedic and unani hospitals too. The key drivers for the growth of the healthcare segment in Pune are:

- Change in the lifestyle of people
- Rising income level banking upon the opportunities, which leads to better expectation of healthcare

- Rise of lifestyle diseases like diabetes, cancer, blood pressure, etc which require high quality care
- Enhanced R&D in global medical field which raises the internal expectations

The skill gaps indicate the need for specialized personnel, nurses and ward boys. Some of the other exhibited gaps are:

- Disaster management skills
- Medical equipment maintenance skills
- Soft skills including empathy for patient
- Knowledge of usage of modern medical machinery

5.9. Logistics, Warehousing and Packaging

With Pune being a hub for manufacturing and service activities, the logistics and warehousing sector assumes great importance. Commencing from the preliminary step of receipt of the goods to the pre-packaging, picking and the dispatch, skilled personnel are required in this sector in Pune. While the initial steps require more of skills that are built on-the-job, industry interaction has revealed the following major areas where skill building is required:

- Automation of logistics
- Route optimization
- Inventory management
- Green logistics
- Team management skills

Logistics and Warehousing Unit



5.10. Media and entertainment

Media is one of the important sectors in Pune. As the cultural capital and a business hub, these organizations churn out news and other current affairs to enlighten and increase the awareness in people.

Many popular newspapers have their editions in Pune. This includes English magazine such Times of India, The Indian Express, Lok Times etc. and Marathi newspapers such as Lokmath, Sakaal, etc. These

media houses require quality journalist and reporters to cover the news. Some of the skills required in print media are:

- Inadequate general knowledge
- Knowledge about the region / district of operation
- Working on deadlines
- Inability to collect news in advance for future
- Limited external reading

In addition to the print media, the animation and games segment is also significant in Pune district, especially amongst the youth in the city. The observed skills gaps are:

- Innovative story telling ability
- Knowledge of colours, lighting and cinematography
- Detailing skills
- Advanced lighting and animation skills
- Inadequate knowledge of tools used for composition
- Inadquate visualisation skills

5.11. Organized retail

The face of Pune city has undergone a significant change post the 2000s with the advent of the mall culture and increased spending power of the people with the growth of the other sectors. In the last 5-6 years, Pune city has seen the establishment of multiple malls like Market City (1.4 Million sq ft Phoenix Mills) on Nagar road, Market city at Amanora Town ship (1 Million Sq ft) , Magarpatta City Mall (2.2 Million Sq ft) in Magarpatta City , Hadapsar, Kharadi Plaza (1 Million Sq ft By Plaza Centers), Inorbit Mall on Nagar Road, G – Corp Mall on Nagar Road amongst others.

In addition with about 60 per cent of the population being in the working age group, who are shifting towards a lifestyle change, organized retail is poised to grow in the district. Pune district's organized retail has the end-to-end operations from purchase to the front in-store operations.

Malls in Pune



Based on our discussions with the key stakeholder's we have found the following:

- High availability of youth who want to work in organised retail stores

- Most of the training is provided on-the-job
- Majority of this youth are only 10th/12th pass
- Very high attrition rates are witnessed due to motivation issues
- There is availability of some training institutes who provide trained manpower for the retail sector
- Key skill gaps include soft skills, communication skills, supply chain management skills, knowledge of legal requirements and norms, understanding the perceived and unstated needs of the customer, customer interaction skills etc.

5.12. Textile

Pune is one of the major textile hubs in Maharashtra. The cotton, woollen and artificial thread based units are spread across the district in Pimpri, Chaken, Baramati areas. There are about 62 cotton and woollen units in the districts which offer employment to about 400 people at an investment of Rs. 1,203 lakhs. In addition to these units there are 487 garmenting units at Rs. 4,958 lakh and offers employment to about 2,500 people. The oft quoted reasons for the success of the textile and garmenting sectors in Pune district is due to the availability of raw materials, good connectivity and the interest in the local people to be employed in the sector. Some of the key perspectives and gaps in this sector are:

- Lack of knowledge of product diversification
- Lack of innovative manufacturing
- Lack of design know-how
- Lack of good finishing

5.13. Tourism, Travel, Hospitality & Trade

Pune acts as the gateway to Lonavala, Mahabaleshwar and Panchgani, prime tourism destinations for scores of tourists. This apart, business traveller is also high owing to the IT/ITES, auto and manufacturing industry concentration; which provides tremendous opportunity for hospitality industry in the state. The key potential areas for the hospitality sector in Pune district are Pune, Pimpri, Chinchwad, Hinjewadi, Amsegaon, Haveli and Bhosri. The Maharashtra Tourism Development Corporation has also acquired lands in the key spots to develop infrastructure.

Table 191: Land acquired by MTDC for development

Area name	Land acquired by MTDC (in sq metres)
Lonavala	37,500
Karla	118,500
	34,900
Sinhagad	3,200
Panshet	25,900
Katraj	20,000

Source: Maharashtra Tourism

The skill gaps exhibited hint at the necessity to build more soft skills and to build greater customer relationship. In addition, the efficient performance of standard processes like check in, check out, etc need to be made better.

5.14. Unorganized sector

The unorganized sector for a city like Pune and its suburbs employs people in the unorganized segment that comprises of security personnel, facility management personnel, beauticians, domestic workers, cleaners, hair care specialists, etc. Some of the facility management and security guards will be present across sectors like retail, real estate, IT, etc as their presence is required for the smooth functioning in the premises. The un-organized sector could be either in the form of self employment (E.g. pressing clothes, laundry, electrician, domestic worker etc) or in the form of employment with an organisation (E.g. helper, assistant etc). The un-organized sector predominantly faces the twin challenges of less job pride and difficulty in offering training to the target segment. Thus, some of the key gaps are:

- Inadequate ability to perform multiple functions
- Inadequate ability to follow basic safety and hygiene practices
- Less soft skills
- Inadequate basic reading / writing knowledge
- Very little motivation

As this sector needs more and more people, there is need to skill people across multiple roles and functions like facility management, house keeping, security personnel, etc.

6. Recommendations

Recommendations for Pune district focus on the sectors mapped in the skill gap section. Some of these sectors will have recommendations for the private sector which will directly translate to skills being developed and the others will need Government intervention to facilitate improvements. Finally, since a portion of employment is concentrated in agriculture, thus, major up-skilling can be done for those workers, updating them of latest techniques of farming. This will help them improve their livelihood opportunities and will increase their income levels.

While the detailed recommendations follow, summary is given in the table below.

Table 192: Key recommendations for Pune – summary

Sector	For Government players	For private training providers	For Industry	For NSDC
Textiles & clothing	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Skills like akoba, appliqués ▪ Exposure to color schemes, etc 	<ul style="list-style-type: none"> ▪ up-skilling modules 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Organized retail	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Skill building in customer facing, in-store display and management 	<ul style="list-style-type: none"> ▪ Compulsory internal training 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as

Sector	For Government players	For private training providers	For Industry	For NSDC
				through SSCs
Food processing	<ul style="list-style-type: none"> Spread awareness of the norms 	<ul style="list-style-type: none"> Organized processing related skills Skills on the norms Usage of the new equipment Processing and value addition techniques 	<ul style="list-style-type: none"> Compulsory internal training Up-skilling modules 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Travel, Tourism and Hospitality	<ul style="list-style-type: none"> Encouraging more courses in guide and language Explore internship opportunities with private players 	<ul style="list-style-type: none"> Skilling based on the functional roles The development of special personnel will lead to creation of experiential tourism that will drive up the number of tourists who visit the district 	<ul style="list-style-type: none"> Offer up-skilling modules to the employees 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Healthcare	<ul style="list-style-type: none"> Better the course content and quality in the undergraduate level Explore PPP to better the courses quality 	<ul style="list-style-type: none"> Up-skilling modules across various modules that are in vogue 	<ul style="list-style-type: none"> Organize up-skilling initiatives for the job roles like nurses, ward boys, etc 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Chemical	<ul style="list-style-type: none"> ITI to focus on courses that will skill the youth 	<ul style="list-style-type: none"> Courses related to work in chemical factory Courses related to safety 	<ul style="list-style-type: none"> Offer internship opportunities for the youth doing their basic degree in associated subjects 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Construction	<ul style="list-style-type: none"> Aid in spreading the awareness to the youth about the career in construction sector 	<ul style="list-style-type: none"> Courses related to skills used in construction site Up-skilling modules for supervisors and managers 	<ul style="list-style-type: none"> Internships to ITI youth 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Logistics and warehousing	<ul style="list-style-type: none"> Aid in spreading the awareness to the youth about the career in logistics and warehousing sector Have courses related to sector in ITI and polytechnic 	<ul style="list-style-type: none"> Courses related to skills used in warehousing and logistics companies Up-skilling modules for supervisors and managers 	<ul style="list-style-type: none"> Offer internship opportunities 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
IT and ITeS	<ul style="list-style-type: none"> Offer courses at subsidized rate by exploring PPP model 	<ul style="list-style-type: none"> Revamp courses to reflect market demands 	<ul style="list-style-type: none"> Partner private training provider to reflect industry demands 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Education and skill development	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Up-skilling and faculty training modules 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Interventions required through funding of

Sector	For Government players	For private training providers	For Industry	For NSDC
				private training as well as through SSCs
Auto and auto components	<ul style="list-style-type: none"> ▪ Revamp the ITI infrastructure ▪ Offer newer courses 	<ul style="list-style-type: none"> ▪ Courses related to skills used in auto and auto component sector ▪ Up-skilling modules for supervisors and managers 	<ul style="list-style-type: none"> ▪ Offer internships to students 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Bank and financial services	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Offering courses in Banking and Insurance topics ▪ Follow the standard and recognised curriculum 	<ul style="list-style-type: none"> ▪ Conduct periodic 'in house' training for skill up gradation ▪ Recognise certificate programs done by the candidates 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Media and entertainment	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Offer courses to improve journalistic skills ▪ Offer animation related course modules 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Unorganized sector	<ul style="list-style-type: none"> ▪ Spread awareness about the benefit of obtaining certified training from organized player ▪ Aid in formalizing the sector 	<ul style="list-style-type: none"> ▪ Offer various skilling modules across the job roles like beautician, security guard, etc 	<ul style="list-style-type: none"> ▪ Take steps to formalize the sector 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs

6.1. Government players

- ❖ **Auto and Auto component:** The government can intervene in the following ways:
 - Increasing the capacity of existing ITI/Diploma seats
 - Improving the quality of education courses taught in ITI/Diploma
 - Focus on modular employment courses like CAD/CAM, CNC, tool room training, Machine maintenance, specific welding, quality improvement etc
 - Encourage industry participation in course content and revision
- ❖ **Building, Construction industry and Real Estate services:** The government's key role in this sector will be to spread the awareness about the technical skills required and try to address the perception that is there in the youth's mind that construction sector is not a lucrative sector to work in. Case studies of successful individuals who went on to become successful contractors starting from the level of a worker can be highlighted at taluka level.
- ❖ **Chemicals & Pharmaceuticals:** Government initiatives can be through the ITI and polytechnics in Pune to offer the industry relevant courses. Some interventions can be:
 - The Government should encourage syllabus at graduate and diploma level which prepares students for chemical industry

- Diploma and ITI students in the Mechanical, Fitter, Mechanic Machine Maintenance, Chemical technology should be taught the following apart from their normal stream of study,
 - Industrial safety standards
 - Cleanliness and sanitation management
 - Basics of pharma
 - Boiler handling and maintenance skills
- ❖ **Food Processing:** The critical role of the Government in this sector is to build awareness in the youth about the modern technology and norms in food processing. Also, testing and research centers can be established with state-of-the-art facilities to encourage greater industry participation.
- ❖ **Healthcare Services:** The government should encourage syllabus at graduate and diploma level which prepares students for healthcare industry. Also, the government can promote additional colleges under private and PPP mode for training and graduating more paramedical personnel
- ❖ **IT & ITES:** The trainings for IT/ITES is best delivered by the private players as they are in constant touch with the evolving requirements of the industry and have the flexibility to change the course content and syllabus. The Government can offer these trainings to its students on PPP mode at a subsidized rate
- ❖ **Transportation, Logistics, Warehousing and Packaging:** Basic skills related to logistics and warehousing can be offered in the ITI and polytechnics. Also, the government's key role in this sector will be to spread the awareness about the technical skills required.
- ❖ **Tourism, Travel, Hospitality & Trade:** The capacity building from the Government's end i.e. guide, language training courses have to be given at village level for the local youth. Faculty from reputable hospitality institutes should be hired for these courses, which needs to take place across all the talukas. Internship opportunities with establishments can be explored
- ❖ **Unorganised sector:** The government's key role in this sector will be to spread the awareness about the skills required and how obtaining the skilling from an organized player will aid in career growth.

6.2. Private training providers

- ❖ **Auto and Auto component:** The training can be offered for the auto and auto component based on functional roles that would be required in the factories.

Table 193: Indicative list of courses for auto and auto components in Pune

Functional role	Training required
Shop floor worker	<ol style="list-style-type: none"> 1. Basic assembly line activities 2. Skills like welding, fitting and fabrication 3. Work culture modules
Supervisor	<ol style="list-style-type: none"> 1. Quality control tools 2. Basic principles of lean manufacturing 3. Shop floor management skills 4. Soft skills

Functional role	Training required
	5. Leadership modules
Higher management	1. Management modules crash course 2. Implementation of quality and productivity enhancing tools like six sigma 3. Courses to form and lead quality circles 4. Leadership modules

- ❖ **Banking and Financial Services Insurance:** Pune has some training institutes in the sector which provides training for banking exams, insurance agent, tally, etc. Some of the other courses that can be provided by the private training providers as required by the industry are as follows:
 - Course on the norms
 - Introduction to the Indian banking sector
 - Basics on Banking, Insurance and Finance
 - Accounts and Finance
 - Banking Correspondent
 - Marketing Financial products
 - Certificate programme in Business communication

- ❖ **Building, Construction industry and Real Estate services:** The private training providers have the challenging task of sourcing a majority migrant workforce and giving them the requisite skills. Interaction with private training likethe NSDC- Kushal training initiative reveal that though lot of skilled resources are required, there is difficulty in attracting skilled personnel to this sector. Thus, the onus is to both attract the people and skill them. Some of the indicative up-skilling modules that can be offered are:
 - Welding skills
 - Bar bending skills
 - Masonry skills
 - Technical knowledge in areas such as surveying, planning and work methods
 - Time management
 - Cost management
 - Understanding the risk associated with the project
 - Planning and estimation (cost and materials)
 - Managerial ability
 - Inter personal relationship
 - Knowledge on safety norms

- ❖ **Chemicals & Pharmaceuticals:** The training that has to be provided by the private player should address the main gaps of lack of knowledge in the Pharma and chemical norms and lack of knowledge related to usage of equipment in the shop-floor. Setting up of skilling training centres for the following advanced modular courses for graduate/diploma students aspiring to get in the profiles of supervisor and factory operator category
 - Quality assurance

- Basics of pharmaceuticals
- Chemical Synthesis and Fermentation process
- Process industry basics
- Instrumentation in chemical industry
- Intellectual Property Rights and its implications
- Cleanliness and hygiene management and corresponding standards like GMP
- Safety standards
- Material handling and fork lift/crane operation
- Sales and Marketing process
- B2B/ Institutional sales
- Personal sales
- English communication skills

❖ **Education and Skill Development Services:** Faculty development can be done by institutes that can be set up in the Pune. Tie ups with established institutes can be explored. These programs can reflect and refresh research knowledge both qualitative as well as quantitative research process with aim of improving research skills of faculty as well as to improve skills of faculty in guiding students. In addition, techniques to frame challenging question papers can also be taught. Initiatives like these will equip the faculty to deal with the latest developments in the relevant subject. Along with such measures, some of the other general areas where training can be offered are:

- Various pedagogies that can be used to teach
- Communication skills
- Exam evaluation
- Effective course delivery

❖ **Food Processing:** The private players can provide skilling across the food processing norms as well as the skills required to adapt across the modern processing shop-floor. Some of the indicative sets of skills that can be built are:

- Hygiene and protection skills
- Orientation to line production
- Food Safety
- HACCP overview
- Quality control and Quality assurance
- Distribution and logistics
- Packaging and Finishing
- Sanitation management
- Food allergies
- Microbial growth
- Fermentation
- Warehouse management

- Fork lift safety and operation
- Chemical safety
- Fire prevention and protection
- ❖ **Healthcare Services:** The private training provider can aid in the up-skilling of the personnel part of the medical sector. Some of the indicative up-skilling modules that can be offered are:
 - Infection control management
 - Usage of medical equipment like ventilators, MRI machine, etc
 - Updation of the domain specific skills especially in oncology, nephrology, laser technology in ophthalmology, surgical techniques like laparoscopy, etc
 - Quality Management System
 - Inter-personal skills
 - Soft skills, especially language
 - Enhancing knowledge on safety procedures and standards
 - Patient record maintenance
 - Handling of trauma/emergency situations
 - Inter personal relationship
 - IT systems handling expertise
- ❖ **IT & ITES:** Revamping existing and setting up new skilling centres in IT which focuses on,
 - Analytical ability
 - Problem solving ability
 - In depth coding/technology skill
 - Documentation skills
 - Industry should be encouraged to collaborate with training institutes in training candidates and undertaking captive placements
 - Other essential skills like time management, attendance, target achievement capability, work focus should be tested and psychometrically evaluated as a part of the course
- Similarly for ITES voice BPO sector the focus on training should be on
 - Listening capability
 - Language capability
 - Accent capability
 - Quick thinking and reactive capability
 - Qualitative and Quantitative problem solving capability
- For ITES non voice BPO/KPO sector the focus on training should be on,
 - Problem solving analytical skills in their area of specialisation
- ❖ **Media and Entertainment:** The private training providers can offer the following indicative list of course modules to formally skill the youth:
 - Basics of news media
 - Content creation
 - Editing basics
 - Analytics basics
 - Data collection and analysis

- Data visualization
- Basics of multimedia reporting
- Storyboarding basics

With specific reference to the arena of animation and gaming, though enhancement of the skills is primarily based on the individual’s ability, talent and creativity; the basics can be taught in an organized manner. Some of the indicative modules can be:

- 2D animation
- 3D animation
- Introduction to VFX
- Voice effects
- Animation software course introduction

- ❖ **Organised Retail:** Private training centers for developing retail skills can be setup. Courses which span a duration of 8-10 weeks can be organized which covers several training topics with respect to stores operation, customer facing skills, etc.

Table 194: Indicative courses for capacity building in retail

Activity	Indicative set of courses
Customer facing	<ul style="list-style-type: none"> ▪ Communication skills ▪ Basic etiquette and presentation ▪ Sales closing skills ▪ Relationship building with consumer ▪ Complete products knowledge
In-store display	<ul style="list-style-type: none"> ▪ Skills to prominently display customer preferences ▪ Attractive placement of signages ▪ Arrangement of items in natural order of purchase ▪ Separation of product segments
Management	<ul style="list-style-type: none"> ▪ Motivation of workforce ▪ Team building skills

- ❖ **Textile and Clothing:** Private training centers for up-skilling the personnel employed in textile sector can be set up in the key textile cluster areas outlined above. The up-skilling for select areas will ultimately aid in ramping-up of the overall quality and approach to the sector. Some of the indicative up-skilling potential areas are:

Table 195: Indicative courses for up-skilling in textile in Pune

Areas	Indicative set of up-skilling modules
Design	<ul style="list-style-type: none"> ▪ Enhanced usage of software for design ▪ Usage of computers for sampling the colour effects ▪ Higher order skills like jardosi, appliqué and akoba ▪ Various stitching techniques ▪ Finishing techniques ▪ Pattern making skills
Management	<ul style="list-style-type: none"> ▪ Ability to build customer links

Areas	Indicative set of up-skilling modules
	<ul style="list-style-type: none"> ▪ Marketing and branding skills ▪ Better packaging skills ▪ Techniques of leadership and workforce management

❖ **Transportation, Logistics, Warehousing and Packaging:** The training can be offered for the logistics and warehousing sector based on functional roles that would be required in the factories.

Table 196: indicative list of courses for logistics and warehousing in Pune

Functional role	Training required
Shop floor worker	<ol style="list-style-type: none"> 1. Material handling techniques 2. Hazardous material management 3. First aid 4. Cold storage management 5. Knowledge on basic logistics and warehousing techniques
Supervisor/Manager	<ol style="list-style-type: none"> 1. Green logistics 2. Documentation in logistics and warehousing 3. Legal requirements in logistics and warehousing 4. Routing and fleet optimisation 5. Inventory optimisation techniques 6. Costing and finance in logistics and warehousing 7. 3PL, 4PL and 5PL management 8. Hazardous material management 9. Logistics Management System training 10. Warehouse Management System training

❖ **Tourism, Travel, Hospitality & Trade:** The capacity building is required across the value chain, based on the functional role. The courses should be across the prongs to encourage professionalism and trying to create the tourism experience for the guests.

Table 197: Skilling required in tourism and hospitality in Pune

Functional role	Training required
Tourist guide/operator	<ol style="list-style-type: none"> 5. Communication skills 6. Route optimization – especially to create hubs that can club the beaches, backwaters and the places of religious importance 7. Courses to engage with the customer i.e. soft skills training 8. Courses that build awareness about the history of Pune
Front office management	<ol style="list-style-type: none"> 6. Basic computer courses 7. Communication skills 8. Courses to solve basic problems 9. Hospitality management courses for establishment managers

Functional role	Training required
Culinary experts	<ol style="list-style-type: none"> 1. Knowledge of various cuisines 2. Good presentation of the food items 3. Ability to have a various menu
Special personnel	<ol style="list-style-type: none"> 3. Trekking experts 4. Adventure sports experts
Management	<ol style="list-style-type: none"> 1. Marketing skills 2. Branding skills for building hotel visibility 3. Customer relationship management 4. Promotional offers formulation skills

❖ **Unorganised sector:** The training can be offered for the unorganized sector based on functional roles that would be required. Some of the indicative skills are:

Table 198: Indicative list of courses for unorganized sector in Pune

Functional role	Indicative training required
Domestic worker	<ol style="list-style-type: none"> 1. Food preparation – different cuisines 2. Basic language skills – Hindi and English 3. Reading and writing 4. Answering telephones 5. Courtesy and respect 6. Ethical working 7. Using kitchen appliances
Security guards	<ol style="list-style-type: none"> 1. First aid 2. Building evacuation 3. Usage of security aids 4. Security drills
Facility management	<ol style="list-style-type: none"> 1. Basics of facility management 2. Cleaning aids usage 3. Knowledge on various agents used to clean 4. Basic etiquette
Beautician	<ol style="list-style-type: none"> 1. Hair styling methods 2. Using hair styling tools 3. Hair washing and shampooing 4. Hair Colouring and Dyeing 5. Hair massaging 6. Massage 7. Facial

6.3. Industry

❖ **Auto and Auto component:** Majority of the training programmes can be conducted in partnership with the auto companies itself. Thus, the training initiatives can be developed for

the requirement in Pune according to the captive industry requirements. This will reflect the market demands better.

- ❖ **Banking and Financial Services Insurance:** Banking industry is well organised and they conduct regular periodic training for all the employees to upgrade their skills. This can be continued in future as well. Banking industry may also recognise the certificate program undergone by the candidate (Eg. Sales executive) during recruitment. This would encourage the aspirants to undergo appropriate training program and equip themselves with necessary skills.
- ❖ **Building, Construction industry and Real Estate services:** The industry can offer internship opportunities to the youth in ITI. Also, they can clearly outline the career progression path to the in-coming skilled youth so that the retention rate in the sector can increase.
- ❖ **Chemicals & Pharmaceuticals:** The industry can offer internship opportunities to youth pursuing degrees associated with chemicals and pharmaceuticals. This will help across two prongs namely, making the skilling initiatives market oriented and the organizations themselves aiding in building the skilled ersonnel pipeline by exposing them to the working environment in the organizations.
 - Exam evaluation
 - Effective course delivery
- ❖ **Food Processing:** The key interventions of the food processing industry should also focus in helping the private players and the government to build a sustainable set of personnel who will be available for work in the sector:
 - Compulsory internal training
 - Interfacing with private training providers by offering internships to the candidates
 - Up-skilling opportunities for executives
 - Workshops in educational institutions to spread awareness about the various norms used in the industry
- ❖ **Healthcare Services:** For job roles like nurse, ward boys, lab technicians, etc. compulsory up-skilling modules can be organized.
- ❖ **IT & ITES:** Majority of the training programmes can be conducted in partnership with the IT and ITeS companies itself. Thus, the training initiatives can be developed for the requirement in Pune according to the captive industry requirements. This will reflect the market demands better.
- ❖ **Organised Retail** The key interventions of the retail industry should also focus in helping the private players to build a sustainable set of personnel who will be available for work in the sector:
 - Compulsory internal training
 - Interfacing with private training providers by offering internships to ensure that the candidates understand the retail industry
 - Standardize salary and incentives
- ❖ **Textile and Clothing:** The main action point for the industry should be to make the sector an attractive job opportunity for women and youth as number of them are employed in this sector. Some of the industry interventions can be:

- Flexi timings for women
- Compulsory up-skilling modules for employed youth
- Tying-up with private training providers to offer internship opportunities
- ❖ **Transportation, Logistics, Warehousing and Packaging:** Majority of the training programmes can be conducted in partnership with the professional warehousing and logistic companies. Thus, the training initiatives can be developed for the requirement in Pune according to the captive industry requirements. This will reflect the market demands better.
- ❖ **Tourism, Travel, Hospitality & Trade:** The industry should ensure that the employees undergo frequent up-skilling modules to keep their skills market relevant.
- ❖ **Unorganised sector:** The industry, with the governmental aid can try to formalize the sector with associations for key job roles protecting the rights of the worker and help him/her get appropriate training.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Auto and auto components
- ❖ Banking, financial services and insurance
- ❖ Building, construction and real estate
- ❖ Chemicals and pharmaceuticals
- ❖ Food processing
- ❖ Education and Skill development
- ❖ Healthcare services
- ❖ IT & ITES
- ❖ Media and entertainment
- ❖ Organised retail
- ❖ Textiles and clothing
- ❖ Transportation, logistics, warehousing and packaging
- ❖ Tourism and hospitality
- ❖ Unorganised sector
- ❖ Other manufacturing

2.25. RAIGAD

1. Introduction

Raigad district is located in the western part of the Maharashtra state and is part of the konkan division. Alibaug is the district headquarters of the district. It has a total land area of 7,152 sq. km., which is 2.3 per cent of the total State area. It is a costal district and Arabian Sea is on its western side. It is bordered on north by the Thane district, on the north-west by Mumbai city district, on the east by Pune district, on the south by Ratnagiri district and on the south east by Satara district.

It is sub-divided into 15 sub-districts and has 1,859 villages. Majority of the population at 67 per cent lives in rural areas. The working population is divided almost equally among agriculture and other sectors. Agriculture is employing 49 per cent of the labour force (as of Census 2001). The remaining is in household industry (three per cent) and other workers¹⁸ at 48 per cent.

The district is fairly rich in industries. The district is located in close proximity to Mumbai City (Industrial Hub of the country) and also has the largest container handling port terminal of the nation, Jawaharlal Nehru Port Trust (JNPT). These factors have induced the industries to start their units in the district. The district is part of the chemical belt and houses some of the prominent industries in 'chemical and pharmaceutical' sector.

The district has a forest area of around 32 per cent of its total area which is very high as compared to the state's average (around 17 per cent). Teakwood, Bamboo and Medicinal plants are the important forest resources in the district. The northern part of the district (Panvel and Uran sub-districts) is included in the planned metropolis of Navi Mumbai and its port, Jawaharlal Nehru Port. This northern part of the district is rich in industries because of its proximity to Mumbai city.

Table 199: Comparison of Raigad district with Maharashtra – key indicators

Indicator	Year	Raigad	Maharashtra
Area, in sq.km.	2001	7,152	307,713
Percentage share in State geographical area, %	2001	2.32%	100%
No. of sub-districts	2011	15	353
No. of inhabited villages	2001	1,859	41,095
No. of households	2001	478,933	19,576,736
Forest area as a % of total geographical area	2001	31.99%	16.94%

Source: Census 2001, Census 2011

¹⁸ Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers are 'Other Workers'.

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Raigad district has a population of 26.3 lakh persons – 2.35 per cent of the State population. Majority of the population (19 per cent) is concentrated in Panvel sub-district, followed by Alibaug sub-district at 10 per cent, Karjat, Khalapur, Mahad and Pen sub-districts at eight per cent each, Mangaon and Roha sub-districts at seven per cent each, Uran sub-district at six per cent, Shrivardhan sub-district at four per cent, Mhasla, Murud and Sudhagad sub districts at three per cent each and Poladpur and Tala sub-districts at two per cent each respectively. While 60 per cent of the population in the district is in working-age group (15 to 59 years), about 41 per cent is actually working i.e. work participation rate.

The district's literacy rate is 83.9 per cent, which is slightly higher than the State average of 82.9 per cent, and also higher than All-India average of 74 per cent. Male literacy at 90.7 per cent is significantly higher than female literacy rate at 76.8 per cent.

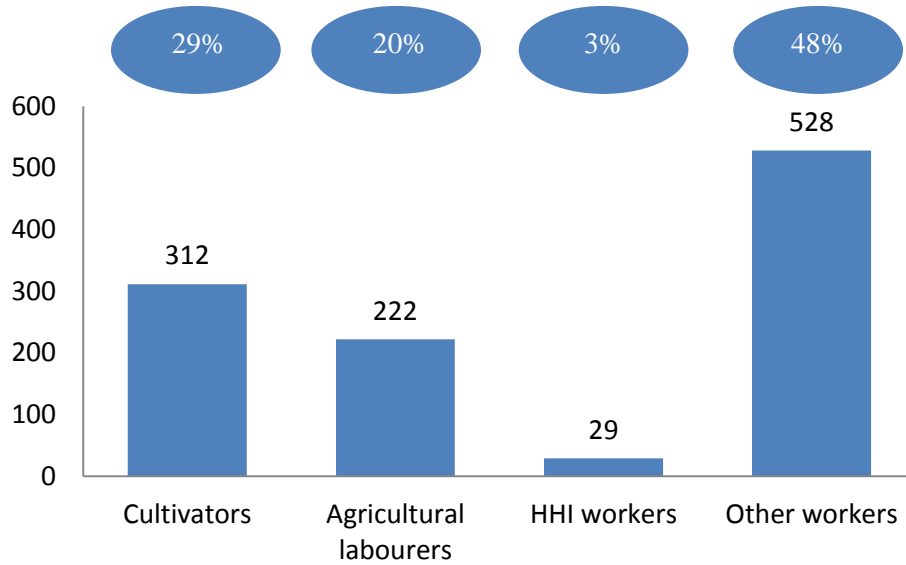
Table 200: Key demographic indicators

Indicator	Year	Raigad	Maharashtra
Population, No.	2011	2,635,394	112,372,972
Decadal growth rate of population, %	2001-11	19.36	15.99%
District's share in State's population, %	2011	2.35%	100%
Urban population as a percentage of total population, %	2011	37%	45%
SC population, %	2001	2%	8.79%
ST population, %	2001	12%	15%
Sex ratio, No. of females per 1000 males	2011	955	925
Population density, per sq. km.	2011	368	365
Literacy rate, %	2011	83.89%	82.91%
Main workers, No.	2001	664,689	34,748,053
Marginal workers, No.	2001	249,306	6,425,298
Working age population* as a percentage of total population, %	2001	60%	59%
Work participation rate^, %	2001	41.00%	42.50%
HDI Rank	2000	6	
HDI Index	2000	0.71	0.58

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population.

The district has a total workforce of about 10.9 lakh persons. Of this, 29 per cent are cultivators, 20 per cent are agricultural labourers, three per cent are workers in household industry and 48 per cent are other workers.

Figure 191: Raigad district's worker profile, as of 2011, in thousands



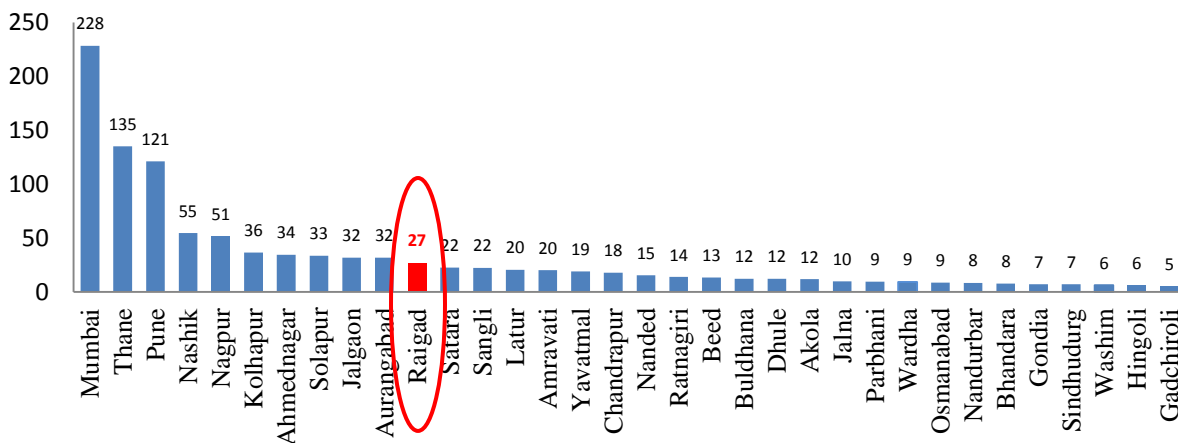
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Raigad district had the 11th largest Gross District Domestic Product (GDDP) in Maharashtra at Rs 26,759 crore (2.5 per cent of the Gross State Domestic Product). In terms of per capita NDDP though, it ranked fourth amongst all the districts at Rs 96,468. This was higher than the State average of Rs 87,686.

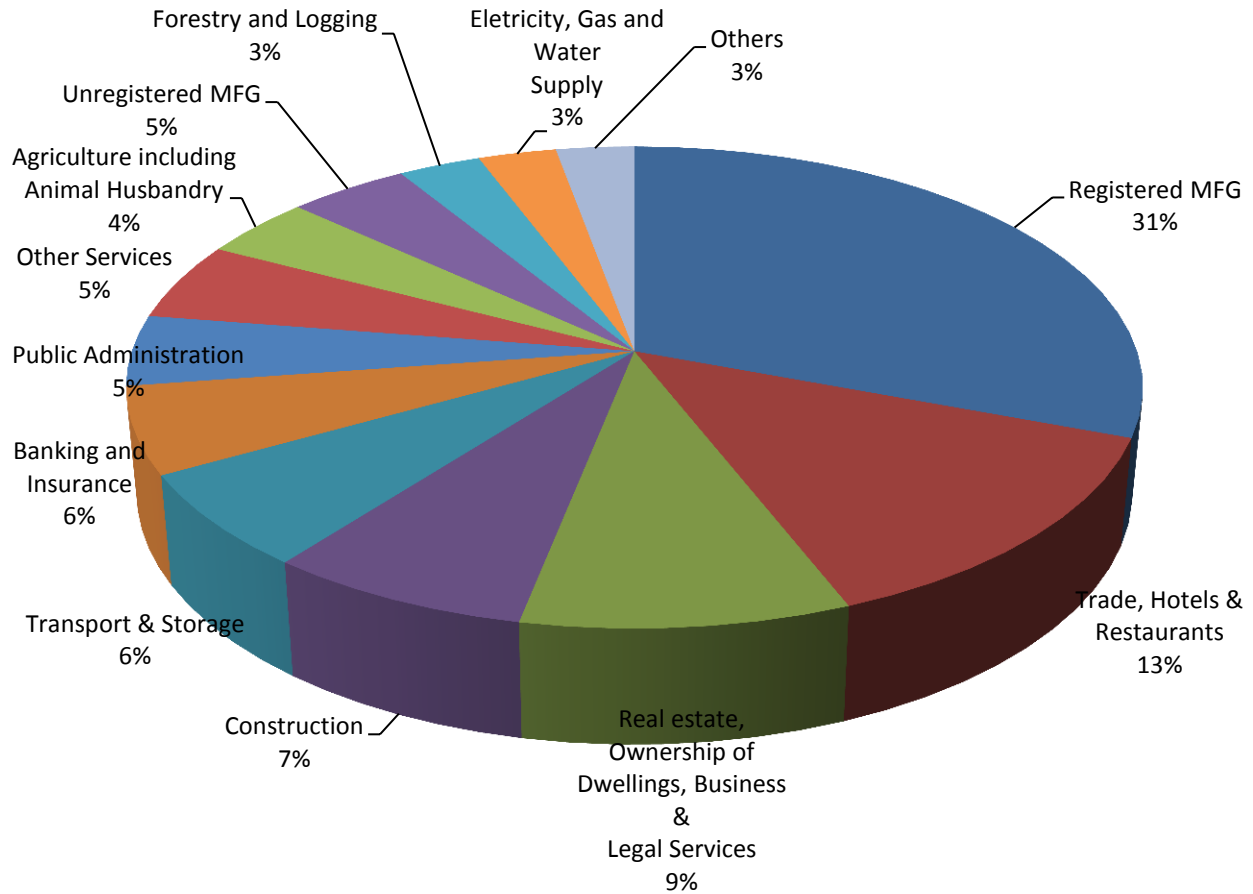
Figure 192: Gross District Domestic Product, in Rs thousand Crore, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly service and industry based, with service sector's share in GDDP at 47 per cent and secondary sector at 45 per cent in 2009-10. The primary sector's share was at eight per cent.

Figure 193: Sector wise distribution of Raigad's GDDP, as of 2009-10, 100% = Rs 23,627 crore



Source: District Socio Economic Review of Raigad

Agriculture: Raigad is not an agriculturally rich district. The forest cover in the region is large and cultivable barren land is less in the district. The district has a forest area of around 32 per cent (2,288 sq. km) of its total area (7,152 sq. km) which is very high as compared to the state's average (around 17 per cent). Teakwood, Bamboo and Medicinal plants are the important forest resources in the district and it also contributes to the district's economy.

Industry: As of December 2012, Raigad district had around 193 large scale industries, employing around 39,000 persons. These included popular companies such as Reliance Industries, Rashtriya Chemicals and Fertilizers Ltd, Hindustan Organic chemicals, Welspun Max Steel Ltd, Consolidated Containers Ltd, etc. End products manufactured included various types of chemicals and pharma products, Sponge iron, steel, processed foods, packaging material, etc.

The district has 3,885 Micro, Small and Medium Enterprises (MSME), employing 76,679 persons. As of December 2012, the prominent MSME industries in the district were 'Food products and Beverages', 'Fabricated Metal Products', 'Chemical and chemical products' and 'other service activities'. Refer to the table in annexure for complete list of MSME industries and employment details. The district has eight industrial areas, totalling 4,532 acres of land.

Services: As mentioned above, services account for 47 per cent of GDDP in Gondia district. Of all the services, the key services in the district are of 'trade, hotels and restaurants' at 13 per cent, 'real estate, ownership of dwellings, business and legal services' at nine per cent, 'banking and insurance' and 'transport and storage' at six per cent each, followed by 'public administration' and 'other services' at five per cent each and 'communication' at two per cent.

2.3.State of education

As of 2011-12, Raigad district had 3,708 schools. Of this, 61 per cent were primary schools, 24 per cent were upper primary schools and the remaining 14 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 373,925 while the student-teacher ratio was at 25 students per teacher. The student-teacher ratio was better than the average ratio for the State at about 30 students per teacher.

Table 201: School and higher education infrastructure in Raigad district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	3,708	373,925
General colleges	45	30,502
Technical education*	85	19,564

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

For general higher education, the district has 45 general colleges and 85 technical education institutes. For vocational training, Raigad district had a total of 20 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, 16 were Government ITIs and remaining four were private ITIs. All the 20 ITIs together have a seating capacity of 4,278.

Table 202: Key ITI indicators in Gondia district, as of March 2012

Indicator	Value
Total Number of ITIs	20
Number of Government ITIs	16
Number of Private ITIs	4
Total Seating capacity	4,278

Source: Department of Employment & Self Employment, Government of Maharashtra

Based on our discussions with the key stakeholders in Raigad district, we have found that on an average, of all the students that pass out from an ITI in each year, around 60 per cent find jobs in the market. The

average pass rate observed is around 80 per cent and the drop-out rate is around 5 to 10 per cent. For details on courses offered by ITIs in Gondia, refer to the table in annexures.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The government department offer courses in various sectors. District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship Development) and MITCON Consultancy and Engineering Services Ltd. Vocational Training Providers (VTP) provides vocational education on trades such as basic electrical training, house wiring, welding, tailoring, plumber, etc. These courses are offered under Modular Employable Skills (MES) scheme and are conducted by Government technical institutes in the region. Ministry of Human Resource Development with Department of Adult Education provides vocational skill training program for non-literates, neo-literates and school drop-outs. The training is conducted under 'Jan Shikshan Sansthan' program and is offering courses such as 'cutting and tailoring', 'dress making', 'bag making', 'beauty culture', etc .

Majority of the private training centres in Raigad district offer computer related courses. Some of the courses offered by them include MS-CIT, C++, Java, DTP, Tally, etc. MS-CIT course is preferred among the students/youth in the district as this course is a pre-requisite for getting a Government job in the state. The other training areas provided by private training institutes include handicrafts, mobile repair and servicing, construction supervisor, jadori (fitter), beauty culture, etc. For details of training institutes and courses offered, refer to table in annexures.

2.4. Youth aspirations

In the process of identifying the growth engines for the Raigad district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Existing educational infrastructure in the district:** Youth in Raigad believe that the educational infrastructure in the district is skewed. The northern part of the district (closer to Mumbai city) has prominent educational institutions in various streams whereas in southern part of the district, it is lacking.
- **Entrepreneurial zeal:** We observe that in Raigad, some of the youth choose the courses considering the self employment opportunities for the trade / course. This is because of the industrialisation in the district and they have seen entrepreneurs (father, uncle, etc) setting up a small and successful ventures.
- **Quality of educational infrastructure:** With respect to the quality of the educational institutions, students mentioned that there are availability issues in quality faculty and practical education infrastructure needs improvement.
- **Preference towards higher education:** Most of the students are willing to do part time higher education courses after their basic education such as ITI. This is because they need to earn after their basic education considering the economic background of the students.

- **Job preference:** First preference of the youth is to get a Government job as they feel the job is secured and the nature of job is white collared in nature. Preferred sectors to work include manufacturing and IT/ITES.
- **Willingness to migrate:** Almost all the youth surveyed were ready to migrate to cities such as Mumbai, Pune and Thane for better job opportunities.

3. Developmental concerns

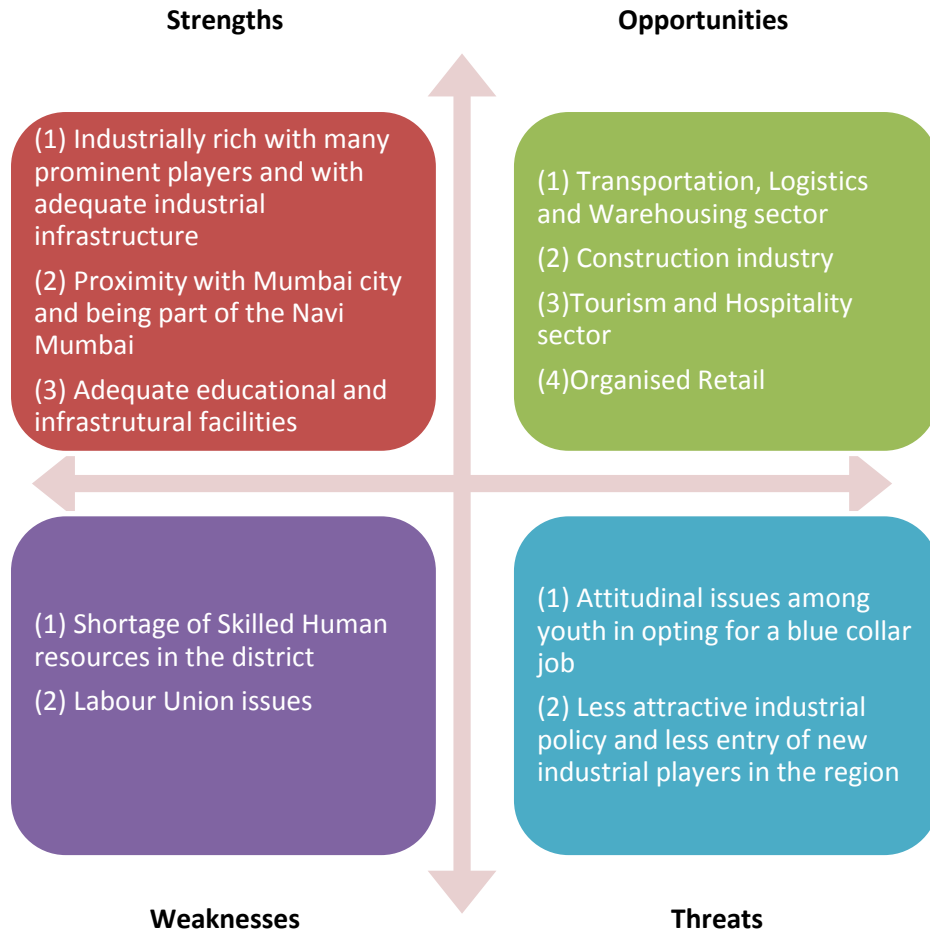
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Policy issues:** Based on discussions with industrial players in the district, the industrial policy of the State seems less attractive for the industrial units to start their venture in the region. Stakeholders revealed that the neighbouring state such as Gujarat have a better industrial policy and new industries are starting their venture in those states. However, with introduction of the new industrial policy in 2013, the scenario is likely to undergo a change.
- **Shortage of Skilled human resources within the district:** The industries in the region find difficulty in getting skilled human resources required for their operation. One of the reasons is that skilled / qualified peoples find an opportunity in nearby districts such as Mumbai, Pune, etc. and move out of the district. The industry engages in providing 'in house' training to its employees (existing and new) to bridge the skill gaps.
- **Attitudinal issues among youth in opting for blue collar job:** The district is rich in manufacturing industries and they require blue collar labours for various works. Based on our discussions with the youth and industry players in the district, there is shortage for these labours in the region and the youth is also unwilling to opt for these kinds of jobs. With the increasing recruitment of human resources in industry such as construction which involves laborious work, the industry considers this as a concern

SWOT analysis

Based on the diagnostics of the Raigad district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 194: SWOT Analysis of Raigad district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 2.35 lakh persons between 2012 and 2022. Sectors which will drive demand are expected to be transportation & logistics, other manufacturing, retailing¹⁹ and building, construction and real estate. Also, sectors such as banking and financial services, education and skill development and healthcare services will generate employment in coming years to assist the district’s growth. The

¹⁹ Incremental demand number for retailing sector in Raigad district cannot be calculated on a standalone basis and is included as a part of Mumbai district’s human resource requirement. This is because the growth in retailing sector in the district is expected to increase in the Navi Mumbai region.

requirements for skilled personnel are likely to increase, as the maximum demand will be generated for semi-skilled and skilled workers.

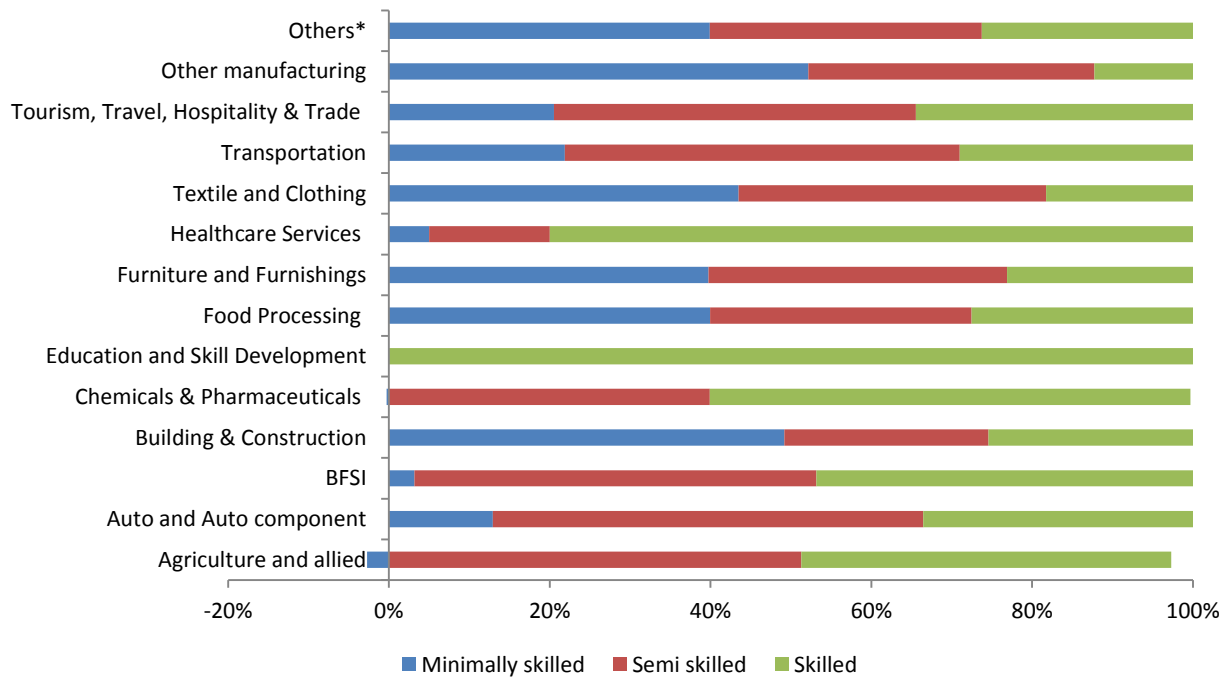
Table 203: Incremental demand of human resources in Raigad – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	11,310	5,763	17,073
Auto and Auto component	1,038	1,664	2,703
BFSI	13,601	21,864	35,465
Building, Construction industry and Real Estate	30,558	42,409	72,967
Chemicals & Pharmaceuticals	2,083	2,194	4,277
Education and Skill Development	12,814	5,604	18,417
Healthcare Services	6,271	8,583	14,854
Textile and Clothing	2,040	2,585	4,625
Transportation, Logistics, Warehousing and Packaging	11,427	12,954	24,381
Tourism, Travel, Hospitality & Trade	4,524	6,587	11,110
Other manufacturing	10,390	17,104	27,494
Others*	707	897	1,604
Total	106,769	128,215	234,984

Source: IMAcS Analysis

*Others include Food Processing and Furniture and Furnishings

Figure 195: Incremental demand of human resources in Raigad – by skill level

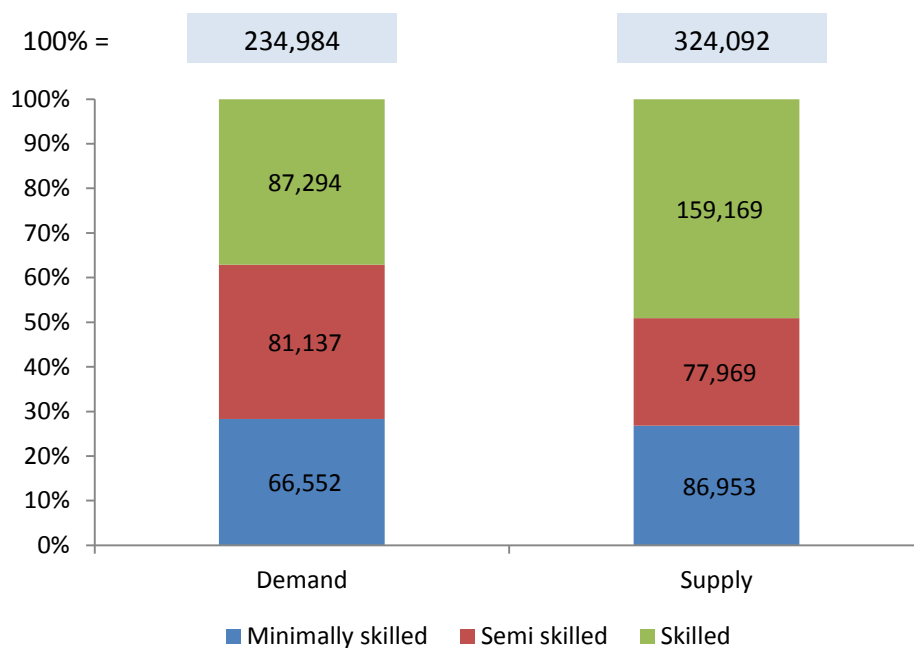


Source: IMAcS Analysis

*Others include Food Processing and Furniture and Furnishings

We have estimated incremental supply of human resources in the district at 3.24 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply is expected to be higher than the incremental demand. Thus, the district's labour supply will not just meet the demand for workforce in the Raigad district alone, but will also move to neighbouring districts such as Mumbai and Pune to meet some of their labour requirements.

Figure 196: Demand supply gap of human resources in Raigad – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on our field surveys in Raigad district, we have found out that sectors where skilling interventions are required are in sectors such 'chemical and pharmaceuticals', 'building, construction and real estate services', 'organised retail', 'travel, tourism, hospitality and trade', 'transport logistics and warehousing', 'steel', 'fabrication industry' and 'unorganised sector – Ganesh Idol cluster'. These sectors require skilled human resources and skilling intervention.

Table 204: Sectors where interventions are required in Raigad district – comparison with Maharashtra

(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Raigad	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		

High Growth Sectors identified by NSDC	Raigad	Maharashtra
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector (Ganesh Idol Cluster – Pen)		
High Growth Sectors identified by NSDC	Raigad	Maharashtra
Fabrication Industry (Engineering units)		

Source: IMaCS Analysis. Note: Sectors highlighted for Maharashtra are based on basis of preliminary research only. These will be finalised after data for all the districts is consolidated.

5.1. Building, Construction industry and Real Estate services

Real estate industry in the district is witnessing a huge growth because of its proximity to the city of Mumbai. There are large construction projects happening in the northern taluks of the district (closer to Mumbai) such as Panvel and Khargar. Various commercial, office and residential complexes are upcoming in this region. Construction industry in one of the major employment providers in the country and will continue so in the coming years as well. The Navi Mumbai project and proposed International airport plans have opened up many infrastructure and construction projects in the region.

Employment generation in this sector is high and there are people from other parts of the district coming for employment in the construction sector. Based on discussions with the stake holders of the industry, we observe that the industry finds shortage of skilled human resources required such as carpenter, crane operator, etc. Based on our discussions with the stakeholders in the district, skills gaps observed in the district are as follows:

- Inadequate communication and team management skills among supervisors
- Inadequate knowledge of costing and cost overrun implications by site engineers
- Inadequate planning skills

- Skilled workers such as mason, bar bender, etc. are unable to coordinate with different teams / department of construction
- Unskilled workforce lacks adequate safety orientation and work place discipline
- High attrition is observed among the workers levels

5.2. Chemical and Pharmaceuticals

Maharashtra is one of the prime chemical belts of India and many large chemical industrial players are present in the state. Chemical industry is the major industry in Raigad district. There are some large chemical industries who have established their units such as Reliance Industries, Deepak Fertilizers and Petrochemicals, Hindustan Organic Chemicals Ltd, Pidilite Industries, Cipla, etc. There are many chemical industries in the industrial areas of Patalganga, Roha and Mahad and this is the prime industry in these places. In fact the place around Patalganga industrial area (near Panvel) is called 'Rasayani'²⁰ because of the high chemical industrial presence in the region. Also, the country's first chemical industry 'Hindustan Organic Chemicals Ltd' was established in this district. There is a fair presence of large industries in this sector.

There is also about 294 'Micro, Small and Medium Enterprises' (MSME) units in the district in chemicals and pharmaceutical sector employing around 6,631 units. Based on our discussion with industry players in the region, we observe that there is a shortage of skilled human resources for the industry. Skill gaps in chemical and pharma industries are mentioned below.

The skill gaps observed in the industry are as follows:

- Inadequate conflict management and communication skills among managerial cadre employees
- Production manager has inadequate knowledge of regulatory process and IPR
- Insufficient knowledge of quality management
- In sufficient knowledge of chemicals and compounds involved among operators
- In sufficient documentation skills
- Inadequate knowledge of global standards including USFDA
- In sufficient safety standards adherence among workers
- Lack of motivation due to physical labour involved

5.3. Construction materials and building hardware – Steel industry

Raigad district houses for some of the prominent sponge iron and steel industries such as Bhushan Steels Ltd, JSW Ispat Stell Ltd, Welspun Maxsteel Ltd, Uttam Steel ltd and Maharashtra Seamless Ltd. The end products manufactured in these industries include sponge iron, billets of steel and bars/rods of stainless steel. These are large steel plants and some of these companies have captive port facilities. Most of the plants in the region are natural gas based (from GAIL) and are different from other steel units in the country.

²⁰ The word 'Rasayan' in devnagiri script means Chemical

The district has many large scale steel manufacturing units. The industry requires skilled human resources in various functions of the steel manufacturing process. The degree of skill requirement also varies according to process. Currently, 'on the job' and 'in house training' is provided to the employees by the large industries. These training are provided from the top management to the operator level of job roles in the industry. The industry players mentioned that there is a shortage of skilled human resource in the district and training by the industry is important to suit their requirements. Based on our discussions with the industry players, the skill gaps observed in the steel industry is mentioned below:

- Lack of adequate inter departmental coordination
- Production managers have inadequate knowledge on other support function such as costing, finance, etc
- Inability to comply with all the standards and follow them consistently (quality, safety, production, etc.)
- Lack of adequate ability to use various testing methods and testing equipments
- Supervisors possess inadequate knowledge to prepare various reports (statistics, quality, etc.)
- Inadequate industrial safety knowledge among workers

5.4. Organised Retail

Organised retail industry is growing in the district. The industry has fairly established in the taluks of Panvel and Khargar. These areas are part of the Navi Mumbai which is envisaged as metro sized counter magnet to reduce the pressure on the Mumbai metropolis. The taluks have large shopping malls, multiplex theatres, departmental stores, multi brand and exclusive brand outlets. They have infrastructure similar to the facilities in Mumbai city. The sector is growing with the increasing settlements and economic activity in this region. The sector requires skilled and trained employees as they are the touch points for customers visiting the retail store.

Skill gaps observed in the retail sector for the district are mentioned below:

- Inability to assess customer buying behaviour
- Lack adequate product promotion knowledge
- Inadequate creative knowledge on different store layouts and displays
- Inability to understand the customer taste and suggest accordingly
- Limited customer interaction skills
- Inadequate knowledge of competitors and their offers
- Lacks adequate skill on workforce management and relationship management
- Inadequate product knowledge among salesman
- In sufficient oral communication skills among salesman
- Inadequate knowledge in managing the cash box, billing system, credit card, debit card and other coupons/cards among store operation employees
- Limitations in communication systems

5.5. Transportation, Logistics, Warehousing and Packaging

'Logistics and Warehousing' is an important sector in the district. The district is one of the largest warehousing and container handling hub in the country. The famous 'Jawaharlal Nehru Port Trust'

(JNPT) is located in the district. This is the biggest container handling port of India, handling around 60 per cent of the country's containerised cargo. There are also minor ports in the district such as Mandava, Revas, Murud and Shrivardhan. The district also has many logistics and container handling units as JNPT is the gateway for most of the containerised cargo in the country. Large container handling company such as Consolidated Containers (I) Ltd is present in the district. The sector provides a large employment to the locals in the district. The new airport project at Navi Mumbai region will increase the employment potential for the sector in the region. The sector requires skilled manpower in areas such as crane operation, Material Handling Vehicles operators, etc. Skilled human resource for the sector in the district is observed to be low.

Skill gap for Ship transport segment and warehousing segment of 'Transportation, Logistics and Warehousing' sector is mentioned below.

Ship transportation segment:

- Inadequate ability to verbally communicate and timely co-ordinate with the customer service staff
- Inadequate knowledge of Bill of Lading and Letter of Credit (LCs)
- Inadequate knowledge of procedures related to CFS and ICDs
- In case the customer is internally using an advanced inventory management system, the ability to facilitate information in a compliant format is inadequate
- Inadequate technical knowledge of using tools such as MS Excel, advanced MS Excel, especially at entry level
- Shortage of skilled workers operating Material Handling Vehicles (MHV)

Warehousing segment:

- Inadequate ability to execute specific instructions according to customer requirement – this leads to mix up in goods and thus time lags and value losses
- Limited knowledge in legal norms and requirements
- Limited preventive maintenance of warehouse equipments
- Inability to co ordinate with different departments in warehousing operation
- Lacks negotiation skills
- Inadequate route optimisation skills
- Inadequate communication skills
- Shortage of skilled labour operating Material Handling Vehicles (MHV)

5.6. Tourism, Travel, Hospitality & Trade (Tourism and Hospitality Segment)

Raigad district is one of the preferred tourist destinations in the state. The district is part of the Konkan region and strategically located on the Mumbai – Goa Highway and the travellers can pass through numerous tourist spots in the district. Some of the tourist attractions in the district are mentioned in the table below.

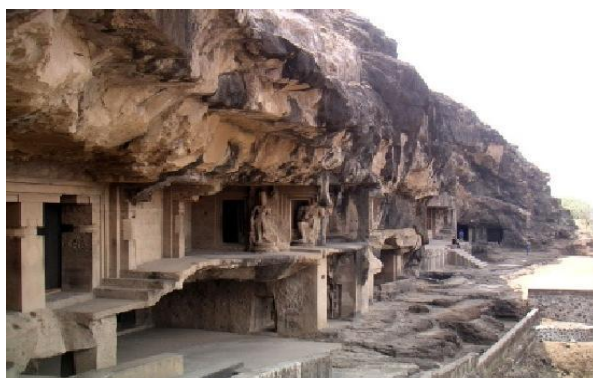
Table 205: Key tourist spots in Raigad

Tourist Spot	Brief Description
Forts	The district has attractive Raigad fort and Murud Janjira fort which are historically popular and attracts many tourists
Beaches	The district has several beaches like Mandwa and Kihim beach, Murud and Hari – Harihareshwar. There are many water sports activities available in these beaches
Temples	Ratnagiri has several places of worship like the Ballaleshwar Ganpati, Varad Vinayak Ganpati, Birla Ganesh Temple and Kanakeshwar which attracts devotees
Hill Station	There is a hill station named Matheran in the district which attracts tourists and there are places in the hill station such as Lake Charlotte, Panther’s cave, etc.

Source: www.raigad.nic.in

There district also has the world famous ‘Elephanta Caves’, which is a UNESCO World Heritage site and is currently maintained by the Archaeological Survey of India. The site attracts numerous tourist and travellers from within and outside the country.

Tourist attractions in Raigad district



Elephanta Caves



Raigad Fort



Alibaug beach (fort)



Water sports in the beach

There are many people who visit these tourist spots, especially the corporate employees from Mumbai and Pune who generally take a weekend break and visit these places. There are many hotels present in the district to aid the tourists visiting these tourist spots. This includes large hotels like Radisson Blu and other small and medium sized hotels and resorts.

Skilled human resources are required for this sector in hospitality establishments (hotels and restaurants) and tourist spots (guides). Currently, there is shortage of skilled manpower in these establishments. Skill gap for the tourism and hospitality sector for the district is mentioned below.

Hospitality Segment (Front office operations):

- Inadequate communication skills (Knowledge of multiple languages is expected)
- Inadequate knowledge of hotel offerings
- Inadequate knowledge about the locations and its significance
- In sufficient courtesy and discipline

Tour Operators:

- Inadequate communication skills (especially in speaking English language)
- Lack of soft skills
- Inadequate ability to understand tourists' preference and provide facilities accordingly
- Inability to interact with tourists because of communication problem
- Lacks proper etiquette required for the profession (due to lack of formal training)

5.7. Unorganised Sector (Ganesh Idol Cluster)

Ganesh is a popular god of Hindu religion and Ganesh festival is one of the most celebrated festivals in the state of Maharashtra and the country. The festival is popular throughout the country and Ganesh idols are kept during the festival and are then immersed in water later. During the festival season, almost every household in the state buys the idol and worship them.

There is a Ganesh Idol making cluster (many small units) in the Pen taluk of Raigad district. Based on our discussions with the idol making units and local associations, we observe that there are around 500 idol making units in the region employing about more than 5,000 persons. Generally in a small unit, there will be around five to six persons involved in making the idol. Making Ganesh idol is a skill based work and skilled artisans are required to make the idols.

Skilled human resource is essential because any fault in the making process could damage the idol and could result as a waste. They are employed in different functional processes according to their skill and continue to work only in that process. For example: Mixing is done by a person and he does not involve in other process of making the idol. The same is followed for different process such as moulding, colouring, etc. Specialised skilled person is required for drawing the eyes of the Ganesh Idol and there are only less people are available currently in this region with this skill. The artisans generally acquire skill and equip themselves with the experience of working in the unit. The industry association believes

that training will be helpful them in getting skilled manpower. It is also observed that they are unaware of marketing techniques and are generally sold to intermediaries.

Ganesh Idol Cluster in Raigad district



Ganesh Idol moulds



Artisan working on the mould



Colouring process



Eco friendly Ganesh Idol

Based on our discussions with the artisans, there is demand for the Ganesh Idols and is expected to increase in future. With the increasing awareness of environment pollution, eco-friendly Ganesh Idols are also prepared using natural raw materials and colours (such as multani mitti, turmeric, etc.)

Based on our discussions with the stakeholder, skill gaps of artisans involved in making Ganesh Idol are as follows:

- Lack of creativity
- Inadequate knowledge of materials treatment
- Inability to come up with new designs or any process improvements
- Inability to draw the eyes of the idol as desired

5.8. Fabrication industry (Engineering units)

Raigad district has a number of steel fabrication units. These units generally convert the semi finished goods to finished product. Most of the fabrication units in the district fall in the “Micro Small and Medium sized Enterprises (MSME)” category.

These industries are ancillary industries which generally aid the large player by manufacturing parts of the machine component. As of December 2012, there were around 1,250 “Micro Small and Medium sized Enterprises (MSME)” which manufacture fabricated metal products employing around 19,097 people. Based on discussions with the industry players in the sector, the skill gaps observed are mentioned below:

- Inadequate people management skills among foreman
- Inability to maintain standards and reduce wastage
- Operators possess inadequate knowledge about modern machineries used
- Inability to do work according to the specified instruction or requirement
- Lack of knowledge about the entire production process

6. Recommendations

Recommendations for Raigad district focuses on the sectors mentioned above in the skill gap section. Some of these sectors will have recommendations for the private sector which will directly translate to skills being developed and the others will need Government intervention to facilitate improvements.

While the detailed recommendations follow, summary is given in the table below.

Table 206: Summary of recommendations for Raigad district

Sector	For Government players	For private training providers	For Industry	For NSDC
Building, Construction industry and Real Estate services	<ul style="list-style-type: none"> ▪ Improve practical exposure in the existing construction related courses as per industry requirement ▪ Offer subsidies and stipend to trainees to promote training 	<ul style="list-style-type: none"> ▪ Offer Training programs for supervisors and skilled technicians ▪ Register with the Sector Skill Council and follow standardised curriculum 	---	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Chemicals & Pharmaceuticals	<ul style="list-style-type: none"> ▪ Improve the quality of educational institutes offering trades in this sector such as AOCPC and MMCP 	<ul style="list-style-type: none"> ▪ Offer Certificate courses in chemical and pharma sector ▪ Tie up with local industry for placements 	<ul style="list-style-type: none"> ▪ Tie up with qualified training provider ▪ Process specific ‘in house’ training practices to be continued 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Construction material and Building hardware - Steel Industry	<ul style="list-style-type: none"> ▪ Quality of Government institutions in the district to be improved matching industry requirements 	<ul style="list-style-type: none"> ▪ Tie up with existing industries and provide training on safety, process related, etc 	<ul style="list-style-type: none"> ▪ Tie up with quality training providers ▪ Infra, field visit and guest lecture support ▪ Content development according to need 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Organised Retail	<ul style="list-style-type: none"> ▪ Training through Modular Employable Skills scheme 	<ul style="list-style-type: none"> ▪ Offer courses in retail store operation and marketing topic ▪ Up skilling courses can be offered for 	<ul style="list-style-type: none"> ▪ Process specific ‘in house’ training practices to be continued 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs

Sector	For Government players	For private training providers	For Industry	For NSDC
		supervisor role ▪ Tie up with industry for placements		
Transportation, Logistics, Warehousing and Packaging	▪ Offer certificate courses through Modular Employable Skills scheme	▪ Offer certificate Training programs for technicians ▪ Offer Diploma / P.G Diploma course for supervisory role	---	▪ Interventions required through funding of private training as well as through SSCs
Tourism, Travel, Hospitality & Trade	---	▪ Offer courses according to local industry requirements ▪ Provide authorised certificates recognised by the industry	▪ Continuing the existing 'internal' training for the employees periodically	▪ Interventions required through funding of private training as well as through SSCs
Unorganised sector – Ganesh Idol Cluster	▪ Offer training on making Ganesh Idol making ▪ Arranging for a common facility centre and offering training	-----	-----	▪ Interventions required through funding of private training as well as through SSCs
Fabrication industry	▪ Improve practical exposure in the existing technical institutes to meet industry standards	---	---	▪ Interventions required through funding of private training as well as through SSCs

6.1. Government players

- ❖ **Building, Construction industry and Real Estate services:** Government may engage in training for this sector. Already construction related courses run through government departments, Government ITIs and Vocational Training Providers. These programs can be scaled up and improved to meet the industry requirement. Government may also engage in providing subsidies to training providers, stipend to trainees, etc. as the trainees are from poor economic background and encourage them to participate in training program.

- ❖ **Chemicals & Pharmaceuticals:** Government can also provide training in this sector through various institutions. There are Government Industrial Training Institutes which provides trades such as Attendant Operator Chemical Plant (AOCP) and Maintenance Mechanic Chemical Plant (MMCP). Based on discussions with industry players in the district, the students passing out of the trade are lacking adequate basic knowledge of chemicals and practical exposure. Measures can be taken to improve the quality of the courses delivered in the technical institutes to meet the industry requirements. Also, the industry players believe that there is a shortage of qualified supervisors in chemical plant and the Directorate of Technical Education can consider increasing the seats for Diploma in Chemical Engineering course in Polytechnics.

- ❖ **Construction Materials and Building Hardware (Steel Industry):** The skilling intervention from the Government in this sector may be minimal as the training requirement is more industry and function specific in nature. Government may provide industry relevant courses such as Boiler attendant in Industrial Training Institutes (ITIs).
- ❖ **Organised Retail:** Government can conduct training programs through Modular Employable Skills (MES) scheme by Vocational Training Providers (VTP) on courses such as:
 - Sales person (Retail)
 - Senior Sales person (Retail)
 - Retail operations
- ❖ **Transportation, Logistics, Warehousing and Packaging:** Government can conduct training programs through Modular Employable Skills (MES) scheme by Vocational Training Providers (VTP) on courses such as:
 - Loader
 - Courier
 - Material Handling Vehicles (MHV) Operators (Operating forklifts, reach truck, etc)
- ❖ **Unorganised sector (Ganesh Idol Cluster):** Government can intervene in this sector by offering training courses on Ganesh Idol making. This can be conducted through departments such as 'District Industries Centre' (DIC). Skilled and experienced artisans may be hired to provide the training. As the artisans come from a less economically stable background, Government may offer subsidies to the training providers and stipend to the trainees. Government may also consider in developing a Common Facility Centre for Ganesh Idol cluster in the region. Currently, the artisans also lack marketing knowledge and sell their products to intermediaries. Disseminating knowledge on the same will also be helpful.
- ❖ **Fabrication Industry:** Generally the fabrication industry requires people with ITI education in various trades such as machinist, fitter, welder, turner, etc. Most of the qualified / previously trained people in the industry are trained through Government ITI or Government sponsored training programs (MES, DIC sponsored training program, etc). Based on our discussion with the industry players, the trainees lack adequate practical exposure and machine operation capabilities. The Government institutions need to increase the practical sessions and ensure that the trainees fulfil the course requirements. The institutes can also tie up with the industries to get assistance such as practical training, field visits, guest lectures, apprenticeship training, placement assistance, etc.

6.2. Private training providers

- ❖ **Building, Construction industry and Real Estate services:** The industry requires skilled human resource in various job roles. Training needs to be provided for skilled technician. Some of the training areas that can be offered are as follows:

Technicians:

- Masonry
- Carpentry
- Bar bending
- Plumbing
- Painting
- Welder
- Wireman
- Electrician

Supervisors can be trained on areas such as surveying, project management, safety management, etc. These are some of the indicative courses and not an exhaustive list. Adequate practical exposure should be part of the training program and authorised certificates need to be provided for the candidates after the completion of training programs.

Also, the private training providers should be registered with NSDC and the relevant Sector Skill Council, and follow the standardised curriculum which is recognised by the industry. This will also be beneficial to the trainees as after successful completion of training program they are entitled to a refund of upto Rs. 10,000 of course fees²¹ paid by them. Generally trainees for construction sector comes from a poor economical background and this would be a boost for them to undergo training program from a NSDC approved centre.

- ❖ **Chemicals & Pharmaceuticals:** Private training centres should provide training according to the local industry requirements. There is also a requirement of upskilling training for the existing employees in the industries. So refresher and supervisory development courses may also be provided. Some of the training courses that can be provided in this sector by a private training provider are as follows:

- Chemical Plant Operator
- CNC Milling
- Marketing - For salesmen / marketing executives

The courses should also include safety and Quality parameters as a part of their curriculum because the job demands to work with hazardous chemicals. Private training providers need to have a tie-up with the local industry players to understand their requirement and provide training accordingly. This would also ensure placement of the trainees as they are trained as per the industrial standards.

- ❖ **Construction Materials and Building Hardware (Steel Industry):** Training requirement for steel industries would be process and function specific. Therefore, training providers should involve industries as a part of training. Industry should participate in identification of training needs, course, curriculum, etc. The industry also requires upskilling and supervisory training for existing

²¹ Source: Budget 2013

employees and training can be provided in relevant topics. Some of the specialised training topics for steel industry that can be offered are as follows:

- Total Quality Management (TQM) / Total Production Management (TPM) (for managerial cadre)
- Statistical Process Control (SPC) / Statistical Quality Control (SQC) (for managerial cadre)
- Supervisory skills training (for supervisors)
- Training on industrial safety and safety standards
- Training on machine operation (Furnace, Boiler, Rolling mill, etc)
- Hydraulics training (for maintenance)
- Logistics management

These are function/process specific training and to be provided in tie up with the industries on need basis.

❖ **Organised Retail:** Private training providers can provide training in retailing courses. Some of the training courses that can be offered are mentioned below:

- Sales and Marketing
- Customer relationship and sales
- Retail Store Operations
- Certificate program in Customer Service Skills – Retail Showroom
- Merchandising
- Up selling and Cross selling
- Product specific retail sales training - (example: Retail sales of white goods and electronic goods)

All these courses should include communication skills and basic etiquettes as a part of their curriculum. Up skilling courses for supervisors can be offered in topics such as Inventory management, Shelf life management, Promotion management, Statistical analysis of data, etc. Adequate industry partnership to place the trainees on successful completion of training is essential for successful implementation of the training program.

❖ **Transportation, Logistics, Warehousing and Packaging:** Private training providers can provide courses in the following areas:

- Logistics management
- Warehousing and storage
- Procurement and Inventory management
- Supply Chain management
- Transportation and Distribution management

Skilled supervisors / executives are required by the logistics companies and they are not able to get skilled and qualified person for these roles. Private education institutes can start these types of courses which are in demand from the industries. Some of the courses that can be offered are:

- Diploma in materials and logistics management

- Diploma in multi-modal transport and logistics management
- Post graduate diploma in Supply Chain management

Suitable course can be offered as required by the industry.

❖ **Tourism, Travel, Hospitality & Trade:** Private training providers can provide courses on hospitality segment as follows:

- Houseman (Basic)
- Room attendant
- Reception Asst. and Information Asst
- Bellboy
- Hospitality Asst

There should be a course offered for local tourists guide which should includes areas such as local tourist attraction, its importance and relevant information, assisting the tourists in water sports and other rides, safety precautions, etc.

All these courses should include communication skills and basic etiquettes as a part of their curriculum because it is essential in hospitality industry. The Training provider needs to partner with industry players (hotels) and tourist operators for assistance in practical training, infrastructure facilities, field visits and placement assistance. This tie up will also ensure that the training is provided according to industry requirements.

6.3. Industry

❖ **Building, Construction industry and Real Estate services:** Industry can aid the training providers through infrastructure support, field visits, etc. Also, successfully trained candidate needs to be recognised and absorbed by the industry.

❖ **Chemicals & Pharmaceuticals:** Industry needs to play a role in having a tie up with qualified training providers and assist them in delivering training through infrastructure assistance, field visits, guest lectures, etc. The industry should continue the practice of providing 'in house' training on quality and process aspects as required.

❖ **Construction Materials and Building Hardware (Steel Industry):** Industry needs to play a crucial role in this sector. They need to have a tie up with quality training provider for skilling existing human resource in the industry. They need to participate in designing the course and curriculum for training along with training providers. They need to provide support to training providers such as:

- Infrastructure facilities (for practical training)
- Assisting in field visits
- Support of faculties (through guest lecture – expert from the industry)

- ❖ **Organised Retail:** Industry generally provides training on specification and functionalities of the merchandise displayed, Store operation and ERP software used. These training initiatives need to be continued by the industry. The industry should also have tie ups with training providers for placement as they required skilled human resources.

- ❖ **Tourism, Travel, Hospitality & Trade:** Hospitality industry requires skilled and trained human resource as they interact with various visitors directly. The industry in the district faces shortage in getting skilled manpower and they should encourage trained people to join the industry. The industry should have a tie up with training providers to get adequately trained human resource for their industry. They can assist them in providing infrastructure facilities, field visit, equipments facility, etc.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Building, Construction industry and Real Estate services
- ❖ Chemicals & Pharmaceuticals
- ❖ Construction Materials and Building Hardware (Steel Industry)
- ❖ Organised Retail
- ❖ Transportation, Logistics, Warehousing and Packaging
- ❖ Tourism, Travel, Hospitality & Trade
- ❖ Unorganised sector (Ganesh Idol Cluster)
- ❖ Fabrication Industry

2.26. RATNAGIRI

1. Introduction

Ratnagiri district is located in the Konkan region in the south-western part of Maharashtra. The district spans an area of 8,208 kilometers and has 10 talukas. The district is bounded by the Arabian Sea to the west, Sindhudurg district to the south, Raigad district to the north and Kohlapur to the east.

The district is pre-dominantly rural. Agriculture and allied activities are also the main occupation of the people, employing about 66 per cent of the labour force (as of Census 2001). The remaining is in household industry (two per cent) and other workers²² are at 32 per cent.

Ratnagiri district, like its neighbour Sindhudurg, also benefits from beauty of Sahyadri ranges and the coastline. The district has several beautiful tourist spots like Mandovi beach, Jaigad fort, Tural hot water spring, etc. In addition, the district is also home to the famed Ganapatiphule Temple.

In addition to tourism, the district also has potential for fisheries based processing and food processing industries based on mangoes and cashews. Several processing units in mango and fish are there around the Ratnagiri town which employ the local population. The district has also made in-roads in the sectors of power and chemical with the presence of organisations like Finolex, GMR, Gharda chemicals, JSW Energy amongst others.

Table 207: Comparison of Ratnagiri district with Maharashtra – key indicators

Indicator	Year	Ratnagiri	Maharashtra
Area, in sq.km.	2001	8,208	307,713
Percentage share in State geographical area, %	2001	2.67%	100%
No. of sub-districts	2011	10	353
No. of inhabited villages	2001	1,539	41,095
No. of households	2001	377,366	19,576,736
Forest area as a % of total geographical area	2001	2%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analyzed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

²² Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers, are 'Other Workers'.

2.1. Demography

As per Census 2011, Ratnagiri district has a population of 1,612,672 persons – 1.44 per cent of the State population. Majority of the Population (18 per cent) is concentrated in Ratnagiri sub-district, followed by Chiplun sub-district (17 per cent), Sangameshwar sub-district (13 per cent) and Khed sub-district (11 per cent).

While 57 per cent of the population in the district is in working-age group (15 to 59 years), about 45 per cent is actually working i.e. work participation rate. In Ratnagiri district the decadal population growth rate is actually negative – 4.96 per cent. This is primarily attributed to the fact that the district has lesser employment opportunities and people prefer to migrate to other places where employment opportunities are higher.

The district has achieved decent literacy levels. Its literacy rate is 82.43 per cent, which is slightly lower than the State average of 82.91 per cent and much higher than the All-India average of 74 per cent. Male literacy at 91.43 per cent is significantly higher than female literacy rate at 74.55 per cent.

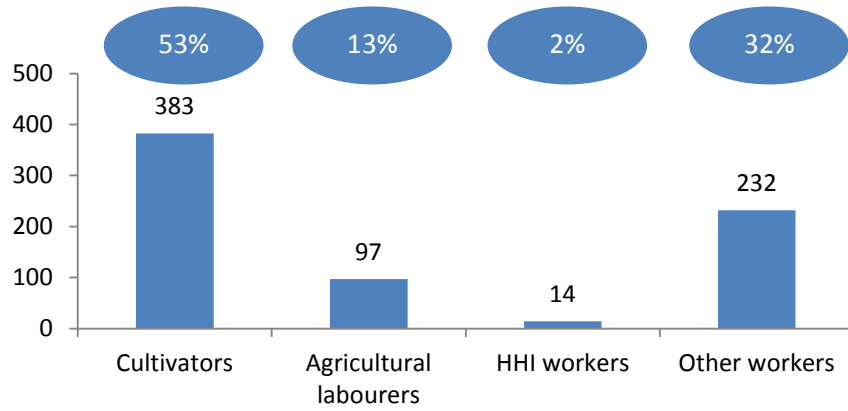
Table 208: Key demographic indicators

Indicator	Year	Ratnagiri	Maharashtra
Population, No.	2011	1,612,672	112,372,972
Decadal growth rate of population, %	2001-11	-4.96	15.99%
District's share in State's population, %	2011	1.44%	100%
Urban population as a percentage of total population, %	2011	16%	45%
SC population, %	2001	1%	8.79%
ST population, %	2001	1%	15%
Sex ratio, No. of females per 1000 males	2011	1123	925
Population density, per sq. km.	2011	196	365
Literacy rate, %	2011	82.43%	82.91%
Main workers, No.	2001	557,613	34,748,053
Marginal workers, No.	2001	205,774	6,425,298
Working age population* as a percentage of total population, %	2001	57%	59%
Work participation rate [^] , %	2001	45.00%	42.50%
HDI Rank	2001	17	
HDI Index	2000	0.46	0.58

**Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011*

The district has a total workforce of about 7.25 lakh persons. Of this, 53 per cent are cultivators, 13 per cent are agricultural labourers two per cent are workers in household industry and 32 per cent are other workers.

Figure 197: Ratnagiri district's worker profile, as of 2011, in thousands



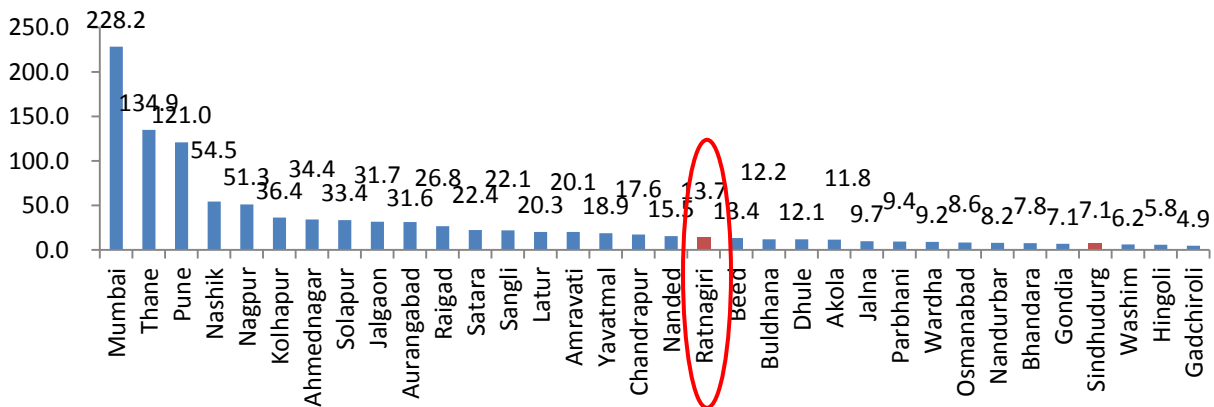
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Ratnagiri district has the nineteenth highest Gross District Domestic Product (GDDP) in Maharashtra at Rs 13,738 (1.4 per cent of the Gross State Domestic Product). In terms of per capita NDDP though, it ranked 17th amongst all districts at Rs 66,921. This was lower than the State average of Rs 87,686.

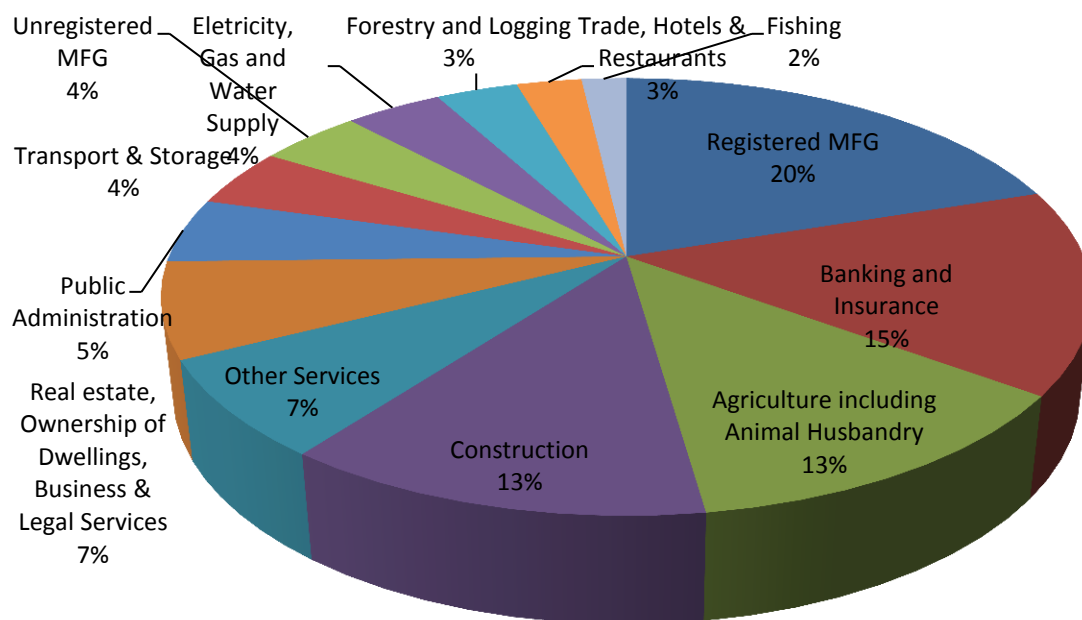
Figure 198: Gross District Domestic Product, in Rs thousand Crore, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly service based, with service sector's share in GDDP at 47 per cent in 2009-10. This is followed by secondary sector at 36 per cent and primary sector at 17 per cent. The detailed break-up of the three sectors is given in figure below.

Figure 199: Sector wise distribution of Ratnagiri's GDDP, as of 2009-10



Source: Ratnagiri District Socio-Economic Review

Agriculture: The district receives good rainfall and is also well irrigated with the rivers of Shastri, Bor, Kajali and Muchkundi rendering the land fertile for agriculture. The key crops grown in the district are rice, mango and cashew. Growth of mango and cashew also leads to the agro-based processing in the district.

Industry: The district has several industrial units which are mainly involved in mango and fish processing. Notable organisations include Gadre, Desai Products, Exotic Fruits Limited, etc. There are also power and chemical companies such as Finolex, GMR, Gharda chemicals, JSW Energy amongst others. There are also up-coming power projects from NPCL in the district whose plants will become functional in 10-15 years. To aid the industrial transition of the district, industrial areas have been set-up in the district with the Mirjole Industrial Area spanning about 783 hectares.

Services: As mentioned above, services account for 47 per cent of GDDP. Of all the services, the key services in the district are of 'banking and insurance' at 15 per cent.

2.3.State of education

As of 2011-12, Ratnagiri district had 3,177 schools, with 231,305 students enrolled. Of this, 52 per cent were primary schools, 35 per cent were upper primary schools and the remaining 12 per cent were secondary and higher secondary schools. The student-teacher ratio was at 19 students per teacher. The

student-teacher ratio is significantly better than the average ratio for the State at about 30 students per teacher.

Table 209: School and higher education infrastructure in Ratnagiri district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	3,177	231,305
General colleges	22	13,897
Technical education*	16	3,011

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai, *Excluding non-AICTE diploma courses*

For higher education, the district has 22 general colleges, while for technical education, the district has 16 institutes that have 3,011 students enrolled. For vocational training, Ratnagiri district had a total of 15 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, 10 were Government ITIs and the remaining five are private ITI. All the 15 ITIs together have a seating capacity of 1,240.

Table 210: Key ITI indicators in Ratnagiri district, March 2012

Indicator	Value
Total Number of ITI	15
Number of Government ITIs	10
Number of Private ITIs	5
Total Seating capacity	1,240
Student pass rate	80%
Student drop-out rate	5-10%

Source: Directorate of Vocational Education & Training, Mumbai and IMAcS Primary survey

Based on our discussions with the key stakeholders in Ratnagiri district, we have found that on an average, of all the students that pass out from an ITI in each year, only about 60 per cent find jobs in the market due to the less number of opportunities present within the district. The average pass rate observed is around 80 per cent and the drop-out rate is around five to ten per cent. For details on courses offered by ITIs in Ratnagiri refer to the table in annexure.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship Development). Some of the courses that help the youth are certificate courses in data entry operator, plumbing, Tally software, video shooting, etc. The private training institutes offer courses in desktop publishing, tailoring and cutting, diesel mechanic, etc. For details of training institutes and courses offered, refer to table in annexure.

2.4. Youth aspirations

In the process of identifying the growth engines for the Ratnagiri district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Migration trends:** Majority of the skilled youth want to migrate to Mumbai to pursue better job opportunities. Also, they feel that if they start their careers at Mumbai, it will have better impact on the career trajectory.
- **Entrepreneurial zeal:** The youth is not inclined towards starting their own business, as they are highly risk averse. The preference is to go for Government or private jobs only, as they provide a secure source of income.
- **Preference for higher education:** Many youth want to pursue higher education through lateral entry. But one of the factors that act as a deterrent is the economic backgrounds from which some of the youth hail.
- **Satisfaction with existing education infrastructure:** The youth feel that the current infrastructure is good for the practical exposure but would prefer better IT infrastructure to hone their basic skills.
- **Demand for additional training / courses:** Youth feel that enhanced thrust on the soft skills and personality development components would help them compete with the 'city' institute students for job placements in MNCs.

3. Developmental concerns

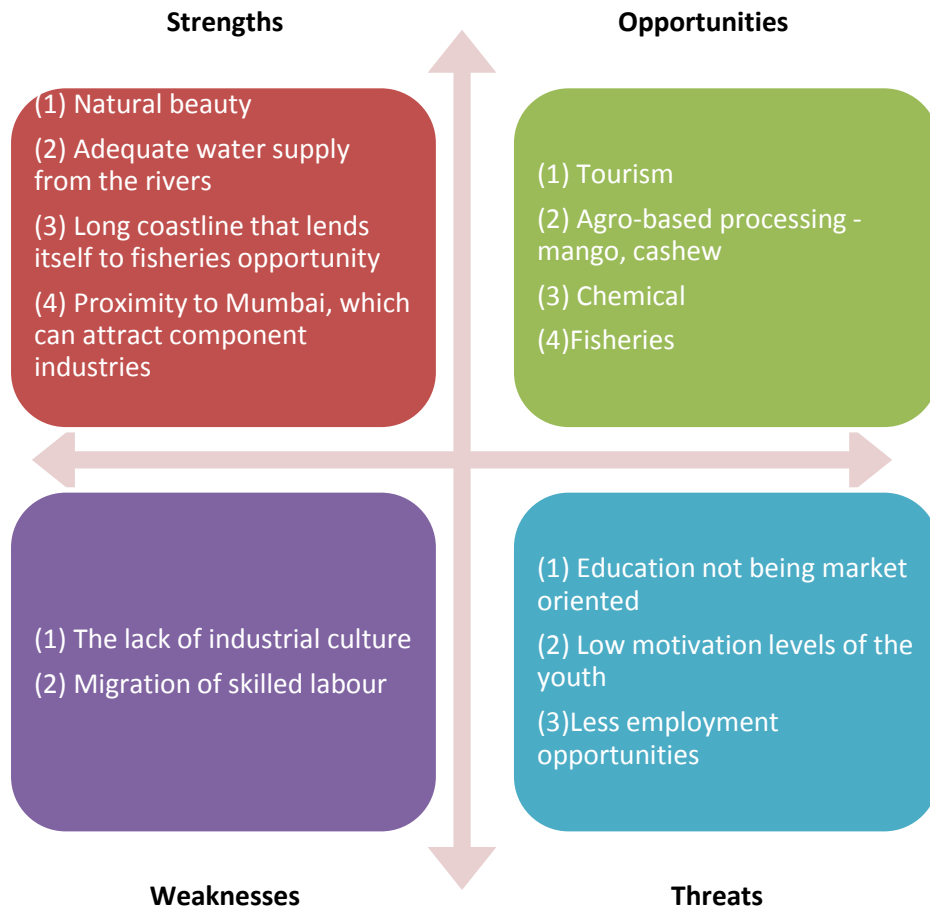
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Migration of skilled labour:** Ratnagiri district is having opportunities mainly in agro-based and chemical organizations shop-floor. Thus, the majority of the technically skilled labour does not find opportunities within the district. So, they migrate to Mumbai and Thane due to the proximity. Also, the people migrating prefer working in the shop-floors of Mumbai and Thane than venturing into new avenues within the district.
- **Culture not suited for industrialisation:** The entrepreneurs in the district frequently quote manifold incidents of absenteeism and attrition, which severely hampers the production cycle. As most of the processing is season-bound (like mango), this poor industrial culture acts as a major deterrent for industrial growth.

SWOT analysis

Based on the diagnostics of the Ratnagiri district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 200: SWOT Analysis of RATNAGIRI district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 1.61 lakh persons between 2012 and 2022. Sectors which will drive demand are expected to be agriculture and allied – which includes fisheries and building, construction and real estate. The requirements for skilled personnel are likely to increase, as the maximum demand will be generated for semi-skilled and skilled workers.

Table 211: Incremental demand of human resources in Ratnagiri – by sector

Year	2012-17	2018-22	2012-22
Agriculture and allied	12,762	6,504	19,266
BFSI	11,374	18,284	29,658
Building, Construction industry and Real Estate	25,053	34,770	59,823
Education and Skill Development	9,110	3,798	12,908
Food Processing	1,055	1,362	2,417
Healthcare Services	4,527	6,195	10,722
Transportation, Logistics, Warehousing and Packaging	4,702	5,330	10,032
Tourism, Travel, Hospitality & Trade	2,037	2,966	5,003
Other manufacturing	3,433	5,651	9,084
Others	1,002	1,310	2,312
Total	75,057	86,170	161,227

Source: IMAcS Analysis

^Unorganised sector includes domestic workers, handloom and handicrafts, beauticians, facility management personnel and security guards. *Others include auto and auto components, chemicals and pharmaceuticals, gems and jewellery, IT and ITeS, electronics, and furniture and furnishings.

Figure 201: Incremental demand of human resources in Ratnagiri – by skill level



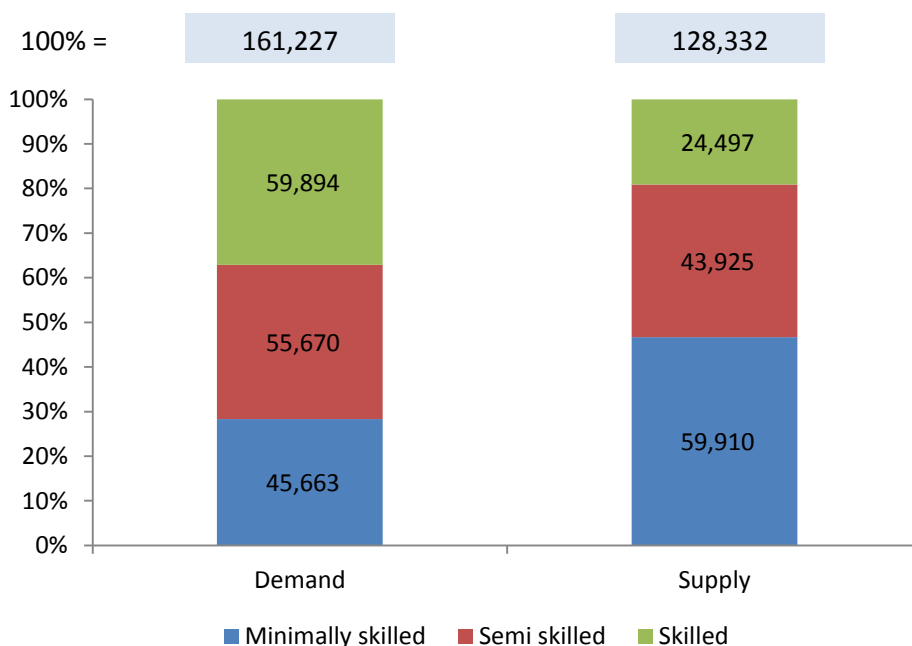
Source: IMAcS Analysis

^Unorganised sector includes domestic workers, handloom and handicrafts, beauticians, facility management personnel and security guards. *Others include auto and auto components, chemicals and pharmaceuticals, gems and jewellery, IT and ITeS, electronics, and furniture and furnishings.

We have estimated incremental supply of human resources in the district at 1.28 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be insufficient to meet the incremental demand in the district. The shortage of human resources needs

to be bridged by capacity building as the incremental supply is leaning more towards minimally skilled workers, as against skilled workers. All the stakeholders need to work in conjunction to meet the skill shortage in the district.

Figure 202: Demand supply gap of human resources in Ratnagiri – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Of the 19 high growth sectors identified by NSDC, ‘chemicals and pharmaceuticals’, ‘tourism, trade and hospitality’, ‘food processing’ and ‘agriculture and allied (mainly fisheries)’ exist in Ratnagiri and need skill upgradation.

Table 212: Sectors present in Ratnagiri district – comparison with Maharashtra

(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Ratnagiri	Maharashtra
Agriculture and allied		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		

High Growth Sectors identified by NSDC	Ratnagiri	Maharashtra
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Others		
Unorganised sector		

Source: IMaCS Analysis

For the sectors identified above, we have mapped the skill requirements and the skill gaps for these sectors to be developed in the district.

5.1. Tourism, Travel, Hospitality and Trade

Ratnagiri district has several tourism spots that are dotted throughout the district. These spots are varied like beaches, religious temples, forts, bird sanctuaries amongst others. Thus, these can be built as circuits where people who travel to Goa can be attracted and also the corporates who are willing to take a break from the Mumbai life. Thus, capacity building has to be explored where the human resource needs to be trained to take this potential forward.

Beauty of Ratnagiri

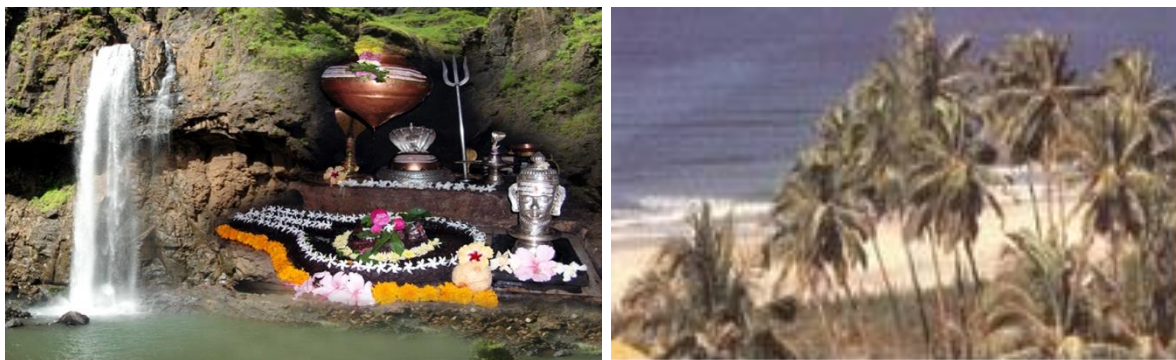


Table 213: Key tourist spots in Ratnagiri

Tourist Spot	Brief Description
Beaches	The district has several beaches like Mandovi, Bhatye, Guhagar amongst others
Temples	Ratnagiri has several places of worship like the Ganapatiphule, Velneshwar, Palshet which attract scores of devotees
Bird sanctuaries	The beach is located near Malvan. The beach is so pristine that on a clear day, the sea-bed can be seen

Source: www.ratnagiri.nic.in

The key skill gaps manifested in this sector based on our primary survey are:

- Shortage of managerial staff in the district
- English speaking difficulties and soft skills need improvement
- Customer relationship management difficulties
- Lack of professionally trained adventure sport teachers in Ratnagiri
- Lack of many professionally trained guides

5.2. Food processing – Mango and Cashew processing

As discussed earlier in the report, food processing opportunities are available in the district, mainly due to the availability of mango and cashew.

Mango processing

The Alfonso mangoes of Ratnagiri district are famed for their unique taste. This is especially famous in the Ratnagiri taluka. In addition to Alfonso, other varieties like Mankur, Payari and Karel mangoes are found in abundance in the district. Some processing firms like the Desai Products manufacture mango pulp based products but require more firms to maximise the potential of mango processing. Also, a Mango processing Cluster has been approved principally by the Government of India for using common facilities.

Cashew processing

Cashew processing has taken off in a small way in Ratnagiri with several small units grading the cashews. But, the need of the hour is to make the cashew processing segment more organised with higher value addition.

The key skill gaps manifested in this sector based on our primary survey are:

- Very little awareness in farmers on the benefits of horticulture
- They also prefer to sell the produce in local markets than to a food processing organization, due to lack of information
- Formulation experts hired from Mumbai and Pune. Hence there is need for skilled formulation experts
- Lack the discipline to come and put in the required hours of work

- Absenteeism is also big challenge
- Less number of marketing degree holders in the district

5.3. Chemicals and pharmaceuticals

The chemical industries in Ratnagiri are mostly located in the Khed taluka in the Lote industrial area. The chemical units manufacture products that are pesticides (Dow Agrosience, Aimco Pesticides), petrochemicals (Bhavana, Parco, etc), paints (Kansai Nerolac), etc.

The key skill gaps manifested in this sector based on our primary survey are:

- Inadequate project management skills
- Inadequate conflict management and communication skills
- Inadequate knowledge of regulatory process and IPR
- Insufficient knowledge of quality management
- Inadequate safety management skills
- In sufficient conflict resolution skill
- Inadequate planning skills
- In sufficient safety standards adherence
- In sufficient documentation skills
- Inadequate knowledge of global standards including USFDA

5.4. Fisheries

Ratnagiri district has the Arabian sea as well as rivers like the Shastri, Bor, Kajali and Muchkundi which offers tremendous fisheries potential. Though some processing units have been established in the district, majority of the fishing and the subsequent cleaning is done in a traditional manner. With the growing export opportunities in the sector, capacity building is a must.

The key skill gaps manifested in this sector based on our primary survey are:

- Not aware of the latest scientific methods
- Fewer managers available. So, the owner is forced to get qualified personnel from nearby cities like Panaji or Mumbai.
- Lack of knowledge on storage of the fish. At times, the fish are stored in unhealthy environs

6. Recommendations

Recommendations for Ratnagiri district focus on the sectors of food processing – mango and cashew, chemical, fisheries and tourism and hospitality. The sector of ship engineering, which is a prospective sector, has also been covered. Some of these sectors will have recommendations for the private sector which will directly translate to skills being developed and the others will need Government intervention to facilitate improvements. Finally, since a significant chunk of employment is concentrated in agriculture, thus, major up-skilling can be done for those workers, updating them of latest techniques of farming. This will help them improve their livelihood opportunities and will increase their income levels.

While the detailed recommendations follow, summary is given in the table below.

Table 214: Key recommendations for Ratnagiri – summary

Sector	For private training providers	For Government players	For Industry	For NSDC
Food processing – mango	<ul style="list-style-type: none"> ▪ Modern techniques of mango farming ▪ Usage of the new equipment ▪ Processing and value addition techniques 	<ul style="list-style-type: none"> ▪ Research on innovative irrigation technology ▪ Enabling ease of credit to the farmers to scale up 	<ul style="list-style-type: none"> ▪ Setting up and usage of common processing facility centers 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Food processing – cashew	<ul style="list-style-type: none"> ▪ Modern techniques of cashew farming ▪ Usage of the new equipment ▪ Processing and value addition techniques 	<ul style="list-style-type: none"> ▪ Setting of cashew nurseries ▪ Spread awareness of the value addition 	<ul style="list-style-type: none"> ▪ Rejuvenation of cashew cluster ▪ Setting up and usage of common processing facility centers 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Travel, Tourism and Hospitality	<ul style="list-style-type: none"> ▪ Skilling based on the functional roles such as hospitality establishments, tour guides and special personnel ▪ The development of special personnel will lead to creation of experiential tourism that will drive up the number of tourists who visit the district 	<ul style="list-style-type: none"> ▪ Infrastructure development especially roads, rest rooms in key spots and Yatri Nivas 	<ul style="list-style-type: none"> ▪ Set up more hotels in key spots ▪ Facilitate experiential tourism in district 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Fisheries	<ul style="list-style-type: none"> ▪ Courses related to deep sea fishing techniques ▪ Courses related to processing and value addition 	<ul style="list-style-type: none"> ▪ Spreading the awareness about fish processing ▪ Aiding the formalization of the sector ▪ Encourage formation of SHGs to empower women in fisheries 	<ul style="list-style-type: none"> ▪ Establishment of processing units ▪ Aiding in training 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Chemical	<ul style="list-style-type: none"> ▪ Courses related to work in chemical factory ▪ Courses related to safety 	<ul style="list-style-type: none"> ▪ ITI to focus on courses that will skill the youth 	<ul style="list-style-type: none"> ▪ 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs

6.1. Government players

- ❖ **Mango processing:** The intervention of the Government is required to primarily build awareness and bring forth some common facilities to encourage the local population to invest in mango processing. Currently, though the local farmers are growing the fruit, not lot of awareness exists on how to optimize the produce. Mango cluster in Ratnagiri has been approved and the process of setting up the common facilities can also be hastened. Some of the other ways by which the interventions can occur are:

- Investing in common facility center with processing equipment to encourage the activity of processing
 - Facilitating ease of access to credit for small investments to better the produce
 - Giving the ease of market access to small growers also
 - Test innovative irrigation technologies
 - Try to arrange for prominent and successful mango entrepreneurs to share the success stories and techniques
 - Offer alternate skilling and employment opportunities for the mango off-season for the central workforce
- ❖ **Cashew processing:** Here also, the intervention of the Government is required to primarily build awareness and bring forth changes in terms of making the sector organised. Some of the other ways by which the interventions can occur are:
- Spearhead the formation of cashew cluster in Ratnagiri
 - Increasing the area under cashews by setting up nurseries. This will also generate employment and income to cashew farmers
 - Spreading awareness to existing cashew farmers about techniques like cashew grafts
 - Creating separate nurseries for organic cashews, which will fetch better price in the international market
 - Investing in common facility center with processing equipment to encourage the activity of processing
 - Facilitating ease of access to credit for small investments to better the produce
 - Giving the ease of market access to small growers also
 - Test innovative irrigation technologies
- ❖ **Travel, tourism and hospitality:** The role of the government here is to be a facilitator for the sector to realize the potential. Some of the initiatives can be:
- The infrastructure needs to be developed across the districts. The roads are in very bad condition which acts as a deterrent for many tourists.
 - Also, at most of the spots, there are no refreshments and other basic necessities like rest rooms available. Lack of basic amenities makes the trips difficult.
 - There are very few star/business class hotels in the district. The Government needs to hasten the process of establishing more hotels with policy level decision
 - Though the beaches are very beautiful, they are not maintained cleanly. The culture of cleanliness has to be enforced by the district administration
 - The capacity building from the Government's end i.e. guide , language training courses have to be given at village level for the local youth
 - Faculty from reputable hospitality institutes should be hired for these courses, which needs to take place across all the talukas.
- ❖ **Fisheries:** The critical role of the Government in this sector is to build awareness about its sustainable nature and actively encourage the setting up of fish technology parks and institutes. Awareness drives must be carried-out to bring to the fore the various avenues in which people can be employed in fisheries starting from the core fishing activity to the end transport and

packaging. The role of women and the subsequent empowerment they can reap can also be considered and more SHG for women can be formed with the Governmental guidance.

- ❖ **Chemical:** Government initiatives can be through the ITI and polytechnics in Ratnagiri to offer the industry relevant courses. Some interventions can be:
 - The Government should encourage syllabus at graduate and diploma level which prepares students for chemical industry
 - Diploma and ITI students in the Mechanical, Fitter, Mechanic Machine Maintenance, Chemical technology should be taught the following apart from them normal stream of study,
 - Material handling and fork lift/crane usage
 - Industrial safety standards
 - Cleanliness and sanitation management
 - Boiler handling and maintenance skills

6.2. Private training providers

- ❖ **Mango processing:** Private training centers for mango processing skills can be setup. Courses which span a duration of 8-10 weeks can be organized which covers several training topics with respect to mango cultivation, processing, value addition and marketing. The farm level skills have to be administered at taluka level while the processing and value addition skills can be taught via a common center in Ratnagiri town.

Table 215: Indicative courses for capacity building in mango processing

Activity	Indicative set of courses
Farming	<ul style="list-style-type: none"> ▪ Pest management skills, especially related to seasonal pests that hamper the production ▪ Skills to handle the occurrence of spongy tissues in produce that will lessen the value ▪ Awareness of various mango diseases like powdery mildew, blossom blight, etc ▪ Pre-harvest management skills ▪ Harvesting skills ▪ Post harvest, storage techniques
Processing	<ul style="list-style-type: none"> ▪ Courses to understand the various equipment used in processing ▪ Knowledge of basic value addition required ▪ Ability to build customer links ▪ Marketing and branding skills ▪ Courses to bring abreast the global developments in the mango processing segment ▪ Skills to make formulations for the value added products

- ❖ **Cashew processing:** Private training centers for cashew processing skills can be setup. Courses which span a duration of 8-10 weeks can be organized which covers several training topics with respect to cashew cultivation, processing, value addition and marketing. The farm level skills have to be administered at taluka level while the processing and value addition skills can be taught via a common center in Ratnagiri town.

Table 216: Indicative courses for capacity building in cashew processing

Activity	Indicative set of courses
Farming	<ul style="list-style-type: none"> ▪ Pest management skills, especially related to seasonal pests that hamper the production ▪ Awareness of various diseases that can affect the cashew fruit ▪ Pre-harvest management skills ▪ Harvesting skills ▪ Post harvest, storage techniques
Processing	<ul style="list-style-type: none"> ▪ Courses to understand the various equipment used in processing ▪ Knowledge of basic value addition required ▪ Ability to build customer links ▪ Marketing and branding skills ▪ Courses to bring abreast the global developments in the mango processing segment ▪ Skills to make formulations for the value added products

- ❖ **Travel, tourism and hospitality:** The capacity building is required across the value chain, based on the functional role as the skill building component also is at a nascent stage in Ratnagiri. They can be based in the district headquarters of Ratnagiri town.

Table 217: Skilling required in tourism in Ratnagiri

Functional role	Training required
Tourist guide/operator	<ol style="list-style-type: none"> 9. Communication skills 10. Route optimization – especially to create hubs that can club the beaches, backwaters and the places of religious importance 11. Courses to engage with the customer i.e. soft skills training 12. Courses that build awareness about the history of Ratnagiri
Hospitality establishments	<ol style="list-style-type: none"> 10. Basic computer courses 11. Communication skills 12. Courses to solve basic problems 13. Hospitality management courses for establishment managers 14. Culinary courses to bring forth the specialties of the Konkani cuisine

Functional role	Training required
Special personnel	5. Trekking experts 6. Adventure sports experts 7. Water games experts 8. Deep sea diving and scuba diving experts for tourists to explore the seabed.

- ❖ **Fisheries:** The training that has to be provided by the private player should address the main gaps of lack of knowledge related to value addition and lack of knowledge related to modern fishing method/technology. Fisheries institute can be set up in Ratnagiri town. The courses taught here should be targeted at both the fishermen, fish farm managers and prospective fish processing entrepreneurs. Some of the courses that can be offered are:
 - Deep sea fishing techniques
 - Usage of trawlers and other modern fishing equipment
 - Awareness of various modern machines used in fish processing
 - Value addition courses
 - Fisheries management where sustainable methods of fishing are taught
 - To teach the causative agents of fish spoilage
 - To understand the hygienic handling of fish and prawn on board fishing vessel and on shore
 - Development of the skill of icing the fish, which will reduce the spoilage
 - Improving the know-how with the fish processing equipments
 - Difference in techniques in inland and marine fishing
 - Packaging courses like tinning which will increase the shelf life of the fish
- ❖ **Chemical:** The training that has to be provided by the private player should address the main gaps of lack of knowledge related to value addition and lack of knowledge related to usage of equipments in the shop-floor. The skilling institute can be set up in Ratnagiri town. Setting up of skilling training centres for the following advanced modular courses for graduate/diploma students aspiring to get in the profiles of supervisor and factory operator category
 - Chemical Synthesis and Fermentation process
 - Process industry basics
 - Instrumentation in chemical industry
 - Intellectual Property Rights and its implications
 - Cleanliness and hygiene management and corresponding standards like GMP
 - Safety standards
 - Material handling and fork lift/crane operation
 - Sales and Marketing process
 - B2B/ Institutional sales
 - Personal sales
 - English communication skills

❖ **Other:** Due to the proximity to Mumbai and the coastline shipyard i.e. ship repair and maintenance related skills for the youth could be in demand in near future. Some of the indicative skills that can be offered are:

- Ship theory
- Ship repair standards
- Dimension controls
- Ship design specifications
- Time control in repair
- Ship contract management
- Ship general engineering services
- Maritime law

6.3. Industry

❖ **Cashew processing:** The cashew industry in Ratnagiri can come together to form cluster with Governmental aid to share and implement newer processing techniques. Some of the key activities that the industry can undertake in standardisation are:

- Development of common facility center for processing
- Encourage outside industry participation
- Prices of the nuts
- Type of grading
- Wages to be paid
- Packaging techniques to retain flavor

❖ **Travel, tourism and hospitality:** Ratnagiri needs hotels and resorts to be developed which offer comfortable stay and exotic experiences to the tourists. Though some resorts are coming up /existing, more need to be equipped with modern amenities. Some of the interventions that can be undertaken by the industry players are:

- Innovative package offers to Mumbai based corporates
- Establish hotels and resorts near key spots
- Facilitate the tapping of adventure tourism in the district
- Facilitate the creation of experiential tourism
- Develop themed resorts
- More facilities around the religious spots
- Undertake marketing drive to promote the spots

❖ **Fisheries:** The industry players can look to set-up fish processing units along the beaches and prime fishing centers. This activity should also be coupled with training by the industry, in partnership with the private training providers for giving the market perspective when the courses are conducted.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Chemicals and pharmaceuticals
- ❖ Tourism and hospitality
- ❖ Food processing – cashews and mangoes
- ❖ Fisheries

2.27. SANGLI

1. Introduction

Sangli district lies in the western part of Maharashtra. The district is bounded by Satara and Solapur district to the north, Bijapur (in Karnataka) to the east and Ratnagiri district to the west. Sangli district has area of about 8,572 square kilometers and has 10 talukas. The district gained prominence after the co-operative movement in the sugar sector. Till date, the triumvirate districts of Sangli, Satara and Kolhapur lead in the sugar processing industry in Maharashtra. In addition to the sugar processing, Sangli district is home to the world famous turmeric, with its unique taste, which is promoted with the aid of the Turmeric cluster. Sangli is also making in-roads in raisin processing with the Grape cluster. Thus, the district has several agro-based processing units which link the farm level produce to the shop-shelves.

In addition to this sector, Sangli is becoming home to several manufacturing units, reaping the benefit of the proximity to Pune, which is one of the fastest growing metros in the nation. The place of Kirloskarwadi, the village where the operations of the Kirloskar group began, is situated in Sangli, which introduced the manufacturing sector to the district. Another sector that is offering employment to the local population, especially the women is textile, where the garmenting happens in the textile park in the district.

Table 218: Comparison of Sangli district with Maharashtra – key indicators

Indicator	Year	Sangli	Maharashtra
Area, in sq.km.	2001	8,572	307,713
Percentage share in State geographical area, %	2001	2.79%	100%
No. of sub-districts	2011	10	353
No. of inhabited villages	2001	721	41,095
No. of households	2001	506,593	19,576,736
Forest area as a % of total geographical area	2001	5.5%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Sangli district has a population of about 28 lakh persons – 2.51 per cent of the State population. About 29 per cent of the population is concentrated in the Miraj taluka, about 11 per cent in Jat and Khanapur talukas eight per cent in Palus taluka and remaining is spread across the other talukas.

While 59 per cent of the population in the district is in working-age group (15 to 59 years), about 47 per cent is actually working i.e. work participation rate.

The district's literacy rate is 82.62 per cent, which is almost same as the State average of 82.91 per cent and but higher than the All-India average of 74 per cent. Male literacy at 90.40 per cent is significantly higher than female literacy rate at 74.66 per cent.

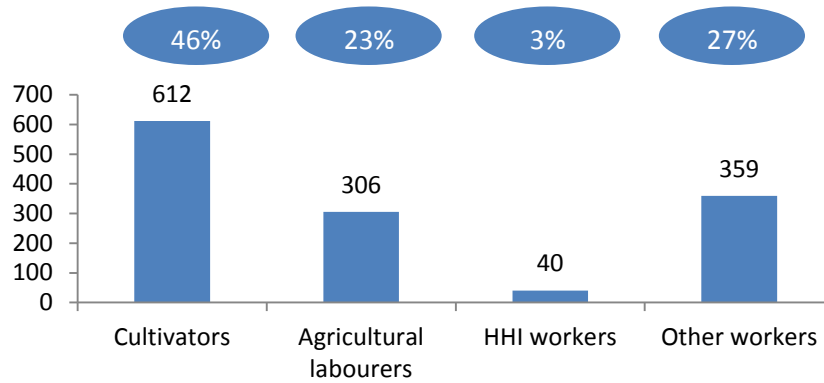
Table 219: Key demographic indicators

Indicator	Year	Sangli	Maharashtra
Population, No.	2011	2,820,575	112,372,972
Decadal growth rate of population, %	2001-11	9.18	15.99%
District's share in State's population, %	2011	2.51%	100%
Urban population as a percentage of total population, %	2011	26%	45%
SC population, %	2001	12%	8.79%
ST population, %	2001	1%	15%
Sex ratio, No. of females per 1000 males	2011	964	925
Population density, per sq. km.	2011	329	365
Literacy rate, %	2011	82.62%	82.91%
Main workers, No.	2001	952,241	34,748,053
Marginal workers, No.	2001	266,414	6,425,298
Working age population* as a percentage of total population, %	2001	59%	59%
Work participation rate^, %	2001	47%	42.50%
HDI Rank	2000	7	
HDI Index	2000	0.68	0.58

**Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011*

The district has a total workforce of about 13.30 lakh persons. Of this, 46 per cent are cultivators, 23 per cent are agricultural labourers, three per cent are workers in household industry and 27 per cent are other workers.

Figure 203: Sangli district's worker profile, as of 2011, in thousands



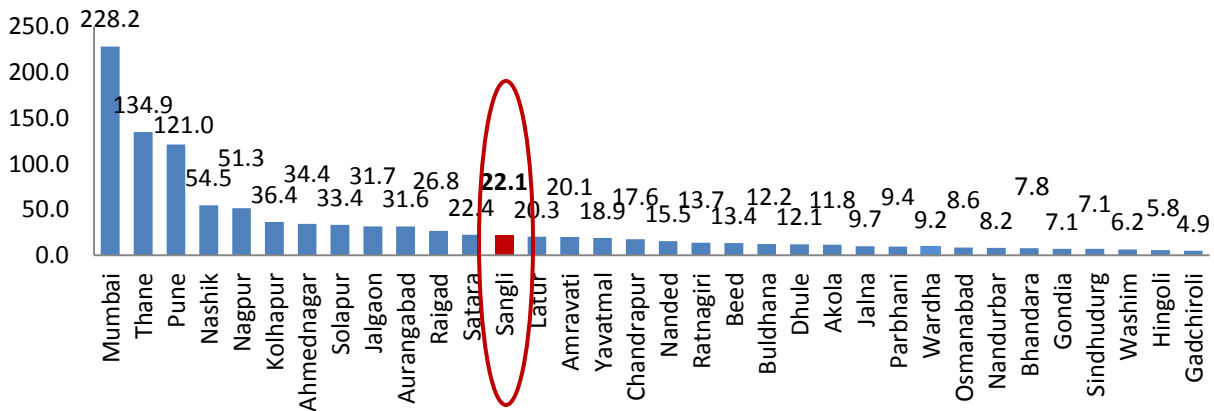
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2011-12, Sangli district had 13th largest Gross District Domestic Product (GDDP) in Maharashtra at Rs 2,213 crore (two per cent of the Gross State Domestic Product). The per capita income was Rs. 71,196 (10th ranked district) which was lower than the state average of Rs. 87,686

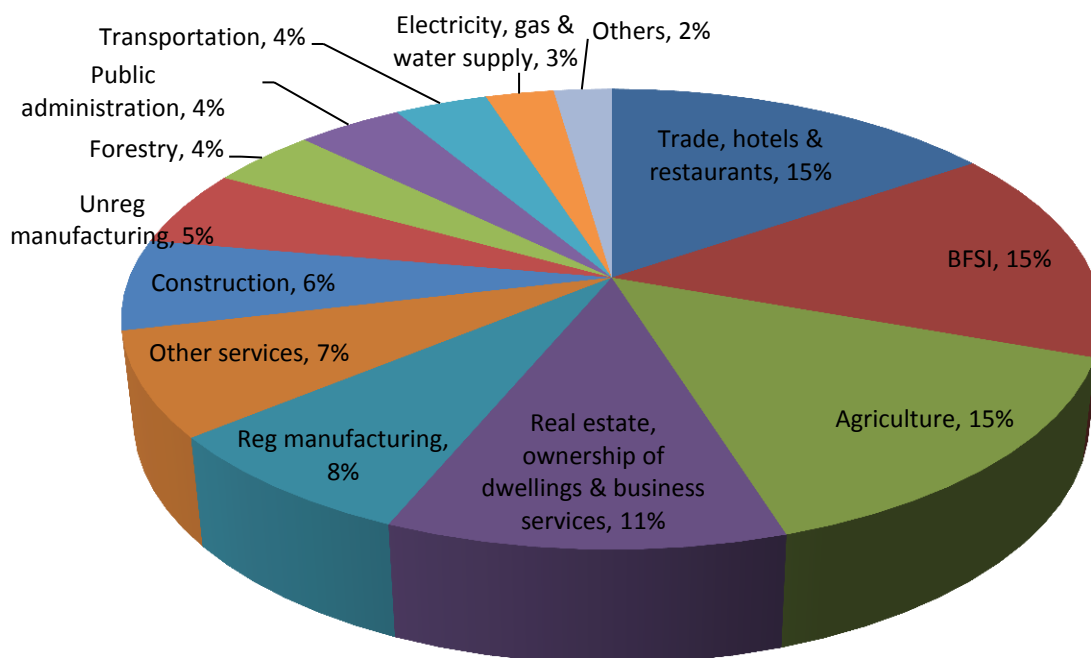
Figure 204: Gross District Domestic Product, in Rs thousand crores, as of 2011-12



Source: Economic Survey of Maharashtra, 2011-12

The district economy is pre-dominantly service based, with service sector's share in GDDP at 59 per cent in 2011-12. This is followed by secondary sector at 22 per cent and primary sector at 19 per cent.

Figure 205: Sector wise distribution of Sangli's GDDP, as of 2009-10



Source: Sangli District Socio-Economic Review 2011. Others include communication, railways, mining and quarrying and fishing.

Agriculture: Of the total area of 8,572 sq. km. in the district, about 158,000 hectares is the net sown area (cultivated land). With the eastern part of the district being drained by the Krishna and Warna rivers, crops like sugarcane, turmeric, grapes and cereals are cultivated. Infact, the district has historically been a stronghold in sugarcane cultivation.

Industry: As of 2012, Sangli had 125 large units and about 5,100 MSME units. The larger units paved way for the employment of about 4,600 people with an investment of Rs. 8,713 lakhs. These units predominantly are agro processing based and manufacturing units that feed into the production activities in Pune. There are 11 industrial areas in the district with the largest one being the Sangli-Miraj Kupwad industrial area with an area of about 223 hectares. In addition to the industrial areas, there is an Information Technology Park in Sangli town. The industrial trend for the Sangli district leans towards exploiting the agro-based processing and also the manufacturing industries.

Services: As mentioned above, services account for 59 per cent of GDDP in Sangli district. Of all the services, the key services in the district are 'trade, hotels and restaurants' at 15 per cent.

2.3. State of education

As of 2011-12, Sangli district had 2,705 schools, with 388,361 students enrolled. Of this, 50 per cent were primary schools, 27 per cent were upper primary schools and the remaining 23 per cent were secondary and higher secondary schools. The student-teacher ratio was high at 29 students per teacher. The student-teacher ratio was slightly better than the average ratio for the State at about 30 students per teacher.

Table 220: School and higher education infrastructure in Sangli district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	2,705	388,361
General colleges	22	13,897
Technical education*	37	9,103

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai, *Excluding non-AICTE diploma courses*

For general higher education, the district has 22 general colleges, while for technical education, the district has 37 institutes that have 9,103 students enrolled. For vocational training, Sangli district had a total of 26 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, 10 were Government ITIs and remaining 16 were private ITIs. All the 26 ITIs together have a seating capacity of 3,722.

Table 221: Key ITI indicators in Sangli district, as of March 2012

Indicator	Value
Total Number of ITIs	26
Number of Government ITIs	10
Number of Private ITIs	16
Total Seating capacity	3,722

Source: Department of Employment & Self Employment, Government of Maharashtra

Based on our discussions with the key stakeholders in Sangli district, we have found that on an average, of all the students that pass out from an ITI in each year, about 60 – 70 per cent find jobs in the market. The average pass rate observed is around 90 per cent and the drop-out rate is around 10 per cent. For details on courses offered by ITIs in Sangli, refer to the table in annexure.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The Government department offer courses in trades such as agriculture, textiles, education, entrepreneurship, etc. District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship Development). Some of the courses that help the youth are certificate courses in computer operations, C programming, Visual basic and Computer Aided Designing. In addition to the certificate courses, diploma is also offered in various topics like office automation, web technologies,

office management, etc. Majority of the private training centres in Sangli district offer computer related courses. Some of the courses offered are tailoring, welding, cookery, hotel management, designing, etc. For details of training institutes and courses offered, refer to table in annexures.

2.4. Youth aspirations

In the process of identifying the growth engines for the Sangli district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Willingness to pursue higher education:** Majority of the youth want to pursue higher education as through some sort of lateral entry into polytechnics and engineering colleges
- **Preference for courses:** The youth want to pursue auto sector relevant courses so that when they migrate to Pune they can be industry ready
- **Migration trends:** The skilled youth move to Pune looking for opportunities to work as currently in Sangli district, the youth mainly get employed in sugar and textile units
- **Satisfaction with existing education infrastructure:** Even though there is high preference to study from Government educational institutions, the youth feel that these institutions are not equipped with even the basic infrastructure and require better lab facilities for the practical modules
- **Job preference:** The students prefer to be placed in the multi-national corporations in Pune like Volkswagen, Fiat, etc as they feel it gives their career a good start.

3. Developmental concerns

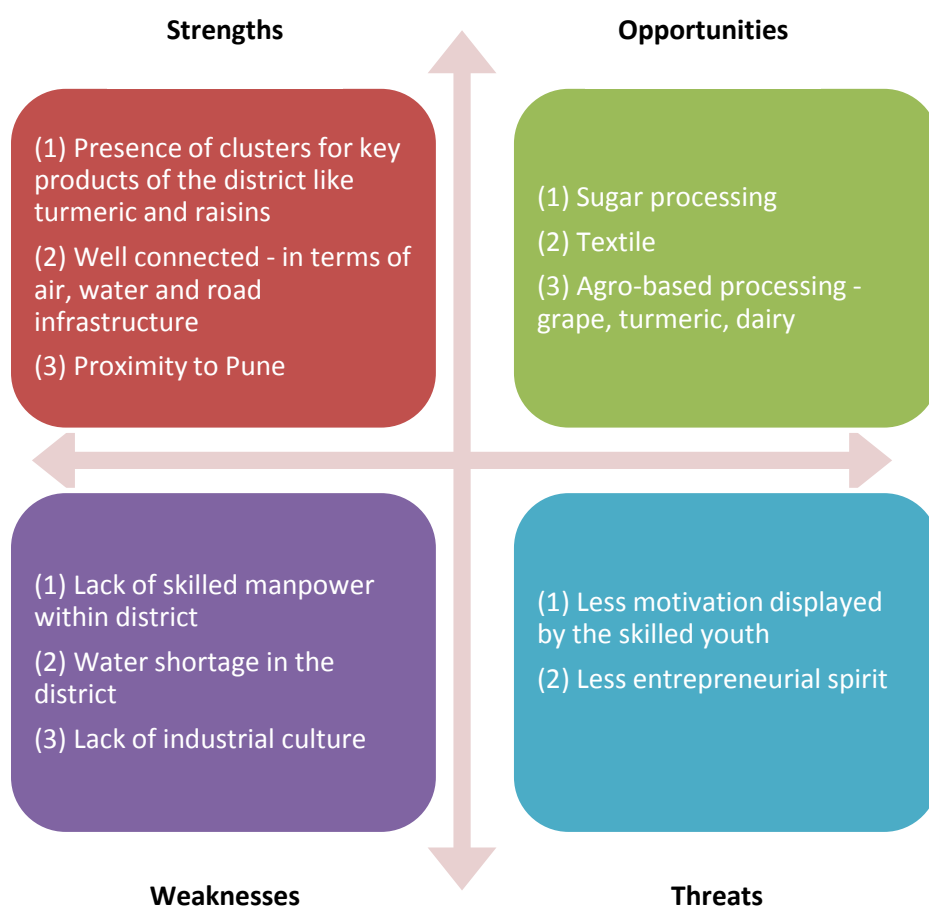
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Water shortage:** Sangli district's development is dependent on the water supply. While the talukas like Miraj, Khanapur and Parlouse are on the path to development due to sufficient water supply, the remaining talukas are not able to accelerate the development due to water shortage for industrial as well as domestic usage.
- **Low motivation level of people:** The local youth do not possess the entrepreneurial spirit which will aid them to work in industries. There is frequent absenteeism as well as attrition problems which the local industries face.

SWOT analysis

Based on the diagnostics of the Sangli district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented in figure below.

Figure 206: SWOT Analysis of Sangli district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 1.98 lakh persons between 2012 and 2022. Sectors which will drive demand are expected to be agriculture and allied (which includes fisheries), 'building, construction and real estate' and BFSI.

Table 222: Incremental demand of human resources in Sangli – by sector

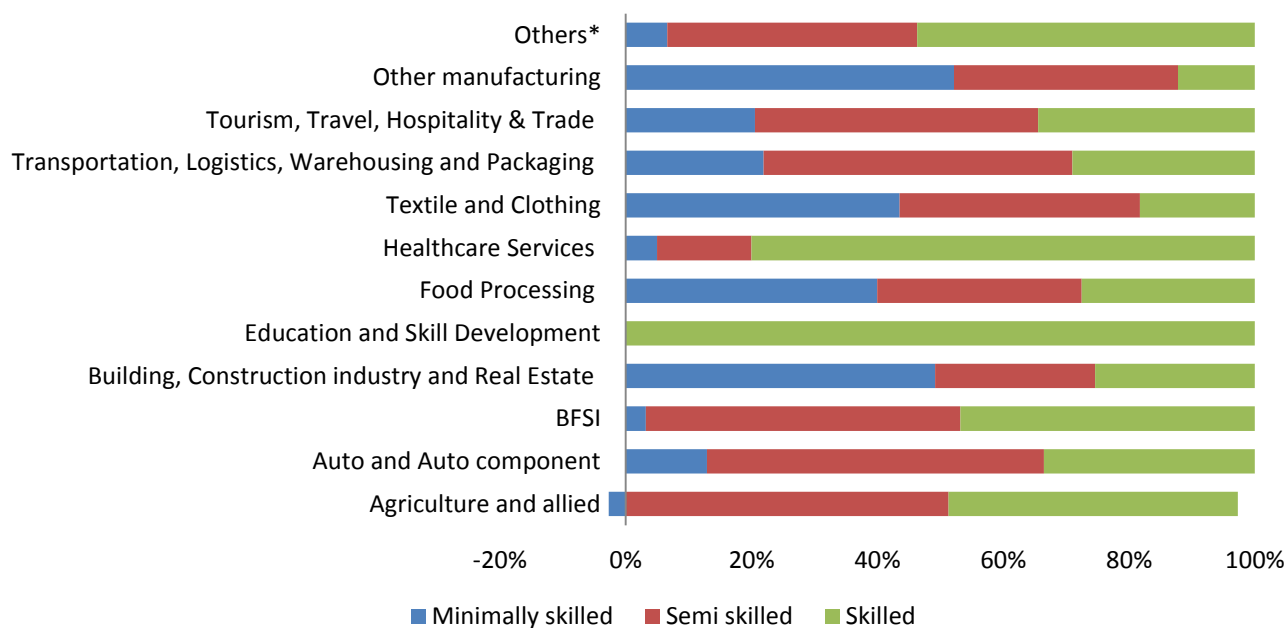
Year	2012-17	2018-22	2012-22
Agriculture and allied	21,371	10,891	32,262
Auto and Auto component	1,048	1,680	2,729

Year	2012-17	2018-22	2012-22
BFSI	15,272	24,549	39,821
Building, Construction industry and Real Estate	19,829	27,519	47,348
Education and Skill Development	12,967	5,666	18,633
Food Processing	3,606	4,653	8,259
Healthcare Services	4,865	6,658	11,523
Textile and Clothing	5,960	7,554	13,513
Transportation, Logistics, Warehousing and Packaging	5,696	6,457	12,154
Tourism, Travel, Hospitality & Trade	1,381	2,011	3,393
Other manufacturing	2,903	4,779	7,683
Others	362	391	752
Total	95,262	102,808	198,070

Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, gems and jewellery, chemical, IT, media and entertainment, organized retail, electronics, and furniture and furnishings.

Figure 207: Incremental demand of human resources in Sangli – by skill level

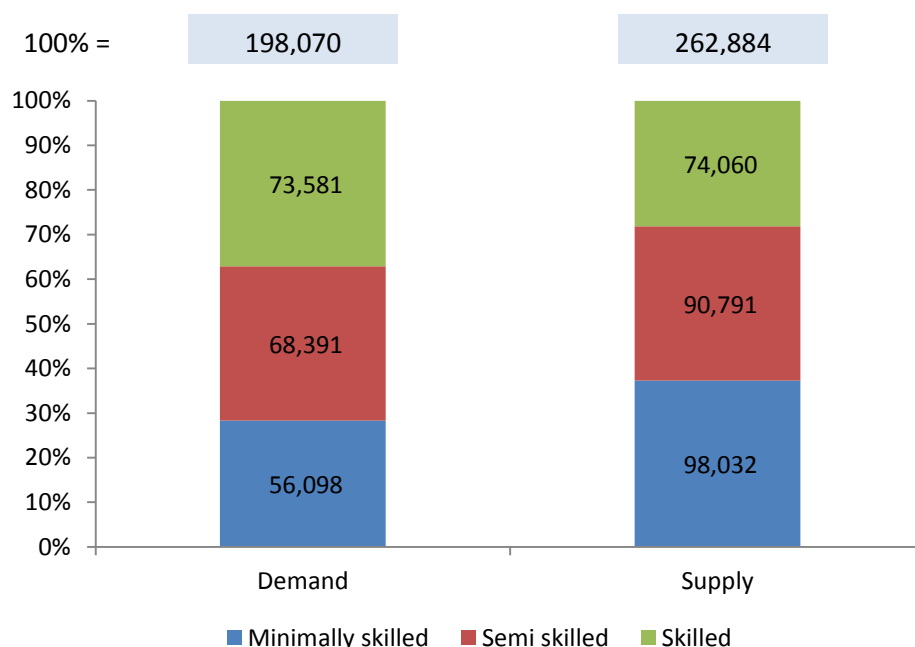


Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, gems and jewellery, chemical, IT, media and entertainment, organized retail, electronics, and furniture and furnishings.

We have estimated incremental supply of human resources in the district at 2.62 lakh for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be greater than incremental demand in the district. The excess supply will be used to meet demands in districts such as Pune and Mumbai.

Figure 208: Demand supply gap of human resources in Sangli – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on our field surveys in Sangli district, we have found out that sectors where skilling interventions are required are mainly agriculture and allied processing, sugar processing and textile and clothing. There is shortage of skilled manpower for functional skills such as fitting, electrical, welding, metallurgy, masonry etc. These trades also need to be offered to the youth.

Table 223: Sectors where interventions are required in Sangli district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Sangli	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing – sugar, turmeric, raisin and dairy		

High Growth Sectors identified by NSDC	Sangli	Maharashtra
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMaCS Analysis

For the sectors identified above, we have mapped the skill requirements and the gaps faced by the sector in the section below.

5.1. Food Processing – Grape cluster

The grape processing in Sangli is led by the Sangli Grape cluster. The Grape Cluster is a programme set-up under the Micro, Small and Medium Enterprises (MSME) programme development, under the Government of India. As of the year 2011-12, this cluster produced 7,000 tonnes of grapes with a turnover of Rs. 49 crores. It also offers employment to about 280,000 people from the cultivation to processing. The performance of the cluster taluka-wise in Sangli shows that the Miraj taluka leads in the area under grape cultivation and in the raisin production.

Table 224: Area-wise grape production

Location	Area for raisin (in acres)	Raisin production (in MT)
Tasgaon	12,500	18,750
Miraj	14,000	21,000
Kawate Mantal	1,200	1,800
Jath	300	450
Hatpadi	210	315
Palus	4,500	6,750
Walwa	400	600
Khanapur	900	1,350

Source: The Sangli Grape Cluster, Sangli

Processing Machines in Sangli Grape Processing Unit



The key skill gaps based on primary survey are:

- Need skills pertaining to cutting
- At the harvest stage, skills like thinning are required
- The entrepreneurs are unable to understand the quality aspect and are looking for methods to make the processing more efficient
- There is less industrial discipline
- Absenteeism is a big challenge

5.2. Food Processing – Turmeric cluster

Turmeric from the Sangli region has always been traded due to its unique characteristics. This is primarily due to the soil quality where the turmeric is generally retained in its original form. Primarily in the district turmeric is grown in the Miraj, Walwa, Kavathe, Palus and Tasgaon talukas. In fact, this region has been a turmeric marketing center for the last 80 years. Primarily, the polished turmeric and turmeric powder are marketed. In the district about 3,200 hectares are under turmeric in which 24,000 metric tonnes of wet turmeric and 6,000 metric tonnes of dry turmeric are produced. The 2011-12 turnover is about Rs. 80 crores²³.

The key skill gaps based on primary survey are:

- Need skills pertaining to the harvesting stage where the plant needs to be taken as a whole from the ground without damage to the rhizomes
- Entrepreneurs not able to channelize their expertise to produce value added products like dyes, oil, organic manure, oleo resin and curcumin
- Research and development is also required to ensure that the segment gets fillip to compete at the international markets
- Shop floor workers lack the discipline to come and put in the required hours of work

5.3. Food processing - Sugar Processing

The Sangli region is known as for sugar production. This region houses over thirteen large sugar factories. The co-operative movement for sugar processing is practiced in Sangli and this led to the development of the sugar industry in this region. Most of the sugar factories of the Sangli sugar belt

²³ Source: DIC, Sangli

work on the co-operative basis. Vasantdada Sugar Factory near Sangli city was the largest sugar plant in Asia till late 1990s.

The key skill gaps based on primary survey are:

- There is challenge of absenteeism
- Also, the culture of shop-floor where discipline needs to be maintained is missing

5.4. Food processing - Dairy

The districts of Kolhapur and Sangli are key players in the dairy sector in Maharashtra. The dairy industry in Sangli operates both as co-operative and private modes. The sector has key players like the private sector giants Chitale Dairy, Madhusudhan Dairy, Ramvishwas Dairy, etc.

Though most of the skills are traditional, the sector now is in a transformational phase with more value added products development being the focus area. Hence, the skills also need to be developed in line with these aspirations of the sector.

The key skill gaps based on primary survey are:

- Lack of supplement knowledge
- Inability to provide clean environment for cattle to grow
- Lack of knowledge of modern feeding practices
- The basic herd management that requires record maintenance that keeps tab on the output, food intake, illness log, etc is not at all done which makes it difficult to implement preventive measures
- Infrastructure not available to keep the collected milk hygienically
- Lack of awareness about the ambient temperature to which the milk should cool before storing, which results in spoilage and wastage
- Lack of micro biologists who can understand the various bacteria related issues
- Less marketing and dairy management graduates who come forward to be a part of the sector
- In those who are involved are not able to form the channels for the linkage purposes

5.5. Textiles and clothing – Garmenting

Sangli is attracting textile units in the district due to its proximity to Pune. In addition, workers are available aplenty for the textile sector. Majority of the workers employed are women. Some of the major units in Sangli are Khanapur Taluka Spinning Mills, Garudzep Textiles, Balwant Textile Mills, The United Cotton Co. Limited amongst others. The industry is poised to grow with the growth of the textile industry in the state. The garmenting units in the district make the fabric to the designs that are sent from cities like Pune and Mumbai and also from some European nations. These are made according to the specifications sent back to the order location. These organizations attach the label and display/sell the final product.

The key skill gaps based on primary survey are:

- Most of the managerial / supervisory staff is hired from cities like Pune and Mumbai. Thus, there is a person gap.
- Shop-floor workers who are trained before the job have to be re-trained, especially on running of machines, as the training institutes do not have good machine infrastructure.

5.6. Others

Sangli's proximity to Pune is giving the small manufacturing industries the fillip. These industries typically manufacture parts/components that are required by the mother industries in the MIDC areas in Pune. The kind of skilling that is required here is one that reflects the demands of the shop floor. The key skills that need to be developed are welding, fitting, masonry, electrician, communication and computer skills.

6. Recommendations

Recommendations for Sangli district focus on the sectors of food processing and textile. Some of these sectors will have recommendations for the private sector which will directly translate to skills being developed and the others will need Government intervention to facilitate improvements. Finally, since a significant chunk of employment is concentrated in agriculture, thus, major up-skilling can be done for those workers, updating them of latest techniques of farming. This will help them improve their livelihood opportunities and will increase their income levels.

While the detailed recommendations follow, summary is given in the table below.

Table 225: Key recommendations for Sangli – summary

Sector	For Government players	For private training providers	For Industry	For NSDC
Food processing – sugar	<ul style="list-style-type: none"> ▪ Research on innovative irrigation technology ▪ Enabling ease of credit to the farmers to scale up 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ On-the-job training ▪ Collaborate with Govt departments for training and private training providers 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Textile	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Skills like akoba, appliques ▪ Exposure to color schemes, etc 	<ul style="list-style-type: none"> ▪ Focus on on-the-job training as well as both Government and private training providers for meeting training needs of the sector 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Food processing - dairy	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Skills across the dairy value chain 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Food processing – turmeric processing	<ul style="list-style-type: none"> ▪ Setting of common facility centers 	<ul style="list-style-type: none"> ▪ Courses related to farm and processing unit productivity improvement 	<ul style="list-style-type: none"> ▪ The trainings can be facilitated both by the Government and even by the 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training

Sector	For Government players	For private training providers	For Industry	For NSDC
			involvement of private training providers (experts in the industry), who can provide cluster level training	as well as through SSCs
Food processing – grape processing	<ul style="list-style-type: none"> ▪ Setting of common facility centers 	<ul style="list-style-type: none"> ▪ Courses related to farm and processing unit productivity improvement 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs

6.1. Government players

❖ **Sugar processing:** The intervention of the Government is required to primarily improve the farm level productivity. Though as a traditional activity cane has been grown for decades, the farmers still are not aware of the latest methods to combat the pests and utilization of better irrigation facilities. Some of the ways by which the government can intervene to bridge these gaps are:

- Propagate knowledge on latest pesticides
- Aid the industry in giving un-interrupted power supply, as much as possible
- Procure and give samples of fertilizers that boost productivity
- Encourage in investment of common modern farm equipment by small farmers
- Facilitating ease of access to credit for small investments to better the produce
- Test innovative irrigation technologies
- Encourage the usage of insecticides in right quantities
- Propagate knowledge on various cane crop related pests and diseases to protect the crop

❖ **Food processing - Dairy:** The Government can encourage the establishment of common facilities in key dairy farming zones like the following:

1. Refrigeration for collected milk
2. Clean milk storage zones
3. Bacteria protection mechanism
4. Addition of anti-spoilants
5. Use of gloves, tankers, etc to store milk

6.2. Private training providers

❖ **Food processing – dairy:** Across the value chain, the following training is required which will lead to overall development in the dairy sector:

- Modules on detailed value addition for milk
- Courses related to logistics optimization when transporting the milk products to avoid spoilage
- Milk is mainly collected from the small dairy farmers scattered all over the district who may/may not know the hygiene and safety procedures. Courses to make the dairy farmers aware of the procedures

- Very less awareness of the feed supplement required. Short term modules on feed supplements
 - Dairy marketers need to be honed as the product portfolio has widened, based on the need for every target segment, but the channel needs to be built that will do justice to this broadening portfolio.
 - The veterinary experts – where capacity building is required.
 - Packaging technologists – who can provide innovative packaging ideas to prevent wastage due to spoilage.
- ❖ **Textile:** Private training centers for honing skills across spinning, weaving and garmenting can be setup with a thrust on attracting women. Women can be sourced from villages and at taluka headquarters the short duration courses can be conducted to actively engage the women. Some of the indicative modules that can be offered are:
- Knowledge on colour schemes
 - Skills for techniques like appliqué, akoba, etc.
 - Knowledge on designing the garment
 - Skills for innovative cuts and structuring
 - Embroidery skills
 - Jardosi skills to make the textile attractive, etc.
- ❖ **Turmeric processing:** Aided by the turmeric cluster, turmeric value addition, productivity improvement and processing courses can be offered at the headquarters of the district i.e. Sangli town. An indicative set of modules that can be covered are:
- Turmeric crop rotation techniques
 - Turmeric harvesting techniques
 - Fertilizer and crop nutrient management
 - Turmeric aroma improvement techniques
 - Curing techniques for the rhizome
 - Turmeric oil manufacturing process
 - Dehydrated turmeric powder making process
 - Branding skills
 - Packaging skills to seal the aroma, etc
- ❖ **Grape processing:** An indicative set of modules that can be covered as part of the skills required for grape processing are:
- Grape harvesting skills
 - Post harvest grape management skills
 - Drying techniques
 - Chemicals that have to be added to hasten the drying
 - Grading skills
 - Packaging skills
 - Branding skills
 - Marketing skills

6.3. Industry

❖ **Sugar processing:**

- Need to focus on on-the-job training
- Collaborate with Government departments for training of farmers cultivating sugarcane in the district
- Join hands with private training providers for providing training on modern techniques used in the industry

❖ **Textile:** Focus on on-the-job training as well as both Government and private training providers for meeting training needs of the sector

❖ **Turmeric and grape processing:**

- The sectors are unorganised in nature and steps have been taken to formalise them by setting up of clusters for both the sectors
- The clusters need to focus on holistic training needs of the workers / members. The trainings can be facilitated both by the Government and even by the involvement of private training providers (experts in the industry), who can provide cluster level training

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Textiles and clothing (mainly garmenting)
- ❖ Food processing – sugar processing, dairy processing, turmeric processing and raisin processing

2.28. SATARA

1. Introduction

Satara district lies in the western part of Maharashtra. The district of Pune bounds it to the north, Raigad bounds it to the North-West, Solapur the east, Sangli to the south, and Ratnagiri to the west. The Satara town is the district capital, key towns in the district are Wai, Karad, Koregaon and Panchgani. The district is home to the famed tourism destination of Mahabaleshwar.

Satara district has area of about 10,480 sq.km. and has 12 talukas. The district is known for the sugar cultivation in addition to the tourism sector which is concentrated in Mahabaleshwar. The Satara district is part of two main watersheds - the Bhima River watershed, which is a tributary of the Krishna, includes the north and northeast of the district, north of the Mahadeo hills. The rest of the district is drained by the upper Krishna and its tributaries. While the western part of the district receives rains in the monsoons, the eastern part of the district faces water shortage and hence is not very well developed. Satara district benefits from its proximity to Pune district, with many ancillary units being set-up in the district which feed into the main shop-floors in Pune.

Table 226: Comparison of Satara district with Maharashtra – key indicators

Indicator	Year	Satara	Maharashtra
Area, in sq.km.	2001	10,480	307,713
Percentage share in State geographical area, %	2001	3.41%	100%
No. of sub-districts	2011	12	353
No. of inhabited villages	2001	1,716	41,095
No. of households	2001	570,606	19,576,736
Forest area as a % of total geographical area	2001	14.71%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Satara district has a population of about 30 lakh persons – 2.67 per cent of the State population. About 19 per cent of the population is concentrated in the Karad taluka, 16 per cent in Satara taluka, 11 per cent in Patan taluka and about nine per cent in Wai and Koregaon talukas. These are also the talukas where major business opportunities persist. While 58 per cent of the population in the district is in working-age group (15 to 59 years), about 46 per cent is actually working i.e. work participation rate.

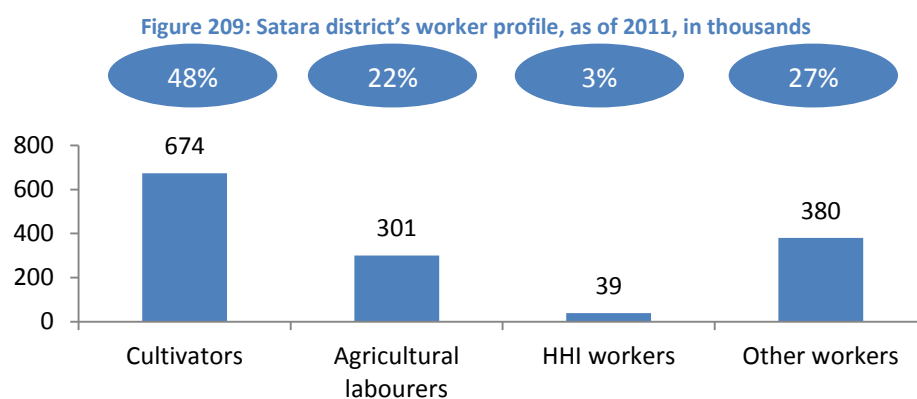
The district's literacy rate is 84.2 per cent, which is higher than the State average of 82.91 per cent and the All-India average of 74 per cent. Male literacy at 92.09 per cent is significantly higher than female literacy rate at 76.29 per cent.

Table 227: Key demographic indicators

Indicator	Year	Satara	Maharashtra
Population, No.	2011	3,003,922	112,372,972
Decadal growth rate of population, %	2001-11	6.94	15.99%
District's share in State's population, %	2011	2.67%	100%
Urban population as a percentage of total population, %	2011	19%	45%
SC population, %	2001	9%	8.79%
ST population, %	2001	1%	15%
Sex ratio, No. of females per 1000 males	2011	986	925
Population density, per sq. km.	2011	287	365
Literacy rate, %	2011	84.20%	82.91%
Main workers, No.	2001	1,044,989	34,748,053
Marginal workers, No.	2001	258,669	6,425,298
Working age population* as a percentage of total population, %	2001	58%	59%
Work participation rate^, %	2001	46%	42.50%
HDI Rank	2000	10	
HDI Index	2000	0.59	0.58

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011

The district has a total workforce of about 13.94 lakh persons. Of this, 48 per cent are cultivators, 22 per cent are agricultural labourers, three per cent are workers in household industry and 27 per cent are other workers.



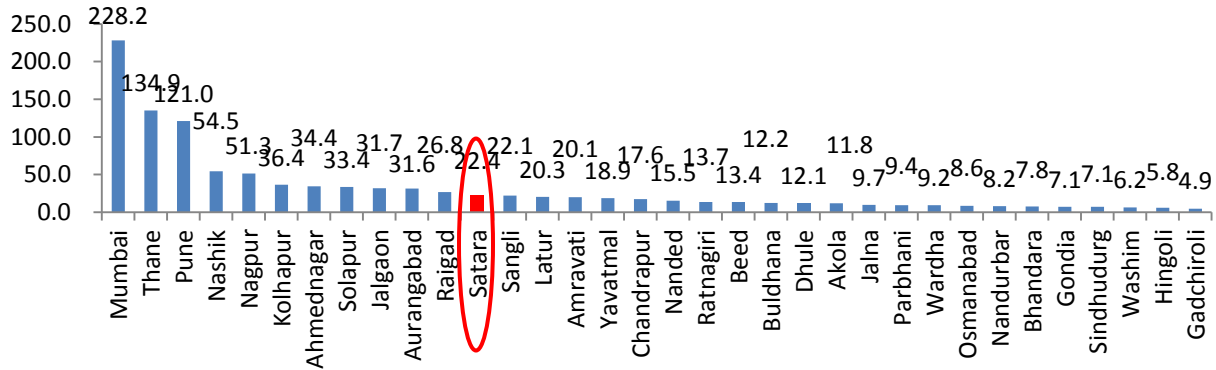
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Satara district had the twelfth largest Gross District Domestic Product (GDDP) in Maharashtra at Rs 22,414 Lakh (0.86 per cent of the Gross State Domestic Product). In terms of per capita GDDP though, it ranked 16th amongst 30 districts at Rs 67,134. This was lower than the State average of Rs. 87,686

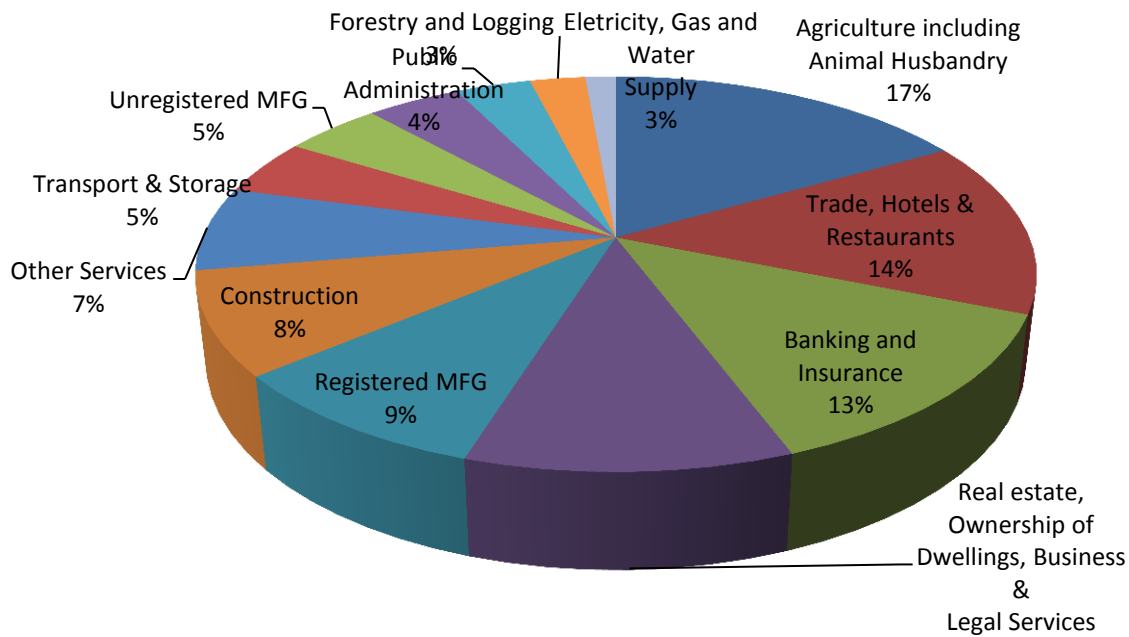
Figure 210: Gross District Domestic Product, in Rs thousand lakh, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly service based, with service sector’s share in GDDP at 55 per cent in 2010-11. This is followed by secondary sector at 25 per cent and primary sector at 20 per cent.

Figure 211: Sector wise distribution of Satara’s GDDP, as of 2010-11



Source: District Socio-economic Review, Satara – 2010-11

Agriculture: The agriculture sector in Satara thrives in the western part of the district where there is adequate water supply. The eastern part of Satara faces water shortage. The cultivation of sugarcane is abundant in the district especially in the talukas of Karad, Satara and Koregaon. In addition to cane, in the taluka of Mahabaleshwar fruits like strawberry, jamuns and amla are also grown, which aid in the processing sector.

Industry: The secondary sector in Satara is driven by the registered manufacturing which contributes about nine per cent to the GDDP. As of 2011-12 about 3,177 micro and small units are registered which offer employment to about 42,000 people. Most of these are agro-based processing units or wood-based units²⁴. In terms of the large units, the district has Kiroskar Brothers, Mapro Foods, Cooper Corporation, Krishna Sugar, Rayat Sugar and the Government promoted Satara Sahakari Sakkar Karkhana. Most of these manufacture ancillaries feed into their principal operations, which are based in Pune or Mumbai. The sugar mills, of course, are abundant due to the cane cultivation.

Services: As mentioned above, services account for 55 per cent of GDDP in Satara district. Of all the services, the key services in the district are ‘trade, hotel and restaurants’ at 14 per cent. This is due to the tourism potential of Mahabaleshwar and Panchgani in the district.

2.3. State of education

As of 2011-12, Satara district had 3,558 schools, with 180,229 students enrolled. Of this, 55 per cent were primary schools, 26 per cent were upper primary schools and the remaining 19 per cent were secondary and higher secondary schools. The student-teacher ratio was 11 students per teacher. The student-teacher ratio was much better than the average ratio for the State at about 30 students per teacher.

Table 228: School and higher education infrastructure in Satara district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	3,558	180,229
General colleges	54	35,178
Technical education*	54	8,915

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai, *Excluding non-AICTE diploma courses*

For general higher education as well as for technical education, the district has 54 colleges each. For vocational training, Satara district had a total of 15 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, nine were Government ITIs and remaining six were private ITIs. All the 15 ITIs together have a seating capacity of 4,920.

Table 229: Key ITI indicators in Satara district, as of March 2012

²⁴ Source: District Industry Center, Satara

Indicator	Value
Total Number of ITIs	15
Number of Government ITIs	9
Number of Private ITIs	6
Total Seating capacity	4,920

Source: Department of Employment & Self Employment, Government of Maharashtra

Based on our discussions with the key stakeholders in Satara district, we have found that on an average, of all the students that pass out from an ITI in each year, about 60 – 70 per cent find jobs in the market due to the high number of small manufacturing units present and the proximity to Pune. The average pass rate observed is around 80 per cent and the drop-out rate is around 10 per cent. For details on courses offered by ITIs in Satara, refer to the table in annexures.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The Government department offer courses in trades such as agriculture, education, entrepreneurship, tailoring, cooking, etc. District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship Development). Some of the courses that help the youth are certificate courses in computer operations, C programming, Visual basic and Computer Aided Designing. In addition to the certificate courses, diploma is also offered in various topics like office automation, web technologies, office management, etc.

Majority of the private training centres in Satara district offers computer related courses. Some of the courses offered are wireman, tailoring, welding, cookery, architecture, designing, etc. For details of training institutes and courses offered, refer to table in annexures.

2.4. Youth aspirations

In the process of identifying the growth engines for the Satara district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Willingness to pursue higher education:** the skilled youth wants to pursue higher education in reputed institutes in Pune.
- **Migration trends:** Majority of the skilled youth want to move to Pune and Mumbai to be employed with big organizations. They have high ideals to be employed in the major MNCs in the city.
- **IT infrastructure:** The youth prefer to have enhanced IT infrastructure to gain comfort and familiarity with basic IT operations, which they feel will help them in their careers.
- **Market specific courses:** Youth feel that the course curriculum needs to be tweaked to reflect the shop-floor requirements.
- **Importance of soft skills:** The students feel that soft skills have to be imparted to them more, which will enable them to compete with the students who qualify from the city institutes.

3. Developmental concerns

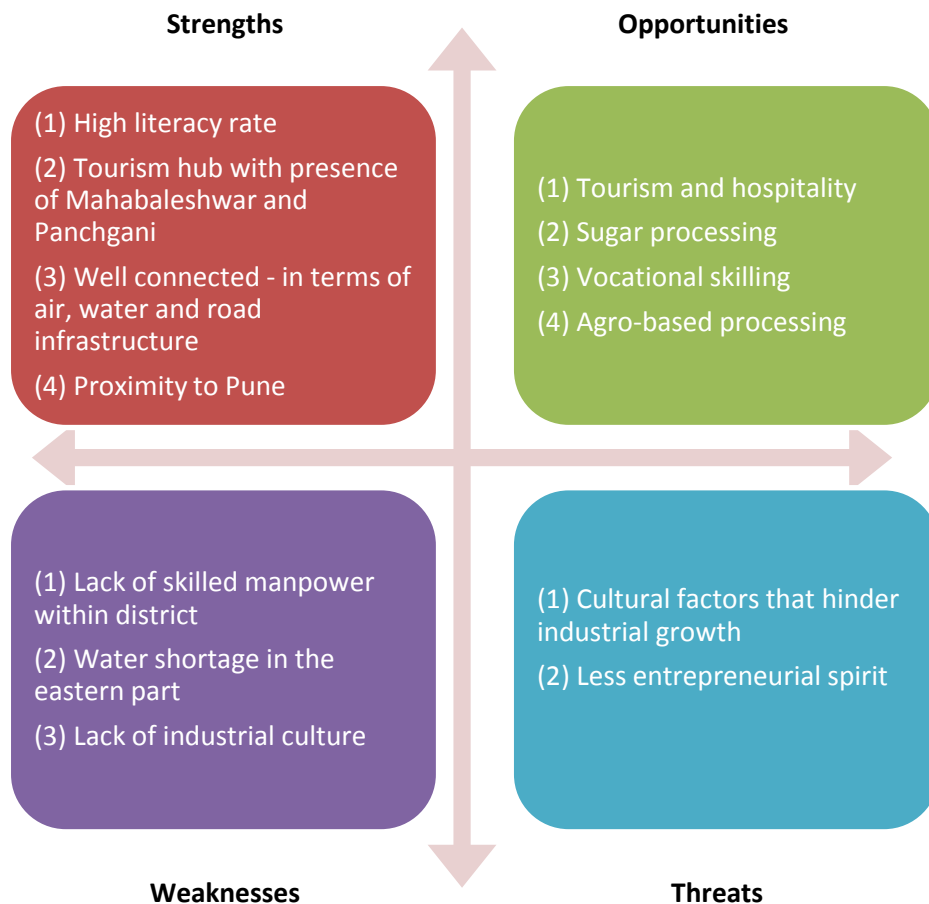
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Culture not suited to being industrial hub:** Satara has always been known for the sugar belt and the milieu has not shifted from the agro based mindset. The youth who work lack the professionalism. The oft quoted problem which the units set up in Satara talk about is the frequent holidays and the absenteeism. In addition to these, there is high attrition.
- **Water shortage:** The eastern part of the district has water shortage for both the agricultural as well as the industrial purposes. This has led to this part of the district being not very well developed.

SWOT analysis

Based on the diagnostics of the Satara district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 212: SWOT Analysis of Satara district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 2.45 lakh persons between 2012 and 2022. Sectors which will drive demand are expected to be 'agriculture and allied' and 'building, construction and real estate'.

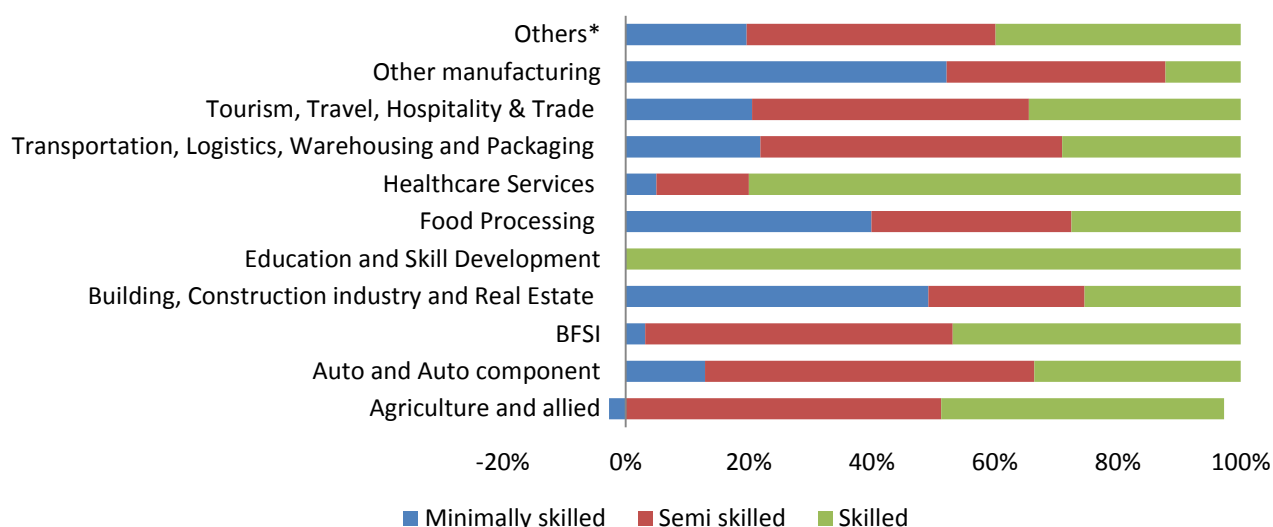
Table 230: Incremental demand of human resources in Satara – by sector

Year	2012-17	2018-22	2012-22
Agriculture and allied	23,053	11,748	34,801
Auto and Auto component	4,318	6,699	11,017
BFSI	13,045	20,969	34,014
Building, Construction industry and Real Estate	27,792	38,570	66,362
Education and Skill Development	16,944	6,575	23,518
Food Processing	7,983	10,299	18,282
Healthcare Services	10,291	14,084	24,375
Transportation, Logistics, Warehousing and Packaging	6,547	7,422	13,968
Tourism, Travel, Hospitality & Trade	4,014	5,845	9,859
Other manufacturing	3,299	5,431	8,729
Others*	391	446	837
Total	117,676	128,087	245,763

Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, electronics, gems and jewellery, IT, Organized retail, Media and entertainment, Leather and furniture and furnishings.

Figure 213: Incremental demand of human resources in Satara – by skill level

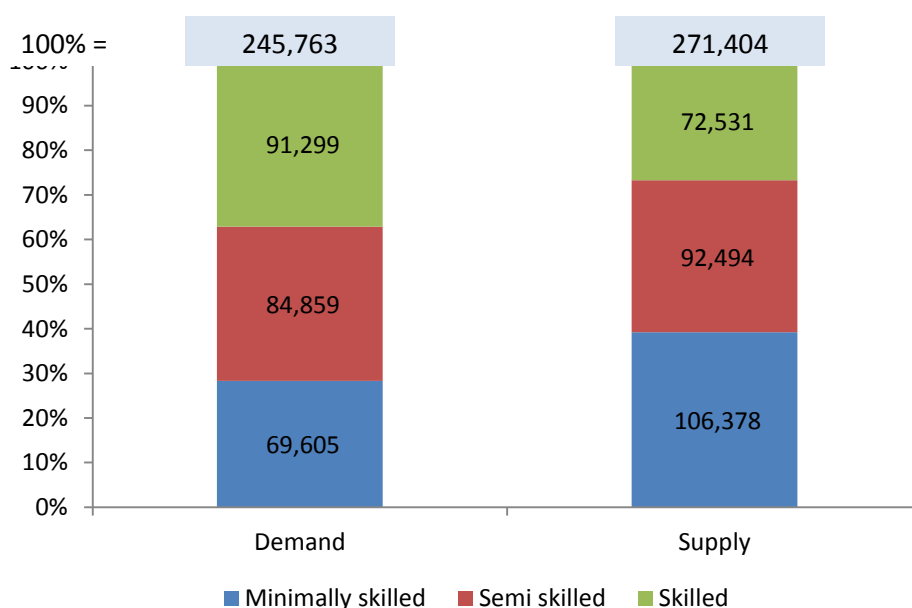


Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, electronics, gems and jewellery, IT, Organized retail, Media and entertainment, Leather and furniture and furnishings.

We have estimated incremental supply of human resources in the district at 2.71 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply is in surplus in the district. Thus, this gives room to migration of skilled youth looking for opportunities in Pune.

Figure 214: Demand supply gap of human resources in Satara – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on our field surveys in Satara district, we have found out that sectors where skilling interventions are required are mainly agriculture and allied processing, sugar processing and tourism and hospitality. There is shortage of skilled manpower for functional skills such as fitting, electrical, welding, metallurgy, masonry etc. These trades also need to be offered to the youth.

Table 231: Sectors where interventions are required in Satara district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Satara	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		

High Growth Sectors identified by NSDC	Satara	Maharashtra
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing – sugar and agro based		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMaCS Analysis

For the sectors identified above, we have mapped the skill requirements and the gaps faced by the sector in the section below.

5.1. Agro-based Processing

The agro based processing sector in Satara is led by the fruit based processing that flourish in the Mahabaleshwar and Panchgani hills of the district. The hills are conducive to the growth of fruits like strawberries, jamuns, amla, mangoes amongst others.

The fruit processing company Mapro is located in the district in the same ranges. Mapro was founded in 1959 in the Panchgani hills, which made strawberry jams. Today, this company has diverse product portfolio. Inspired by the success of Mapro, several initiatives in fruit processing have begun in the district like the Koyana Processing, Trilok Foods and Ambrosia Agro.

To aid the fruit processing sector the Government has set up a food park in Western India under the Ministry of Food Processing Industries at Shirwal in Satara with an investment of Rs. 120 crore. The Western Agri Food Park is modeled on the lines of creation of a three-tier structure for value adding infrastructure in food producing clusters in the country. It will also cover activities related to backward integration (like collection centres, primary processing centre), processing and market for agriculture produce, to primarily boost the small and medium food processors. The food park has facilities like common processing facilities for seasonal fruits and vegetables, washing, sorting and grading facility,

storage facility, quality control lab, pre-cooling units, packaging facility, and basic infrastructure facilities like water treatment plant, electric sub-station, conference hall, guest house etc.



Koyana Agro Industries Plant in Satara

Some of the common skill gaps observed in Satara are:

- Very little awareness in farmers on the benefits of horticulture
- Prefer to sell the produce in local markets than to a food processing organization
- The entrepreneurs understand the business. There is little gap as the industry has existed for long
- Formulation experts hired from Mumbai and Pune
- Lack the discipline to come and put in the required hours of work
- Absenteeism is big challenge
- Less number of marketing degree holders in the district

5.2. Tourism, Trade and Hospitality

Mahabaleshwar and Panchgani serve as the key tourism spots in the district. Both the hill stations are located in the Western Ghat which runs through Satara. In addition to the beauty of the hills, Mahabaleshwar has the Mahadev Temple. Also, the Krishna river has the source in the hills from the Mahadev Temple in the hills, which adds to the religious importance of the place. Another aspect which drives the tourism is the Strawberry Festival where the tourists can enjoy the strawberry fruits from the farms with cream as part of the experiential tourism. This usually occurs in January-February months.

Venna Lake and the Arthur's Seat in Mahabaleshwar

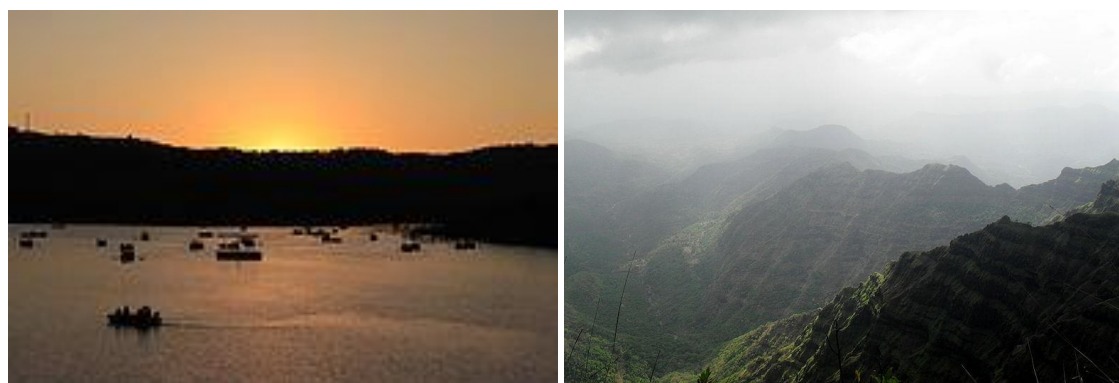


Table 232: Key spots in Mahabaleshwar

Tourist Spot	Brief Description
Venna Lake	The lake which is famed for boat rides and sunset views
Arthur's Seat	Situated in the hills at a height of about 1,300 metres, this gives view of the hills and valleys
Kate Point	Famed for its view of Dhom and Balakwadi reservoir
Wilson Point	The highest point in Mahabaleshwar, at about 1,400 metres, where the sunset and sunrise can be observed

Some of the skill gaps manifested in Satara are:

- Shortage of managerial staff
- English speaking difficulties
- Customer relationship management difficulties
- Lack of professionally trained adventure sport teachers
- Lack of soft skills
- Lack of many professionally trained guides

5.3. Sugar Processing

The Satara district has always been known as the one of the primary sugar belts in Maharashtra along with fellow districts of Sangli, Kolhapur and Solapur. As of 2009-10, Satara district had 70,538 hectares area under sugarcane cultivation and 10 sugar factories. In Satara district Karad, Satara, Phaltan and Koregaon talukas lead cane production. Based on our primary survey, we have found that the industry is not facing any skill gaps. Most of the issues faced by the industry are related to availability of infrastructure.

Table 233: Taluka-wise sugarcane production details – 2009-10

Taluka	Area in Hectares
Satara	7,689
Jaoli	2,146
Koregaon	8,748
Wai	3,952

Taluka	Area in Hectares
Khandala	1,548
Phaltan	10,542
Khatav	3,540
Man	2,291
Karad	26,073
Patan	4,909

Source: Journal of Crop Science

5.4. Others

The main factor advantage that Satara looks poised to reap is its proximity to Pune. The industries in Pune need the ancillaries which will lead to ancillary factories being set up in the district. Already the district is becoming home to several large firms which primarily manufacture the products that feed into the industries in Pune.

The kind of skilling that is required here is one that reflects the demands of the shop floor. The key skills that need to be developed are welding, fitting, masonry, electrician, communication and computer skills.

6. Recommendations

Recommendations for Satara district focus on the sectors of food processing, tourism and hospitality and sugar processing. Some of these sectors will have recommendations for the private sector which will directly translate to skills being developed and the others will need Government intervention to facilitate improvements. Finally, since a significant chunk of employment is concentrated in agriculture, thus, major up-skilling can be done for those workers, updating them of latest techniques of farming. This will help them improve their livelihood opportunities and will increase their income levels.

While the detailed recommendations follow, summary is given in the table below.

Table 234: Key recommendations for Satara – summary

Sector	For Government players	For private training providers	For Industry	For NSDC
Food processing – sugar	<ul style="list-style-type: none"> Research on innovative irrigation technology 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Focus on R&D 	<ul style="list-style-type: none"> n/a
Travel, Tourism and Hospitality	<ul style="list-style-type: none"> Capacity building for guides and language courses 	<ul style="list-style-type: none"> Skilling based on the functional roles such as hospitality establishments, tour guides and special personnel The development of special personnel will lead to creation of experiential tourism that will drive up the number of tourists 	<ul style="list-style-type: none"> On-the-job training Collaboration with Government and private training institutes 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs

Sector	For Government players	For private training providers	For Industry	For NSDC
		who visit the district		
Food processing	<ul style="list-style-type: none"> ▪ Setting up of common facility centers ▪ Spreading awareness about benefits of processing 	<ul style="list-style-type: none"> ▪ Courses related to farm and processing unit productivity improvement 	<ul style="list-style-type: none"> ▪ Training in collaboration with Government and private training providers 	Interventions required through funding of private training as well as through SSCs

6.1. Government players

- ❖ **Sugar processing:** The intervention of the Government is required to primarily improve the farm level productivity. Though as a traditional activity cane has been grown for decades, the farmers still are not aware of the latest methods to combat the pests and utilization of better irrigation facilities. Some of the ways by which the government can intervene to bridge these gaps are:
 - Propagate knowledge on latest pesticides
 - Aid the industry in giving un-interrupted power supply, as much as possible
 - Procure and give samples of fertilizers that boost productivity
 - Encourage in investment of common modern farm equipment by small farmers
 - Facilitating ease of access to credit for small investments to better the produce
 - Test innovative irrigation technologies
 - Encourage the usage of insecticides in right quantities
 - Propagate knowledge on various cane crop related pests and diseases to protect the crop
- ❖ **Travel, tourism and hospitality:** the role of the government for this sector is to be a facilitator. Some of the initiatives from the government can be:
 - The capacity building from the government's end i.e. guide and language training can be developed with more batches. Also, in these batches, the batch strength should be increased
 - Faculty from reputable hospitality institutes should be hired for these courses, which needs to take place across all the talukas. This can be explored through tie-ups with resorts and hotels.
- ❖ **Food processing:** The Department of Horticulture needs to play the role of an agent that will spread awareness about the benefits of fruit processing. The extent to which the income will increase has to be clearly explained to the farmers who are not aware about the positives of horticulture. Also, the different cropping patterns and supplements required can be told to the farmers, going at the village level.

6.2. Private training providers

- ❖ **Travel, tourism and hospitality:** Course modules that have an indicative duration of 6-8 weeks can be organized at the district headquarters which can aim for improving the skills set of people employed across the value chain. The challenge will be to source the youth to attend these skilling initiatives.

Table 235: Indicative Skilling required in tourism in Satara

Functional role	Training required
Tourist guide/operator	13. Communication skills 14. Route optimization – especially to create hubs that can club the beaches, backwaters and the places of religious importance 15. Courses to engage with the customer i.e. soft skills training
Hospitality establishments	15. Basic computer courses 16. Communication skills 17. Courses to solve basic problems 18. Hospitality management courses for establishment managers
Special personnel	9. Trekking experts 10. Adventure sports experts 11. Experiential games like Bunjee jumping trained personnel

- ❖ **Food processing:** Across the value chain, the following training is required which will lead to overall development in the dairy sector:
 - Gauging of quality of fruits
 - Basic fruit processing steps
 - Formulations
 - Techniques to add value to various fruits
 - Fund management
 - Packaging hygienically
 - Marketing practices
 - Supply chain management
 - Courses related to logistics optimization when transporting the fruits efficiently to avoid spoilage

6.3. Industry

- ❖ **Sugar processing:** Though the industry has moved forward with the strong co-operative movement and several mills, there is less focus on R&D to utilize the by-products like molasses, bagasse, etc effectively. Thus, the industry can focus on investing in R&D and looking for optimal ways of production.
- ❖ **Travel, tourism and hospitality:** Continued focus needs to be placed on on-the-job training and collaboration needs to be done with Government and private training providers.
- ❖ **Food processing:** There is high potential of more fruit-processing units coming up in the district. Especially, in the Mahabaleshwar and Panchagani areas, there is extensive fruit production. These are, largely, sold in local markets. There is also wastage when these fruits are not sold. Once more units come up, there will be higher need for training. Industry can meet these requirements by collaborating with both Government and private training providers.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Travel, tourism and hospitality
- ❖ Food processing

2.29. SINDHUDURG

1. Introduction

Sindhudurg district lies in the Konkan region. It gained district-hood in 1981, after it was carved out of the Ratnagiri district. The district spans an area of 5,207 square kilometers and has eight talukas. It is bordered on the north by Ratnagiri District, on the South by the state of Goa, on the west by the Arabian Sea, and to the east across the crest of the Western Ghats or Sahyadhris is Kolhapur district. The district headquarters is at the Sindhudurg Nagari, which houses all the key Governmental departments.

The district is pre-dominantly rural with about 87 per cent of the population living in rural areas. Agriculture and allied activities are also the main occupation of the people, employing about 83 per cent of the labour force (as of Census 2001). The remaining is in household industry (two per cent) and other workers²⁵ are at 15 per cent.

The district is blessed with abundant natural beauty with picturesque spots and azure beaches which translates into tourism potential. However, most of the spots in the district like Kunkeshwar temple, the Sindhudurg fort, the Tarkali beach and the backwaters are yet to be equipped with adequate infrastructure to tap the tourism potential.

In addition to tourism, the district also has potential for fisheries based processing and food processing industries based on mangoes and cashew. Coir based industries also hold potential in Sindhudurg due to availability of coconut. However, all of these sectors are still in a very nascent stage and need further development.

Table 236: Comparison of Sindhudurg district with Maharashtra – key indicators

Indicator	Year	Sindhudurg	Maharashtra
Area, in sq.km.	2001	5,207	307,713
Percentage share in State geographical area, %	2001	1.69%	100%
No. of sub-districts	2011	8	353
No. of inhabited villages	2001	743	41,095
No. of households	2001	192,666	19,576,736
Forest area as a % of total geographical area	2001	39%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analyzed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

²⁵ Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers, are 'Other Workers'.

2.1. Demography

As per Census 2011, Sindhudurg district has a population of 848,868 persons: 0.76 per cent of the State population. Majority of the Population (18 per cent) is concentrated in Kudal sub-district, followed by Sawantwadi sub-district (17 per cent), Kankavli sub-district (16 per cent) and Devgad sub-district (14 per cent).

While 59 per cent of the population in the district is in working-age group (15 to 59 years), about 47 per cent is actually working i.e. work participation rate. Sindhudurg is one of the very few districts whose population has exhibited a negative trend with the decadal growth rate of population being -2.30 per cent. This is primarily attributed to the fact that the district has lesser employment opportunities and people prefer to migrate to other places where employment opportunities are higher.

The district has achieved decent literacy levels. Its literacy rate is 86.54 per cent, which is higher than the State average of 82.91 per cent and much higher than the All-India average of 74 per cent. Male literacy at 93.368 per cent is significantly higher than female literacy rate at 79.73 per cent.

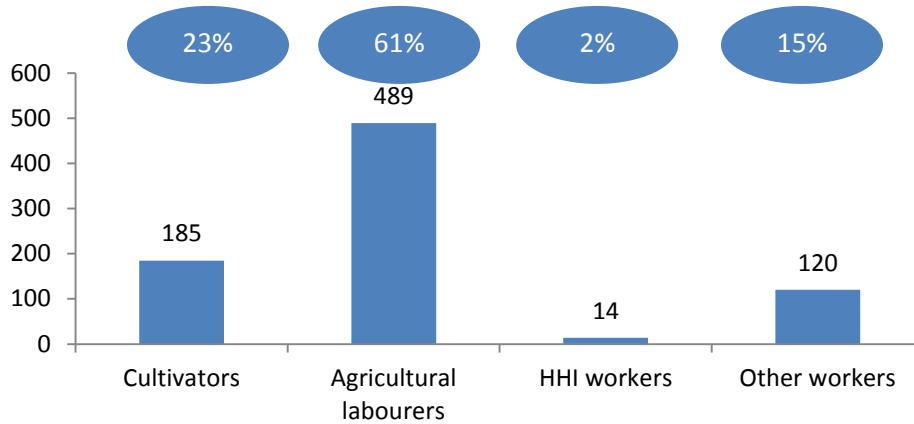
Table 237: Key demographic indicators

Indicator	Year	Sindhudurg	Maharashtra
Population, No.	2011	848,868	112,372,972
Decadal growth rate of population, %	2001-11	-2.30%	15.99%
District's share in State's population, %	2011	0.76%	100%
Urban population as a percentage of total population, %	2011	13%	45%
SC population, %	2001	4%	8.79%
ST population, %	2001	1%	15%
Sex ratio, No. of females per 1000 males	2011	1037	925
Population density, per sq. km.	2011	163	365
Literacy rate, %	2011	86.54%	82.91%
Main workers, No.	2001	233,827	34,748,053
Marginal workers, No.	2001	171,158	6,425,298
Working age population* as a percentage of total population, %	2001	59%	59%
Work participation rate [^] , %	2001	47.00%	42.50%
HDI Rank	2001	9	
HDI Index	2000	0.64	0.58

**Working age population is the population in the age-group of 15 to 59 years. [^] Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011*

The district has a total workforce of about 8.08 lakh persons. Of this, 23 per cent are cultivators, 61 per cent are agricultural labourers two per cent are workers in household industry and 15 per cent are other workers.

Figure 215: Sindhudurg district's worker profile, as of 2011, in thousands



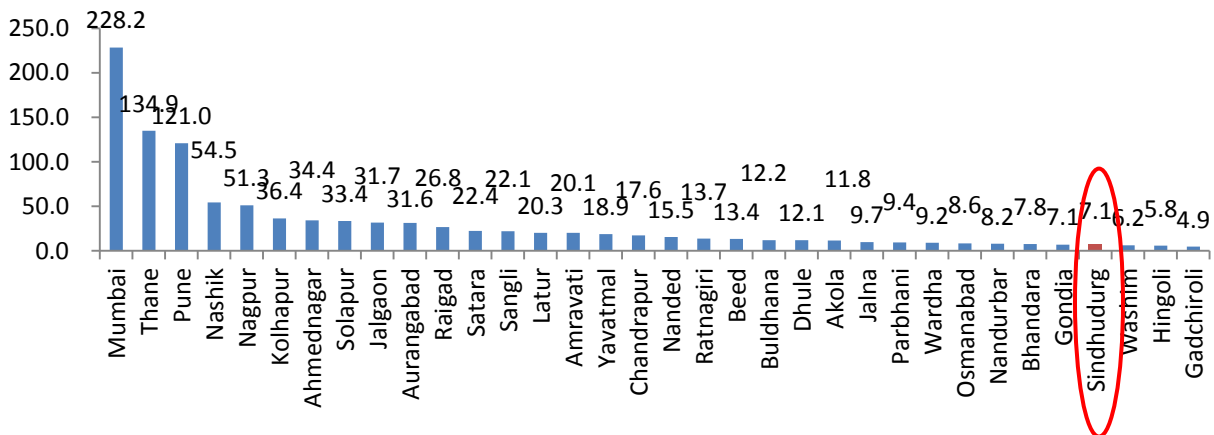
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Sindhudurg district has the fourth lowest Gross District Domestic Product (GDDP) in Maharashtra at Rs 7,084 (0.7 per cent of the Gross State Domestic Product). In terms of per capita NDDP though, it ranked 13th amongst all districts at Rs 69,552. This was lower than the State average of Rs 87,686.

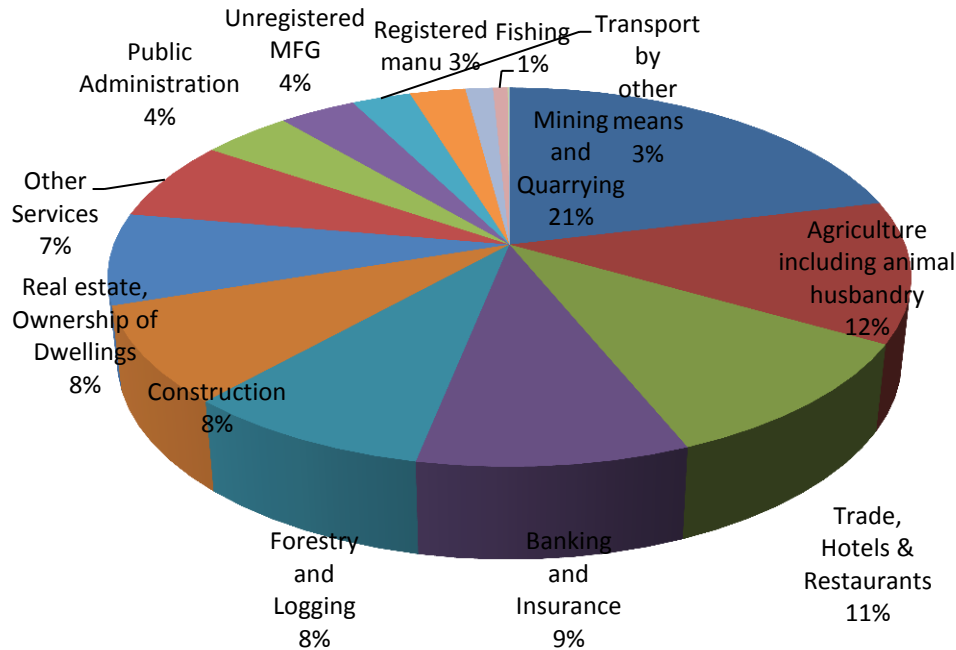
Figure 216: Gross District Domestic Product, in Rs thousand Crore, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly service based, with service sector's share in GDDP at 43 per cent in 2009-10. This is followed by primary sector at 41 per cent and secondary sector at 16 per cent. The detailed break-up of the three sectors is given in figure below.

Figure 217: Sector wise distribution of Sindhudurg's GDDP, as of 2009-10, 100% = Rs7,084 Crore



Source: Sindhudurg District Socio-Economic Review

Agriculture: The district receives good rainfall with an average of 3,287 mms. This gives way to the land being conducive to growing various crops. The key crops grown in the district are rice, coconut, kokam, mango and cashew. There are two major irrigation projects in the district, namely Tilari and Talamba, which aid in crop growth. Growth of mango and cashew also leads to the agro-based processing in the district.

Industry: The district has not made in-roads in the industrial scenario. There is only one big industrial organization – Tata Metaliks in the Redi area – which is engaged in mining activity alone. Apart from this, there are only small units that are predominantly unorganised by nature. The Maharashtra Industry Development Corporation (MIDC) has developed industrial areas in Kudal and Sawantwadi regions to encourage active industrial development.

Services: As mentioned above, services account for 43 per cent of GDDP. Of all the services, the key services in the district are of 'trade, hotels and restaurants' at 11 per cent followed by 'Banking and Insurance' at 9 per cent of GDDP.

2.3.State of education

As of 2011-12, Sindhudurg district had 1,724 schools, with 104,504 students enrolled. Of this, 56 per cent were primary schools, 32 per cent were upper primary schools and the remaining 12 per cent were secondary and higher secondary schools. The student-teacher ratio was at 17 students per teacher. The

student-teacher ratio is significantly better than the average ratio for the State at about 30 students per teacher.

Table 238: School and higher education infrastructure in Sindhudurg district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	1,724	104,504
General colleges	22	11,822
Technical education*	5	922

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *Excluding non-AICTE diploma courses*

For general higher education, the district has 22 general colleges, while for technical education; the district has five technical education institutes. For vocational training, Sindhudurg district had a total of nine Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, eight were Government ITIs and the remaining one is private ITI. All the nine ITIs together have a seating capacity of 1,240.

Table 239: Key ITI indicators in Sindhudurg district, March 2012

Indicator	Value
Total Number of ITI	9
Number of Government ITIs	8
Number of Private ITIs	1
Total Seating capacity	1,240
Student pass rate	90%
Student drop-out rate	5%

Source: Directorate of Vocational Education & Training, Mumbai and IMaCS Primary survey

Based on our discussions with the key stakeholders in Sindhudurg district, we have found that on an average, of all the students that pass out from an ITI in each year, only about 40 per cent find jobs in the market due to the less number of opportunities present within the district. The average pass rate observed is around 90 per cent and the drop-out rate is around five per cent. For details on courses offered by ITIs in Sindhudurg refer to the table in annexure.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship Development). Some of the courses that help the youth are certificate courses in data entry operator, plumbing, Tally software, video shooting, etc. The private training institutes offer courses in desktop publishing, tailoring and cutting, diesel mechanic, etc. For details of training institutes and courses offered, refer to table in annexure.

2.4. Youth aspirations

In the process of identifying the growth engines for the Sindhudurg district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Willingness to pursue higher education:** Majority of the students want to pursue higher education, with lateral entry into technical institutes. The students who do not want to pursue education feel so mainly due to the economic pressures.
- **Entrepreneurial zeal:** The youth do not possess great entrepreneurial zeal. They prefer working with small units already established in the district.
- **Migration trends:** The youth aspiration here is a misnomer, in the sense, though Sindhudurg does not have great many industries to provide opportunities but the majority of the skilled youth do not want to migrate to Goa or Mumbai and want to stay in Sindhudurg only.
- **Satisfaction with existing education infrastructure:** The youth are satisfied with the infrastructure in the institutes as they are able to support their learning.
- **Soft skills:** Most of the students appreciate the importance of soft skills and personality development and hence seek enhanced importance in the curricula for the same.

3. Developmental concerns

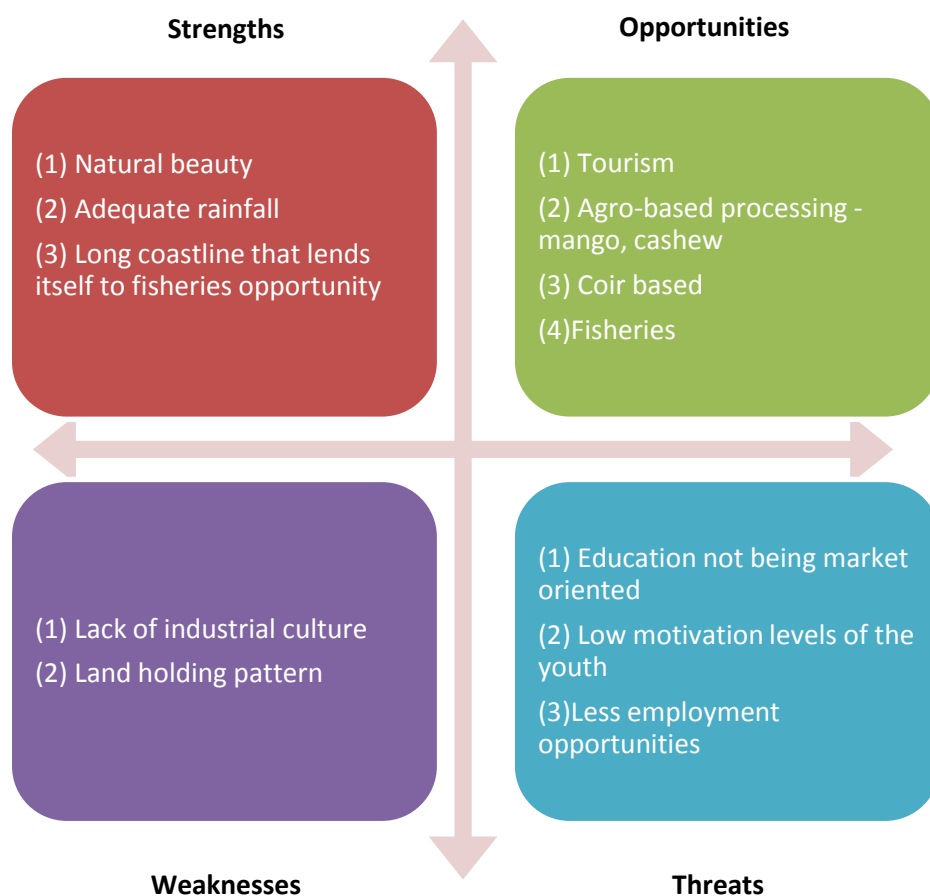
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Land holding pattern:** To adequately develop the tourism circuits, land needs to be acquired and consolidated. One of the challenges that Sindhudurg faces is acquiring the land because of the land holding pattern. A large part of the land holdings in the region, almost 74 per cent, are held by small and marginal farmers. This makes it difficult to obtain large parcels of land required for developmental purposes.
- **Culture not suited for industrialisation:** The district population does not have the entrepreneurial drive and motivation to pursue the discipline to turn the district into an industrial hub. The mind-set leans towards being content with the available resources and facilities and hence there is no dedicated effort towards industrialisation of the district by creating opportunities.

SWOT analysis

Based on the diagnostics of the Sindhudug district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 218: SWOT Analysis of SINDHUDURG district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 82,219 persons between 2012 and 2022. Sectors which will drive demand are expected to be 'agriculture and allied – which includes fisheries', 'building, construction and real estate' and BFSI.

Table 240: Incremental demand of human resources in Sindhudurg – by sector

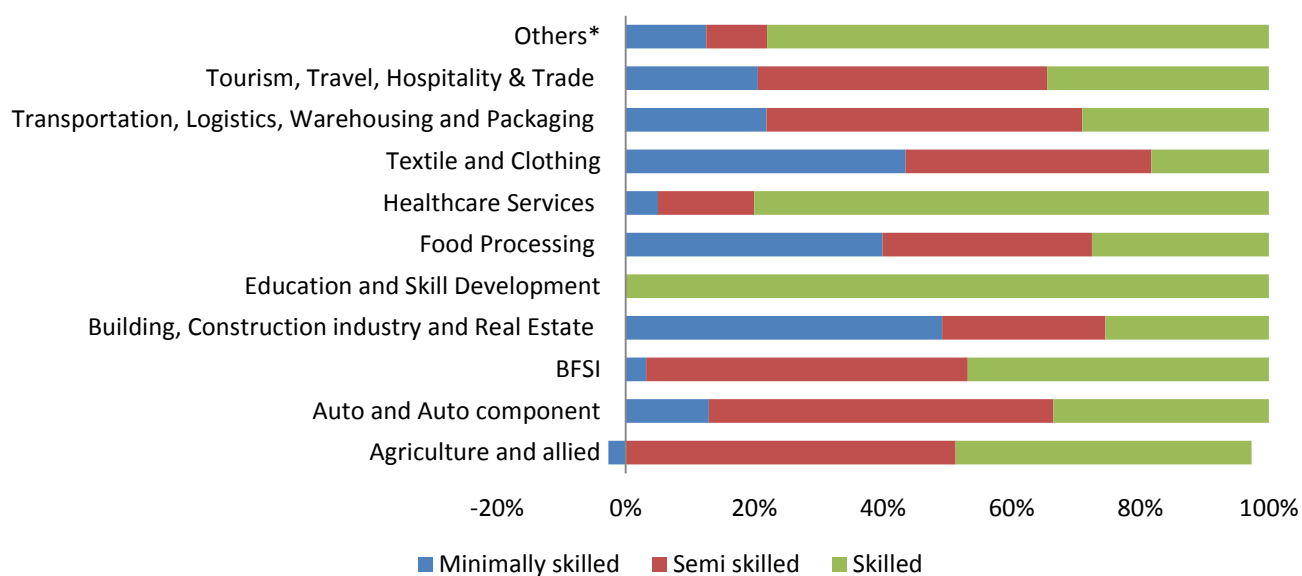
Year	2012-17	2018-22	2012-22
Agriculture and allied	6,777	3,453	10,230
BFSI	6,761	10,868	17,629

Year	2012-17	2018-22	2012-22
Building, Construction industry and Real Estate	11,122	15,435	26,557
Education and Skill Development	5,842	2,109	7,951
Food Processing	25	32	56
Furniture and Furnishings	12	15	27
Healthcare Services	2,484	3,399	5,883
Transportation, Logistics, Warehousing and Packaging	2,212	2,507	4,719
Tourism, Travel, Hospitality & Trade	2,368	3,449	5,817
Others*	1,379	2,053	3,432
Total	38,945	43,274	82,219

Source: IMaCS Analysis

*Others include auto and auto components, chemicals and pharmaceuticals, electronics, gems and jewellery, IT, organized retail, leather, textile and furniture and furnishings.

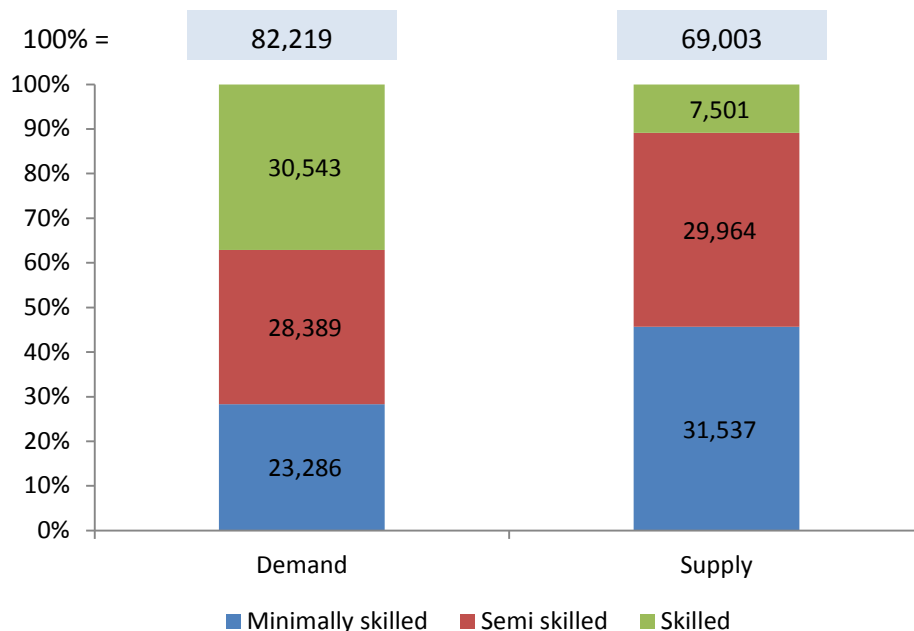
Figure 219: Incremental demand of human resources in Sindhudurg – by skill level



*Others include auto and auto components, chemicals and pharmaceuticals, electronics, gems and jewellery, IT, organized retail, leather, textile and furniture and furnishings.

We have estimated incremental supply of human resources in the district at 69,003 persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be slightly insufficient to meet the incremental demand in the district. The shortage of human resources needs to be bridged by capacity building as the incremental supply is leaning more towards minimally skilled workers, as against skilled workers. All the stakeholders need to work in conjunction to meet the skill shortage in the district.

Figure 220: Demand supply gap of human resources in Sindhudurg – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

As mentioned above, of the 19 high growth sectors identified by NSDC, of those, tourism, trade and hospitality, food processing and fisheries. Sector comparison of Sindhudurg with Maharashtra is given in the table below.

Table 241: Sectors present in Sindhudurg district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Sindhudurg	Maharashtra
Agriculture and allied		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		

High Growth Sectors identified by NSDC	Sindhudurg	Maharashtra
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Others		
Unorganised sector		

Source: IMACS Analysis

For the sectors identified above, we have mapped the skill requirements for these sectors to be developed in the district. The skill gaps have not been presented as these sectors are now only at a nascent stage and do not have any skill gaps as of now. However, as the sectors develop, there is a certain level of skill requirements they will have, which we have presented in the section below.

5.1. Tourism, Travel, Hospitality and Trade

Sindhudurg district is blessed with natural beauty due to the Sahyadhri ranges and the beaches. Added to these natural landmarks are several forts and places of worship created by the erstwhile rulers. Several spots like the Sindhudurg fort, Kunkeshwar temple, Tarkali beach, etc. are virgin locations which carry immense potential to be developed as tourism circuits. With the nearby location of Goa becoming extremely commercial as a tourism destination, Sindhudurg has the potential to exploit the natural beauty to tap into the tourist market that looks for experiential tourism. Thus, capacity building has to be explored where the human resource needs to be trained to take this potential forward.

Beauty of Sindhudurg

Sindhudurg Fort



Kunkeshwar Temple



Table 242: Key tourist spots in Sindhudurg

Tourist Spot	Brief Description
Sindhudurg fort	The fort erected by Chatrapathi Shivaji in 1664 on huge rocks for defence purposes. The speciality of the fort is that the defences are supposed to be impregnable
Kunkeshwar temple	The beach-side temple was built by the Yadava rulers. This is also special as the fingerprints of Chatrapathi Shivaji are found on the walls of the temple.
Tarkarli beach	The beach is located near Malvan. The beach is so pristine that on a clear day, the sea-bed can be seen

Source: www.sindhudurg.nic.in

Going forward, the key skill requirements for this sector are as follows:

- Soft skills and interpersonal skills
- Ability to connect with the guest and solve their problems
- Knowledge of the local attractions
- Ability to brand their offerings
- Overall etiquette
- Route planning and optimisation
- Ability to liaison with airline, hotels and local community
- Ability to manage tourist expectations
- Customer Relationship Management
- Soft skills
- Understanding of local and English speaking skills

5.2. Food processing – Mango and Cashew processing

As discussed earlier in the report, food processing opportunities are available in the district, mainly due to the availability of mango and cashew.

Mango processing

The Alfonso mangoes of Sindhudurg district are famed for their unique taste. This is especially famous in the Devgad taluka. In addition to Alfonso, other varieties like Mankur, Payari and Karel mangoes are found in abundance in the district. Like its neighbour, Ratnagiri, Sindhudurg also can reap benefits from the healthy production of mangoes and their subsequent processing. Infrastructure and skills have to be honed to add value addition to the produce.

Cashew processing

Cashew processing did take place in Sindhudurg in the early 1920s and the produce was exported. But in the 1950s, the sector suffered losses and this subsequently led to drop in productivity and local interest. Today, this sector again offers potential for local employment and is being promoted with the help of a cluster – the ***Sindhudurg Cashew Cluster*** – which has submitted the DPR for approval from the central

Government. The cluster is also looking for several value added cashew products development like cashew bar, cashew chocolates, cashew laddoos, cashew chikkis, etc.

Going forward, the key skill requirements for this sector are as follows:

- Knowledge of cropping pattern
- Knowledge of the usage of pesticides and fertilizers in the right quantity
- Ability to understand the quality aspect
- Ability to train the helpers on how to grade the fruits and cashews
- Ability to find market for the final product
- Ability to expand the business
- Knowledge of preservation techniques
- Ability to value add to the raw produce
- Ability to create formulations for the product portfolio of the processing entity
- Ability to help operators with their day to day functions
- Help in cleaning the machines
- Help in loading and un-loading
- Ability to brand the product
- Ability to interface with the distribution channels and stockists
- Strong communication and inter personal skills
- Ability to plan the distribution strategy for the product

5.3. Fisheries

Blessed with the natural sea coast length of 121 kilometers and fishing area of about 16,000 square kilometers, Sindhudurg has rich potential in fisheries and fish based processing. The district population is engaged in fisheries but has not made any significant inroads into various aspects of fish processing and value addition. The fact that this is a traditional skill that most locals possess adds to the potential of this sector. Some of the skills that can aid in the growth of this sector are:

- Ability to undertake fish breeding and rearing
- Ability to clean the fish
- Understanding of modern methods of fish farming
- Knowledge of the feeds and supplements required
- Basic knowledge on the value addition and processing
- Knowledge of deep sea fishing
- Knowledge of equipments used in deep sea fishing
- Knowledge of Post- Harvest fish management
- Packaging skills
- Skills for marketing of fish
- In depth knowledge of various value addition processes
- Knowledge of latest processing equipment
- Soft skills

6. Recommendations

Recommendations for Sindhudurg district focus on the sectors of food processing – mango and cashew, tourism and hospitality and fisheries. Some of these sectors will have recommendations for the private sector which will directly translate to skills being developed and the others will need Government intervention to facilitate improvements. Finally, since a significant chunk of employment is concentrated in agriculture, thus, major up-skilling can be done for those workers, updating them of latest techniques of farming. This will help them improve their livelihood opportunities and will increase their income levels.

While the detailed recommendations follow, summary is given in the table below.

Table 243: Key recommendations for Sindhudurg – summary

Sector	For Government players	For private training providers	For Industry	For NSDC
Food processing – mango	<ul style="list-style-type: none"> ▪ Research on innovative irrigation technology ▪ Enabling ease of credit to the farmers to scale up 	<ul style="list-style-type: none"> ▪ Modern techniques of mango farming ▪ Usage of the new equipment ▪ Processing and value addition techniques 	<ul style="list-style-type: none"> ▪ Setting up and usage of common processing facility centers 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Food processing – cashew	<ul style="list-style-type: none"> ▪ Spread awareness of the value addition 	<ul style="list-style-type: none"> ▪ Modern techniques of cashew farming ▪ Usage of the new equipment ▪ Processing and value addition techniques 	<ul style="list-style-type: none"> ▪ Rejuvenation of cashew cluster ▪ Setting up and usage of common processing facility centers 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Travel, Tourism and Hospitality	<ul style="list-style-type: none"> ▪ Training in collaboration with industry and private training providers 	<ul style="list-style-type: none"> ▪ Skilling based on the functional roles such as hospitality establishments, tour guides and special personnel ▪ The development of special personnel will lead to creation of experiential tourism that will drive up the number of tourists who visit the district 	<ul style="list-style-type: none"> ▪ Training for hotels and resorts, themed resorts, experiential tourism, adventure tourism etc. 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Fisheries	<ul style="list-style-type: none"> ▪ Spreading the awareness about fish processing ▪ Aiding the formalization of the sector ▪ Encourage formation of SHGs to empower women in fisheries 	<ul style="list-style-type: none"> ▪ Courses related to deep sea fishing techniques ▪ Courses related to processing and value addition 	<ul style="list-style-type: none"> ▪ Establishment of processing units ▪ Aiding in training 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs

6.1. Government players

- ❖ **Mango Processing:** The intervention of the Government is required to primarily build awareness and bring forth some common facilities to encourage the local population to invest in mango processing. Currently, though the local farmers are growing the fruit, not lot of awareness exists on how to optimize the produce. The Krishi Vigyan Kendra (KVK) in Sindhudurg is already engaged in awareness building in the district. Some of the other ways by which the interventions can occur are:
 - Investing in common facility center with processing equipment to encourage the activity of processing
 - Test innovative irrigation technologies
 - Try to arrange for prominent and successful mango entrepreneurs to share the success stories and techniques
 - Offer alternate skilling and employment opportunities for the mango off-season for the central workforce
- ❖ **Cashew Processing:** The intervention of the Government is required to primarily build awareness and bring forth changes in terms of making the sector organized. Though training is being offered at Kankavli taluka, most people are not aware of the same. Some of the other ways by which the interventions can occur are:
 - Increasing the area under cashews by setting up nurseries. This will also generate employment and income to cashew farmers
 - Spreading awareness to existing cashew farmers about techniques like cashew grafts
 - Creating separate nurseries for organic cashews, which will fetch better price in the international market
 - Investing in common facility center with processing equipments to encourage the activity of processing
 - Test innovative irrigation technologies
 - Aid the cashew cluster rejuvenation in Sindhudurg
- ❖ **Travel, tourism and hospitality:** The role of the government here is to become a facilitator to realize the tourism potential. Some of the initiatives that can be taken are:
 - The capacity building from the Government's end i.e. guide , language training courses have to be given at village level for the local youth
 - Faculty from reputable hospitality institutes should be hired for these courses, which needs to take place across all the talukas.
- ❖ **Fisheries:** The critical role of the Government in this sector is to build awareness about its sustainable nature and actively encourage the setting up of fish technology parks and institutes. Awareness drives must be carried-out to bring to the fore the various avenues in which people can be employed in fisheries starting from the core fishing activity to the end transport and packaging. The role of women and the subsequent empowerment they can reap can also be considered and SHG for women can be formed with the Governmental guidance. Similar to the model adopted in Kerala where women, to empower themselves, formed the Theeradasa Mahila Vedi – which not only focussed on work related empowerment but also social

upliftment; in Sindhudurg women can come together to learn the common skills and aim for empowerment on an all-round basis.

6.2. Private Training Providers

- ❖ **Mango processing:** Private training centers for mango processing skills can be setup. Courses which span a duration of 8-10 weeks can be organized which covers several training topics with respect to mango cultivation, processing, value addition and marketing. The farm level skills have to be administered at taluka level while the processing and value addition skills can be taught via a common center in Sindhudurg.

Table 244: Indicative courses for capacity building in mango processing

Activity	Indicative set of courses
Farming	<ul style="list-style-type: none"> ▪ Pest management skills, especially related to seasonal pests that hamper the production ▪ Skills to handle the occurrence of spongy tissues in produce that will lessen the value ▪ Awareness of various mango diseases like powdery mildew, blossom blight, etc ▪ Pre-harvest management skills ▪ Harvesting skills ▪ Post-harvest, storage techniques
Processing	<ul style="list-style-type: none"> ▪ Courses to understand the various equipment used in processing ▪ Knowledge of basic value addition required ▪ Ability to build customer links ▪ Marketing and branding skills ▪ Courses to bring abreast the global developments in the mango processing segment ▪ Skills to make formulations for the value added products

- ❖ **Cashew processing:** Private training centers for cashew processing skills can be setup. Courses which span a duration of 8-10 weeks can be organized which covers several training topics with respect to cashew cultivation, processing, value addition and marketing. The farm level skills have to be administered at taluka level while the processing and value addition skills can be taught via a common center in Ratnagiri.

Table 245: Indicative courses for capacity building in cashew processing

Activity	Indicative set of courses
Farming	<ul style="list-style-type: none"> ▪ Pest management skills, especially related to seasonal pests that hamper the production ▪ Awareness of various diseases that can affect the cashew fruit ▪ Pre-harvest management skills

Activity	Indicative set of courses
	<ul style="list-style-type: none"> ▪ Harvesting skills ▪ Post-harvest, storage techniques
Processing	<ul style="list-style-type: none"> ▪ Courses to understand the various equipment used in processing ▪ Knowledge of basic value addition required ▪ Ability to build customer links ▪ Marketing and branding skills ▪ Courses to bring abreast the global developments in the mango processing segment ▪ Skills to make formulations for the value added products

- ❖ **Travel, tourism and hospitality:** The capacity building is required across the value chain, based on the functional role as the skill building component also is at a nascent stage in Sindhudurg. They can be based in the district headquarters of Sindhudurg Nagari.

Table 246: Indicative Skilling required in tourism in Sindhudurg

Functional role	Training required
Tourist guide/operator	16. Communication skills 17. Route optimization – especially to create hubs that can club the beaches, backwaters and the places of religious importance 18. Courses to engage with the customer i.e. soft skills training 19. Courses that build awareness about the history of Sindhudurg
Hospitality establishments	19. Basic computer courses 20. Communication skills 21. Courses to solve basic problems 22. Hospitality management courses for establishment managers 23. Culinary courses to bring forth the specialties of the Konkani cuisine
Special personnel	12. Trekking experts 13. Adventure sports experts 14. Water games experts 15. Deep sea diving and scuba diving experts for tourists to explore the seabed.

- ❖ **Fisheries:** The training that has to be provided by the private player should address the main gaps of lack of knowledge related to value addition and lack of knowledge related to modern fishing method/technology. Fisheries institute can be set up in Sindhudurg Nagari. The courses taught here should be targeted at both the fishermen, fish farm managers and prospective fish processing entrepreneurs. Some of the courses that can be offered are:
 - Deep sea fishing techniques

- Usage of trawlers and other modern fishing equipment
- Awareness of various modern machines used in fish processing
- Value addition courses
- Fisheries management where sustainable methods of fishing are taught
- To teach the causative agents of fish spoilage
- To understand the hygienic handling of fish and prawn on board fishing vessel and on shore
- Development of the skill of iceing the fish, which will reduce the spoilage
- Improving the know-how with the fish processing equipments
- Difference in techniques in inland and marine fishing
- Packaging courses like tinning which will increase the shelf life of the fish

6.3. Industry

- ❖ **Mango processing:** The mango industry is at a nascent stage in Sindhudurg. Hence, their contribution towards the sector can be to provide a healthy atmosphere to work and actively spread awareness. Also, processors can come together for establishing and using common facility centers.
- ❖ **Cashew processing:** The history of Cashew processing units in Sindhudurg is almost a century old. Cashew processing units, in a primary form were there as early as 1920 in the place called Vengurla. The units were exporting cashew kernel from the Vengurla port, through Portuguese traders, to the USA. But, in the 1940s the industry suffered a dip and hence local enthusiasm for the same dwindled. Today, the Sindhudurg Cashew Cluster is active with the vision of boosting the cashew industry with value added products. Some of the key activities that the industry can undertake in standardisation are:
 - Development of common facility center for processing
 - Encourage outside industry participation
 - Prices of the nuts
 - Type of grading
 - Packaging techniques to retain flavor
- ❖ **Travel, tourism and hospitality:** Sindhudurg needs hotels and resorts to be developed which offer comfortable stay and exotic experiences to the tourists. Some of the interventions that can be undertaken by the industry players are:
 - On-the-job training for hotels and resorts
 - Facilitate training for tapping the potential of adventure tourism in the district
 - Facilitate training for creation of experiential tourism
 - Training on running themed resorts
- ❖ **Fisheries:** This activity should also be coupled with training by the industry, in partnership with the private training providers for giving the market perspective when the courses are conducted.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Food processing - Mango and cashew processing
- ❖ Travel, tourism and hospitality
- ❖ Fisheries

2.30. Solapur

1. Introduction

Solapur is one of the largest industrial cities in Maharashtra. It was earlier known as the Temple Town. Later, the history saw it evolving as a market, commercial and an industrial city. The economy of the city revolves around the cotton textile industry – in mills polarized in the western part around the railway Station, and power looms, handlooms and oil industry in the eastern part on the Akkalkot and Hyderabad roads.

Table 247: Comparison of Solapur district with Maharashtra – key indicators

Indicator	Year	Solapur	Maharashtra
Area, in sq.km.	2001	14,895	307,713
Percentage share in State geographical area, %	2001	4.84%	100%
No. of sub-districts	2011	12	353
No. of inhabited villages	2001	1,138	41,095
No. of households	2001	735,092	19,576,736
Forest area as a percentage of total geographical area	2001	4%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analyzed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Solapur district has a population of 43.15 lakh persons: 3.84 per cent of the State population. While 57 per cent of the population in the district is in working-age group (15 to 59 years), about 40 per cent is actually working i.e. work participation rate. This rate is slightly lower than the state average of 42.50 per cent people. The district's literacy rate is 77.72 per cent, which is lower than the State average of 82.91 per cent and slightly higher than the All-India average of 74 per cent.

Table 248: Key demographic indicators

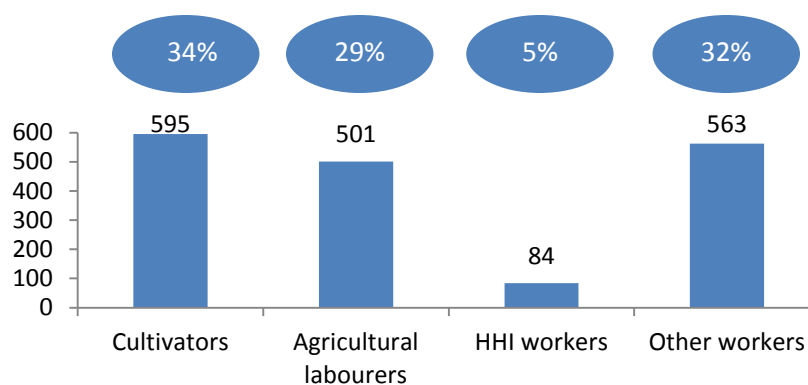
Indicator	Year	Solapur	Maharashtra
Population, No.	2011	4,315,527	112,372,972
Decadal growth rate of population, %	2001-11	12.10%	15.99%
District's share in State's population, %	2011	3.84%	100%
Urban population as a percentage of total population, %	2011	32%	45%
SC population, %	2001	15%	8.79%
ST population, %	2001	2%	15%

Indicator	Year	Solapur	Maharashtra
Sex ratio, No. of females per 1000 males	2011	932	925
Population density, per sq. km.	2011	290	365
Literacy rate, %	2011	77.72%	82.91%
Main workers, No.	2001	1,485,967	34,748,053
Marginal workers, No.	2001	257,074	6,425,298
Working age population* as a percentage of total population, %	2001	57%	59%
Work participation rate^, %	2001	40.00%	42.50%

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011

The district has a total workforce of about 17.43 lakh persons. Of this, 34 per cent are cultivators, 29 per cent are agricultural labourers, 5 per cent are workers in household industry and 32 per cent are other workers.

Figure 221: Solapur district's worker profile, as of 2011, in thousands



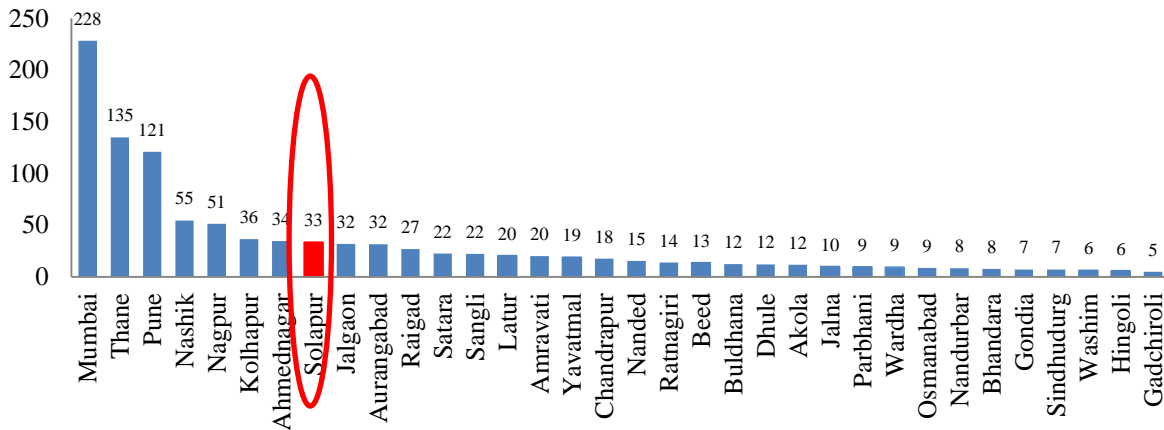
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2011-12, Solapur district had Gross District Domestic Product (GDDP) in Maharashtra at Rs. 33,437 crore (6 per cent of the Gross State Domestic Product). Solapur ranks as 8th out of the total 35 districts in the state.

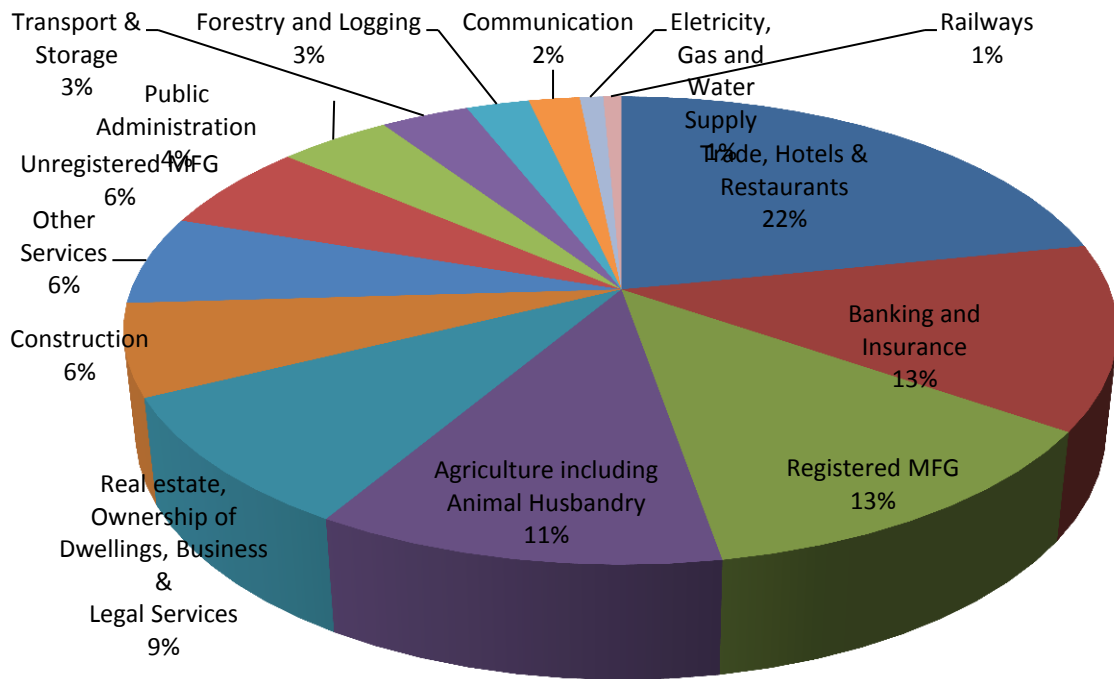
Figure 222: Gross District Domestic Product, In Rs 33,437 crores, as of 2011-12



Source: Economic Survey of Maharashtra

Primary sector contributes 14 per cent, secondary sector contributes 25 per cent and tertiary sector contributes 61 per cent to the GDP of the sector.

Figure 223: Sector wise distribution of Solapur's GDDP, As of 2009-10, 100% =Rs. 26,125 cr.



Source: Directorate of Economics and Statistics, Government of Maharashtra

Agriculture: There are major two seasons in Solapur and the major crops are sorghum, wheat, chickpea, sunflower, pigeon pea and sugarcane. Sorghum occupies maximum land (79 per cent) followed by wheat (7 per cent) and chickpea (5 per cent). Agriculture remains the main source of employment in the district with 63 per cent of the labourers dependent on it for livelihood.

Industry: There are many large and medium scale industries in the district like Birla Super Cement, Chetan Foundries, Kirloskar Oil Engines Ltd. etc. Solapur is also known for employing large number of people in handloom and power loom weaving industry. There are around 6,000 power loom industries operational in the district employing 30,000 workers. Beedi industry is also a prominent industry in Solapur's unorganized sector with presence of about 115 units which employ 70,000 lady workers and 1,725 factory workers in the district.

Services: As mentioned earlier, services account for 61 per cent of GDDP in Solapur district. Of all the services, the key services in the district are of 'Trade, Hotels and Restaurants' accounting for 22 per cent followed by 'Banking and Insurance' accounting for 13 per cent.

2.3.State of Education

As of 2011-12, Solapur district had 4,443 schools. Of this, 54 per cent were primary schools, 25 per cent were upper primary schools and the remaining 20 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 672,923 while the student-teacher ratio was high at 30 students per teacher. The student-teacher ratio was equal to the average ratio for the State at about 30 students per teacher.

Table 249 : School education infrastructure in Solapur district

Particulars	No. of institutes	No. of students
Schools	4,443	672,923
General colleges	89	48,100
Technical education*	55	15,362

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

The number of Industrial Training Institutes (ITIs) is 32 with a seating capacity of 6,432. The quality of Government ITIs is good. Students prefer to study in government ITIs because of low fees.

Table 250 : Key ITI indicators in Solapur district, as of October 2012

Indicator	Value
Total Number of ITIs	32
Number of Government ITIs	12
Number of Private ITIs	20
Total Seating capacity	6,432

Source: Department of Employment & Self Employment, Government of Maharashtra

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The Government Departments offer courses in multiple trades some of which are welder, carpenter, plumber, auto (centre of excellence), mason, wireman, cutting and sewing, hair and skin care, mechanic tractor, information technology etc. Private ITI offer courses in trades like welder, computerised operator programming assistant, welder, dress making, horticulture, and fashion technology, driver cum mechanic, plumber, and electrician.

2.4. Youth Aspiration

In the process of identifying the growth engines for the Solapur district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Willingness to pursue higher education:** More number of students wants to pursue higher education in the district. They feel that it will lead to higher paying jobs.
- **Entrepreneurial zeal:** The youth is not inclined towards starting their own business, as they are highly risk averse. The preference is to go for Government or private jobs only, as they provide a secure source of income. Only one to two percent of the students are willing to start a business of their own.
- **Migration trends:** Students want to work in Pune or Mumbai. They are only willing to move if their stay and food costs are taken care of by the company.
- **Satisfaction with existing education infrastructure:** Even though there is high preference to study from Government educational institutions, the youth feel that these institutions are not equipped with even the basic infrastructure such as drinking water and working toilets.
- **Demand for additional training / courses:** There is demand for working in auto sector and electronics sector.

3. Developmental concerns

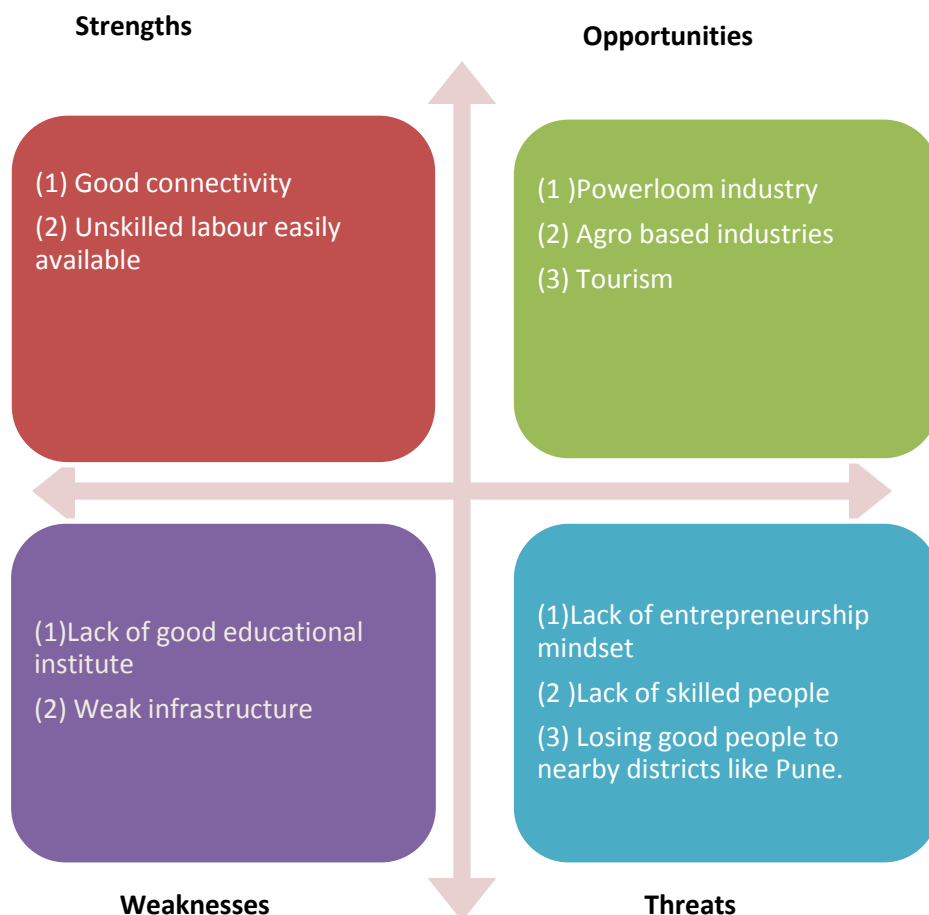
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Lack of entrepreneurship spirit:** The students are looking to work and do not have a mindset to open a firm or a shop of their own. Risk taking ability is lacking in students as the only thing on their mind is how to get a decent job. The teachers must encourage the students to venture out on their own.
- **Lack of good educational institutes:** There is a severe dearth of good educational institutes in Solapur. Development of any sector is only possible with good talented individuals and that is only possible if there are good institutes within the district itself. Government needs to establish educational institutes which cater to needs of the local industry of power loom etc.

SWOT analysis

Based on the diagnostics of the Solapur, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 224 : SWOT Analysis of Solapur District



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 2.92 lakh persons between 2012 and 2022. Sectors which will drive demand are expected to be building, construction and real estate, BFSI sector, agriculture and allied, education and skill development and healthcare. These are the supporting sectors which will generate demand not just in Solapur, but in the entire Maharashtra, as each and every district grows in the next 10 years.

Sectors which are unique to Solapur and where skilling interventions will be required are food processing and textile and clothing. Based on our primary survey, we found that these sectors, though

currently small in size, have high potential to grow, due to availability of raw material in the district. If the sectors are provided thrust by the Government and both public and private investments flow into them, the demand numbers will be much higher than what we have forecasted as of now.

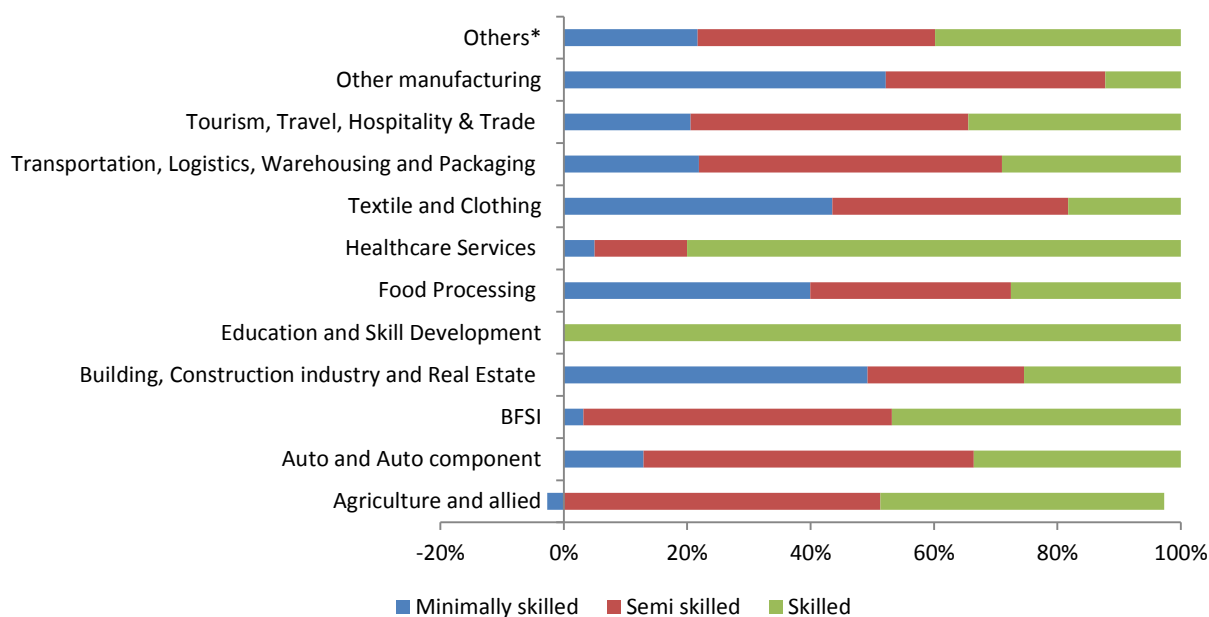
Table 251: Incremental demand of human resources in Solapur – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	27,736	14,134	41,870
Auto and Auto component	1,700	2,693	4,393
Banking and Financial Services Insurance	18,453	29,663	48,117
Building, Construction industry and Real Estate	33,014	45,818	78,832
Education and Skill Development	16,866	8,416	25,282
Food Processing	3,054	3,941	6,995
Healthcare Services	9,330	12,769	22,099
Textile and Clothing	1,383	1,753	3,135
Transportation, Logistics, Warehousing and Packaging	8,868	10,053	18,921
Tourism, Travel, Hospitality & Trade	10,613	15,453	26,066
Other manufacturing	6,324	10,410	16,733
Others*	241	275	516
Total	137,582	155,378	292,961

Source: IMaCS Analysis

*Other sector include chemicals and pharmaceuticals and furniture and furnishings.

Figure 225: Incremental demand of human resources in Solapur – by skill level.

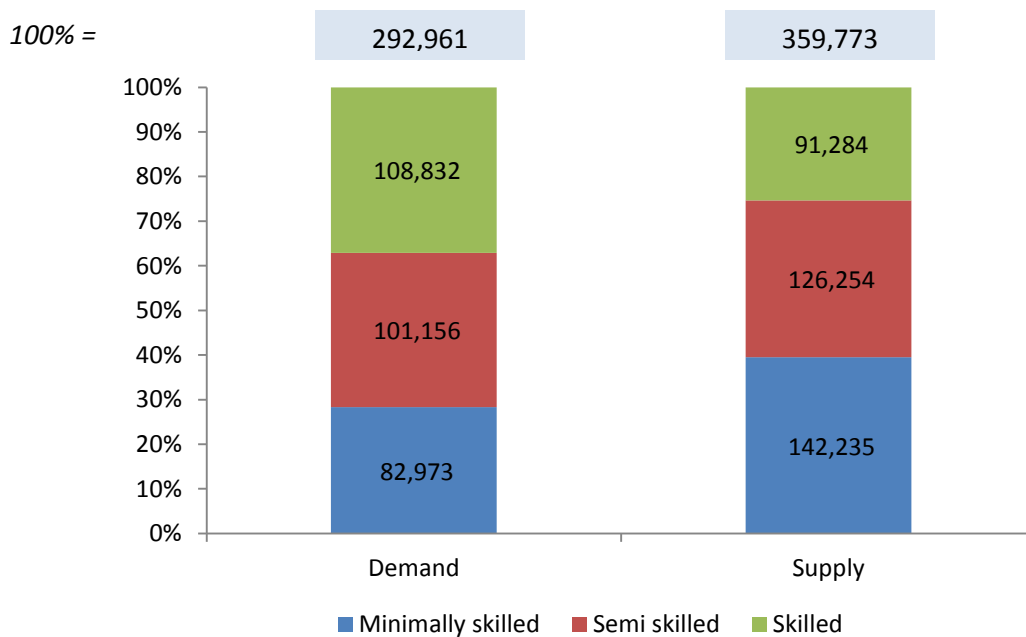


Source: IMaCS Analysis

*Other sector include chemicals and pharmaceuticals and furniture and furnishings.

We have estimated incremental supply of human resources in the district at 3.59 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be more than the incremental demand in the district. Thus, indicating that all the people will not get absorbed in the district and will have to migrate out to other districts / States (as is reflected by current trends also). However, the incremental supply is leaning more towards minimally skilled workers, as against high demand for skilled workers in the district. Thus, indicating that significant skilling and upskilling efforts are required in the district to meet the demand of skilled personnel going forward. All the stakeholders need to work in conjunction to meet the skill shortage in the district.

Figure 226: Demand supply gap of human resources in Solapur – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on our field surveys in Solapur district, we have found out that sectors where skilling interventions are required are agriculture and allied sectors, food processing, textiles and clothing and unorganised sector.

Table 252 : Sectors where interventions are required in Solapur– comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Solapur	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing – Power loom and Handloom		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector – Beedi factories		

Source: IMaCS Analysis

The shortlisted sectors are at different stages of development and market evolution. Based on that, each one of them has separate skill requirements. While some require only skill up-gradation, some require new skills and even speciality skills. Sector wise details are given in the table below.

5.1. Agriculture and allied

Sorghum occupies maximum land (79 per cent) followed by wheat (7 per cent) and chickpea (5per cent) during the rabi season. While during the kharif season sunflower, pigeon pea and sugarcane are grown. Around 63 per cent of the population of Solapur is dependent on agriculture for their livelihood. Agriculture including animal husbandry is the fourth largest contributor to the GDDP of Solapur contributing 11 per cent to the GDDP.

Based on our stakeholders’ discussions, we found out that the farmer’s:

- Unaware of the different uses for a crop.
- Unable to use the most advanced machinery because of lack of knowledge about their capability to increase productivity and lack of finance.
- The different uses of fertilizer and pesticides are not known to farmers.

5.2. Food Processing – Oils seeds

Edible oil industry is one of the important industries developing in the district because of an increasing production of oilseeds such as groundnut, sunflower, and safflower in Solapur district. Presently, there are 98 oil mills in the region employing 645 people. Total area under oilseeds is 224,100 hectares. Of which, about 40 per cent is under safflower, and remaining by other oilseeds.

Based on our stakeholders' discussions, we found out that:

- Qualified people are difficult to hire in Solapur.
- These people would rather work in Pune or Mumbai.
- Retaining talented people becomes a big challenge in Solapur.
- People with the required skill set are difficult to
- Experienced people prefer to work in Pune.

5.3. Textile and Clothing – Power loom and Handloom

Solapur is the home to handloom and power loom weaving industry which provides employment to a large number of workers. There are around 6,000 power loom units operational in the district. Out of these 300 establishments are registered under Mumbai Shops and Societies Act 1948 and the other 3,000 are registered under Factories Act 194 where 30,000 workers are employed. On the Jackard power loom the main production is Chadders, Towels and Napkins. There is a terry towel cluster in the district which has 47 units functioning and has a turnover of Rs. 2,060 crore employing 40,000 persons while value of exports being Rs. 400 crore. These products are exported to various countries in the world.





Based on our stakeholders' discussions, we found out that:

- Inadequate knowledge about the machinery used and the kind of tools required to maintain them.
- Lack of soft skills to manage people on the shop floor.
- No awareness of modern production methods and machine is limited.
- Inadequate practical knowledge of tools.
- The supervisors have training in particular process and do not have formal training of other processes
- Lack of knowledge of compliance to quality
- Inadequate ability to multi task between different types of machines
- Absence of professional approach to work

5.4. Unorganised Industry – Beedi Factory

Beedi industry is the second most important industry in solapur. There are 115 units of 29 various Beedi factories. In these 115 units there are about 70,000 lady workers and 1,725 factory workers in the district.



6. Recommendations

Recommendations in this section are presented for the sectors where skilling interventions are required.

Table 253 : Key Recommendation for Solapur District - Summary

Sector	Government	Private training providers	Industry	NSDC
Agriculture and allied	<ul style="list-style-type: none"> Department of Agriculture can provide training in allied activities for improving livelihood opportunities 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> n/a
Textiles and clothing - Power looms and handlooms	<ul style="list-style-type: none"> Subsidised training can be provided in collaboration with the industry 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Capacity building in collaboration with Government 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Food processing - Oil seed	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Provide training in collaboration with industry 	<ul style="list-style-type: none"> It can tie up with the private training providers to provide training 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs
Unorganised sector – Beedi manufacturing	<ul style="list-style-type: none"> Subsidise training for the industry 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Training in collaboration with Government 	<ul style="list-style-type: none"> Interventions required through funding of private training as well as through SSCs

6.1. Government

- ❖ **Agriculture and allied;** The Department of Agriculture needs to conduct camps to make farmers aware of various schemes run by it. The farmers are not aware of the schemes and are not able to take advantage of the same. The scope and coverage of the training programmes held by the Government for the sector, needs to be improved to bring more farmers in their ambit. However more number of faculties is also needed to achieve that. For the same the Department of Agriculture can collaborate with NSDC. The latter can provide the assistance through its train the trainers programme.

There is also a pressing need to help the farmers market the produce and the role of the middleman should be reduced to minimum. Government can consider forming JV with private companies in order to help the farmers market their produce.

- ❖ **Textiles and clothing - Powerloom and handloom;** Training can be subsidised and can be provided in collaboration with the industry.
- ❖ **Unorganised sector - Beedi manufacturing;** Subsidise training for the workers of the industry.

6.2. Private training providers

- ❖ **Food processing- Oil seeds;** The training provided by them should be in collaboration with the industry.

6.3. Industry

- ❖ **Food processing – oil seeds:** It can tie up with private training providers to provide training to workers which could help them to focus on their core activities.
- ❖ **Textiles and clothing - Powerloom and handloom;** Industry can tie up with Government for facilitating training programmes of its members and capacity building.
- ❖ **Unorganised sector - Beedi industry;** Industry can upgrade the skills of the people it employs in collaboration with the Government.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Food processing - Oil seeds
- ❖ Textiles and clothing- Powerloom and handloom
- ❖ Unorganised sector - Beedi industry

2.31. THANE

1. Introduction

Thane is one of the most industrialised districts of Maharashtra. It accounts for 13 per cent of Maharashtra's GSDP, 3.1 per cent of the State area and about 9.8 per cent of the State population. It is situated in northern Maharashtra and is known for being the most populous district in the entire country.

The district can be sub-divided into three areas: (1) Area coming under direct influence of Mumbai metropolis. This area is more or less suburban to the metropolis and includes Thane, Kalyan and Ulhasnagar talukas where a number of organized modern industries are concentrated; (2) Industrially developing areas of Vasai, Bhiwandi, Palghar and Dahanu, and (3) Rest of the district having conventional village industries, age-old cottage industries and primary processing agro-industries.

The district also benefits from its proximity to other industrial centres of Maharashtra and the country. It is bounded by Pune and Ahmadnagar on the east, Nashik on the east and northeast, Valsad District of Gujarat state and Union Territory of Dadra and Nagar Haveli on the north. The Arabian Sea forms the western boundary (giving it the developing coastal industries), while it is bounded by Mumbai City District and Mumbai Suburban District on the southwest and Raigad District on the south.

It has 15 sub-districts (talukas) namely Thane, Kalyan, Murbad, Bhiwandi, Shahapur, Vasai, Ulhasnagar, Ambarnath, Dahanu, Palghar, Talasari, Jawhar, Mokhada, Wada and Vikramgad. The southern talukas are the mostly urban areas. Western coastal region is mostly populated by Kolis, the northern and the eastern talukas are populated by the Varlis, known for making stark images from red mud on house walls.

The massive population explosion in the last decade in Thane district had tilted the balance of development in favour of the urban talukas of Thane, Kalyan, Ulhasnagar and Bhiwandi, leaving tribal pockets of Jawahar, Mokhada, Vikramgad, Talasari and Wada development-malnourished.

There are plans to carve out Palghar district as a separate district out of Thane for development purpose of the tribal areas. The proposed Palghar district will include the eight tribal-dominated talukas of Mokhada, Jawahar, Talasari, Vikramgad, Wada, Dahanu, Palghar and Vasai. Thane district's jurisdiction will include the remaining districts, which are mainly urban in nature.

Table 254: Comparison of Thane district with Maharashtra – key indicators

Indicator	Year	Thane	Maharashtra
Area, in sq.km.	2001	9,558	307,713
Percentage share in State geographical area, %	2001	3.1%	100%
No. of sub-districts	2011	15	353

Indicator	Year	Thane	Maharashtra
No. of inhabited villages	2001	1,727	41,095
No. of households	2001	1,755,124	19,576,736
Forest area as a % of total geographical area	2001	37.1%	16.9%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Thane district has a population of 1.1 crore persons – 9.8 per cent of the State population. As mentioned earlier, it is the most populous districts of the country. It has a population density of 1,157 persons per sq. km. which is much higher than the State average of 365 persons per sq. km. About 64 per cent of the population in the district is in the working-age group (15 to 59 years), making the district eligible of demographic dividend. However, the work-participation rate (people actually working) is very low at just 39 per cent, indicating very high levels of voluntary and / or involuntary unemployment.

The district is among the most urban districts of Maharashtra. Over 77 per cent of its population lives in urban areas as compared to the State average of 45 per cent. Workforce engaged in agriculture and allied activities is low at just 22 per cent, while majority is involved as 'other workers'. The latter is mainly all types of workers excluding agriculture and allied workers.

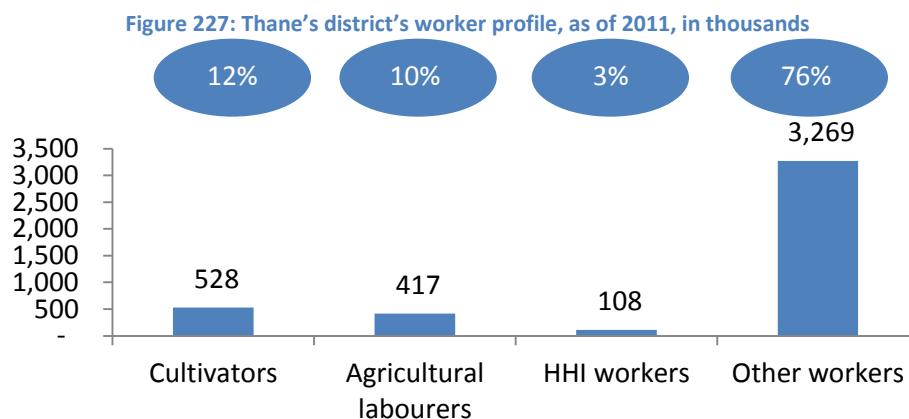
Table 255: Key demographic indicators

Indicator	Year	Thane	Maharashtra
Population, No.	2011	11,054,131	112,372,972
Decadal growth rate of population, %	2001-11	35.94%	15.99%
District's share in State's population, %	2011	9.84%	100%
Urban population as a percentage of total population, %	2001	77%	45%
SC population, %	2001	4%	8.8%
ST population, %	2001	15%	15%
Sex ratio, No. of females per 1000 males	2011	880	925
Population density, per sq. km.	2011	1,157	365
Literacy rate, %	2011	86.18%	82.91%
Main workers, No.	2001	2,782,004	34,748,053
Marginal workers, No.	2001	397,977	6,425,298
Working age population* as a percentage of total population, %	2001	64%	59%

Indicator	Year	Thane	Maharashtra
Work participation rate [^] , %	2001	39%	42.5%
HDI	2001	0.83	0.58

**Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011*

The district has a total workforce of about 43 lakh persons. As discussed above, most of these are 'other workers' at about 76 per cent.



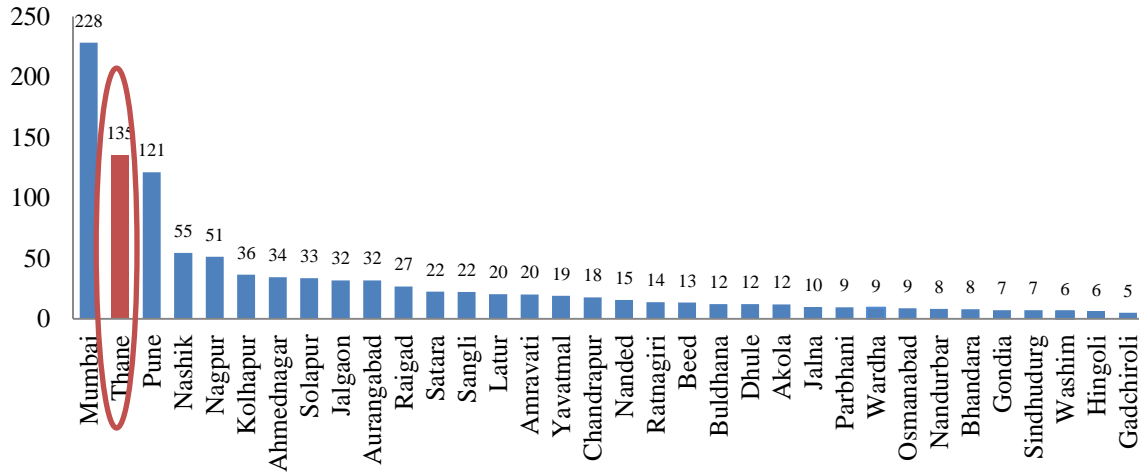
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Thane district had the second largest Gross District Domestic Product (GDDP) in Maharashtra at Rs 134,921 crore (13 per cent of the Maharashtra's GSDP). In terms of per capita NDDP though, it ranked third amongst 35 districts at Rs 125,562 per person per annum. This was much higher than the State average of Rs 87,686.

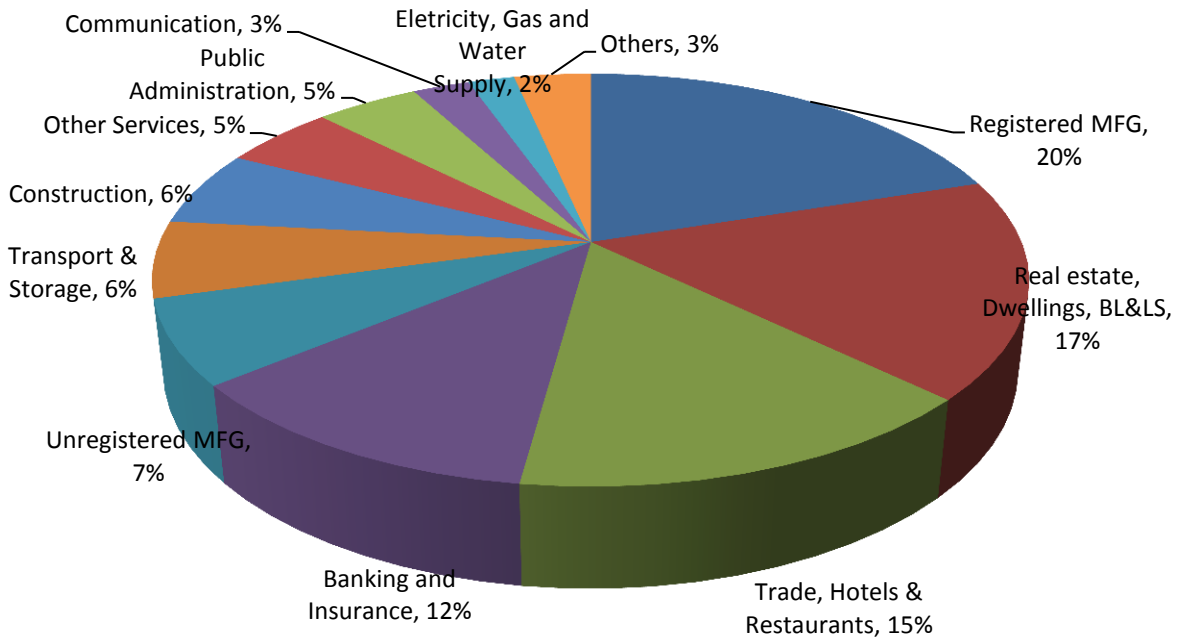
Figure 228: Gross District Domestic Product, in Rs thousand crores, as of 2010-11



Source: Economic Survey of Maharashtra, 2011-12

The district economy is pre-dominantly service based, with service sector's share in GDP at 63 per cent in 2009-10. This is followed by secondary sector at 35 per cent and primary sector at just two per cent.

Figure 229: Sector wise distribution of Thane's GDDP, as of 2009-10, 100% = Rs 117,368 crore



Source: Thane District Socio-Economic Review 2011

Agriculture and allied:

Of the total land area of 9,558 sq. km. in the district, only about 04 per cent is the gross cropped area (cultivated land). Of the total gross cropped area, only about 0.53 per cent of the area is gross irrigated area. Rest of agriculture is completely dependent on rainfall. Key crops grown in the district is paddy. Other crops grown include vari, nachani (finger millet), urad, moong and kulith. Dahanu taluka of the district is famous for growing fruits, mainly chikoo (sapota). Chikoos are also grown in orchards in Palghar and Talasari talukas. Chikoos grown here are sent all over India. Other fruits grown include guavas, mangoes, papayas, grapefruits and coconuts. Vasai and Palghar talukas are famous for different varieties of bananas such as rajeli, tambeli, mutheli and velchi. Seasonal fruits grown in the district such as bor, wild berries and litchis have great demands in the markets of Mumbai. Dahanu taluka has also made in-roads in floriculture, by growing roses.

The district is also known for forestry and fisheries. Forests cover 37.1 per cent of the total State area. Majority of this at over 80 per cent is spread in Shahapur, Palghar, Jawhar, Wada, Murbad, Dahanu and Vasai talukas. Key forest products include timber, fire wood, bamboo, grass and gum.

Fisheries constitute an important industry in Thane district. It is carried out in sea as well as in creeks and estuaries on the western coast. Marine fishery predominates over inland fishery in the district and provides employment to about 75 per cent of the persons engaged in the fishing industry. Fishing in sea is carried out along the coast stretching over about 110 km. The important fishing centres in the district are Dahanu, Pokharan-Uchheli, Nawapur, Murabe, Satpute, Datiware, Arnala, Vasai and Uran.

Industry:

The district is home to about 442 large scale industries, which provide employment to over 88,000 people. In addition, there are about 16,962 MSMEs, which provide employment to over 260,000 people. Key industries in the district include:

- ❖ Machinery, machine tools and parts except electrical machinery together with the iron and steel industry and metal products,
- ❖ Cotton and non-cotton power looms
- ❖ Food processing industries like grain mill products, Bakery products, Cocoa, Chocolate and Sugar Confectionery, Salt, ice, slaughtering, preparation and preservation of meat, dairy products, canning and preservation of fruits and vegetables, canning, preserving and processing of fish
- ❖ Wood products like plywood and veneer, wooden boxes, barrels, bamboo, cane baskets, bobbins, industrial fixtures, cork & cork products
- ❖ IT/ITES: The district is home to 109 IT parks
- ❖ Sophisticated industries such as manufacture of prime movers, boilers, refrigerators, machine tools, computing and accounting machinery, industrial machinery for food and textile industries, machinery for chemicals, paper and cement industries.

Services: As mentioned above, services account for 63 per cent of GDDP in Thane district. Of all the services, the key services in the district are 'real estate, ownership of dwellings, business and legal

services' at 17 per cent of GDDP, 'trade, hotels and restaurants' at 15 per cent and 'banking and insurance' at 12 per cent.

2.3. State of education

As of 2011-12, Thane district had 7,113 schools with a student enrolment of 15.89 lakh. Of the total schools, 47 per cent were primary schools, 32 per cent were upper primary and 21 per cent were secondary and higher secondary schools. The student-teacher ratio in the district was 37 students per teacher, which is worse than the State average of 30 students per teacher.

Table 256: School and higher education infrastructure in Thane district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	7,113	1,589,526
General colleges	173	114,505
Technical education*	55	9,969

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *Excluding non-AICTE diploma courses*

For higher education, the district is home to 173 general colleges and 55 institutions for technical education. For vocational training, there are 29 ITI with a seating capacity of 7,257 persons. Actual student enrolment is only 86 per cent of the seating capacity, leaving remaining seats vacant. For details of courses offered in ITI, please refer to annexures.

Table 257: Key ITI indicators in Thane district, as of 2011-12

Indicator	Value
Total Number of ITIs	29
Number of Government ITIs	20
Number of Private aided ITIs	9
Total Seating capacity	7,257
Total student enrolment	6,250

Source: IMAcS Primary Survey

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. Within Government, training programs are held by different Departments such as District Rural Development Agency (DRDA), Department of Agriculture, District Industries Centre, Department of Fisheries etc.

Private training institutes offer courses such as tailoring and cutting, construction, electrical wireman, teaching, IT, computer programming, cookery, PC maintenance, air conditioning and refrigeration mechanic, beauty culture, carpentry, hotel management, bakery and cookery, travel and tourism, retail operation, housekeeping, sheep and goat rearing, housekeeping, mobile repairing, masonry, etc.

2.4. Youth aspirations

In the process of identifying the growth engines for the Thane district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Willingness to pursue higher education:** About 99 per cent of the students want to pursue higher education. First preference is to pursue higher studies from Government institutions, as it is believed that Government certification helps in obtaining jobs.
- **Entrepreneurial zeal:** The youth is not inclined towards starting their own business, as they are highly risk averse. The preference is to go for Government or private jobs only, as they provide a secure source of income. Based on our discussions, we found that only about four to five per cent of the students want to go for self-employment opportunities.
- **Migration trends:** Many youth move to Thane city, not just for jobs but also for education. Youth from nearby districts and other talukas of Thane also prefer to move to Thane city, as they feel that Thane has better education infrastructure. In fact, from our stakeholders' discussions, we found that about 60 per cent of the students in Thane city are from outside the city. However, when it comes to employment opportunities, Mumbai still remains the first preference among all youth. Also, there is very high preference for going for employment opportunities outside India. About 50 per cent of the youth surveyed are desirous of finding work in countries such as Dubai and the USA.
- **Satisfaction with existing education infrastructure:** Even though there is high preference to study from Government educational institutions, the youth feel that these institutions are not equipped with even the basic infrastructure such as drinking water and working toilets.
- **Demand for additional training / courses:** Youth feel that animation is an upcoming area, but the course is not being taught in Government training institutes. Additionally, there is high demand for courses related to the automotive sector.
- **Job preference:** Most students lack awareness of job opportunities available in the market. They mostly want to go for jobs in reputed companies only such as Godrej, Hiranandani, L&T, ACC Cements etc. Within those jobs, they expect a starting salary of at least Rs 8-10 thousand per month

3. Developmental concerns

Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

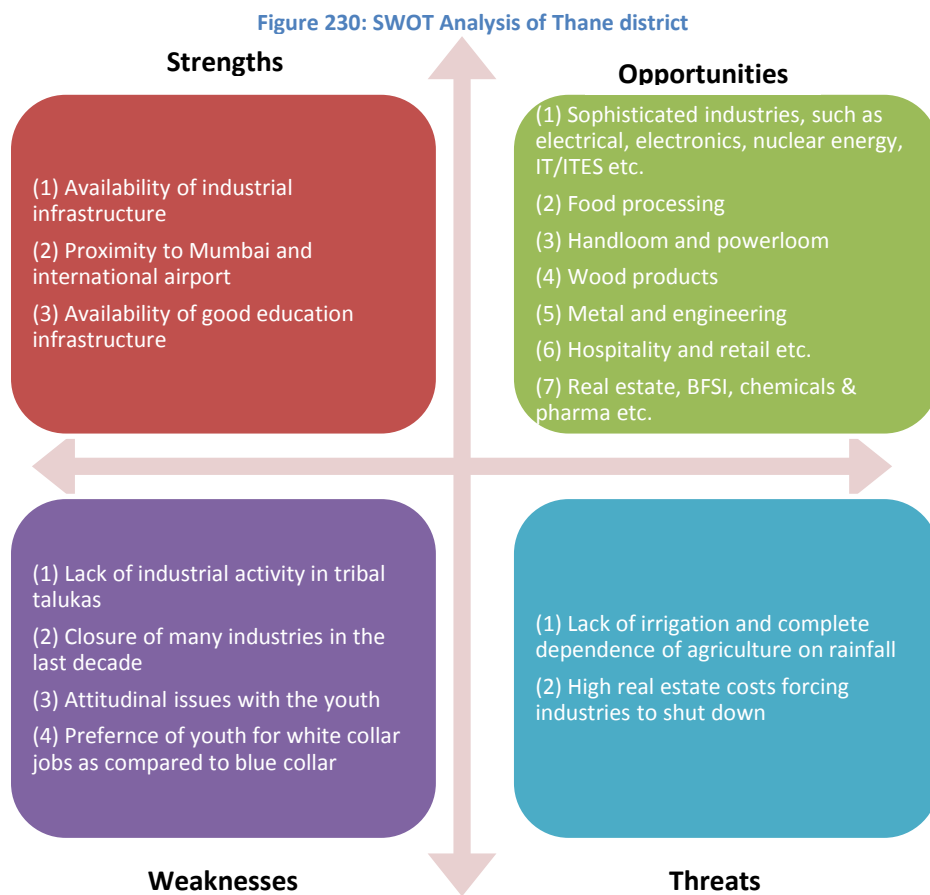
- **Attitudinal problems with the youth:** Based on the youth group discussion held in the district, we found out that just about 4-5 per cent of the youth are interested in starting their own ventures. Majority just want to get into either the Government jobs or private multinational companies (MNCs). Even in our interactions with the other stakeholders in the district, we found out that youth in the district lack entrepreneurial spirit. Most of the youth prefer service sector jobs as compared to manufacturing jobs. The desire to work hard has been replaced by the desire to have easy office jobs. This is leading to shortage of manpower in the manufacturing sector, while there is surplus of people willing to work in air conditioned malls and retail stores.
- **Lack of development in tribal areas:** As discussed above, the industrialisation in the district is concentrated only in the southern districts which are mostly urban and situated close to

Mumbai district. Some stakeholders in the district complained of neglect of tribal regions, where there is no industrial development and agriculture is also limited due to lack of irrigation.

- **Increasing real estate and other costs:** Based on our interactions with the industry in the district, we found that many industries are moving out of Thane to States like Gujarat. The key factors which have been held responsible for the same are high real estate costs and other costs in the State. Companies are finding it more lucrative to sell their land for real estate development rather than using it for industry. Other high costs include high electricity costs, high octroi, etc.

SWOT analysis

Based on the diagnostics of the Thane district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented in the figure below.



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 15.54 lakh persons between 2012 and 2022. Sectors which will drive demand are expected to be IT & ITES, unorganised sector and building, construction and real estate. The requirements for skilled personnel are likely to increase, as the maximum demand will be generated for semi-skilled and skilled workers.

Table 258: Incremental demand of human resources in Thane – by sector

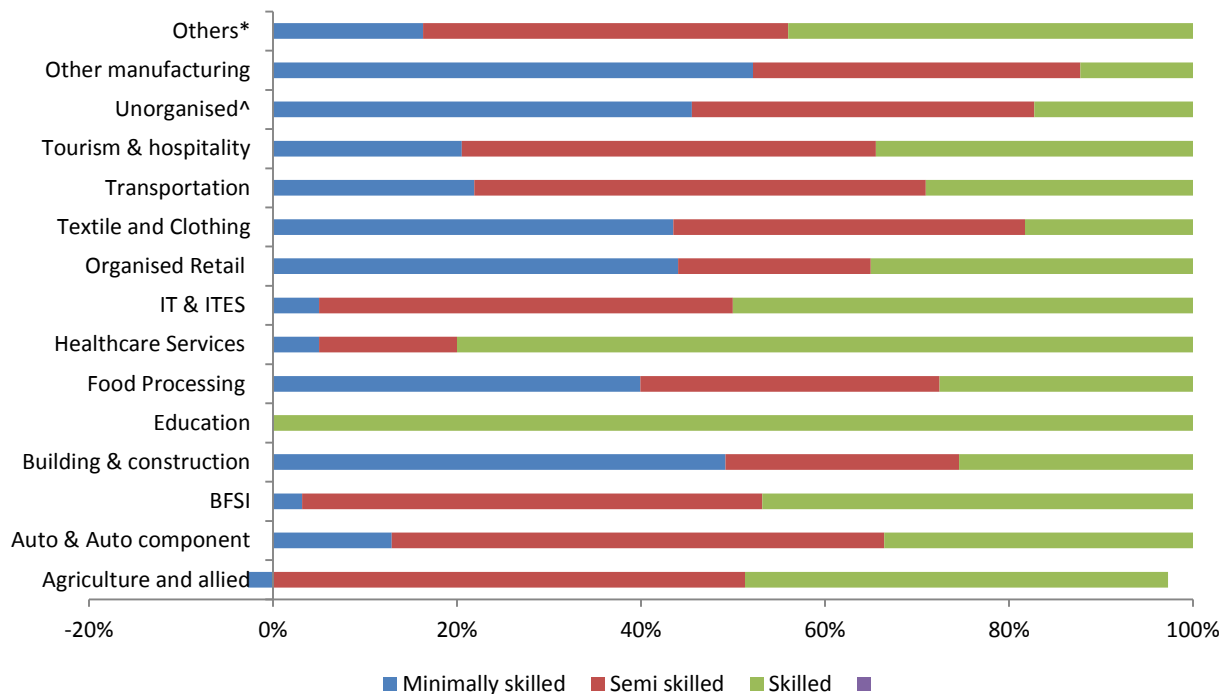
Sector	2012-17	2018-22	2012-22
Agriculture and allied	17,589	8,963	26,553
Auto and Auto component	5,150	8,228	13,379
Banking, Financial Services and Insurance	48,042	77,227	125,269

Sector	2012-17	2018-22	2012-22
Building, Construction industry and Real Estate	121,016	167,949	288,964
Education and Skill Development	58,437	20,874	79,310
Food Processing	1,195	1,542	2,737
Healthcare Services	20,623	28,224	48,847
IT & ITES	129,826	198,786	328,612
Organised Retail	22,576	56,177	78,753
Textile and Clothing	2,461	3,119	5,580
Transportation, Logistics, Warehousing and Packaging	63,061	71,486	134,547
Tourism, Travel, Hospitality & Trade	4,153	6,047	10,199
Unorganised [^]	156,300	148,083	304,382
Other manufacturing	39,039	64,266	103,305
Others*	1,955	2,191	4,146
Total	691,424	863,161	1,554,585

Source: IMaCS Analysis

[^]Unorganised sector includes domestic workers, handloom and handicrafts, beauticians, facility management personnel and security guards. *Others include chemicals and pharmaceuticals, electronics, and furniture and furnishings.

Figure 231: Incremental demand of human resources in Thane – by skill level

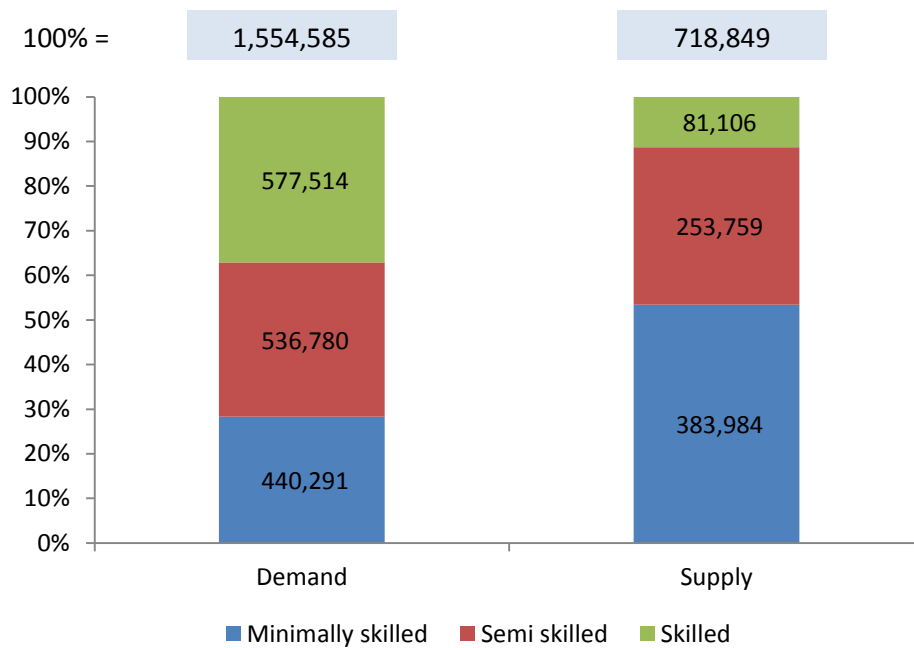


Source: IMaCS Analysis

[^]Unorganised sector includes domestic workers, handloom and handicrafts, beauticians, facility management personnel and security guards. *Others include chemicals and pharmaceuticals, electronics, and furniture and furnishings.

We have estimated incremental supply of human resources in the district at 7.18 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be insufficient to meet the incremental demand in the district. The shortage of human resources is likely to be met by migrants coming into the district. However, the incremental supply is leaning more towards minimally skilled workers, as against skilled workers. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward. All the stakeholders need to work in conjunction to meet the skill shortage in the district.

Figure 232: Demand supply gap of human resources in Thane – by skill level



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

NSDC has identified 19 high growth sectors in the country. Most of these sectors exist in Thane district, in addition to some additional sectors such as facility management, metal forging, electricals and other manufacturing. While some of the sectors have the potential for generating additional employment going forward, some will not generate additional employment, but will need skill up-gradation. In the section below, we have covered those sectors which need skilling interventions both from the employment generation perspective as well as up-skilling.

Table 259: Sectors where interventions are required in Thane district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Thane	Maharashtra
Agriculture and allied		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		
Others – Facility management, metal forging, electricals and other manufacturing		

Source: IMAcS Analysis

5.1. Banking, financial services and insurance

Given the increasing purchasing power of the income in the Thane district, the penetration of the banking, financial services and insurance sector (BFSI) has also improved. The sector is also the fourth largest contributor to the district’s GDDP and provides employment to thousands of people. The sector not only includes banks, but also other financial institutions such as insurance companies, mutual fund companies, chit fund companies etc.

Bank of Maharashtra is one of the leading Public Sector Banks of the district, having 60 branches. In addition, other institutions such as HDFC, ICICI, Reliance etc. are also present in the district. Based on our stakeholders’ discussions, we found out that:

- While the Public sector banks recruit from Institute of Banking Personnel Selection (IBPS), private sector banks recruit from both IBPS and also from other institutions

- IBPS training is mainly theoretical and practical training is provided on-the-job
- There is only a limited number of private training institutes for the BFSI sector, while the demand for skilled personnel is high
- There is lack of communication and soft skills
- Inadequate understanding of banking process and banking laws has also been reported

5.2. Building, construction and real estate

In the last few years, Thane has transformed itself from the State's manufacturing hub to a much sought-after real estate destination. In fact, real estate and ownership of dwellings make the second largest contribution to Thane's GDDP at 17 per cent. Many big factories have closed down in the district and paved way for bigger residential and commercial complexes. Some of the companies which have shut shops in the last few years are Kores, Voltas, Blue Star, Piramal Healthcare Ltd (Kolshet) and Hindalco (Kalwa). Some of the real estate companies who have invested in Thane are the Hiranandani Group, Rustomjee, Puranik Builders, Lodha, Tata Housing Development Company Ltd., DLH, Kalpataru Ltd., etc. Based on our stakeholders' discussions, we have found out the following skill gaps which are faced by the sector in the district:

- Shortage of labour is faced, especially because the locals are not inclined towards doing manual work. Thus, most of the labourers have to be brought from Andhra Pradesh, Uttar Pradesh and Bihar.
- Locals have a tendency to unionise, which further acts as a deterrent towards hiring them.
- All the workers which are brought from other states have to be trained on the job, as they lack all basic skills.
- There is lack of esteem associated with the sector.

Prominent builders in Thane district



5.3. Chemicals and pharmaceuticals

Manufacture of basic industrial chemicals including fertilizers, vegetable and animal oils and fats, paints, varnishes and lacquers and other miscellaneous chemical products is another important industry in the district. These industries are mainly concentrated in the Trans-Thane Creek and Belapur Road industrial area. The medium and large industries manufacturing chemicals and chemical products are Pfizer, Lubrizol India Ltd., Polyolefins Industries Ltd., NOCIL, Herdillia Chemicals Ltd., BASF (India) Ltd., Star Chemicals, Indofil Industries Limited, and Phoenix Chemical Works. The chemical industries are also found in other parts of the district like Wagle Industrial Estate, Pokhran Road, Ambarnath and Dombivli.

Based on our stakeholders' discussions, we found out that:

- Most of the work in chemicals and pharmaceutical industry is automated, thus scope for employment generation is limited.
- On-the-job training is held by most companies.
- One of the key issues faced by the companies is load shedding.
- ITI trades from which hiring is done are: Attendant Operator in Chemical Plant (AOCP), MMCP, boiler attendant and wireman.
- Hiring is done mainly from locals – mainly Government ITI.
- Skills which are in shortage: R&D, BD managers, technical skills etc. For managerial skills also, people are hired from Mumbai, as such skills are in shortage in Thane.
- There is requirement for an institute providing skills in petrochemicals in Maharashtra.

5.4. Food processing

Thane district is home to both large and small food processing companies. The large and medium ones include companies such as Cadbury (India) Ltd. which produce modified milk food and high protein food. The small to micro ones are engaged in different types of food processing. These include industries like grain mill products, bakery products, cocoa, chocolate and sugar confectionery, salt, ice, slaughtering, preparation and preservation of meat, dairy products, canning and preservation of fruits and vegetables, canning, preserving and processing of fish.

Based on our interactions with the bigger companies such as Cadbury, we found out:

- Most of the training is conducted on-the-job. Held on modules such as quality, safety and behavioural issues.
- No major recruitments have happened in the last few years and there are no plans for future recruitments, as the companies consider it costly to do business in Thane and are more keen on moving to Gujarat
- Only skill gap faced is for the contract labour, which is done for services such as house-keeping and security.
- Difficulty in hiring B.Tech graduate apprentice

5.5. IT & ITES

Navi Mumbai area in Thane district has seen emergence of IT / ITES companies in recent times. The value chain of such companies in Thane includes product / software development companies and outsourcing (BPO / KPO) companies. The International Infotech Park at Vashi and Belapur railway station complex houses many international IT companies. The New Millennium City near Mahape forms a major part of the Knowledge Corridor that spans Mumbai and Pune. The head office of Reliance Infocom – Dhirubhai Ambani Knowledge City is situated opposite the Koparkhairane station. Other IT companies in Navi Mumbai include L&T Infotech, Wipro Ltd, CMC, Tata Consultancy Services, Aptech, Track Mail, ICICI Infotech and PCS, whose offices are on Belapur Road.

Majority of the IT& ITES companies provide on-the-job training. The employees of the companies are not just from Thane, but also include people coming from other parts of Maharashtra and even other States. Some of the key skill gaps faced by the industry include:

- Lack of understanding for delivering complex situations
- Lack of client handling and managerial skills
- Lack of practical knowledge
- Inadequate soft skills and communication skills
- Insufficient knowledge across domains
- Limited understanding of overall business dynamics
- Limited presentation skills
- Limited understanding of competitive products
- Inadequate report writing skills
- Inadequate team management skills

5.6. Organised retail

Given the residential real estate boom in the district, the Thane city is also witnessing a retail boom. The city is witnessing setting up of many malls, super-markets, hyper-markets and departmental stores. Some of the key malls in the city include Korum Mall, Eternity Mall, Kumar Shopping Mall etc. In addition, some of the up-coming malls include Viva City, Lodha (unnamed project) and Hiranandani (unnamed project). There is also existence of departmental stores and hypermarkets including Star Bazaar, Easyday market, Food Bazar, Big Bazaar, D Mart, More Megastore etc. Based on our discussions with the key stakeholder's we have found the following:

- High availability of youth who want to work in organised retail stores
- Most of the training is provided on-the-job
- Big malls and other stores have tie ups with companies for placement. Some of these companies include Job Astra (for Westside), Trrain, NGO – Saksham etc.
- Very high attrition rates are witnessed. Companies have to look for new employees every 45 days to three months.
- There is availability of some training institutes who provide trained manpower for the retail sector
- Qualification requirements are not very high (minimum Xth pass out). Most of the managerial staff is met from internal promotions.
- Key skill gaps include soft skills, communication skills, supply chain management skills, knowledge of legal requirements and norms, understanding the perceived and unstated needs of the customer, customer interaction skills etc.

Korum mall and Eternity mall in Thane



5.7. Textiles and clothing industry

Thane district is home to several textile and clothing sector companies. One of the prominent companies being Raymond Ltd. The company is headquartered in Thane city. The company holds skill development programs for all levels of people. The company has started a training school in Patna, Bihar in collaboration with the local Government, wherein suit making is taught and Raymond certification is provided to trainees. The company also runs several training programs under the umbrella of J.K. Trust in different villages of Maharashtra. The programs are not just limited to the textile sector, and include activities such as animal husbandry and other rural trades.

In addition to the conventional garment producing companies, Thane district is also home to one of Asia's biggest powerloom cluster – the **Bhiwandi powerloom cluster**. Bhiwandi has more than seven lakh powerlooms. Yarn is brought from Coimbatore, Ahmedabad etc. The companies present in the cluster weave yarn into fabric, which is further sold to cities such as Mumbai, Surat, Ahmedabad etc.

Most of the units in the cluster are small scale units. Over 40 per cent of the owners are below Xth pass. The powerloom weaving is not a very skill intensive industry. The skill on how the looms have to be run can be acquired in 2-3 days of on-the-job training. Labour for the sector comes from States such as Andhra Pradesh, Bihar, Uttar Pradesh and Jharkhand. Locals are not willing to engage themselves in hard manual work.

Based on our stakeholders' discussions we have identified the following skill gaps for the industry:

- High attrition rate among the locals
- Unwillingness of locals to engage in hard manual work
- Tendency of locals to engage in unionism, thus forcing the employers to employ people from other States only
- Lack of knowledge of product diversification
- Lack of innovative manufacturing
- Lack of design know-how
- Lack of knowledge of export markets and export procedures

- Under-utilisation of capacities due to electricity and labour shortage
- Lack of standardisation in output

Power-loom unit in Bhiwandi



5.8. Transportation, logistics, warehousing and packaging

With Thane being a key hub for manufacturing and service activities, the transportation, logistics, warehousing and packaging sector assumes great importance. Commencing from the preliminary step of receipt of the goods to the pre-packaging, picking and the dispatch, skilled personnel are required in this sector in Thane. While the initial steps require more of skills that are built on-the-job, industry interaction has revealed the following major areas where skill building is required:

- Automation of logistics
- Route optimisation
- Inventory management
- Green logistics
- Team management skills
- Insufficient knowledge of taxation and documentation procedures
- Limited knowledge of interstate and inter country transportation and taxation laws
- Ignorance to safe driving practices
- Low motivational levels
- In sufficient knowledge of hazardous material handling practices etc.

5.9. Tourism and hospitality

Due to its proximity to Mumbai, Thane has seen emergence of the hospitality segment in the district – specifically in the Thane city. Some hotels have come up in the last few years and many more are planned to be set up. Most of the tourists are the business travellers. Some of the key hotels in the city include ITC Fortune, Satkar Hotel etc.

The district also has some of the tourist destinations, which are not very popular right now. But with proper marketing and branding, those destinations can pick up as spots attracting tourists. Some of these destinations include Kelva Beach, Thane Creek, Upvan Lake, Yeurl Hills, Naneghat Hills, etc.

Based on the stakeholders' discussions, we found out:

- HODs, front office executives and guest relation executives are mostly graduates in hotel management from Mumbai.
- Reservation in-charge, bell boys, housekeeping etc. are from HSC pass outs and references.
- Maintenance personnel (electrician, plumbing etc.) are mostly hired from ITIs or those holding PWD licenses.
- Personnel are also hired from colleges such as Kohinoor, Arun Mochalaya, BY Patil College etc.
- Six months on the job training is provided.
- Key skill gaps faced include: communication skills, telephone etiquettes, body language, lack of practical knowledge etc.
- Attrition rate is very high, especially at lower skill levels.

5.10. Unorganised sector – non tribal areas

Being a big city, Thane has witnessed emergence of several types of job roles in the unorganised sector. These are mainly complementary to the organised sector jobs. Some of the key job roles which have come up in unorganised sector are: domestic workers, facility management personnel, housekeeping and security, beauticians, etc. There is limited number of institutes offering training in such trades. However, as the disposable incomes of the people increases, demand for such trades is also expected to increase going forward, which will lead to increased demand for formal training centres for the same.

5.11. Unorganised sector –tribal areas

As discussed earlier in the report, Thane district comprises of both urban and tribal talukas. Some of the key tribal talukas include Jawahar, Mokhada, Vikramgad, Talasari and Wada. Most of the people in these talukas are completely dependent on agriculture and allied activities or some unorganised activities. These people do not have permanent sources of income, as agriculture is totally dependent on rains. The year when rainfall is not adequate, these people migrate to small industries in Dahanu, Silvassa and Vapi industrial areas for temporary jobs. In fact, the youth of such districts is also getting involved in sand mafia in Thane, Bhiwandi, Vasai, Nalasopara etc. due to lack of adequate job opportunities within their talukas. Some of the potential areas where skilling can be done for such people are:

- Water conservation
- Bamboo cultivation
- Mango and cashew cultivation
- Warli art
- Solar energy conservation
- Handicrafts etc.

Warli art form



5.12. Other manufacturing – auto components, IT hardware, metal forging, electrical equipment, engineering etc.

Thane district is home to manufacturing of many types of machinery and equipment. Some of these include manufacture of machinery, machine tools and parts, metal products, Prime movers, Boilers, Refrigerators, Machine Tools, Computing and Accounting machinery, Industrial machinery for food and textile industries, machinery for chemicals, paper and cement industries, electrical motors and transformers etc.

Several large scale industries exist in this area in addition to MSME units. As of 2012, there were 826 engineering units, 87 electrical machinery and transport equipment manufacturing units, 145 steel based fabrication units etc. Based on our interactions with the stakeholders, we found out:

- Most of the auto manufacturing companies have moved to Chakan in Pune, only auto part manufacturing units exist in Thane district. However, they also plan to move to Pune now.
- There is shortage of people with requisite skills for forging. The industry demands that the forging trade along with packing trade should be introduced in the ITI. They also complained of lack of good forging institutes in India. The industry demands that there should be specialised institutes for forging and heat treatment.
- The industry is also facing shortage of people trained in electrician as well as painter trade.
- Some of the concerns faced by the companies include power shortage, tax burden etc. Thus, they plan to move base to Gujarat where more incentives are offered.
- There is demand for skilled workers with training in trades such as welding, machining, CNC operator etc.
- There is preference for recruitment from Government ITI as compared to private ITI.
- Industry has preference to hire locals from Thane, Mumbai and Kalyan. However, people with requisite skills are not easily available.
- People with managerial skills are hired from all over India.

6. Recommendations

As discussed in the report above, Thane district comprises of both tribal and non-tribal areas. While non-tribal areas are urban in nature and have presence of industrial units, tribal areas have need for further development. In the section below, we have presented recommendations for all the sectors which can lead to employment generation in the district, as well as those sectors which need major up-skilling.

While the detailed recommendations follow, summary is given in the table below.

Table 260: Key recommendations for Thane district- summary

Sector	For Government players	For private training providers	For Industry	For NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Need to increase the coverage of DRDA training programs 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
BFSI	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Set up training centres in Thane city 	<ul style="list-style-type: none"> ▪ Scope for mobilising youth in the district to this sector 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Building, construction and real estate	<ul style="list-style-type: none"> ▪ Motivate the youth by counselling and awareness campaigns held in association with NGOs 	<ul style="list-style-type: none"> ▪ Training to be held with industry and NSDC. ▪ Motivational tools to be a part of the course module 	<ul style="list-style-type: none"> ▪ Take measures to attach prestige to the profession to motivate the youth to join it 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Chemicals and pharmaceuticals	<ul style="list-style-type: none"> ▪ Consider starting a petrochemical institute in collaboration with industry and NSDC 	<ul style="list-style-type: none"> ▪ Consider starting a petrochemical institute in collaboration with industry and NSDC 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Food processing	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Training in partnership with industry 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
IT&ITES	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Scope for mobilising youth in the district to this sector 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Organised retail	<ul style="list-style-type: none"> ▪ Focus on starting retail programs in ITI in collaboration with industry players 	<ul style="list-style-type: none"> ▪ Training in partnership with industry and NSDC. ▪ Inclusion of NGOs for mobilisation of weaker sections of society 	<ul style="list-style-type: none"> ▪ Scope for mobilising youth in the district to this sector 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Textiles and	<ul style="list-style-type: none"> ▪ Encourage the textile 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Need to formalise the 	<ul style="list-style-type: none"> ▪ Interventions

Sector	For Government players	For private training providers	For Industry	For NSDC
clothing	cluster in Bhiwandi		Bhiwandi cluster and work closely with the Government for its development	required through funding of private training as well as through SSCs
Transportation, logistics, warehousing and packaging	▪ n/a	▪ Training in partnership with industry	▪ n/a	▪ Interventions required through funding of private training as well as through SSCs
Tourism and hospitality	▪ n/a	▪ Courses catering to the hospitality industry	▪ Work in close collaboration with VTPs for meeting the training needs of the existing and new employees	▪ Interventions required through funding of private training as well as through SSCs
Unorganised sector – non tribal areas	▪ n/a	▪ Courses for training in facility management, domestic workers, beauticians etc.	▪ n/a	▪ Interventions required through funding of private training as well as through SSCs
Unorganised sector –tribal areas	▪ Encourage training in potential areas for tribal development	▪ n/a	▪ n/a	▪ Interventions required through funding of private training as well as through SSCs
Other manufacturing	▪ Need to focus on forging and heat treatment courses	▪ Scope for starting forging and heat treatment courses	▪ n/a	▪ Interventions required through funding of private training as well as through SSCs
Others	▪ n/a	▪ Training for paint, varnish and enamel cluster	▪ n/a	▪ n/a

6.1. Government players

- ❖ **Agriculture and allied:** The District Rural Development Agency (DRDA) provides two days of foundation training and five days of advanced training for Self-Help Groups (SHG) members in rural areas. Some of the trades in which training is provided are dairy, vegetable cultivation, pickle making etc. Programs are held for SHGs who have got loans from banks. DRDA orients them on activities which are present in the nearby markets. There is a need to increase the coverage of these programs to bring more people under its ambit, especially in the tribal belt. Training programs are also held by the Ministry of Rural Development (MoRD), Government of India under the ambit of National Rural Livelihood Mission (NRLM), called as the ‘Ajeevika Special Projects’. These are short-term training programs provided to rural poor youth, ranging from six weeks to 12 weeks, in a range of skills for which there is good demand in the Industry.

The skill training is provided by private sector or non-profit agencies, and covers sector specific skills, basic computer literacy and 'soft' skills. At the end of the training, the training agencies are responsible for placement of youth and tracking placed youth for one year to see how they are faring. More such training programs need to be facilitated and the State Government can play a special role in this.

- ❖ **Building, construction and real estate:** As discussed in the report, locals are not willing to work in the construction industry due to lack of esteem attached with the sector. Thus, it is important to motivate the youth by counselling them through NGOs. Awareness campaigns need to be held, which could include distribution of leaflets, posters and holding of Gram Panchayat meetings as well. It's important to emphasise how training can lead to salary increment. (An untrained construction worker gets about Rs 3,500 to Rs 4,000 per month; while a trained worker gets about Rs 5,000 – Rs 6,000 per month.)
- ❖ **Chemicals and pharmaceuticals:** As per our discussions with key stakeholders in the district, we found out that there is requirement for an institute providing skills in petrochemicals in Maharashtra. Government can explore this option, given the petrochemical potential in Maharashtra. This could be explored in collaboration with NSDC and industrial players.
- ❖ **Organised retail:** Given the increasing demand for manpower in organised retail sector, the Department of Employment and Self Employment can consider tying up with industrial players such as Bharti Wallmart, wherein the Government ITI infrastructure can be used for training manpower in retail sector. Such collaboration has already been successfully explored in the Aurangabad district. Similar model can be explored in Thane district as well.
- ❖ **Textiles and clothing:** The Department of MSME needs to focus on further development of the powerloom cluster in Bhiwandi. Some of the areas which need to be focussed upon are:
 - Knowledge of product diversification
 - Innovative manufacturing
 - Design know-how
 - Knowledge of export markets and export procedures
 - Standardisation in output
 - Providing adequate infrastructure facilities such as power distribution to ensure adequate utilisation of capacities
- ❖ **Unorganised sector –tribal areas:** Holistic programs need to be held for tribal and rural students. Some of the areas where growth potential can be explored for tribals in the district, in which training can be provided, are as follows:
 - Warli art
 - Bamboo cultivation and products thereof
 - Handicrafts

- Solar energy conservation
 - Rice mills
 - Pulse processing
 - Potato / banana wafers making
 - Mechanical dehydration plant for fish, vegetables, fruits and nuts
 - Oils from spices
 - Fish processing
 - Wooden toys and sport goods
 - Wooden doors, windows and furniture
 - Coir manufacturing
 - Honey collection, purification and bottling
 - Meat processing
 - Hatcheries etc.
- ❖ **Other manufacturing:** Based on the stakeholder discussion, we have found that there is demand for setting up a forging institute. The Department of Employment and Self-Employment (DE&SE) can consider introducing the forging trade in the ITI. Government can also consider starting specialised institutes for forging and heat treatment. This can be explored in collaboration with industry and NSDC. There is also high demand for people with electrician as well as painter trade. Thus, the DE&SE can consider expanding the number of seats for these trades.
- ❖ **Others:** Based on our discussions with the stakeholders, we have found that many large scale industries are slowly moving out of Thane. They are selling their land to real estate companies and moving out to places like Gujarat. Problems of marketing, finance, timely payments, raw material availability, labour and electricity etc. are some of the issues highlighted for the same. The Government needs to take immediate steps to tackle these issues.

6.2. Private training providers

- ❖ **BFSI:** There is scope for setting up training institutes in the district (specifically in the Thane city) which can train manpower for the BFSI sector.
- ❖ **Building, construction and real estate:** Scope for providing training in construction and real estate sector in collaboration with industry and Government. It has been found difficult to motivate youth to join construction training institutes. For such courses, tool-kits should be provided at the end of the training and placement arrangements made in association with construction contractors. Further certification is also required from NCVT, for which the students should appear for the NCVT examination. This further provides credibility to their skills. Over 80 per cent of the focus of the training has to be on practical training only.
- ❖ **Chemicals and pharmaceuticals:** As per our discussions with key stakeholders in the district, we found out that there is requirement for an institute providing skills in petrochemicals in Maharashtra. This option can be explored in collaboration with NSDC and industry.

- ❖ **Food processing:** Most of the training is provided on-the-job by the industrial players directly. Experts for the same are hired from outside the industry as well. The private training providers can utilise this opportunity and directly coordinate with industrial players for such training.
- ❖ **Organised retail:** Training institutes can be set up in collaboration with the industry. Weaker sections of the society can also be mobilised by involving NGOs. There is also potential for setting up a retail training academy in the district. The option can be explored in conjunction with Department of Vocational Training and Education, and NSDC.
- ❖ **Transportation, logistics, warehousing and packaging:** Private training can be provided directly in collaboration with the industry, as the latter is better aware of the requirements faced by the sector.
- ❖ **Tourism and hospitality:** There is scope for setting up training programs for catering the skill requirements of the existing and upcoming hotels in the district. There has to be bigger focus on communication and soft skills. In addition, NSDC certification can be made use of for providing credibility to the training programs.
- ❖ **Unorganised sector:** There is increasing demand for workers in the unorganised sector in the urban areas. These include facility management (house-keeping, security etc.), domestic workers, beauticians, etc. There is scope for opening of training institutes for the same. Tie-ups can also be explored with NGOs working in the tribal areas, as there is abundant manpower available in these areas and the same can be mobilised for gainful employment in this sector.
- ❖ **Other manufacturing:** There is scope for introducing forging trade in the private ITI. In addition, bigger private players can consider starting of specialised training institutes for forging and heat treatment. The same can be explored in collaboration with industry and NSDC.
- ❖ **Others:** Thane is home to a Paint, Enamel and Varnish cluster, in TTC Area, Mahape, New Mumbai. Key products manufactured include paints, varnishes, enamel, pigments, solvents, thinner etc. There are about 200 functional units in the cluster, employing over 3,700 persons. These need training on:
 - Marketing and technology
 - Paint R&D
 - Training
 - Laboratory for testing of raw materials
 - Supply of critical raw materials
 - Branding

6.3. Industry

- ❖ **BFSI:** Scope for mobilising youth into the industry as manpower in the district is willing to work in services sector. Training can be provided in collaboration with private training providers.
- ❖ **Building, construction and real estate:** L&T is already working in this area through L&T Public Charitable Trust, wherein it provides certification at the end of a three month programme. Such programmes help in student placement. More such programmes can be held by other industry players as well.
- ❖ **IT & ITES:** Continuous focus on on-the-job training. Tie-ups can also be explored with private training institutes for sourcing of trained manpower.
- ❖ **Organised retail:** As the disposable income is increasing in the district, penetration of organised retail is also increasing. Youth is keen on working in organised retail. However, training needs to be provided, for which, the industry can directly collaborate with Government or even private ITI. The collaboration can also be explored for setting up a retail training academy in the district.
- ❖ **Textiles and clothing:** The powerloom cluster at Bhiwandi needs to focus on its modernisation, product diversification, and introduction of R&D and better living conditions to the workmen. It needs to collaborate with the Government for formalisation of the cluster and capacity building of the manpower.
- ❖ **Tourism and hospitality:** Thane district has witnessed coming up of several hotels in the last few years. As the district gains more prominence as a business destination, more hotels are likely to come up. There is also scope for development of several tourism spots in the district. Thus, manpower needs to be trained for tourism and hospitality. The same can be achieved in collaboration with Department of Tourism / MIDC and also with VTPs.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Agriculture and allied
- ❖ BFSI
- ❖ Building, construction and real estate
- ❖ Chemicals and pharmaceuticals – mainly chemicals
- ❖ Food processing – both organised and unorganised
- ❖ IT & ITES
- ❖ Organised retail
- ❖ Textiles and clothing – mainly in Bhiwandi powerloom cluster
- ❖ Transportation, logistics, warehousing and packaging
- ❖ Tourism and hospitality – mainly hospitality

- ❖ Unorganised sector – non tribal areas (security guards, domestic workers, facility management etc.)
- ❖ Unorganised sector –tribal areas (Warli art, Bamboo cultivation and products thereof, Handicrafts, Rice mills, Pulse processing, Potato / banana wafers making, Mechanical dehydration plant for fish, vegetables, fruits and nuts, Oils from spices, Fish processing, Wooden toys and sport goods, Wooden doors, windows and furniture, Coir manufacturing, Honey collection, purification and bottling, Meat processing, Hatcheries etc.)

2.32. WARDHA

1. Introduction

Wardha district is a part of the Nagpur division. It has a total land area of 6,309 sq. km., which is 2.05 per cent of the total State area. It is bordered on north and north-west by Amravati district, on the east by Nagpur district, on the south-west by Yavatmal district and on the south-east by Chandrapur district.

It is sub-divided into eight sub-districts and has 1,004 villages. Majority of the population at 67.5 per cent lives in rural areas. Agriculture is the main occupation, employing 79 per cent of the labour force (as of Census 2001). The remaining is in household industry (one per cent) and other workers²⁶ at 20 per cent.

The major crops grown in the district are soyabean, cotton, jowar, wheat, pulses, groundnut, etc. Cotton is the major cash crop grown in the district and it accounts for about one-third of the total cultivable land.

Table 261: Comparison of Wardha district with Maharashtra – key indicators

Indicator	Year	Wardha	Maharashtra
Area, in sq.km.	2001	6,309	307,713
Percentage share in State geographical area, %	2001	2.05%	100%
No. of sub-districts	2011	8	353
No. of inhabited villages	2001	1,004	41,095
No. of households	2001	270,502	19,576,736
Forest area as a % of total geographical area	2001	15.40%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analysed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Wardha district has a population of 12.96 lakh persons – 1.15 per cent of the State population. Majority of the population (25 per cent) is concentrated in Wardha sub-district, followed by Hinganghat sub-district at 17 per cent and Deoli sub-district at 13 per cent, Arvi sub-district at 12 per

²⁶ Other workers include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers are 'Other Workers'.

cent, Seloo sub-district at 11 per cent, Samudrapur sub-district at nine per cent and Karanja and Ashti sub-districts at seven and six per cent respectively.

While 60 per cent of the population in the district is in working-age group (15 to 59 years), about 45 per cent is actually working i.e. work participation rate.

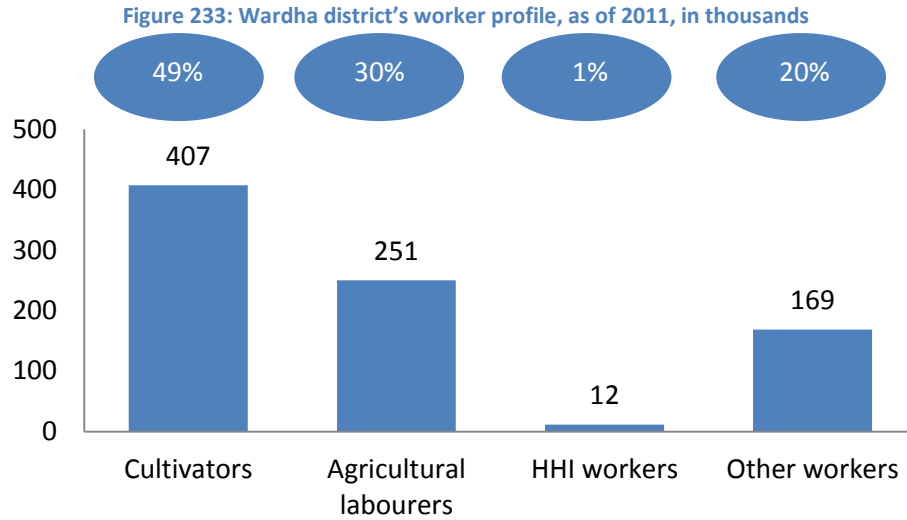
The district's literacy rate is 87.2 per cent, which is higher than the State average of 82.91 per cent, and also higher than All-India average of 74 per cent. Male literacy at 92.27 per cent is higher than female literacy rate at 81.89 per cent.

Table 262: Key demographic indicators

Indicator	Year	Wardha	Maharashtra
Population, No.	2011	1,296,157	112,372,972
Decadal growth rate of population, %	2001-11	4.80%	15.99%
District's share in State's population, %	2011	1.15%	100%
Urban population as a percentage of total population, %	2011	32.47%	45%
SC population, %	2001	12.83%	8.79%
ST population, %	2001	12.49%	15%
Sex ratio, No. of females per 1000 males	2011	946	925
Population density, per sq. km.	2011	205	365
Literacy rate, %	2011	87.22%	82.91%
Main workers, No.	2001	431,330	34,748,053
Marginal workers, No.	2001	119,021	6,425,298
Working age population* as a percentage of total population, %	2001	60%	59%
Work participation rate^, %	2001	45%	42.50%
HDI Index	2000	0.49	0.58

**Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011*

The district has a total workforce of about 8.4 lakh persons. Of this, 49 per cent are cultivators, 30 per cent are agricultural labourers, one per cent is workers in household industry and 20 per cent are other workers.



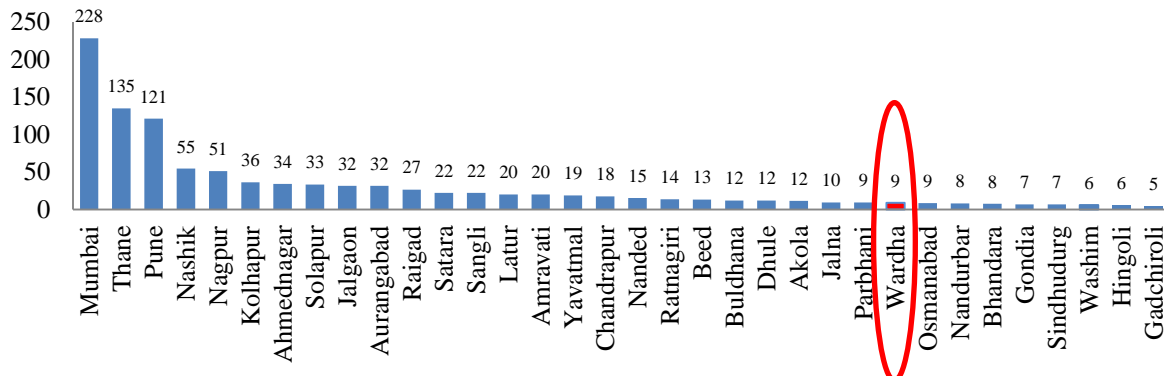
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2010-11, Wardha district had the ninth lowest Gross District Domestic Product (GDDP) in Maharashtra at Rs 9,191 Crore (0.86 per cent of the Gross State Domestic Product). In terms of per capita NDDP though, it ranked 20th amongst all districts at Rs 61,391. This was lower than the State average of Rs 87,686.

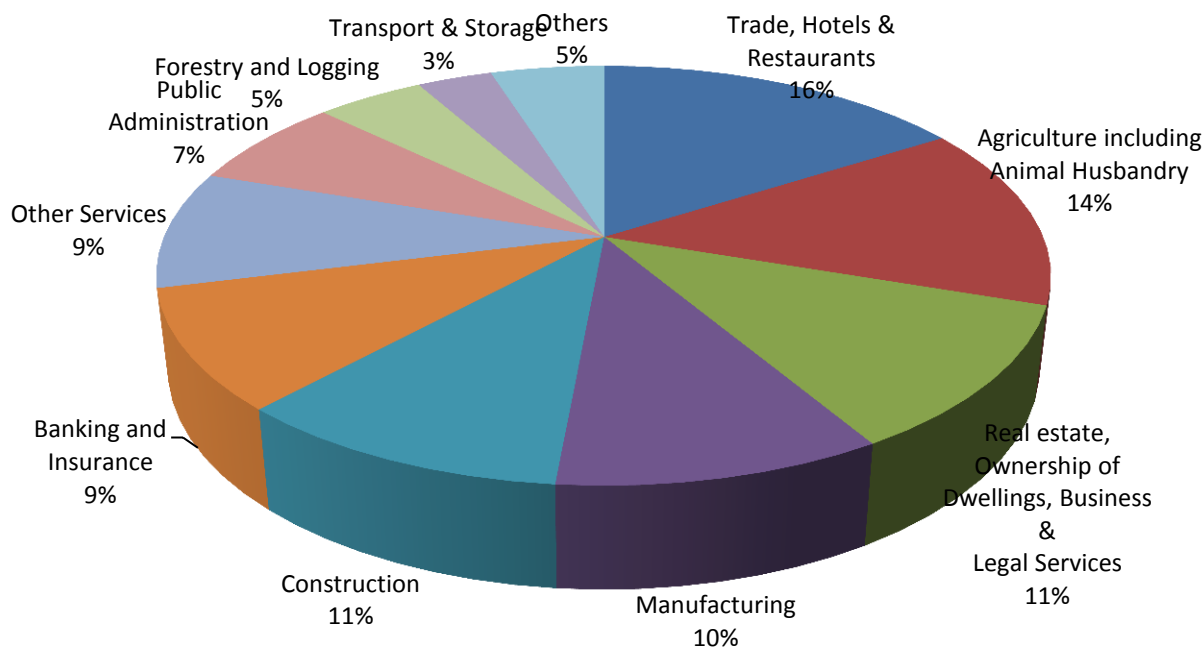
Figure 234: Gross District Domestic Product, in Rs thousand Crore, as of 2010-11



Source: Economic survey of Maharashtra

The district economy is pre-dominantly service based, with service sector's share in GDDP at 58 per cent in 2009-10. This is followed by secondary sector at 23 per cent and primary sector at 19 per cent.

Figure 235: Sector wise distribution of Wardha's GDDP, as of 2009-10, 100% = Rs 5,811 Crore



Source: District Socio Economic Review of Wardha

Agriculture: Of the total area of 628,914 hectares in the district, around 67 per cent is the net sown area (cultivated land). Agriculture is mainly dominated by cultivation of cash crops such as cotton and soyabean. The crops grown in the district include jowar, wheat, pulses, groundnut, sugarcane, etc. Horticulture crops such as orange, lime, etc. are also grown in the district and their production is expected to increase in the future as many farmers are showing interest to grow these horticulture crops.

Industry: As of August 2012, Wardha district had 19 large and medium scale industrial units, employing 10,600 persons. These included companies such as P. V. Textile, Lloyds Steel Industries Limited, Suguna Poultry Farms Ltd, etc. (Refer to **Error! Reference source not found.** the annexures for complete list). and products manufactured included Cotton Yarn, Gray Cloth, Steel, Solvent extraction of Soya bean, etc.

Wardha has 1,574 Micro, Small and Medium Enterprises (MSME), employing 21,605 persons. As of August 2012, the prominent MSME industries in the district were 'Food products and Beverages', 'Textiles', 'Non-metallic Minerals', and 'Rubber and Plastic Materials'. Refer to the table in annexures for complete list of MSME industries and employment details.

Services: As mentioned above, services account for 58 per cent of GDDP in Wardha district for the year 2009-10. Of all the services, the key services in the district are of 'trade, hotels and restaurants' at 16 per cent of GDDP, followed by 'real estate, ownership of dwellings, business and legal services' at 11 per

cent, 'Banking and Insurance' and other services at nine per cent each and 'Public Administration' at seven per cent.

2.3. State of education

As of 2011-12, Wardha district had 1,430 schools. Of this, 56 per cent were primary schools, 25 per cent were upper primary schools and the remaining 19 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 168,272 while the student-teacher ratio was at 24 students per teacher. The student-teacher ratio is better than the State's average which is about 30 students per teacher.

Table 263: School education infrastructure in Wardha district

Particulars	No. of institutes	No. of students
Schools	1,430	168,272
General colleges	47	24,631
Technical education*	30	5,172

Source: District Information System for Education (DISE) 2011-12

For general higher education, the district has 47 general colleges and 30 technical education institutes. For vocational training, Wardha district had a total of 14 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs) as of March 2012. Of these, eight were Government ITIs, and remaining six were private unaided ITIs. All the 14 ITIs together have a seating capacity of 1,930.

Table 264: Key ITI indicators in Wardha district, as of March 2012

Indicator	Value
Total Number of it is	14
Number of Government ITIs	8
Number of Private unaided ITIs	6
Total Seating capacity	1,930

Source: IMAcS Primary Survey

Based on our discussions with the key stakeholders in Wardha district, we have found that on an average, of all the students that pass out from an ITI in each year, only around 40 per cent find jobs in the market. The pass rate is observed to be around 70 per cent and the drop-out rate is around 20 per cent. For details on courses offered by ITIs in Wardha, refer to the table in annexure.

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The government department offer courses in trades such as agriculture, textiles, education, etc. District Industries Centre (DIC) provides training relating to industries and service sector through agencies such as MCED (Maharashtra Centre for Entrepreneurship Development) and MITCON Consultancy and Engineering Services Ltd. Self employment promoting training programs such as mobile repairing, two wheeler repairing, home appliance repairing, etc. are

also conducted through this scheme. Department of Agriculture offers training to farmers through Agricultural Training and Management Agency (ATMA).

The success rate of these training provided by these governmental agencies are observed to be low (below 30 per cent). Based on the discussions with the key stakeholders in the government departments and the trainers, the major reason for low success rate of most of these training programs is observed to be there is a lack of interest among the trainees. Since majority of these programs are sponsor based, most of the trainees attend them to attain the benefits (such as stipend) and do not show any interest to learn and use these training as a career progressive mechanism.

RSETI – Self Employment Training Institutes which is set up under the guidelines of Ministry of Rural Development (and sponsored by the local lead bank) offers self employment training programs to the rural people and has seen good result out of the training. The persons who have undergone training have either been able to set up their own venture (availing loan facilities from bank after completion of the course) or got placed in industries resulting in an income increase through training. The institute receives feedback from the trainees and does a periodical follow up of the position of trainees after the training.

Majority of the private training centres in Wardha district offers computer related courses. Some of the courses offered by them include MS-CIT, C++, Java, DTP, Oracle, Tally, etc. MS-CIT course is preferred among the students/youth in the district as this course is a pre-requisite for getting a government job in the state. The other training areas provided by private training institutes include beauty culture, handicrafts, embroidery and fancy work, tailoring and cutting, etc. For details of training institutes and courses offered, refer to table in annexure.

2.4. Youth aspirations

In the process of identifying the growth engines for the Wardha district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Existing educational infrastructure in the district:** Youth in Wardha believe that the district has adequate educational institutions across various streams including vocational training institutes. Practical exposure is lacking in the training institutes. Quality of courses and teachers is good. Quality of infrastructure needs improvement.
- **Preferred institutes and courses:** Students prefer government ITIs than private because of low fees, better infrastructure and adequate facilities. The important criteria for choosing any trade are the job opportunity for that trade and their interest in a particular field. Some of the students were unable to get their preferred courses due to lack of merit and have taken courses that are available to their scores.
- **Demand for additional training / courses:** Few students along with their main course, pursue additional training courses on computer and typing to increase their job opportunity.

- **Willingness to migrate:** Most of the youth are willing to shift from Wardha if they are offered a job outside the district at a decent salary. Preferred destinations are Aurangabad, Nagpur and Pune.
- **Job preference:** First preference of the students is to work in Government entities. The main perceptions of students to opt for government work are job security, less work and comfortable living. Preferred sectors to work are Automobile and IT. The salary expectation of a ITI trainee after completion of their studies is Rs. 8,000 to 12,000 per month.

3. Developmental concerns

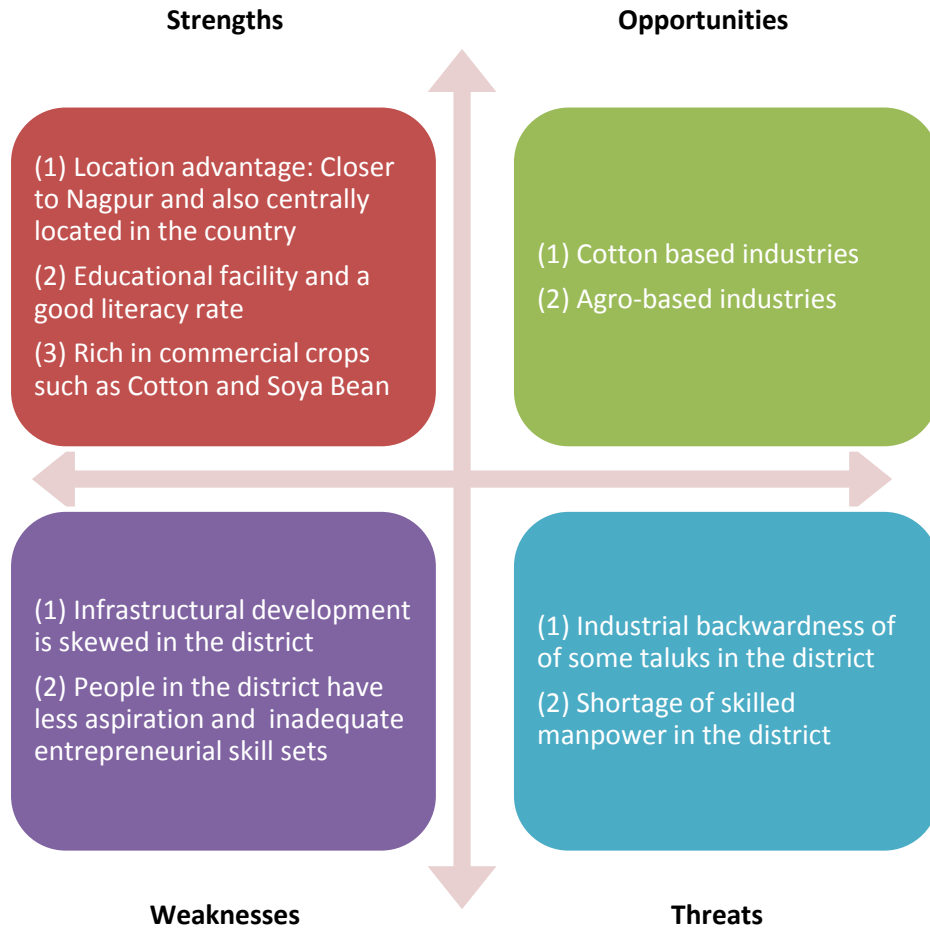
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Industrial backwardness in some taluks of the district:** The distribution of industries in Wardha district is skewed. Taluks such as Wardha, Hinganghat, Seloo and Deoli have industries which provide employment. Also, these taluks have the advantage of situating closer to the Nagpur city which is rich with industrial activities. Other taluks such as Ashti, Karanja and Arvi lacks industrial activities and farming is the major economic activity. They are totally dependent on rainfall and there have been cases of farmer suicides in these taluks when the harvesting fails.
- **Shortage of skilled manpower within the district:** District has inadequate skilled manpower and the industries present in the district are finding difficult to get desired skilled labours within the district. The industries currently recruit unskilled people locally and train them according to the industry requirement and also people from states such as Chhattisgarh, Jharkhand are employed in the industrial units at the worker level.
- **People are less ambitious:** People generally are contented with their life and do not think high to improve their standard of living. People with ambition or entrepreneurial mindset are found to be less in the district.

SWOT analysis

Based on the diagnostics of the Wardha district, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 236: SWOT Analysis of Wardha district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 1.09 lakh persons between 2012 and 2022. Sectors which will drive demand are expected to be agriculture and allied, building, construction and real estate and textile and clothing. Also, in the coming years there will be human resources demand for support sectors such as banking and financial services and education and skill development in align with the district’s economic growth.

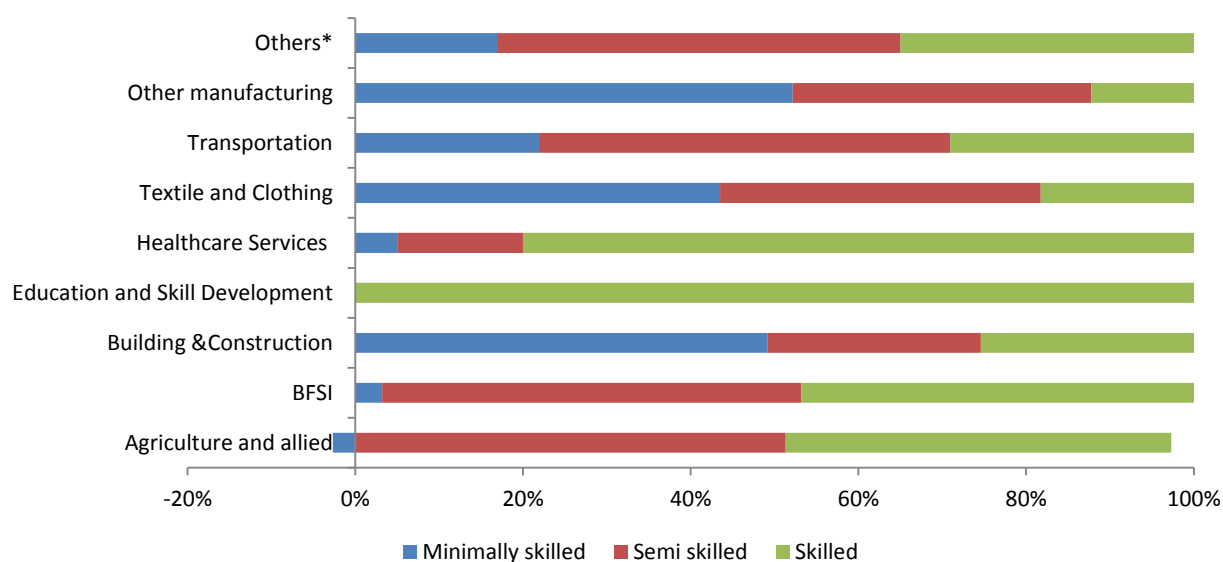
Table 265: Incremental demand of human resources in Wardha – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	9,561	4,872	14,434
BFSI	6,125	9,845	15,970
Building, Construction industry and Real Estate	14,691	20,388	35,079
Education and Skill Development	6,469	2,764	9,233
Healthcare Services	8,166	11,175	19,341
Textile and Clothing	2,320	2,940	5,260
Transportation, Logistics, Warehousing and Packaging	2,680	3,038	5,718
Other manufacturing	1,031	1,697	2,728
Others*	897	1,334	2,231
Total	51,940	58,054	109,994

Source: IMAcS Analysis

*Others include chemicals and pharmaceuticals, Auto and Auto component, Furniture and Furnishings and Tourism, Travel, Hospitality and Trade

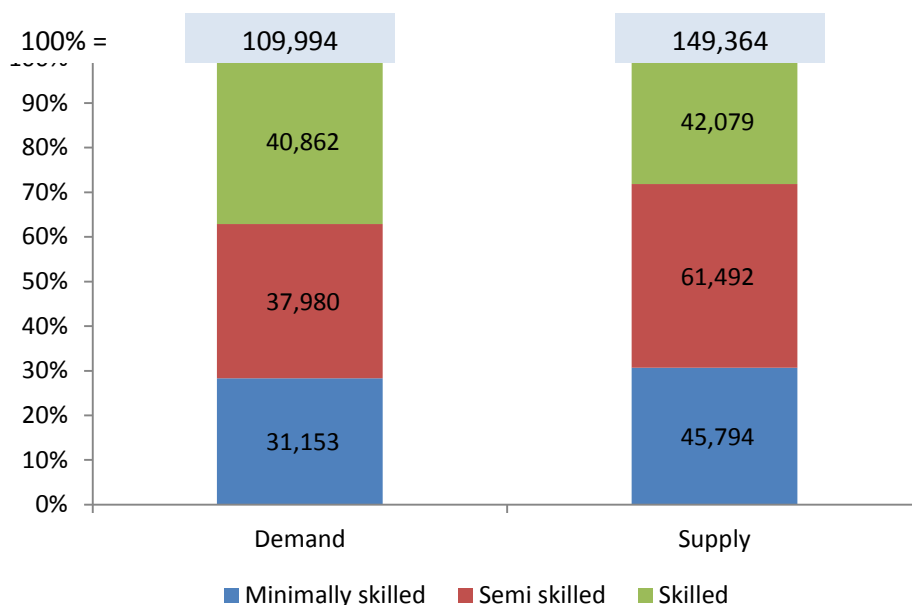
Figure 237: Incremental demand of human resources in Wardha – by skill level



*Others include chemicals and pharmaceuticals, Auto and Auto component, Furniture and Furnishings and Tourism, Travel, Hospitality and Trade

We have estimated incremental supply of human resources in the district at 1.49 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be sufficient to meet the incremental demand in the district. The excess of human resources is likely to migrate to other districts where there is a high demand for workforce.

Figure 238: Demand supply gap of human resources in Wardha – by skill level



Source: IMaCS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on our field surveys in Wardha district, we have found out that sectors where skilling interventions are required are mainly ‘agriculture and allied’, ‘textiles and clothing’ and ‘construction material and building hardware (steel industry)’. In addition, the district also has other manufacturing industries, which do not have significant employment generation potential, but are facing shortage of skilled manpower for functional skills such as electrical, turning etc.

Table 266: Sectors where interventions are required in Wardha district – comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Wardha	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing		

High Growth Sectors identified by NSDC	Wardha	Maharashtra
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMaCS Analysis

5.1. Agriculture and allied activities

Wardha is basically an agricultural district. Around 79 per cent of the total workforce of the district is dependent on agriculture (49 per cent are cultivators and 30 per cent are agricultural labourers). The principle crops in the district are soya bean and pigeon pea. Cotton is the main cash crop grown in the region and cotton cultivation accounts for about one-third of the total cultivated land in the district. Sugarcane cultivation is also increasing in recent years. Horticulture crops such as oranges and banana are also grown in the district.

Farming is a traditional occupation and is carried out through generations. However, there are certain skill gaps found in agriculture and skilling interventions are required in this sector. There are various skill development programs conducted by the Department of Agriculture for the farming community. These training are provided through Agricultural Training management Agency (ATMA). However, there is not great interest shown by the farmers on these training activities as they consider agriculture requires no training and it is a traditional activity. Awareness on importance of training and skilling in agriculture needs to be developed among farmers.

Some of the major skill gaps in the agriculture sector based on our discussions with the stake holders of the district are as follows:

- Most of the farmers do not consider agriculture as a commercial venture and do not adopt scientific methods of farming
- Lack of adequate technical knowledge regarding crop care, and pre & post harvest management
- Inadequate knowledge on post harvesting measures such as logistics, marketing, etc
- Inadequate knowledge on the alternate crops to be grown during off-season
- Lack of awareness about latest technology used in agriculture and inability to adopt technology even if they are aware of it

5.2. Construction materials and building hardware – Steel industry

Wardha district houses for some of the prominent steel industries such as Lloyds steel industries, Uttam Galve metallics and Mahalaxmi TMT pvt ltd. The end products manufactured in these industries include steel and TMT Steel bars. These are large integrated steel plant which does the function of handling raw materials steel making, rolling and shaping.

The district has three large scale steel manufacturing units. Also, in the small scale industrial units (MSME Category), there are about 237 units employing around 4,600 people under ‘other non metallic products’ and ‘fabricated metal products’. Based on our discussions with the stake holders and industry players in the district, there are expansion plans in the existing units and also new industries are expected to open their operation in future. The industry has a good potential for growth and expected to generate employment in the district.

The industry requires skilled human resources in various functions of the steel manufacturing process. The degree of skill requirement also varies according to process. Currently, ‘on the job’ and ‘in house training’ is provided to the employees by the large industries. These training are provided from the top management to the operator level of job roles in the industry. The industry players mentioned that there is a shortage of skilled human resource in the district and training by the industry is important to suit their requirements.

Based on our discussion with the stakeholders, the skill gaps observed in the steel industry are as follows:

- Inadequate knowledge on other support function such as costing, finance, etc. for production manager job role
- Supervisors have inadequate knowledge to prepare various reports (statistics, quality, etc)
- Lack of adequate ability to use various testing methods and testing equipments
- Inability to comply with all the standards and follow them consistently (quality, safety, production, etc)
- Inadequate work culture (absenteeism, casualness in work, etc.) is observed among workers
 - Inadequate industrial safety knowledge

5.3. Textile and Clothing industry

Cotton is the major crop grown in Wardha district. There are many cotton based industries available in the district. The district currently has eight large textile based units with an investment of around Rs. 483 crores and providing permanent employment for around 7,132 people. Majority of the workforce (More than 90 per cent) are from Wardha district. The district also has 83 MSMEs in textiles sector (Micro, Small and Medium Enterprises) with an investment of around 288 crores and providing employment to around 3,134 people in the district

Figure given in annexures explains the value chain of the textile and clothing industry. Within the textile and clothing sector industry, the value chain followed in Wardha district is given (circled) in the same

figure shown in annexures. The district has large units having spinning and weaving process of the textile value chain.

Based on our discussion with industry players in the district, the textile units (spinning and weaving) are unable to get skilled manpower from the district. Training facilities available in the district are inadequate and also the existing training institutes' provide training on courses relating to garments (stitching and tailoring courses) which do not cater to the needs of spinning and weaving units in the district. Therefore, the unit provides various training to fit the employees according to their requirement. Majority of the recruitment happens at the operator/worker level. People recruited at this level are either 8th pass/ 10th pass/ ITI pass or drop outs.

Training practices followed by the industry:

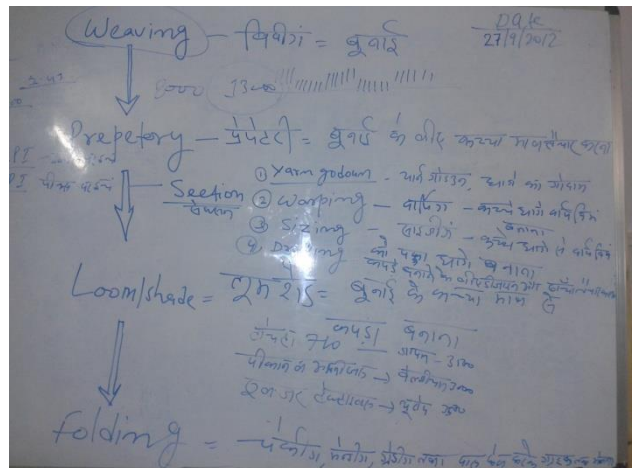
Since the large textile based units in the district are finding hard to recruit skilled manpower locally, the industry provides training for the persons it recruits. These units centrally recruit for spinning and weaving section and after the completion of training; they are then put into any of the mentioned section based on their competency.

Once the people are recruited, they undergo the following training practices in the industry:

- Specific pre requisite tests are conducted which are pertinent to working in a spinning unit (to assess the hand-eye coordination skill) such as rate of manipulation board test, finger dexterity test, etc.
- Theoretical (class room based) training is provided by the trainer on various process in textile value chain
- A written assessment is then conducted to evaluate the trainee
- The trainees are then put into 'on the job' training under a guide (usually an experienced employee)
- Trainee gains practical knowledge during this training period and a final assessment is conducted to test whether the trainee is able to work independently and handle the process
- The entire training process would take place for about 8 to 12 months based on the trainees' capability



Finger dexterity test



Class room based training

Apart from this, these units are also involved in providing specialised training to the employees in spinning, weaving and other textile related processes on areas such as modern process, global trends, advancement in technology, etc. Trainers from reputed organisations such as SITRA (South Indian Textile Research Association) are deployed to train the employees in these specialised courses.

The textile based units in the district are able to source qualified personnel at the level of assistant manager or above. These units face fewer skill gaps in the supervisor and operator/worker level. However, continuous need based training are provided by these units.

Spinning section



Weaving section



Looms



Grey cloth inspection

Based on our discussions with the industry players in the district, the skill gaps observed in the sector are as follows:

- Inadequate people management skills
- Inadequate ability to constantly monitor the workflow (can result to damage in machines and business interruption)
- Inadequate time management
- Inability to adapt to operating modern (advanced) looms in quick time
- Inability to work on different machines

- Other issues include non skill related such as absenteeism, work – related behaviour, non co operation with supervisors, etc,

6. Recommendations

Recommendations for Wardha district focus on agriculture, food processing – rice milling and others (retail and facility management). Some of these sectors will have recommendations for the private sector which will directly translate to skills being developed and the others will need Government intervention to facilitate improvements. Also, as a general concern based on the industry interaction in the district, the technical educational institutes should improve the quality (in terms of infrastructure, practical sessions, industry exposure, etc) to match the industry requirements. Also, new courses are to be designed which should be location-specific in discussion with the key industry players in the district.

While the detailed recommendations follow, summary is given in the table below.

Table 267: Key recommendations for Wardha – summary

Sector	For Government players	For private training providers	For Industry	For NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Sourcing help through departments ▪ Stipend facility to farmer training ▪ Tie up with private training provider 	<ul style="list-style-type: none"> ▪ Modern techniques of farming ▪ Usage of the new equipment ▪ Processing and value addition techniques 	<ul style="list-style-type: none"> ▪ Setting up and usage of common processing facility centres 	Interventions required through funding of private training as well as through SSCs
Construction materials and building hardware – steel industry	<ul style="list-style-type: none"> ▪ ITI to open Boiler attendant courses 	<ul style="list-style-type: none"> ▪ Tie up with existing industries – safety, process related, etc 	<ul style="list-style-type: none"> ▪ Tie up with quality training providers ▪ Infra, field visit and guest lecture support ▪ Content development according to need 	Interventions required through funding of private training as well as through SSCs
Textile and Clothing	<ul style="list-style-type: none"> ▪ Awareness or sourcing / facilities 	<ul style="list-style-type: none"> ▪ Training courses on spinning and weaving ▪ Training content in local language 	<ul style="list-style-type: none"> ▪ Placement ▪ Infrastructure support 	Interventions required through funding of private training as well as through SSCs

6.1. Government players

- ❖ **Agriculture and allied:** Government can facilitate the training program provided in agriculture and allied activities. Some of the ways it can aid the training for agriculture are as follows:
 - It can aid quality training provider by providing subsidy for the training through various skill development scheme
 - Providing stipend to the trainees
 - Help in sourcing trainees through Department of Agriculture
 - Facilitate the training by providing class rooms and infrastructural facilities for training
 - Monitor the performance of training providers and feedback from farmers

Government can also take assistance from Central Institute for Cotton Research (CICR), Nagpur which is established by Indian Council for Agricultural Research (ICAR). It does training,

consultancy and research programs in cotton cultivation. They can aid the training provider by providing Training of Trainers (ToT) programs, updating with latest technology in cultivation, etc. Government can also provide training in allied activities such as poultry, apiculture, etc. through their respective department (animal husbandry). This could add value to the farmers as this would generate additional income to their primary occupation (farming).

- ❖ **Construction material and Building hardware (Steel Industry):** The skilling intervention from the Government in this sector may be minimal as the training requirement is more industry and function specific in nature. Government may provide industry relevant courses such as Boiler attendant in Industrial Training Institutes (ITIs).

- ❖ **Textile and Clothing:** Government can also provide training in this sector through various institutions. There are Government Industrial Training Institutes (ITIs) which provides formal technical training and also vocation training (under Modular Employable Skills (MES)) scheme. Currently, these institutes provide some courses in textile sector such as cutting and sewing, tailoring, dress making, etc. It is to be noted that that majority of the units (textile related) in the district are in spinning and knitting process, whereas the courses provided are for garment units. Therefore, these institutes can provide vocational training in the courses such as:
 - Ginning operator
 - Mixing Operator – Cotton mixing
 - Blow room fitter
 - Card fitter
 - Comber fitter
 - Warper
 - Weaver

The above mentioned are some indicative courses and industry participation is essential in deciding the courses and curriculum for training. There should be a tie up with industries for placement of eligible trainees.

6.2. Private training providers

- ❖ **Agriculture and allied:** Private training centres can provide farming related courses to the farming community in the district. Cotton is the major crop grown in the area and the conditions also suit cotton cultivation in the district. Training can be provided to cotton growers in the district. Some of the areas where training can be provided to farmers are as follows:
 - Cotton production technology
 - Seed production (production of hybrid seeds)
 - Intercropping system
 - Weed management
 - Pest management
 - Production of organic cotton

Private training providers need to coordinate with Government in implementing the training program.

Sourcing of candidates for agriculture related training is observed to be difficult and therefore tie up with Government is crucial for successful implementation of training.

❖ **Construction material and Building hardware (Steel Industry):** Training requirement for steel industries would be process and function specific. Therefore, training providers should involve industries as a part of training. Industry should participate in identification of training needs, course, curriculum, etc. The industry also requires upskilling and supervisory training for existing employees and training can be provided in relevant topics. Some of the specialised training topics for steel industry that can be offered are as follows:

- Total Quality Management (TQM) / Total Production Management (TPM) (for managerial cadre)
- Statistical Process Control (SPC) / Statistical Quality Control (SQC) (for managerial cadre)
- Supervisory skills training (for supervisors)
- Training on industrial safety and safety standards
- Training on machine operation (Furnace, Boiler, Rolling mill, etc)
- Hydraulics training (for maintenance)
- Logistics management

These are function/process specific training and to be provided in tie up with the industries on need basis.

❖ **Textile and Clothing:** Private training centres should provide training according to the local industry requirements. Most of the textile related units in the district are involved in spinning and weaving process. Therefore, appropriate course needs to be designed and delivered to the trainees which could help them to get a job in the local units. There is also a requirement of upskilling training for the existing employees in the industries. So refresher and supervisory development courses may also be provided. Some of the training courses which can be provided in the sector (spinning and weaving) are as follows:

- Certificate programme for spinning operator
- Certificate programme for weaving machine operator
- Refresher training for operators (short term course for experienced operators)
- Supervisory training program (covering aspects such as costing, inventory control, measures to improve productivity and quality, quality check methods, judging performance, maintenance, etc)

Private training providers need to have a tie-up with the local industry players to understand their requirement and provide training accordingly. They can also participate in designing the curriculum of the training as they are much aware about the latest advancement in the sector and the same can be implemented in the training. This would also ensure placement of the trainees as they are trained as per the industrial standards.

Training providers need to register with the NSDC and the relevant Sector Skill Council (SSC) to avail the benefits as a part of skill development initiative. Also, associating with these bodies enhances the recognition of training providers by industries (through certificates provided).

6.3. Industry

- ❖ **Agriculture and allied:** The Department of Agriculture can facilitate the training program provided in agriculture and allied activities. Some of the ways it can aid the training for agriculture are as follows:
 - It can aid quality training provider by providing subsidy for the training through various skill development schemes
 - Providing stipend to the trainees
 - Help in sourcing trainees
 - Facilitate the training by providing class rooms and infrastructural facilities for training
 - Monitor the performance of training providers and feedback from farmers

- ❖ **Construction material and Building hardware (Steel Industry):** Industry needs to play a crucial role in this sector. They need to have a tie up with quality training provider for skilling existing human resource in the industry. They need to participate in designing the course and curriculum for training along with training providers. They need to provide support to training providers such as:
 - Infrastructure facilities (for practical training)
 - Assisting in field visits
 - Support of faculties (through guest lecture – expert from the industry)

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Agriculture and allied
- ❖ Construction materials and building hardware (steel industry)
- ❖ Textiles and Clothing

2.33. Washim

1. Introduction

Washim district is located in the Vidarbha Region of Maharashtra state. The entire district occupies an area of about 4,898 sq km. which is surrounded by Akola, Amravati, Buldhana, Yavatmal and Parbhani districts. The rivers Penganag and Aran pass through this district. The place is famous as a pilgrimage center where devotees believe that Tirupathi's Lord Balaji comes for resting after the crop harvest. The Pohara Devi temple is known as Kashi of the Banjara community. Hemadpanthi temples and numerous ponds have also made the district famous.

Washim is also known to have had 108 Tirthas, holy places or sacred springs, associated with different Gods and sages. The Padma Thirtha is one of the chief Tirthas erected by Lord Vishnu. Agriculture is the primary employment provider in this region. Some of the main crops that are grown in this place include jowar, cotton, bajra, wheat, rice, tur and mango.

Table 268: Comparison of Washim district with Maharashtra – key indicators

Indicator	Year	Washim	Maharashtra
Area, in sq.km.	2001	4,898	307,713
Percentage share in State geographical area, %	2001	1.59%	100%
No. of sub-districts	2011	7	353
No. of inhabited villages	2001	702	41,095
No. of households	2001	200,958	19,576,736
Forest area as a percentage of total geographical area	2001	7.38%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analyzed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Washim district has a population of 11.96 lakh persons – 1.06 per cent of the State population. While 55 per cent of the population in the district is in working-age group (15 to 59 years), about 38 per cent is actually working i.e. work participation rate.

The district's literacy rate is 81.70 per cent, which is slightly lower than the State average of 82.91 per cent but higher than the All-India average of 74 per cent. Male literacy at 86.02 per cent is significantly higher than female literacy rate at 63.32 per cent.

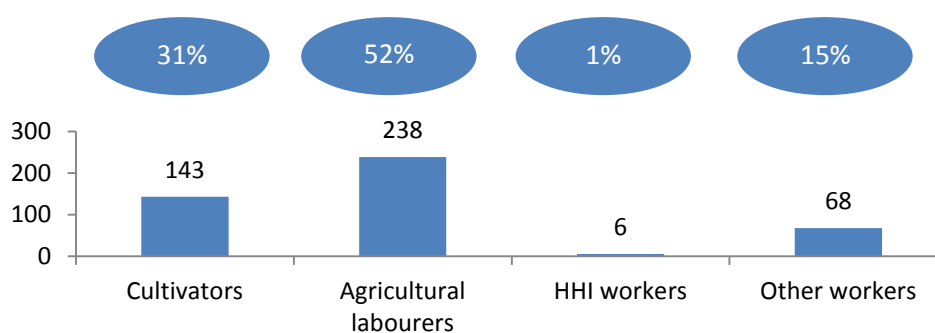
Table 269: Key demographic indicators

Indicator	Year	Washim	Maharashtra
Population, No.	2011	1,196,714	112,372,972
Decadal growth rate of population, %	2001-11	17.23	15.99%
District's share in State's population, %	2011	1.06%	100%
Urban population as a percentage of total population, %	2011	18%	45%
SC population, %	2001	16%	8.79%
ST population, %	2001	7%	15%
Sex ratio, No. of females per 1000 males	2011	926	925
Population density, per sq. km.	2011	244	365
Literacy rate, %	2011	81.70%	82.91%
Main workers, No.	2001	395,651	34,748,053
Marginal workers, No.	2001	59,681	6,425,298
Working age population* as a percentage of total population, %	2001	55%	59%
Work participation rate^, %	2001	38.05%	42.50%

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011

The district has a total workforce of about 4.55 lakh persons. Of this, 31 per cent are cultivators, 52 per cent are agricultural labourers, one per cent are workers in household industry and 15 per cent are other workers.

Figure 239: Washim district's worker profile, as of 2011, in thousands



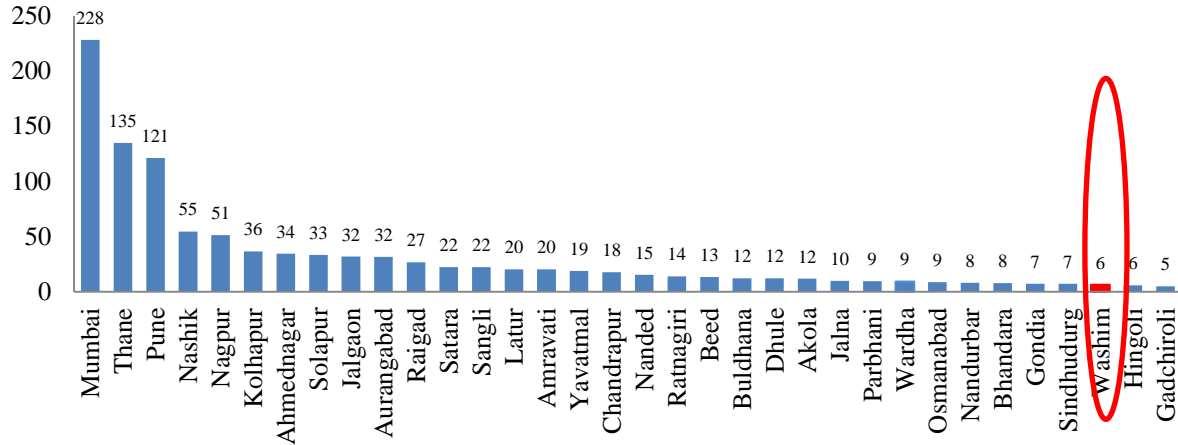
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2011-12, Washim district had Gross District Domestic Product (GDDP) in Maharashtra at Rs 6,238 crore (one per cent of the Gross State Domestic Product). Washim contributes about 1 per cent of the total GSDP in the state and ranks as 33rd out of the total 35 districts in the state.

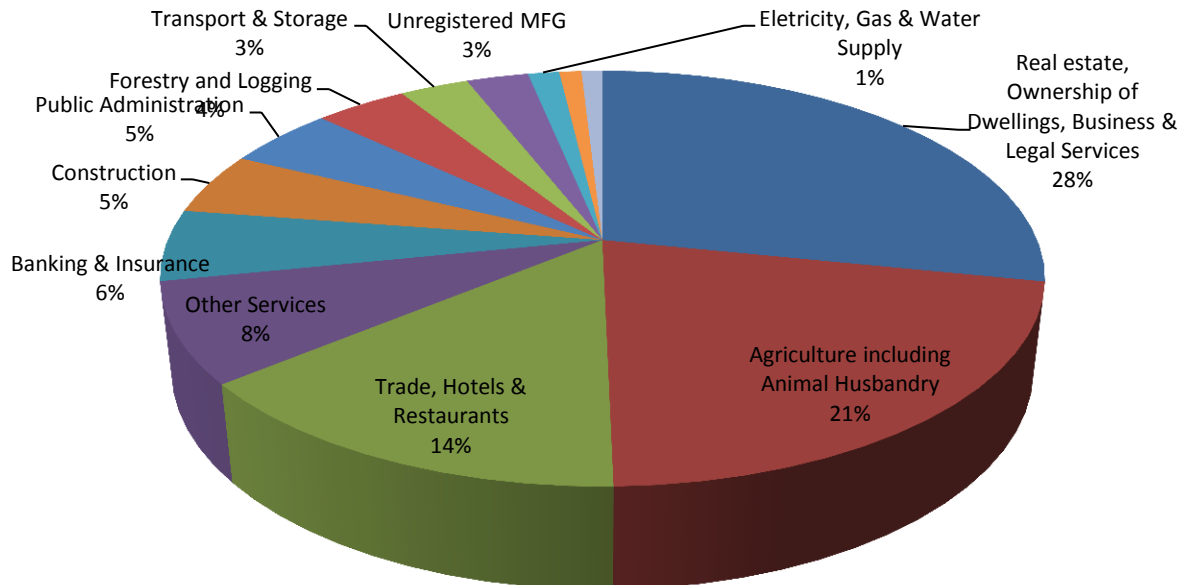
Figure 240: Gross District Domestic Product, Rs 6,238 crores, as of 2010-11



Source: Economic Survey of Maharashtra

The contribution of primary, secondary and tertiary sector has been 25 per cent, 14 per cent and 61 per cent respectively.

Figure 241: Sector wise distribution of Washim's GDDP, as of 2009-10, 100% = Rs 4,902 crore



Source: Directorate of Economics and Statistics, Government of Maharashtra

Agriculture: The District economy is pre dominantly agriculture based with more than 83 per cent of the population dependent on agriculture but their contribution to GDDP is meager 21 per cent. Of the total land in the district 81 per cent comprise of net sown area, 7 per cent are under forest and 6 per cent constitute fallow land.

Both kharif and rabi crops are grown in the district. The main kharif crops are soya bean, cotton, jowar, tur, pulses and oil seeds, whereas wheat, gram, and sunflower are grown during the rabi season. The main non-food crops are cotton and oil-seeds. Live-stock occupies an important place in the agricultural economy of the district and is a valuable asset possession of the farmers. Bullocks, sheep, goats, cows and poultry are the main live-stock.

Industry: The district is industrially backward. The industrial activity is largely confined to agro processing units -- ginning and pressing of cotton, oil mills, and dal mills. As of 31st December 2012, Washim had only few MSMEs and one of them worth noticing is Soya industry which produces crude oil and soya oil. The key reason as to why industrial development is difficult is because of lack of infrastructure like consistent power supply and water supply which leads to huge costs for industries. The road infrastructure also calls for improvement.

Services: As mentioned above, services account for whopping 61 per cent of GDDP in Washim district. Of all the services, the key services in the district are of 'real estate, ownership of dwellings, business and legal services' at 28 per cent of GDDP, followed by trade hotel and restaurants at 14 per cent and banking and insurance at 6 per cent.

2.3.State of Education

As of 2011-12, Washim district had 1,258 schools. Of this, 46 per cent were primary schools, 32 per cent were upper primary schools and the remaining 22 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 196,707 while the student-teacher ratio was high at 32 students per teacher. The student-teacher ratio was slightly high as compared to the average ratio for the State at about 30 students per teacher.

Table 270 : School and higher education infrastructure in Washim district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	1,258	196,707
General colleges	29	13,474
Technical Education*	7	831

Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *Excluding non-AICTE diploma courses

Table 271 : Key ITI indicators in Washim district, as of October 2012

Indicator	Value
Total Number of ITIs	6
Number of Government ITIs	6
Total Seating capacity	1,000

Source: Department of Employment & Self Employment, Government of Maharashtra

In addition to the above, the district has training infrastructure for different trades set up by both Government and private Institutions. The Government Departments offer courses in trades such as automobile, fashion technology, Computer Operator and Programming Assistant (COPA), hair and care scheme, refrigeration anti condition, carpentry and welder. Private institutions offer courses in Information technology , electrical equipment services , computer data entry operator , auto cad , mobile repairing and servicing , pre-school teacher training, garment manufacturing and fashion designing etc.

2.4. Youth Aspiration

In the process of identifying the growth engines for the Washim district, we also held a discussion with a youth group in the district to understand their aspirations. They key points are summarised below:

- **Willingness to pursue higher education:** most of the students want to pursue higher education in government institutions but lack of finance is the biggest impediment.
- **Entrepreneurial zeal:** The youth is not inclined towards starting their own business, as they are highly risk averse. The preference is to go for Government or private jobs only, as they provide a secure source of income.
- **Migration trends:** youth want to work in other flourishing districts like Nagpur, Pune and Aurangabad and not in Washim as there are hardly any jobs.
- **Satisfaction with existing education infrastructure:** Even though there is high preference to study from Government educational institutions, the youth feel that these institutions are not equipped with even the basic infrastructure such as drinking water and working toilets.
- **Job preference:** Youth prefer to work in IT sector which they believe will help them earn good salary and growth in future.

3. Developmental concerns

Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Water Scarcity:** There is a huge water scarcity in Washim. The net irrigated area is 5,500 hectares while rainfed area is 402,200 hectares. This shows a complete dependence on rains for crops. Rainfall has been showing a departure from normal of 90 to 100 per cent in the last five years according to meteorological department. This kind of water scarcity leaves a lot to be desired. Not more than 10 per cent agricultural area is served through irrigation. This creates a

water problem for farmers as they have to depend on rain alone. At the same time the industries are not able to get water for their use.

- **Lack of good educational Infrastructure:** There is a severe lack of educational infrastructure in Washim. The educational infrastructure needs major up gradation. There is no major private engineering college affiliated to AICTE in the district. The students from Washim have to go to nearby districts to study.
- **Lack of skilled people:** Due to lack of educational infrastructure there is severe lack of skilled people in Washim which further discourages industries from any investment. Skilled people are required in every industry and it is prerequisite to develop the district.

SWOT analysis

Based on the diagnostics of the Washim, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented in the figure below.

Figure 242 : SWOT analysis of Washim district



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 48,867 persons between 2012 and 2022. Sectors which will drive demand are expected to be agriculture and allied, BFSI and building, construction and real estate. These are the supporting sectors which will generate demand not just in Washim, but in the entire Maharashtra, as each and every district grows in the next 10 years.

Sectors which are unique to Washim and where skilling interventions will be required are agriculture and allied sectors and soya processing. Based on our primary survey, we found that these sectors, though currently small in size, have high potential to grow, due to availability of raw material in the district. If the sectors are provided thrust by the Government and both public and private investments flow into them, the demand numbers will be much higher than what we have forecasted as of now.

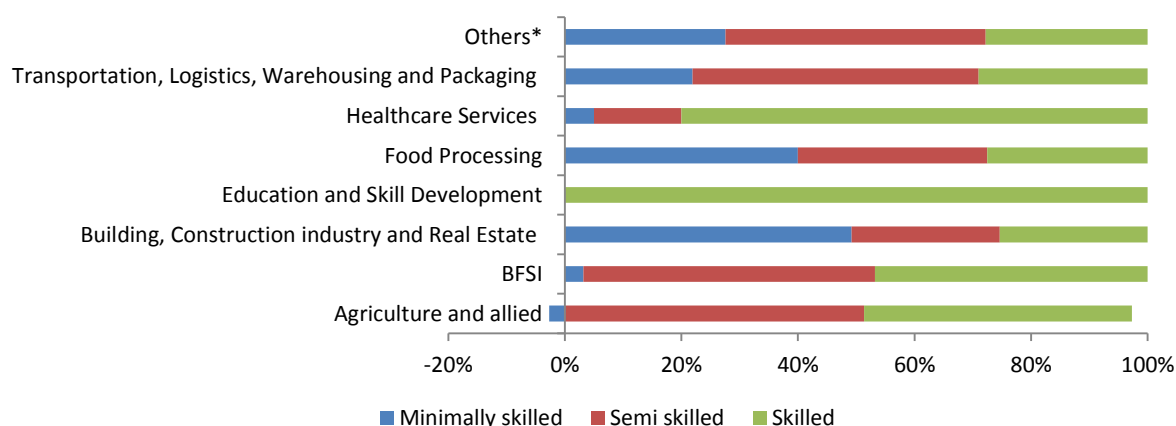
Table 272: Incremental demand of human resources in Washim – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	9,650	4,917	14,567
Banking, Financial Services and Insurance	3,977	6,393	10,370
Building, Construction industry and Real Estate	4,159	5,771	9,930
Education and Skill Development	4,205	2,287	6,491
Healthcare Services	1,089	1,490	2,579
Transportation, Logistics, Warehousing and Packaging	1,158	1,313	2,472
Others*	976	1,483	2,459
Total	25,213	23,654	48,867

Source: IMAcS Analysis

*Other sector include Auto and Auto component, food processing, furniture and furnishings, Textile and Clothing, Tourism, Travel, Hospitality & Trade and Other Manufacturing

Figure 243: Incremental demand of human resources in Washim – by skill level

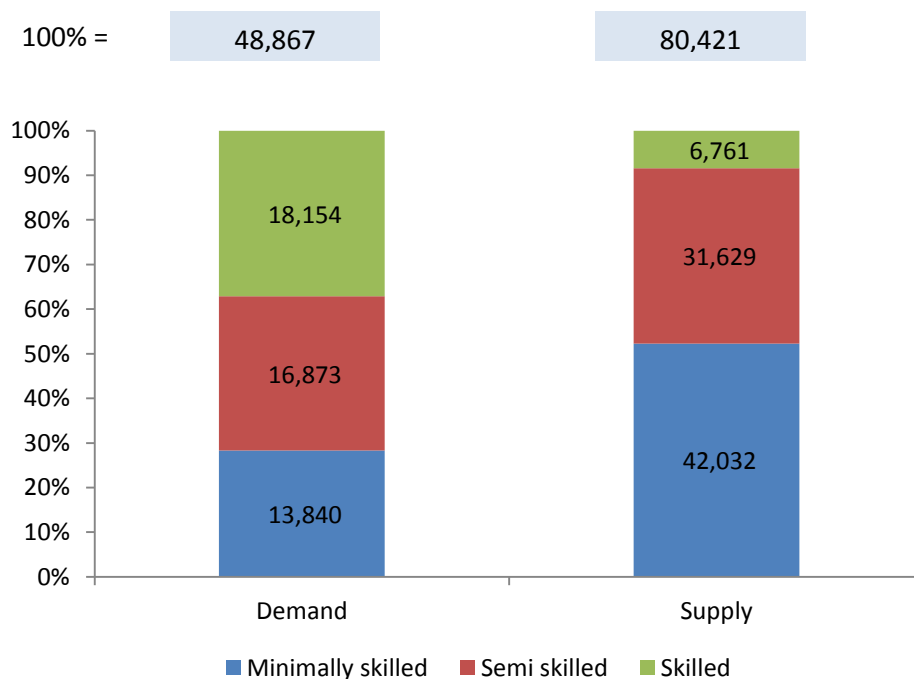


Source: IMAcS Analysis

*Other sector include Auto and Auto component, furniture and furnishings, Textile and Clothing, Tourism, Travel, Hospitality & Trade and Other Manufacturing

We have estimated incremental supply of human resources in the district at 80,421 persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will be more than the incremental demand in the district. Thus, indicating that all the people will not get absorbed in the district and will have to migrate out to other districts / States (as is reflected by current trends also). However, the incremental supply is leaning more towards minimally skilled workers, as against high demand for skilled workers in the district. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward.

Figure 244: Demand supply gap of human resources in Washim – by skill level



Source: IMaCS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on our field surveys in Washim district, we have found out that sectors where skilling interventions are required are mainly agriculture and allied sectors as close to 85 per cent of the population is dependent on agriculture based industries. In addition, food processing has high future potential, if right investments flow into the sector in the district.

Table 273 : Sectors where interventions are required in Washim– comparison with Maharashtra
(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Washim	Maharashtra
Agriculture		
Auto and Auto component		

High Growth Sectors identified by NSDC	Washim	Maharashtra
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing – Soya processing		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMAcS Analysis

The shortlisted sectors are at different stages of development and market evolution. Based on that, each one of them has separate skill requirements. While some require only skill up-gradation, some require new skills and even speciality skills.

5.1. Agriculture

More than 80 per cent of total working population in Washim depends on agriculture for livelihood (Cultivators: 31 per cent and agriculture labourers: 52 per cent) and only one per cent of labour is engaged in industrial activities.

Soyabean occupies the maximum cultivable area of 240,000 hectare with tur being the second highest of 60,000 hectare and cotton just slight behind with 50,000 hectare. The farmers are slowly moving towards cotton from other crops as they see a greater potential for income in the same.

Based on our stakeholders' discussions, we have found out the following skill gaps which are faced by the farmers in the district:

- Lack the ability to use the latest technology
- Unable to use the most productive seeds and machinery due to lack of knowledge and finance
- Unaware of the different uses for a crop

5.2. Food processing - Soyabean

Washim has 40 per cent of the cultivable land for soyabean production. It has one solvent plant to extract soyabean oil. This plant is of Ruchi Soya which happens to be a listed company in India with two more plants in different parts of Maharashtra. Washim has not been able to attract other plants of similar nature because of lack of infrastructure. Only presence of raw materials is not enough for the industries to set up plants as the proximity of raw material is negated by the lack of infrastructure.

Based on our stakeholders' discussions, we have found out the following skill gaps which are faced by the sector in the district:

- People with these kind of skill-set do not prefer to stay in Washim and work. They prefer to move to nearby hubs like Pune, Nagpur and Aurangabad.
- People with basic skills are available but donot have any work ethic and absentees are very high.
- Workers remain absent and sometimes come back after a month once they get their salary

6. Recommendations

Washim is one of the most backward districts of Maharashtra and approximately 83 per cent of the population is dependent on agriculture as a source of livelihood. Therefore, our recommendations focus on agriculture and allied activities.

Table 274 : Key recommendations for Washim District

Sector	Government	Private training providers	Industry	NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Provide training in modern techniques used in cultivation for increasing farm productivity ▪ Train in allied activities 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a
Food processing - Soya	<ul style="list-style-type: none"> ▪ Subsidised training in conjunction with the industry 	<ul style="list-style-type: none"> ▪ Training in soya oil extraction 	<ul style="list-style-type: none"> ▪ Training in collaboration with Government and private training providers 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs

6.1. Government

- **Agriculture and allied;** The Department of Agriculture needs to conduct camps to make farmers aware of various schemes run by it and empower farmers with the following objective.
- Training on Increasing seed replacement rate
- Training on increasing fertiliser use efficiency through soil testing, efficiency of inputs etc.
- Training on plant protection thought integrated pest management
- Training on allied activities such as dairy, poultry, pottery, honey making, small arts and crafts etc.

- ❖ **Food Processing – Soya;** The Government can facilitate training in this area by way of providing subsidies to the private training providers / industry for capacity building. Initial seed capital or infrastructure can also be provided for conducting training programmes.

6.2. Private training providers

- ❖ **Food Processing – Soya;** Training can be provided for soyabean oil extraction. The same can be achieved in direct collaboration with industry and assistance from the Government for the same.

6.3. Industry

- ❖ **Food Processing – Soya;** Industry needs to collaborate with both Government and private training providers for capacity building of its personnel in this area in the district.

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Food Processing – Soya

2.34. Yavatmal

1. Introduction

Yavatmal is known as the cotton city, as it is one of the major cotton growing districts of Maharashtra. About half of the gross cropped area in the district is under cotton cultivation. It is a key cash crop of the district. Major business establishments include Raymonds factory which produces special fibre for jeans. The district is divided into 17 tehsils and 16 panchayat samities.

Table 275: Comparison of Yavatmal district with Maharashtra – key indicators

Indicator	Year	Yavatmal	Maharashtra
Area, in sq.km.	2001	13,582	307,713
Percentage share in State geographical area, %	2001	4.41%	100%
No. of sub-districts	2011	17	353
No. of inhabited villages	2001	1,856	41,095
No. of households	2001	518,214	19,576,736
Forest area as a percentage of total geographical area	2001	20%	16.94%

Source: Census 2001, Census 2011

2. Socio-economic profile

In this section, we have analyzed the socio-economic profile of the district and made a few comparisons with the State average as well. The key sub-sections are demography, economy and status of education.

2.1. Demography

As per Census 2011, Yavatmal district has a population of 27.75 lakh persons: 2.47 per cent of the State population. While 57 per cent of the population in the district is in working-age group (15 to 59 years), about 40 per cent is actually working i.e. work participation rate. This rate is slightly lower than the State average of 42.50 per cent people. The district's literacy rate is 80.70 per cent, which is lower than the State average of 82.91 per cent and much higher than the All-India average of 74 per cent.

Table 276: Key demographic indicators

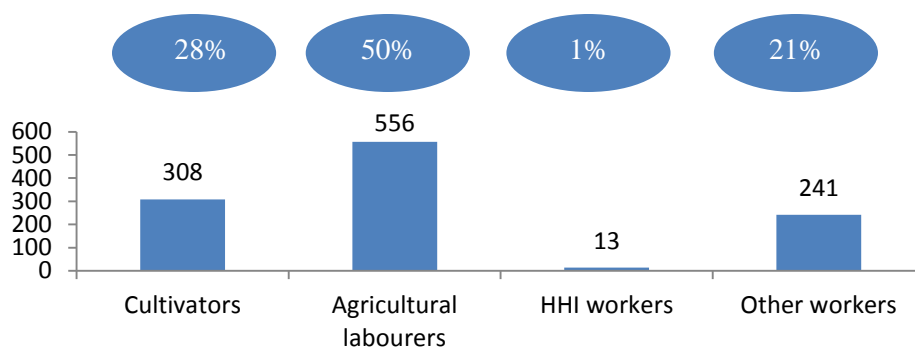
Indicator	Year	Yavatmal	Maharashtra
Population, No.	2011	2,775,457	112,372,972
Decadal growth rate of population, %	2001-11	12.90	15.99%
District's share in State's population, %	2011	2.47%	100%
Urban population as a percentage of total population, %	2011	22%	45%
SC population, %	2001	10%	8.79%
ST population, %	2001	19%	15%
Sex ratio, No. of females per 1000 males	2011	947	925
Population density, per sq. km.	2011	204	365

Indicator	Year	Yavatmal	Maharashtra
Literacy rate, %	2011	80.70%	82.91%
Main workers, No.	2001	949,453	34,748,053
Marginal workers, No.	2001	169,484	6,425,298
Working age population* as a percentage of total population, %	2001	57%	59%
Work participation rate^, %	2001	40%	42.50%

*Working age population is the population in the age-group of 15 to 59 years. ^ Work participation rate is defined as the percentage of total workers (main and marginal workers) to total population. Source: Census 2001, Census 2011

The district has a total workforce of about 11.18 lakh persons. Of this, 28 per cent are cultivators, 50 per cent are agricultural labourers, one per cent is workers in household industry and 21 per cent are other workers.

Figure 245: Yavatmal district's worker profile, as of 2011, in thousands



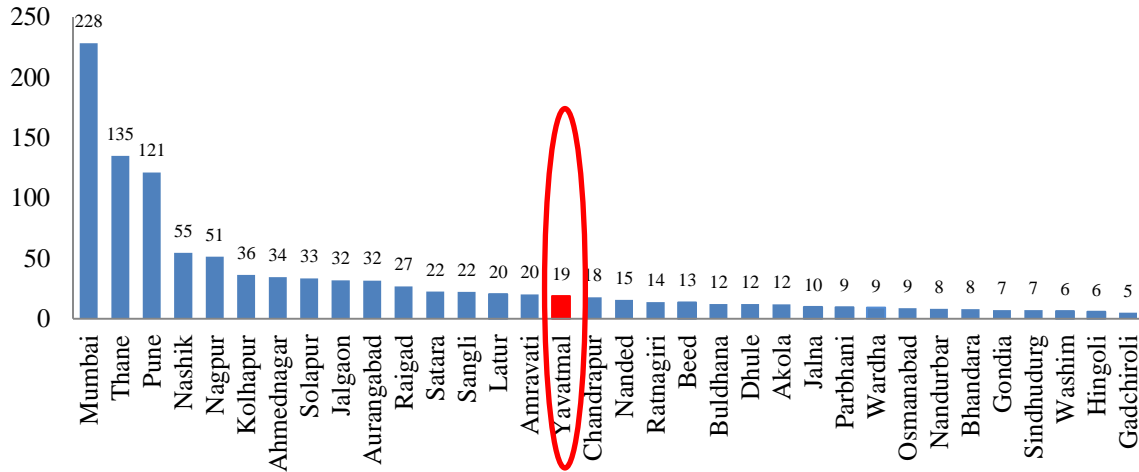
HHI: Household Industry

Source: Census 2001, Census 2011. Numbers are estimated.

2.2. Economy

As of 2011-12, Yavatmal district had Gross District Domestic Product (GDDP) in Maharashtra at Rs 18,859 crore (2 per cent of the Gross State Domestic Product). Yavatmal ranks as 16th out of the total 35 districts in the state.

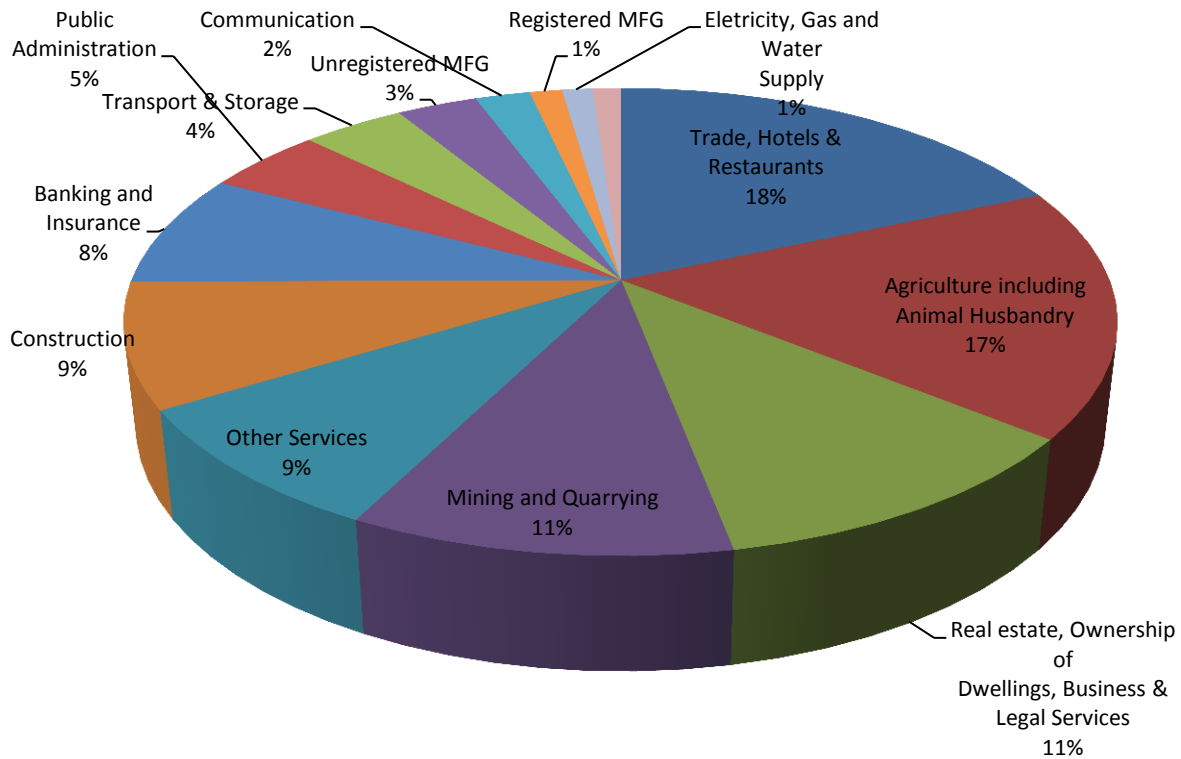
Figure 246: Gross District Domestic Product, In Rs 18,859 crores, as of 2011-12



Source: Economic Survey of Maharashtra

Primary sector contributed 29 per cent while secondary sector contributed 18 per cent and tertiary sector contributed the highest to the GDP of the district with 53 per cent.

Figure 247: Sector wise distribution of Yavatmal's GDDP, As of 2009-10



Source: Directorate of Economics and Statistics, Government of Maharashtra

Agriculture: Yavatmal is primarily an agrarian district where agriculture and allied activities provides means of livelihood to 78 per cent of the population. This is a district where more than two third of the population depend on agriculture directly or indirectly. Jowar, Cotton, Groundnut and rice are the major kharif crops. Wheat, gram, sesame and linseed are the major rabbi crops grown. Apart from these there are other types of crops which are irrigated. Sugarcane, banana, oranges, grapes and betel leave are few important irrigated crops grown in the district.

Industry: The maximum number of people is employed in manufacturing of food products and beverages followed by textiles. Yavatmal is known as the cotton city and has one denim manufacturing plant by Raymond. As per Ministry of MSME of Government of India, 69 medium and large scale enterprises are proposed to be set up in the district with an investment of Rs. 2,000 crores and employment 12000. A couple of key proposed industrial units include Reliance Cement Pvt Ltd. and AMR Iron and Steel Pvt. Ltd.

Services: If we add all the services as mentioned in the pie chart it will account for 53 per cent of GDDP in Yavatmal district. Of all the services, the key services in the district are of 'Trade, Hotels and Restaurants' accounting for 18 per cent followed by 'real estate, ownership of dwellings, business and legal services' accounting for 11 per cent

2.3.State of Education

As of 2011-12, Yavatmal district had 3,388 schools. Of this, 41 per cent were primary schools, 40 per cent were upper primary schools and the remaining 19 per cent were secondary and higher secondary schools. Total student enrolment in all the schools was 429,915 while the student-teacher ratio was high at 28 students per teacher. The student-teacher ratio was lower than the average ratio for the State at about 30 students per teacher.

Table 277 : School and higher education infrastructure in Yavatmal district, as of 2011-12

Particulars	No. of institutes	No. of students
Schools	3,388	429,915
General colleges	62	26,092
Technical institutes*	51	8,048

*Source: Directorate of Higher Education, Pune; Directorate of Technical Education; Mumbai; *excluding non-AICTE diploma courses*

Table 278 : Key ITI indicators in Yavatmal district, as of October 2012

Indicator	Value
Total Number of ITIs	22
Number of Government ITIs	18
Number of Private ITIs	4
Total Seating capacity	4452

Source: Department of Employment & Self Employment, Government of Maharashtra

In addition to the above, the district has training infrastructure for different trades set up by both Government and Private Institutions. The Government Departments offer courses in multiple trades some of which are welder, carpenter, plumber, auto (centre of excellence), mason, wireman, cutting and sewing, hair and skin care, mechanic tractor, information technology etc. Private ITI offer courses in trades like welder, computerised operator programming assistant, welder, dress making, horticulture, and fashion technology, driver cum mechanic, plumber, and electrician.

2.4. Youth Aspiration

In the process of identifying the growth engines for the Yavatmal district, we also held a discussion with a youth group in the district to understand their aspirations. Their key points are summarised below:

- **Willingness to pursue higher education:** Based on our discussion most of the youth want to pursue higher education. They believe that the job prospects would be better but are constrained by finances.
- **Entrepreneurial zeal:** The youth is not inclined towards starting their own business, as they are highly risk averse. The preference is to go for Government or private jobs only, as they provide a secure source of income. Based on our discussion only one to two per cent of the students want to start something of their own.
- **Migration trends:** students come from the same district to study in Yavatmal. Job preference includes preference for government jobs in an industrialized place like Nagpur or Amravati.
- **Satisfaction with existing education infrastructure:** Even though there is high preference to study from Government educational institutions, the youth feel that these institutions are not equipped with even the basic infrastructure such as consistent power supply, drinking water and well maintained toilets.
- **Demand for additional training / courses:** Youth feel that Information Technology is the upcoming field and they would prefer to study the same so as to get lucrative job opportunities.

3. Developmental concerns

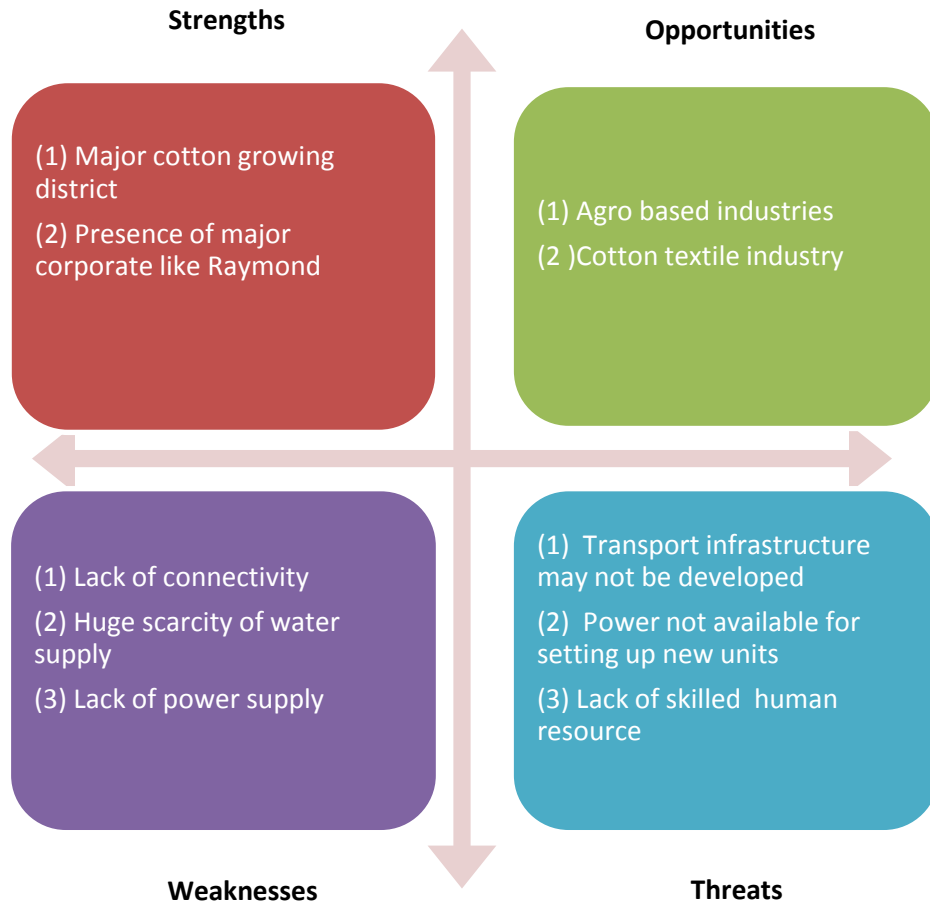
Based on our primary survey and discussions with the key stakeholders in the district, we have identified the following issues and challenges for the district:

- **Lacking in entrepreneurship spirit:** Most of the students are risk averse and not willing to start a company of their own. They don't have any course on entrepreneurship skill development and therefore lack the qualities required for starting a company. Qualities like pro-activeness, ability to lead are missing in the students.
- **Lack of Connectivity:** The single biggest impediment to development of Yavatmal is connectivity to the district. There is no rail or air connectivity to the district. The district is cut off from the other areas of economic activity like Pune or Mumbai.

SWOT analysis

Based on the diagnostics of the Yavatmal, we have prepared a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, which is presented below.

Figure 248 : SWOT Analysis of Yavatmal District



4. Employment Potential

In this section, we have forecasted the demand and supply of human resources in the district for the next ten years (2012-22). The demand forecasts show that the district is likely to generate demand / jobs for about 1.60 lakh persons between 2012 and 2022. Sectors which are likely to generate maximum jobs in the district are building, construction and real estate, agriculture and allied, BFSI, education and skill development and healthcare services. These are the supporting sectors which will generate demand not just in Yavatmal, but in the entire Maharashtra, as each and every district grows in the next 10 years. Sectors which are unique to Yavatmal and where skilling interventions will be required are agriculture and allied, food processed and textile and clothing. Based on our primary survey, we found that these sectors, though currently small in size, have high potential to grow, due to availability of raw material in the district. If the sectors are provided thrust by the Government and both public and private

investments flow into them, the demand numbers will be much higher than what we have forecasted as of now.

Table 279: Incremental demand of human resources in Yavatmal – by sector

Sector	2012-17	2018-22	2012-22
Agriculture and allied	21,870	11,145	33,015
Banking, Financial Services and Insurance	9,624	15,471	25,095
Building, Construction industry and Real Estate	20,730	28,769	49,499
Education and Skill Development	11,439	5,398	16,836
Food Processing	1,016	1,311	2,327
Healthcare Services	4,615	6,316	10,932
Textile and Clothing	322	408	730
Transportation, Logistics, Warehousing and Packaging	3,624	4,109	7,733
Tourism, Travel, Hospitality & Trade	3,875	5,642	9,517
Other manufacturing	1,233	2,030	3,263
Others	571	878	1,449
Total	78,920	81,477	160,397

Source: IMAcS Analysis

*Other sector include Auto and Auto component, chemicals and pharmaceuticals and furniture and furnishings

Figure 249: Incremental demand of human resources in Yavatmal – by skill level

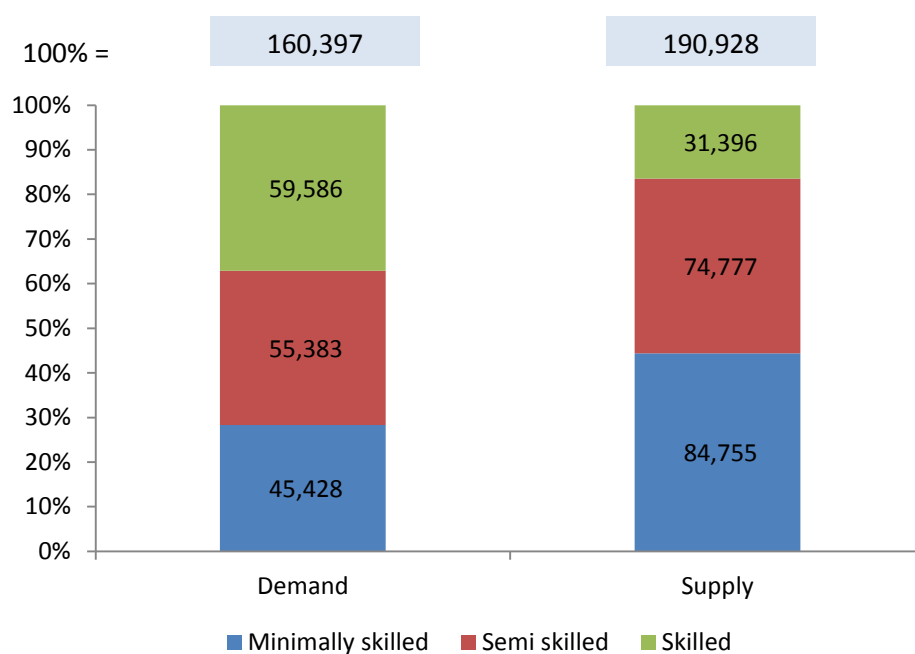


Source: IMAcS Analysis

*Other sector include Auto and Auto component, chemicals and pharmaceuticals and furniture and furnishings

We have estimated incremental supply of human resources in the district at 1.90 lakh persons for the period 2012-22. Based on the incremental demand estimates, we find that the incremental supply will

be more than the incremental demand in the district. Thus, indicating that all the people will not get absorbed in the district and will have to migrate out to other districts / States (as is reflected by current trends also). However, the incremental supply is leaning more towards minimally skilled workers, as against high demand for skilled workers in the district. Thus, indicating that significant skilling and up-skilling efforts are required in the district to meet the demand of skilled personnel going forward. All the stakeholders need to work in conjunction to meet the skill shortage in the district.



Source: IMAcS Analysis

Note: The supply numbers do not include migrant data and includes local supply alone. For analysis on migrant data, please refer to the State profile.

5. Skill mapping

Based on our field surveys in Yavatmal district, we have found out that sectors where skilling interventions are required are agriculture and allied sectors as more than 75 per cent of the population is dependent on agriculture and service based industries.

Table 280 : Sectors where interventions are required in Yavatmal– comparison with Maharashtra

(Sectors highlighted in green are the sectors present in the district / state)

High Growth Sectors identified by NSDC	Yavatmal	Maharashtra
Agriculture		
Auto and Auto component		
Banking and Financial Services Insurance		
Building, Construction industry and Real Estate services		
Chemicals & Pharmaceuticals		
Construction Materials and Building Hardware		

High Growth Sectors identified by NSDC	Yavatmal	Maharashtra
Education and Skill Development Services		
Electronics and IT hardware		
Food Processing – Manufacture of food products		
Furniture and Furnishings		
Gems and Jewellery		
Healthcare Services		
IT & ITES		
Leather and Leather goods		
Media and Entertainment		
Organised Retail		
Textile and Clothing – Cotton Ginning and Spinning		
Textile and Clothing – Cotton Textile		
Transportation, Logistics, Warehousing and Packaging		
Tourism, Travel, Hospitality & Trade		
Unorganised sector		

Source: IMAcS Analysis

The shortlisted sectors are at different stages of development and market evolution. Based on that, each one of them has separate skill requirements. While some require only skill up-gradation, some require new skills and even speciality skills.

5.1. Agriculture and allied

During the kharif season major crops which are cultivated are cotton, soybean, pigeon pea, sorghum, green gram and black gram. Cotton is grown on 46 per cent of the cultivable area while soybean is grown on 32 per cent. Due to high concentration on cotton, Yavatmal is referred to as the cotton city. In allied activities, pottery is famous in the district. There is also a Pottery cluster at Bori arab , darvha. In addition, there is a lime cluster in the district, which exists at Rajur vani.

Based on our discussion with the stakeholder’s we found out that the farmer’s;

- Unable to use the latest production techniques due to lack of knowledge.
- Unaware of the different uses for a crop.
- Unable to use the most advanced machinery because of lack of knowledge about their capability to increase productivity and lack of finance.

5.2. Textile and Clothing – Cotton Ginning and Pressing

There is Cotton Ginning and pressing cluster at Nilapur and Lalguda. There is a huge potential for these kinds of industries in the marathwada region. The raw material for cotton ginning industry is readily available and there is also a big textile plant of Raymond where cotton can be supplied after the process. There is also a cluster for cotton ginning and pressing at Nilapur and Lalguda.

Based on our stakeholder’s discussion we found that;

- Workers are not disciplined and once they get their wages, they tend to be absent for long periods.
- There is a genuine skill gap when it comes to operating machines and it is difficult to find people with the required skillset.

5.3. Food Products – Manufacture of food products

There are 344 enterprises in manufacture of food products employing 3492 people. This is one of the employment intensive sectors in yavatmal and therefore cannot be ignored by the government.

Based on our discussion with the stakeholder’s we found out that;

- It is difficult to find experienced people for this profile.
- There is a dearth of people who have the requisite skill sets.

6. Recommendations

The summarised recommendations for the district are provided in the table below, while the detailed recommendations follow.

Table 281 : Key Recommendations for Yavatmal District

Sector	Government	Private training providers	Industry	NSDC
Agriculture and allied	<ul style="list-style-type: none"> ▪ Special training programmes for the tribals 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ n/a
Textiles and clothing – cotton ginning	<ul style="list-style-type: none"> ▪ Assistance by way of providing infrastructure for the training programs ▪ Cluster based training approach can be used to utilize the resources economically. 	<ul style="list-style-type: none"> ▪ Collaborate with industry to provide training ▪ The training can be subsidized by the government 	<ul style="list-style-type: none"> ▪ Focus on capacity building in collaboration with Government and private training providers 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs
Food processing	<ul style="list-style-type: none"> ▪ Assistance by way of holding training programs and also by providing incentives to private training providers 	<ul style="list-style-type: none"> ▪ Collaborate with industry to provide training 	<ul style="list-style-type: none"> ▪ Focus on capacity building in collaboration with Government and private training providers 	<ul style="list-style-type: none"> ▪ Interventions required through funding of private training as well as through SSCs

6.1. Government

- ❖ **Agriculture and allied;** The Department of Agriculture needs to focus on making the tribals self-employed. For this the department can skill them in the following allied activities (list in indicative):
 - Diversified farming which includes horticulture, dairy and animal husbandry
 - Pottery
 - Lime
 - Bee- keeping, honey extraction and processing

- ❖ **Textiles and clothing - Cotton ginning;** There needs to be increased focus of the Government on this sector as this is an employment incentive sector.
 - It can establish training institutes in collaboration with NSDC and industry. Industry can bring the latest technology while the Government can give the land and building.
 - It must also incorporate special courses in ITI focussed on textile sector.
 - Promotion of cluster training programmes
- ❖ **Food processing;** Government needs to customize training in collaboration with NSDC for marginal workers in the food processing industry. It can also assist private training programmes by way of providing subsidies / seed capital / providing infrastructure for holding training programmes.

6.2. Private training providers

- ❖ **Textiles and clothing - Cotton ginning;** Collaborate with industry to provide training. The training can be subsidised by the Government as the same will be helpful in getting people placed in the industry.
- ❖ **Food processing;** Collaborate with industry to provide training. The training can be subsidized by the government as the same will be helpful in getting people placed in the industry. The training could be in food processing sector like making of pickles, soya bean processing etc.

6.3. Industry

- ❖ **Textiles and clothing - Cotton ginning and food processing;** Focus on capacity building in collaboration with Government and private training providers

6.4. NSDC

NSDC can focus on the following sectors in the district through funding private training programs as well as through the Sector Skill Councils (SSCs):

- ❖ Agriculture and allied
- ❖ Textiles and clothing - Cotton ginning
- ❖ Food processing – soyabean processing

This report has been prepared by **ICRA Management Consulting Services Limited (IMaCS)**.

IMaCS is a multi-line management and development consulting firm headquartered in India. It has an established track record of over 15 years in consulting across various sectors and countries. IMaCS has completed over 950 consulting assignments and has worked in over 30 countries across the globe.

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