Skilling for the Future

Skill Gap Assessment & Action Plan for Tamil Nadu

District Skill Development Plan for Chennai

November 2019

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List of Abbreviations

S.No	Abbreviation	Expanded Form
1.	BFSI	Banking, Financial Services and Insurance Sector
2.	CIFT	Central Institute for Footwear Technology
3.	CIPET	Central Institute for Plastic Engineering and Technology
4.	COE	Centre of Excellence
5.	DDU-SKY	Deen Dayal Upadhyaya Grameen Kaushalya Yojana
6.	DES	Directorate of Economics and Statistics
7.	DIC	District Industries Centre
8.	DISE	District Information System For Education
9.	GDDP	Gross District Domestic Product
10.	GoTN	Government of Tamil Nadu
11.	GSDP	Gross State Domestic Product
12.	GVA / GSVA	Gross Value Added / Gross State Value Added
13.	HCSSC	Handicrafts and Carpet Sector Skill Council
14.	ITI	Industrial Training Institute
15.	IT-ITES	Information Technology and Information Technology Enabled Services
16.	LFPR	Labour Force Participation Rate
17.	Manuf.	Manufacturing
18.	NEET	Not in Education, Employment, or Training
19.	NSDC	National Skill Development Corporation
20.	NSQF	National Skills Qualification Framework
21.	PMKVY	Pradhan Mantri Kaushal Vikas Yojana
22.	PSU	Public Sector Undertaking
23.	Pub. Admin.	Public Administration
24.	QP-NOS	Qualification Pack – National Occupational Standards
25.	SIDCO	Small Industries Development Corporations
26.	SIPCOT	State Industries Promotion Corporation of Tamil Nadu
27.	SIPPO	Small Industries Product Promotion Organization
28.	SSC	Sector Skill Council
29.	TASMA	Tamil Nadu Spinning Mills Association
30.	TN-GIM	Tamil Nadu Global Investors Meet
31.	TNSDC	Tamil Nadu Skill Development Corporation
32.	TNSRLM	Tamil Nadu State Rural Livelihood Mission
33.	Tr. & Tou.	Trade and Tourism Sectors

Executive Summary

Background: The Vision 2023 of Tamil Nadu envisages shaping its future by empowering the youth in the State, through imparting market relevant skill training; to become responsible and participating citizens who drive a new era of development, growth, and productivity. Tamil Nadu has formulated a State Youth Policy, which aims at reinforcing and accomplishing the broader objectives of 'Vision Tamil Nadu 2023'. The policy focuses on upgrading the human capital of the State by building on the intellectual and creative potential of youth in various fields, thereby transforming Tamil Nadu into the innovation hub and knowledge capital of India. It also aims at enabling Tamil Nadu to collaborate with other States in the country and the rest of the world on multiple dimensions: increasing the flow of workforce and goods/services, enhancing the levels of exchange of ideas and culture, and facilitating the movement of people to and from Tamil Nadu for opportunities. To attain this objective the State envisages training and skilling of 20 million persons by 2023[1].

Tamil Nadu currently has the highest Gross Enrolment Ratio in Higher Education (48.6)[2], among all the States in India. The State faces a mandate of developing and maintaining high quality human resources to deal with the evolving economy, and ensuring social justice in the form of decent employment for its educated populace. Thus, it is essential to carefully analyse the industry demand, investment patterns, youth aspirations and re-align policy/ programmatic initiatives in that direction. Thus, taking youth aspiration and industry growth potential is critical to be able to avoid labour demand-supply mismatch, and support overall development of the State.

Context for Present Study: In 2012, The National Skill Development Corporation commissioned a skill gap study for Tamil Nadu. The study covered 12 Districts; based on which an extrapolation was done for the remaining districts. The study adopted a mix of secondary and primary research and relied largely on focus group discussions with various stakeholder groups such as youth, employers, industry associations, government officials, and skill training providers. The study estimated Skill gap for a period of 10 years, up to FY 2022. Given the rapid change in the State's social and economic context, there is a need for a fresh assessment of the State's skill ecosystem. In addition, there is also a felt need to understand the aspirations of the youth from diverse socio-economic and demographic backgrounds across the State, with special emphasis on economically backward communities. A contemporary estimation, using both quantitative and qualitative analysis would reveal relevant insights and findings related to the demographic profile, socio-economic characteristics of the youth, emerging sectors and job roles, and the skill-sets in demand.

The Present Study: The Tamil Nadu Skill Development Corporation (TNSDC) has, through a competitive procurement process engaged PricewaterhouseCoopers Private Limited (PwC) to carry out "Skill Gap Assessment" and establish "District level Skill Development Action Plans for Tamil Nadu". This is the first time such a comprehensive State-wide skill gap assessment study has been commissioned in Tamil Nadu, which duly considers block-level information across each of the District. The study aims at identifying sources wage employment and selfl-employment (including entrepreneurship) in all 32 Districts, estimating the sector-wise current and future workforce demand (over the next six years i.e. upto 2025) by industry, and assessing the overall labour supply and estimating the existing and emerging skill gaps.

This study was designed in a manner to offer insights into: (i) which skills are required to support the State's economic growth, while also responding to the career aspirations of the youth; and (ii) how to design appropriate interventions that will enable active collaboration between various stakeholders for the common good.

Methodology for Study: The study adopted mixed-method research design encompassing a blend of quantitative and qualitative data collection techniques, and desk research using various secondary databases. Structured into two phases, the first phase of the study comprised a comprehensive desk review of the state's demography, economy, labour market, educational and skill development profile. The second phase of the study comprised the following:

- Youth aspiration survey: a quantitative survey covering 360 youth across the following groups – engaged in economic activity (self-employed, wage-employed, entrepreneurs), students in formal education, vocational and skill training institutions (Polytechnics, ITI), and those who fall under the Not in Education, Employment or Training (NEET) category.

[1] Tamil Nadu Skill Development Corporation [https://www.tnskill.tn.gov.in/index.php/link/abouttnsdc]
[2] All India Survey on Higher Education 2017-18

- Employer survey: a quantitative survey covering 34 employers with adequate representation from Large, Medium, Small and Micro Industries across the key sectors defining the district economy.
- Focus- Group Discussions (FGD's) and stakeholder consultations across a wide group of stakeholders including, representatives from Industrial units (with additional focus on MSME sector), District-level Industry Associations across priority sectors, officials from various Government departments, representatives from various higher education institutions, and training service providers.

Estimation of labour demand and supply were undertaken based on the analysis of data sourced from the Census of India, the Department of Economics and Statistics of Government of Tamil Nadu, the Reserve Bank of India, the National Sample Survey Organisation and the Bureau of Labour and Employment under the Ministry of Labour and Employment, Government of India. Estimates were further refined based on the data pertaining to the proposed investments (pragmatically rationalised and considered), and the anticipated developments within key sectors; in addition, due consideration is given to the emerging sectors and job roles. This study involved estimating the District-level workforce demand for the upcoming years (upto 2025) categorised as skilled and semi-skilled workforce requirement. In addition, an estimate of skill gaps over the following four years (upto 2029) was also required; however, given the rapid changes in the socio-economic context, re-validation of the estimates is required after five-years (i.e. by 2023). The sectors and job roles in demand during the immediate years is structured into training projects, which are informed by the demand estimations, and validated through quantitative survey findings and qualitative consultations. Budgetary requirements for the training projects is estimated based on the cost categories as defined within the recent Common Cost Norms published by the Ministry of Skill Development and Entrepreneurship, Government of India.

Key Findings:

Following are the key findings of the study:

Demographic Analysis	• Chennai metropolitan area is the fourth most populated agglomeration in India and 31st largest urban area in the world. • At 29 years, the median age of Chennai, aligns with that of the State average. Further, expected to increase to 37 years by 2026 indicating a much older population. Thus, the District needs to invest in skill development immediately to reap benefits of the demographic dividend. • Chennai is the most densely populated city in Tamil Nadu, with a density of 26,553 people per square kilometres.
Economic Analysis	• Chennai's economy has a broad industrial base in the automobile, computer, technology, hardware manufacturing and healthcare sectors. The economy of Chennai grew at a CAGR of 3% between 2011-12 and 2016-17. • Livestock (63%) is a major contributor to agriculture and allied sector GVA in the District. • Industrial sector contribution to the economy was 14% in 2016-17. Manufacturing and Construction account for 93% of the industrial output. • The key industries include apparel, special-purpose machinery, parts and accessories for motor vehicles as per the output and employment of Annual Survey of Industries, 2014-15. • Services sector contributes to 85% of the GDDP. The sector grew at a CAGR of 4% between 2011-12 and 2016-17. As of 2012, the city is India's second largest exporter of information technology (IT) and business process outsourcing (BPO) services. • A major part of India's automobile industry is based in and around the city thus earning it the nickname "Detroit of India". • According to Forbes magazine, Chennai is one of the fastest growing cities in the world and the only Indian city to be rated in the "Forbes-Top 10 Fastest Growing Cities in the World". It is ranked 4th in hosting the maximum number of Fortune 500 companies of India, next only to Mumbai, Delhi and Kolkata.

Labour Market Analysis

- x The District has a higher labour force participation rate and worker population ratio, x

	• The key cause of attrition was better job opportunities (87%) and lower wage issues (84%). Also, employers stated that candidates' disinterest (74%) to do work led to attrition in the organization. • Very few respondents had awareness about Govt. run vocational programs. **Qualitative Inputs** • Small Industries perceive that the youth preferred jobs in IT/ITES, BFSI, and Logistics. • Youth expectation is largely for an enabling work environment with better amenities, sanitation and transport facilities. • Communication skills, Soft Skills, Interpersonal Skills and appropriate attitude towards work needed among workers in the services sector. • Small scale Industries are willing to partner with the Govt. to develop apprenticeship for short term skill development programs.
 Incremental Demand	• Over 184,327 nos. of incremental skilled and semi-skilled workforce demand are expected to be in demand over the next 6 years. • Key sub-sectors driving the demand are Manufacturing, Education & Health, repair of computers and other household goods, Construction, communication, financial and insurance activities and transportation.

Recommendations:

- **Promote Industry collaboration to strengthen skill development:** Youth training programmes should be linked to the industry needs and appropriate incentives to be provided to attract them for training. District has best of the infrastructure and training facilities, which can be utilised in an efficient manner in creating awareness on the existing demand in the key industries. Government, educational institutions should collaborate with industries and organise seminars, *mela*s, industrial visit, etc. for better reach and utilisation of existing schemes and programmes on skill development.
- **Youth advisory services for enhancing the knowledge, Attitude and Behaviour change need to be focused:** Career Counselling need to be organised across the District, especially in educational institutions. Dept. of Labour Employment and Training to provide necessary support to bring the change in their knowledge, attitude and behaviour towards job availability. Mobile advisory services by developing appropriate applications can be provided for better reach to youth.
- **Integrated planning for youth skill development programs should be streamlined:** The efforts taken by Central and State government to provide skill development programmes for various sectors at different levels should reach the appropriate target population. A single window system to access these schemes by youth can be developed that will enable them to choose from the basket of opportunities in the sector of their interest.
- **Facilitate Training of trainers**. The Training Service Providers should have adequate qualified trainers and upskilling trainings should be given to the trainers about the current industry and technology. There is a need to active professional development intervention for the trainers and a certifying or licensing mechanism should be introduced to ensure that they are adequately updated on the market expertise on a regular basis.
- **Introduce a unified job portal for job postings** at all levels of skill across sectors. A portal for jobs/ apprenticeships open to both employers and jobseekers would enable both sides to minimize time and effort in finding suitable vacancies and profiles
- **Soft-skills and Employability Skills to be prioritised:** Across all sectors, employers have identified the lack of inter-personal skills and communication skills among the youth. Businesses in the IT-ITES and tourism sectors highlighted the particular lack of skills in spoken English. Appropriate skills program including soft skills, communication skills, and spoken English skills need be provided at school / diploma / graduation levels.

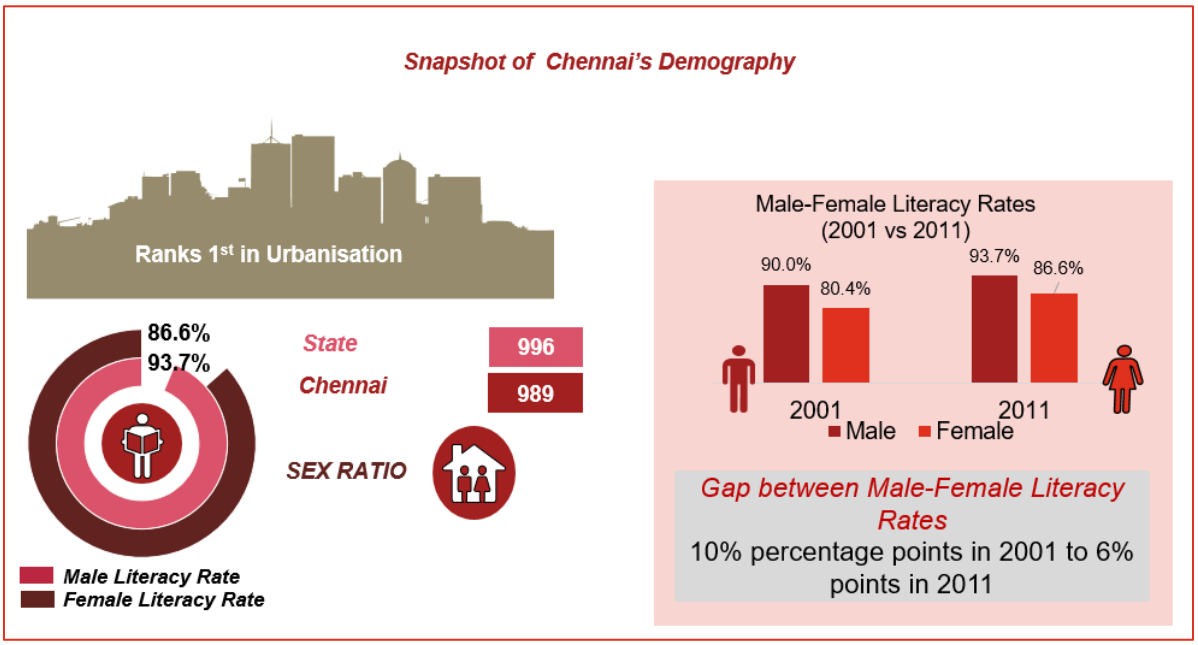
1. District Profile

1.1. Demographic Profile

Chennai, the capital of the Tamil Nadu, is one of the fast-developing districts of Tamil Nadu in terms of industrial development and has emerged as a major economic center in the recent years. Located on the Coromandel Coast off the Bay of Bengal, it is a major commercial, cultural, economic and educational Centre in South India. It is also known as the Cultural Capital of South India. According to the provisional results of 2011 Census, the city had 4.6 million residents making it the sixth most populous city in India; the urban agglomeration, which comprises the city and its suburbs, was home to approximately 8.9 million, making it the fourth most populous metropolitan area in the country and 31st largest urban area in the world.

Table 1 Key Demographic Indicators– Chennai vs Tamil Nadu[3]

SN	Indicator	Chennai	Tamil Nadu
1	Total population	46,46,732	72,147,030
2	Female Population	23,10,888	36,009,055
3	Population Density per sq.km (2011)	26553	555
4	Urbanization	100%	48.4%
5	SC population (as % of total population)	16.8%	20.0%
6	ST population (as % of total population)	0.2%	1.1%
7	Differently abled population (as % of total population)	1.9%	1.6%
8	Population in age group 15-34 years (as % of total population)	36%	34.8%
9	SC population aged 15-34 years (as % of SC population)	40.0%	36.6%
10	ST population aged 15-34 years (as % of ST population)	38.5%	35.0%
11	Literacy rate	90.1%	80.3%



Key Highlights from the analysis of Census Data:

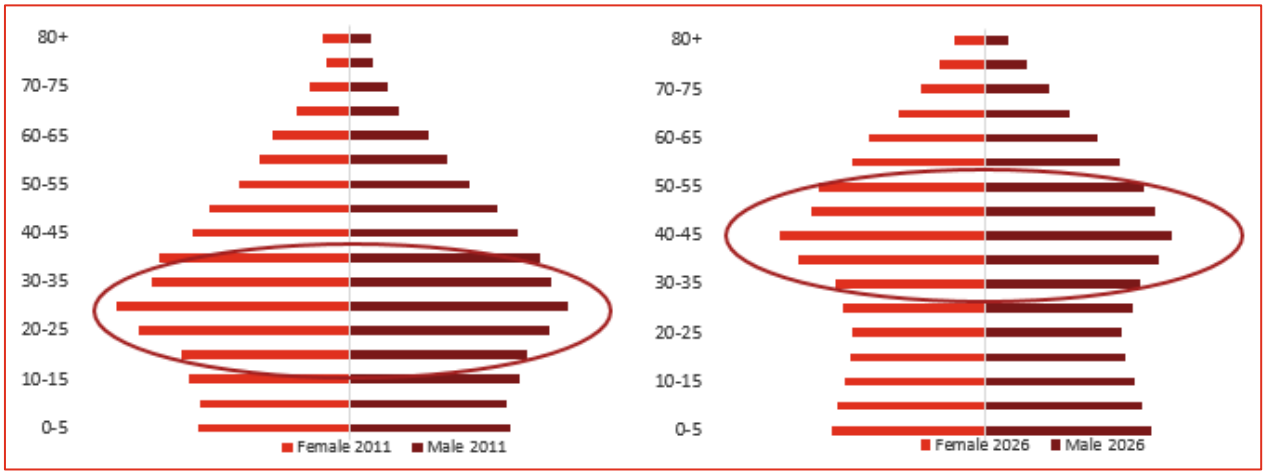
- **Population Growth and Urbanization:** The Decadal growth rate **of the population in the District** was 7**%** between 2001 and 2011, compared to **15.6%** at the State level. Chennai metropolitan area is the fourth most populated agglomeration in India and 31st largest urban area in the world.
- **Literacy:** The District had a female literacy rate of 87% while the male literacy rate of 94%. These are higher than the corresponding literacy rates at the State level. The literacy rates among males increased by 4

[3] Census 2011 & 2011

percentage points, while among females it increased by 7 percentage points, reducing the gap between them from a 10 percentage points in 2001 to 7 percentage points in 2011. The reducing gap between the male and female literacy rates indicates an improved level of female participation in education and higher education attainment among females in the District.

- **Youth Demography:** 36.5% of the population was between 15-34 years, in 2011, and the median age, 29 years, which is the same as that of the State and indicates a relatively older population in the District. The population is set to get much older with median age in 2026 expected to be around 37 years.

Figure 1: Age-wise Population Pyramid of Chennai (2011 vs 2026)[4]

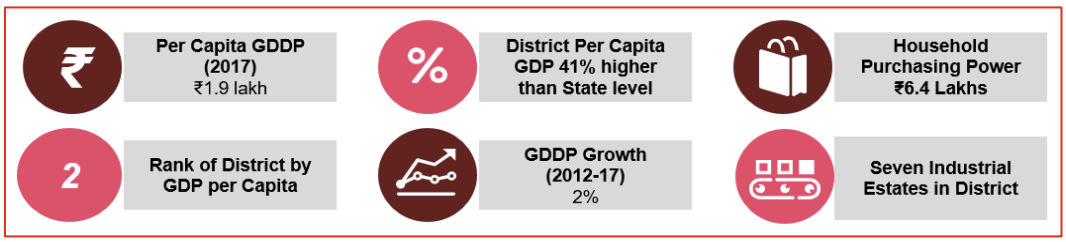


Chennai is fast ageing and may lose a large proportion of demographic demand by 2026 and hence it is imperative to reap the potential of youth immediately by enhancing their skills and making them more skilled in response to the industry demand. Being the capital of the State and an important business centre the district has scope for better employment opportunity.

1.2. Economic Profile

Chennai is one of the most industrialized Districts of the State and contributes to 4.8% of the State's GDP[5]. The service industry of Chennai mainly includes repair & servicing of motor vehicles, computer servicing, Spa for unisex, event management, videography, photography, tailoring / fashion designing, embroidery work, crèche, preschool, care centers, etc. are the major service industry contributing to the economy of the District[6]. The District has a per-capita GDDP which is higher than the State level[7].

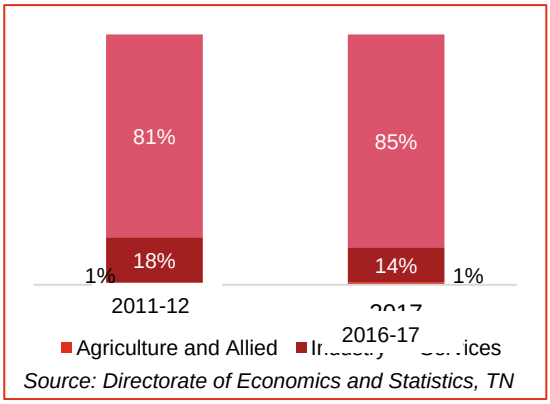
Figure 2 Key Economic Indicators of Chennai District



[4] Age wise Population projected for 2026 based on age group wise life expectancy, birth and death rates
[5] DOES, GoTN
[6] District Industries Profile, DC-MSME, 2015-16
[7] Household disposable income as computed under districtmetrics.com
Household Purchasing Power is calculated from the total purchasing power (disposable income after savings/ investments) of the district, divided by the projected number of households (savings/ investment data calculated from RBI database on savings). Data downloaded from districtmetrics.in, and calculated based on data from Reserve Bank of India, NSSO and Census of India, 2011. A strong correlation exists between the Per Capita GDP, the Banking Sector indicators (adjusted to population) and the consumption expenditure (disposable income) reported under NSSO at the national and state level. This relationship was further verified with data over several years. The state level purchasing power is then further broken down to the district level based on the district level banking data (savings and deposits) and the district level consumption estimates of the NSSO.

1.2.1. Sector Analysis[8]

Figure 3 Sectoral Share of GVA (2011-12 & 2016-17)



Source: Directorate of Economics and Statistics, TN

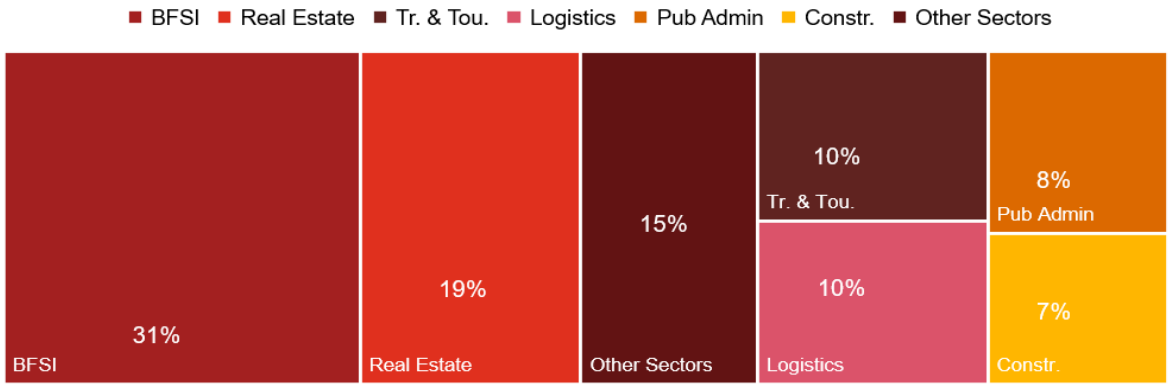
Chennai's economy has a broad industrial base in the automobile, computer, technology, hardware manufacturing and healthcare sectors. As of 2012, the city is India's second largest exporter of information technology (IT) and business process outsourcing (BPO) services. A major part of India's automobile industry based in and around the city, has earned it the nickname "Detroit of India".

The economy of the District is dominated by the services sector (85%) followed by the Industrial sector (14%), and these two sectors together contributed 99% to the District output in 2016-17. The District economy has grown at a compounded annual growth rate of 2% largely driven by the service sector growth, which grew at the rate of 4% per annum during the same time period. The share of the agriculture sector in the District output remained the same at one percent over the same period. At sub-sector level Trade & Tourism, Real Estate, BFSI, Construction & Logistics Services are the major contributors to the District's economy.

Table 2 Sector wise- Annual Growth Rate in Chennai (Directorate of Economics and Statistics, TN)

Sector	2012-13	2013-14	2014-15	2015-16	2016-17	CAGR (2011-12 and 2016-17)
Agri & Allied	*-56%*	*136%*	*19%*	*-5%*	*-21%*	***-2%***
Industry	*-9%*	*-1%*	*-7%*	*3%*	*3%*	***-2%***
Services	*5%*	*7%*	*7%*	*1%*	*-1%*	***4%***

Figure 4 Share of GVA by Industry of Origin (2016-17)



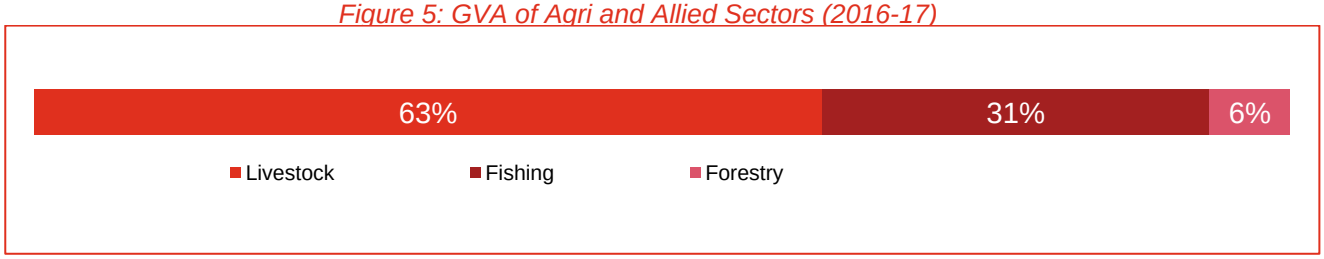
Banking, Financial services and Insurance alone contributes to 31% of the District Output. Other key sectors are Real Estate, Trade and Tourism, Logistics, Construction and Public Administration.

Source: Directorate of Economics and Statistics, TN

The agriculture and allied sector contribution is very negligible with 1% share to the GVA. However, within the agriculture and allied sector, Livestock (63%) is an important contributor, followed by fishing (31%) due to the coastal line and around 6% of forestry.

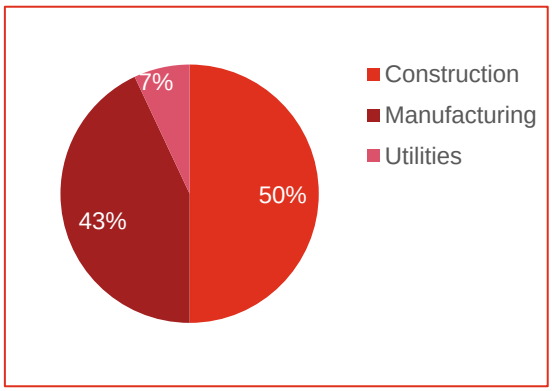
[8] *Directorate of Economics and Statistics, Tamil Nadu*

Figure 5: GVA of Agri and Allied Sectors (2016-17)



Source: Directorate of Economics and Statistics, TN

Figure 6: Industrial Sector GVA (2016-17)



Chennai is a major trade centre. The manufacturing sector of Chennai comprises large industries such as petrochemicals and chemical industry, electrical, and automobile and related ancillary industries. It has been referred to as the automobile capital of India with the presence of several international car manufacturers as well as its achievements as an auto production hub. However, the growth of the industry sector has been negative at 2% between 2011- 12 and 2016-17 due to the disruptions in the finance sector and infrastructure availability. The sector is dominated by Manufacturing and Construction sectors - they account for almost 93% of the output within the industries. Automotive, electronic products and auto components are some of the other key Industries in the District. According to Forbes magazine, Chennai is one of the fastest growing cities in the world and the only Indian city to be rated in the "Forbes-Top 10 Fastest Growing Cities in the World". It is ranked 4th in hosting the maximum number of Fortune 500 companies of India, next only to Mumbai, Delhi and Kolkata.

Around 30% of India's automobile industry and 40% of auto components industry. A large number of automotive companies including Hyundai, Renault, Nissan Motors, Ashok Leyland, Daimler AG, Caterpillar Inc., Komatsu Limited, Ford, BMW and Mitsubishi have manufacturing plants in Chennai. The Heavy Vehicles Factory at Avadi produces military vehicles, including India's main battle tank: Arjun MBT. The Integral Coach Factory manufactures railway coaches and other rolling stock for Indian Railways. The Ambattur–Padi industrial zone houses many textile manufacturers, and a special economic zone (SEZ) for apparel and footwear manufacture has been set up in the southern suburbs of the city. Chennai contributes more than 50 percent of India's leather exports.

Table 3 Key Clusters of Industries

Plastic Guindy, Ekkatuthangal & Area around Chennai	**Pharma** Chennai	**Ready-made Garments** Chennai
Auto components/engineering Guindy, Ekkatuthangal & Area around Chennai	**IT & ITES** Chennai	**Printing** Chennai

Source: DC-MSME District Profile

Table 4 Profile of Manufacturing Sector from ASI (2014-15)

Sector	No. of Units	No. of Employee	Gross Value Added (share in total GVA)	Share of Total Employment	Average Workers per unit
Manufacture of parts and accessories for motor vehicles	137	6,337	20.5%	9%	46
Manufacture of special-purpose machinery	58	6,447	18.2%	9%	111
Printing and service activities related to printing	162	7,272	10.5%	10%	45
Manufacture of general purpose machinery	42	3,927	8.9%	5%	94
Manufacture of wearing apparel, except fur apparel	431	18,237	7.4%	24%	42
Others	264	7,997	7.4%	11%	30
Manufacture of rubber products	18	2,610	6.4%	4%	145

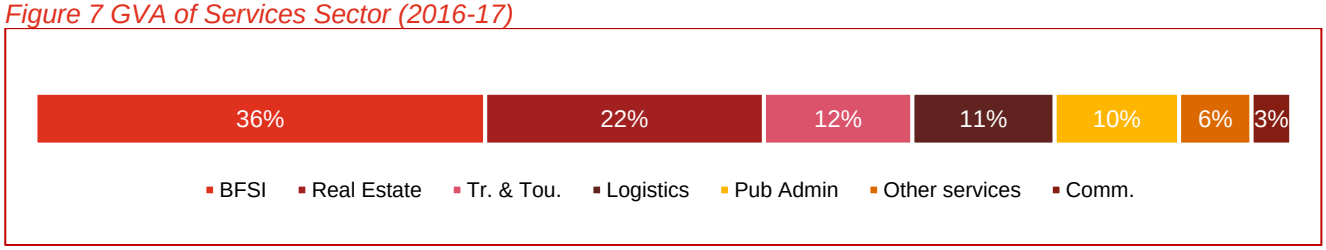
Sector	No. of Units	No. of Employee	Gross Value Added (share in total GVA)	Share of Total Employment	Average Workers per unit
Manufacture of basic chemicals, fertilizer and nitrogen compounds, plastics and synthetic rubber in primary forms	6	348	4.9%	0%	58
Manufacture of pharmaceuticals, medicinal chemical and botanical products	21	1,933	3.3%	3%	92
Publishing of books, periodicals and other publishing activities	5	532	3.1%	1%	106
Manufacture of structural metal products, tanks, reservoirs and steam generators	45	3,838	2.6%	5%	85
Manufacture of measuring, testing, navigating and control equipment; watches and clocks	20	705	2.2%	1%	35
Manufacture of plastics products	113	1,045	2.0%	1%	9
Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus	27	1,569	2.0%	2%	58
Manufacture of other food products	30	2,069	1.5%	3%	69
Manufacture of medical and dental instruments and supplies	9	493	1.3%	1%	55
Manufacture of wiring and wiring devices	27	565	1.3%	1%	21
Manufacture of footwear	41	2,760	1.2%	4%	67
Manufacture of paper and paper products	72	2,164	-1.1%	3%	30
Manufacture of jewellery, bijouterie and related articles	4	11	-2.9%	0%	3
Manufacture of other fabricated metal products; metalworking service activities	165	3,609	-5.4%	5%	22
Total	**1,697**	**74,468**	**95.4%**	**100%**	**44**

Source: Annual Survey of Industries 2014-15

According to the ASI 2014-15, as shown in table 4, eight industries contributed to 84% of the total Industrial Gross Value Added (GVA). Wearing apparel, except fur apparel, special-purpose machinery, parts and accessories for motor vehicles, and general purpose machinery were the key industries in terms of employment generation. As of 2015-16, there were 8 large industries contributing significantly to the overall industrial sector.

The services sector grew at an average of 4% p.a. between 2011-12 and 2016-17 but the growth was not consistent. The growth was 7% in 2014-15 but declined to 1% in 2015-16 and further -1% in 2016-17. The share of the sector has increased by 4 percentage points from 81% to 85% between 2011-12 and 2016-17. BFSI has more than one-third share in GVA followed by Real Estate (22%), Trade and tourism (12%), Logistics (11%) and Public Administration (10%) as other major contributors to GVA of service sector. Chennai has many software and software services companies that contributed 14 percent of India's total software exports of 1,442,140 million during 2006–07, making it the second largest exporter, by city, of software in the country, behind Bangalore. The Tidel Park in Chennai was billed as Asia's largest IT park when it was built. Medical tourism is another important contributor to Chennai's economy with 45% of total medical tourists to India making to Chennai. The Tamil film industry and the Tamil television industry are also significant contributors of Chennai's economy. The city also has a permanent exhibition complex in Nandambakkam called the Chennai Trade Centre. An estimated 100,000 people in the city have assets over 50 million.

Figure 7 GVA of Services Sector (2016-17)



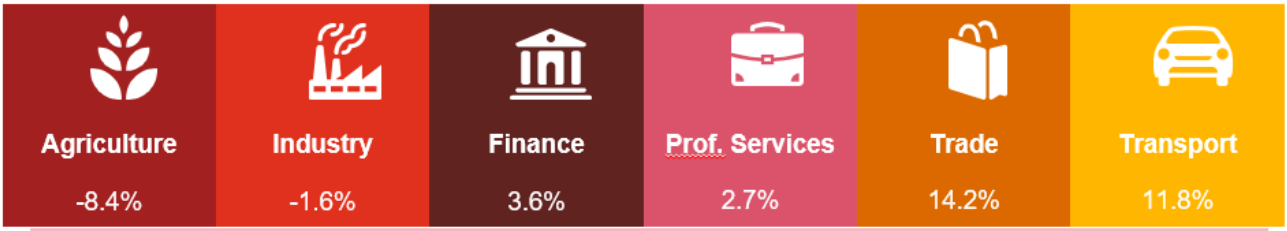
Source: Directorate of Economics and Statistics, TN

The city has two major ports, Chennai Port, one of the largest artificial ports in India, and Ennore Port. The Chennai port is the largest in Bay of Bengal, and second busiest container hub in India. The port handles

transportation of automobiles, motorcycles and general industrial cargo. The Ennore Port handles cargo such as coal, ore and other bulk and rock mineral products. The Royapuram fishing harbour is used by fishing boats and trawlers. A mega shipyard project called the Kattupalli Shipyard cum Captive Port Complex is being built by L&T Shipbuilding at Kattupalli village near Ennore.

1.2.2. Investments and key economic drivers

Figure 8 Sector-wise growth of Credit off Take (2013-16) – RBI



The District has seen growth in credit especially in Trade and Transport Services. Credit offtake in Finance and Professional services has been low while Industry and Agriculture saw a decline.

According to the data collected from the RBI, the District has seen substantial growth in credit during 2013-16 especially trade and transport while agriculture and industry have recorded a negative growth during the same period. Data from the Capital Expenditure database of Centre for Monitoring Indian Economy shows that key investments (in INR millions) and sectors include:

Ownership Group	Industry Group	Finance	Healthcare	Infrastructure	Logistics	Others	Renewable Energy	Residential	Tourism
Central Govt. - Statutory Bodies	Air transport infrastructure services	-	-	-	3,000	-	-	-	-
Private (Foreign)	ITES	430	-	-	-	-	-	-	-
	Renewable electricity	-	-	-	-	-	133.2		-
Private (Indian)	Computer software	-	-	7,200	-	-	-	-	-
	Health services	-	-	-	-	-	-	-	-
	Housing construction	-	-	-		-		1,694.4	-
	Renewable electricity	-	-	-		-	156	-	-
	Transport logistics services	-	-	-	1,500	-	-	-	-
State Govt. - Departmental Undertaking	Computer software	-	-	-	-	64	-	-	-
State Govt. - Statutory Bodies	Commercial complexes	-	-	1,498.4	-		-	-	-
	Other recreational & allied services	-	-	-	-	-	-	-	13.7
	Road transport infrastructure services	-	-	1,516.6	-		-	-	-
Grand Total (₹ million)		430	4,000	10,215	4,500	64	289.2	1,694.4	13.7

The major investment planned for the Chennai district covers 8 sectors, namely Finance, Healthcare, Infrastructure, Logistics, renewable energy, residential, tourism and other sectors. Infrastructure is the major sector with an investment of ₹10 million followed by logistics and health with around ₹4 million for each

Trade and Tourism, real estate, and construction are sectors with potential for growth. Financial services is also an emerging sector that has more scope for growth.

respectively. The major investors are Central Government, State Government, private players from national and international.

1.3. Labour Market Profile[9]

The District's overall labour force participation rate and the worker population ratio are lower than the corresponding State figures for persons aged 15 years and above, while it is higher in the District than the State average for the youth population (15-29 years). More than three-fourth of the workers in the District seem to be engaged as 'casual labour', higher in proportion by nearly 3 times than at the S

t

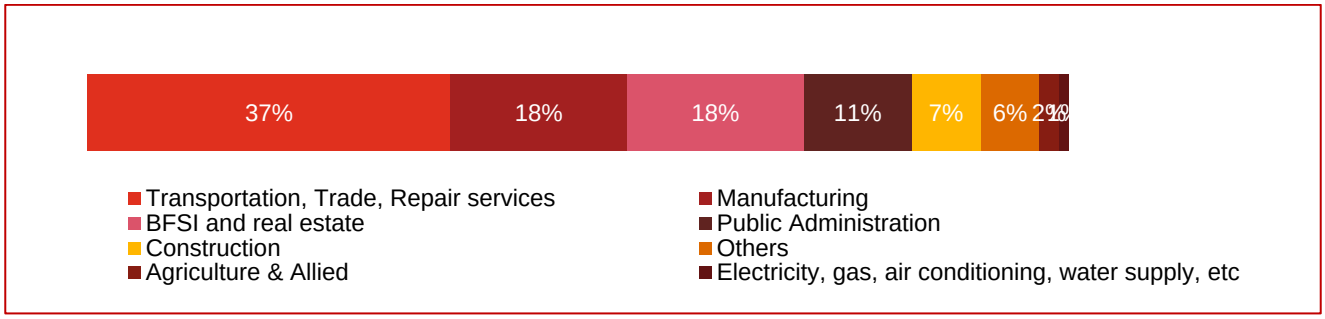
unemployment is only 7%.

Table 5 LFPR and Unemployment Rate by Sex & Location

Sex	LFPR	Unemployment Rate
Male	75.1%	4.4%
Female	27.2%	17.3%
Total	51.7%	7.7%

Disaggregation by sex, it is found that females have lower labour force participation rate than male; while the unemployment rate for female is higher than that of the male. Lower participation in labour force and higher unemployment rate among women, evidences the possibility of lack of jobs opportunity for females/ women.

Figure 11 Sector-wise share of Employment



Source: EUS 2013-14

Around 37% of the labour force is in the transportation, trade and repair services, followed by 18% each in manufacturing and BFSI respectively. Around 11% are engaged in public administration and another 7% in construction.

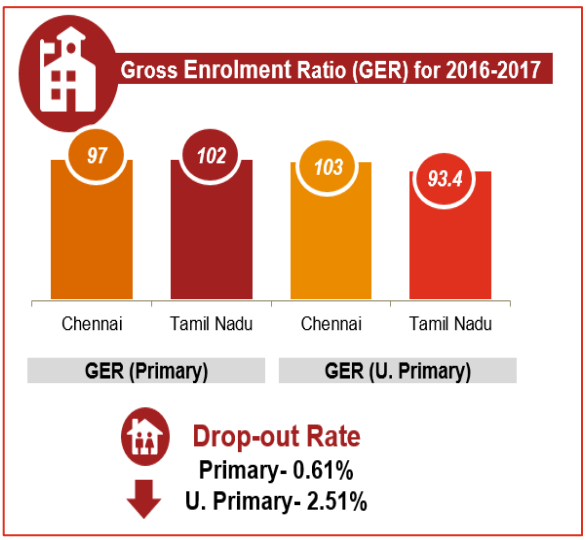
More than one-third of the workforce in the District is engaged in transportation, trade and tourism industries. Manufacturing and BFSI each have 18% of the workforce, which are the emerging potential sectors in the District.

1.4. Education and Skill Development Profile

1.4.1. Education Profile

Chennai has many educational and research institutes.

There are five reputed universities in the District that covers all disciplines like medical, law, veterinary, engineering, and arts and science; that attracts students from the across the country as well as from other countries. In addition to these government universities there are many more reputed private universities and institutes in the district which educates at least 5000 students annually. Some Indicators related to education are presented in Table 6 & 7:



The Gross Enrolment Ratio[11] at Primary level is lower than the State average while it is higher than the state average for Upper Primary. The ratio indicates that the number of students in the district outstrip the expected population in the age cohort at primary level by a significant margin. The dropout rates at the primary level is 0.61% while it is 2.5% at the upper primary level.

Engineering colleges are dominant in the District and nearly 97% are self-financing institutes. Female enrolment in higher education institutions are slightly lower than the enrolments of their male counterpart.

Table 6 Universities in Chennai District[12]

Name of the University / No. of Institutions	Students		
	Boys	Girls	Total
Madras University	1,836	2,034	3,870
Dr. M.G.R. Medical University	12	22	34
T. N. Veterinary & Animal Science University	995	765	1,760
Anna University	3200	2525	5725
Ambedkar Law University	5,890	4,459	10,349

Table 7 Institutions of Higher Education in Chennai District [11]

S.No	Institution Type	No of Institutions	Students		
			Males	Females	Total
1.	Engineering Colleges	593	6,97,634	2,46,979	9,44,613
2.	General Arts & Science Colleges	47	9,296	18,865	28,161
3.	Polytechnics	18	2,207	399	2,606
4	Special education institutes	8	428	1,023	1,451

Source: District Statistical Profile (2016-17), NCVT - MIS

1.4.2. Vocational Education and Skill Development Profile

The skill training infrastructure of the District includes skill training centers implementing schemes like TNSDC, Pradhan Mantri Kaushal Vikas Yojana (PMKVY) and Deen Dayal Upadhyay Grameen Kaushal Yojana (DDU-GKY). The below table presents an overview of the short-term skill development centres in the District.

Table 8: Vocational Training under Short Term Skill Development Programs

Scheme	Sector	Job Role	No. of Training Centers	Capacity/ Intake
Pradhan Mantri Kaushal Vikas Yojana	Apparel	Hand Embroiderer	2	120
		Self Employed Tailor	3	300
	Automotive	Automotive Service Technician (Two and Three Wheelers)	1	142
	Beauty and Wellness	Beauty Therapist	1	60
	IT-ITeS	Junior Software Developer	2	90
	Leather	Stitcher (Goods & Garments)	2	480
	Media and Entertainment	Makeup Artist	1	120
	Retail	Retail Sales Associate	1	180
Tamil Nadu Skill Development Programs	Agriculture	Gardener	1	8,640
		Florist	1	8,640
		Micro Irrigation Technician	1	22,800
	Agriculture - others	Urban Pest Management	1	120
		Use of Biocides Semio Chemicals & Natural Bio Control agents for Pest Management	1	120
		Warehouse Management	1	120

[11] Total enrolment in elementary education, regardless of age, expressed as a percentage of the official age-group of the population which corresponds to the elementary education in a given school year. The GER shows the general level of participation per stage of school education.
[12] District Statistical Handbook, Govt. of Tamil Nadu

Scheme	Sector	Job Role	No. of Training Centers	Capacity/ Intake
		Fumigation Methods and Precaution	1	120
		Pest Controller	1	300
		Animal Care Taker	1	100
	Allied Health Care	General Duty Attendant (GDA)	1	60
		Geriatric Assistant	1	60
	Apparel	Advance Pattern Maker (CAD CAM)	1	523
		Embroidery Machine Operator	2	3,040
		Fashion Designer	2	300
		Finisher	1	3,600
		Hand Embroiderer	2	48,400
		Industrial Engineer (IE) Executive	1	383
		Inline Checker	2	2,400
		Machine Maintenance Mechanic (Sewing Machin	1	500
		Merchandiser	1	552
		Pattern Master	1	939
		Q C Executive Sewing Line	1	823
		Sampling Coordinator	1	542
		Self Employed Tailoring	1	17,849
		Sewing Machine Operator	3	16,940
		Specialized Sewing Machine Operator	1	3,600
	Automotive	Automotive Service Technician (Two and Three W	1	80
		Automotive Service Technician Level 3	1	760
		CNC Operator - Turning	1	80
		CNC Operator / Machining Technician L3	1	120
		Commercial Vehicle Driver Level 4	1	2,000
		Driver Trainer	1	300
		Forklift Operator (Driver)	1	100
		Machining Assistant	1	240
		Plastic Moulding Operator/ Technician	1	250
		Prototyping Manager	1	220
		Sales Representative	1	60
		Tool Designer	1	200
		Welding Assistant	1	480
		Welding Technician Level 3	1	40
	Automotive Repair	Basic Automotive Servicing 4 wheeler	1	200
	Beautician Others	Beautician	1	1,200
	Beauty and wellness	Assistant Beauty Therapist	1	250
		Assistant Hair Stylist	1	60
	Beauty Culture and Hair dressing	Beauty Therapy and Hair Styling level One	1	120
	BFSI	Accounts Executive (Recording, Reporting)	2	50
	Capital Goods	CNC Operator Vertical Machining Centre	1	40
		Fitter Fabrication	1	40
		Manual Metal Arc Welder	1	40
		Service Engineer - Breakdown Service	1	149
	Chemical	Instrument Attendant Chemical Plant	2	78
	Construction	Assistant Electrician	1	840
		Construction Painter and Decorator	1	500
		Helper Electrician	2	3,000
		Helper Mason	1	500
		Mason Tiling	1	900
	Construction MES	Architecture & Civil 2D Drafting with AUTOCAD	1	40
		Bar Bender	1	900
		Mason	1	2,000
		Plumber	2	400
	Electrical	Electrician Domestic	1	200
	Electronics	Field Engineer RACW	1	80
		Field Technician AC	1	160
		Field Technician Computing and Peripherals	1	20
		Field Technician Refrigerator	1	60
		Field Technician UPS and Inverter	1	40
		FPGA Design Engineer	1	50

Scheme	Sector	Job Role	No. of Training Centers	Capacity/ Intake
	Electronics Others	Certificate Course in Electronics Packaging	1	200
		Certificate Course in Embedded Software	1	400
	Fashion Design	Apparel Ornamentalist Grade I	2	40
		fashion design technology	2	40
	Garment Making	Apparel pattern making Basic	1	1,560
		Garment Construction Techniques	2	450
		Hand Embroider	1	40
		Surface Ornamentation Techniques	2	40
		Tailor (Basic Sewing Operator)	1	810
	Garment Making Others	Computer Aided Design with Soft skill	2	450
		Embroidery - Hand & Machine operator with Soft skill	1	2,850
		Pattern Making With Soft skill	1	1,500
		Quality Checker with Soft skill	1	2,850
		Ready mades Garment Making	1	1,200
		Sewing Machine Operator	1	5,700
	Green jobs	Solar PV Installer (Suryamitra)	1	500
	Health Care	Assistant Physiotherapist	1	45
		General Duty Assistant		20
		Home Health Aide	1	20
		Medical Laboratory Technician	1	60
		Medical Records & health Information Technician		30
		Pharmacy Assistant	1	20
		Radiology Technician	1	60
	Health Care Others	Health Sector	1	1,000
	Home Decor Art Jewellery	Imitation Jewellery Kit Maker	1	200
	Hospitality	Cook (General)	1	1,020
	Information and communication technology	Accounts Assistant using Tally	1	2,020
		Animation and Multimedia Assistant	1	40
		Computer Hardware Assistant	1	10
		DTP and Print Publishing Assistant	1	20
		Web Designing and Publishing Assistant	2	118
	Insurance	Insurance Sales Associate	2	225
	IT ITEs Others	Certificate course in GST	1	3,000
		Certificate Course in Professional Networking	2	200
	IT/ITEs	Collections Executive	1	160
		CRM Domestic Non Voice	1	40
		Domestic Data entry Operator	1	40
		Engineer Trainee	2	60
		Infrastructure Engineer	1	40
		Junior Software Developer	1	40
	Jute Diversified Products Sector	Designer cum Maker of Fabric Bags	2	40
	Leather	Cutter Goods and Garments	1	60
		Cutter Footwear	1	50
		Helper Finishing Operations	1	90
		Helper Parts Making	2	180
		Helper Finishing	1	90
		Helper Upper Making	1	90
		Lasting Operator	1	90
		Pattern Cutter Footwear	1	30
		Pre Assembly Operator	1	1,080
		Skiving Operator (Machine)	1	90
		Stitcher Goods and Garments	1	600
		Stitching Operator	1	1,280
	Leather Others	Cutting and Tailoring	1	300
		Shoe Upper leather case	1	400
	Life Science	Business Development Executive Life Sciences	1	10
		Licensing Manager Life Sciences	2	30
		Medical Sales Representative	1	60
	Logistics Others	Light Vehicle driving with badge	2	3,000

Scheme	Sector	Job Role	No. of Training Centers	Capacity/ Intake
	Media	Digital Camera Photography	1	20
		Lighting Assistant	2	20
		Videography	3	20
	Media & Entertainment	Animator	1	200
		Camera Operator	1	400
		Colourist	1	200
		Editor	1	1,000
		Layout designer	1	300
		Lighting Artist	2	400
		Modeller	2	100
		Rigging Artist	1	200
		Sound Editor4	1	200
		Texturing Artist	1	100
		VFX Editor	2	200
	Media Others	FCP - Digital Non-linear Editing	1	100
		Multimedia	1	300
	Medical and Nursing	Basic of Anatomy & Physiology	1	60
		Naturotherapist I	1	20
		Nursing Aides	1	400
		Yoga Therapist	2	20
	Paint	Painter Assistant/helper	1	300
	Plastic Processing	Advanced Plastics Mould Manufacturing (APMM)	1	100
	Plastic Engineering Others	Machine Operator Assistant Injection Moulding	1	400
		Machine Operator Assistant-Plastic Processing	1	400
		Machine Operator- CNC Lathe	1	400
	Plumbing	Plumber (Maintenance and servicing)	2	240
		Plumber General (helper)	1	40
		Plumbing Foreman	1	45
	Renewable Energy	Solar electric System Installer & Service Provider	2	100
	Retail	Sales Associate	1	20
		Trainee Associate	1	80
	Retail Mes	Retail Operations	1	520
		Sales Person (Retail)	1	20
		Sales Person (Door to Door)	1	20
	Security	Unarmed Security Guard	1	80
	Soft Skills	Spoken English and Communication Skill	2	30
	Telecom	Customer Care Executive (Relationship Centre)	1	20
		Customer Care Executive (Repair Centre)	1	20
	Textiles	Shuttle less Loom Weaver - Rapier	1	40
	Textiles HDPE/PP	Heavy Duty Tailor	2	40
	Tourism & Hospitality	Counter Sale Executive	1	20
		Kitchen Helper	1	165
	Travel and Tourism	Tour Agent and Travel Operator	1	20
		Tourism & Travel Executive	2	520

Source: Data collected from Tamil Nadu Skill Development Corporation, TNSRLM

The long-term skill development programs are predominantly offered through Industrial Training Institutes, which offer one and two year programs in various sectors and trades. The below table presents the courses offered through ITI, and the number of such institutes offering each trade/ training for job role.

Table 9 Vocational Training under Long Term Skill Development Programs (ITI)

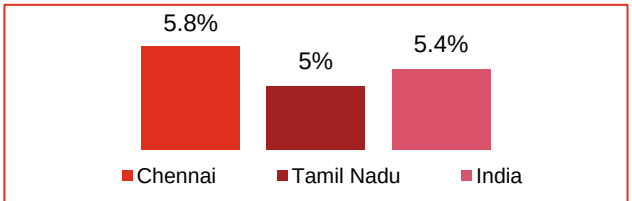
Scheme	Sector	Job role	Number of Training Centers	Intake
Industrial Training Institutes	Automobiles and Auto Components	Foundryman	1	16
		Mechanic (Motor Vehicle)	3	84
	Capital Goods	Plastic Processing Operator	1	22
		Instrument Mechanic	3	11
		Welder	3	100
		Draughtsman (Civil)	3	40
		Draughtsman (Mechanical)	5	31
		Electroplater	1	10

Scheme	Sector	Job role	Number of Training Centers	Intake
	Construction	Painter General	1	21
		Carpenter	2	24
		Electrician	14	196
		Lift and Escalator Mechanic	1	20
	Education	Pre/Preparatory School Management (Assistant)	1	0
	Electronics & Hardware	Wireman	6	82
		Mechanic Industrial Electronics	1	0
		Litho-Offset	1	0
		Machine Minder		
		Mechanic (Refrigeration and Air-Conditioning)	10	169
	Handicrafts & Carpets	Turner	3	55
	Healthcare	Hospital House Keeping	1	0
	Infrastructure Equipment	Mechanic Diesel	2	15
		Electronics Mechanic	4	88
	Iron and Steel	Machinist	2	47
	IT/ ITeS	Information Communication Technology System Maintenance	2	25
		Computer Operator and Programming Assistant	5	68
		Desk Top Publishing Operator	1	26
	Leather	Leather Goods Maker	1	0
	Management and Entrepreneurship & Professional	Secretarial Practice (English)	1	0
		Stenographer & Secretarial Assistant (English)	2	20
	Media and Entertainment	Digital Photographer	1	32
	Mining	Fitter	12	297
	Plumbing	Plumber	4	52
	Strategic Manufacturing	Marine Fitter	1	19
		Vessel Navigator	1	17
	Textile and Apparel	Tool & Die Maker (Press Tools, Jigs & Fixtures)	1	20
		Fashion Design & Technology	1	47
		Sewing Technology	4	59
		Surface Ornamentation	3	35
		Techniques (Embroidery)		
		Computer Aided Embroidery and Designing	1	7
	Tourism and Hospitality	Food & Beverages Services Assistant	1	33
		Food Production (General)	1	69
		Front Office Assistant	1	2
		House Keeper	1	4
		Food Beverage	1	0

Source: National Council for Vocational Training – MIS

With respect to population aged 15 and above who have undergone vocational training, around 5.8% in Chennai had undergone the same, while around 5% had

Figure 13: Population Undergone Vocational Training



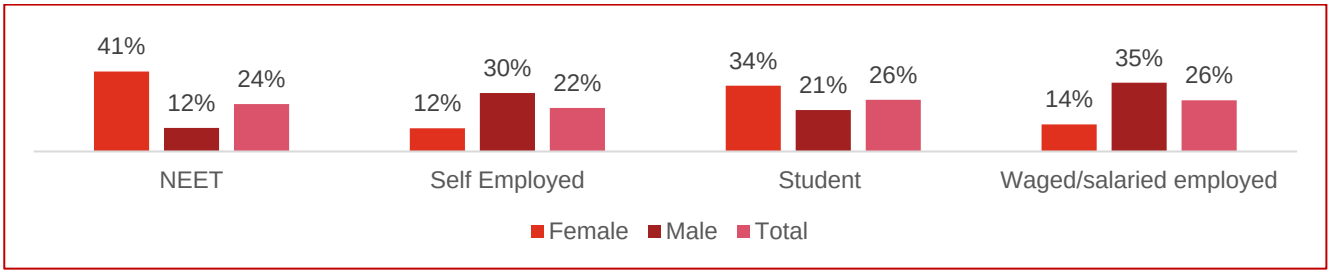
Source: EUS 2013-14, MoLE

undergone vocational training in the State. The All-India level is higher than both District and State level figures[13].

The District is known for reputed educational and research institutes across all major disciplines. The technical education infrastructure caters to the training needs of most of the students from all over the State.

[13] Employment and Unemployment Survey, 2013-14, Ministry of Labour and Employment

Figure 15 Current Status of Respondent by gender

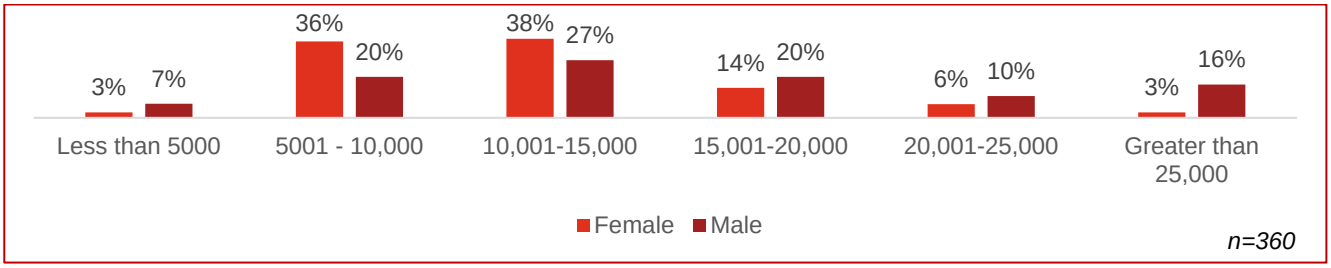


2.3. Economic Engagement of Youth

48% of the total respondents are currently engaged in economic activities.

67% of the total respondents are currently working and had worked before. Out of the respondents who are not presently working, 30% of these respondents have ever been engaged in economic activities. About 74% of the respondents (ever engaged in an economic activity and currently working) reported that they were employed in a field related to their education/ training.

Figure 16 Distribution of Respondents (currently working and ever worked) across Monthly Income Category across gender



Over 36% of these female respondents reported that they receive wage in the range of ₹ 5,001- ₹10,000 per month. More than half of the male respondents reported that their monthly income is less than ₹ 15,000. Around 18% of the respondents were dissatisfied with their jobs.

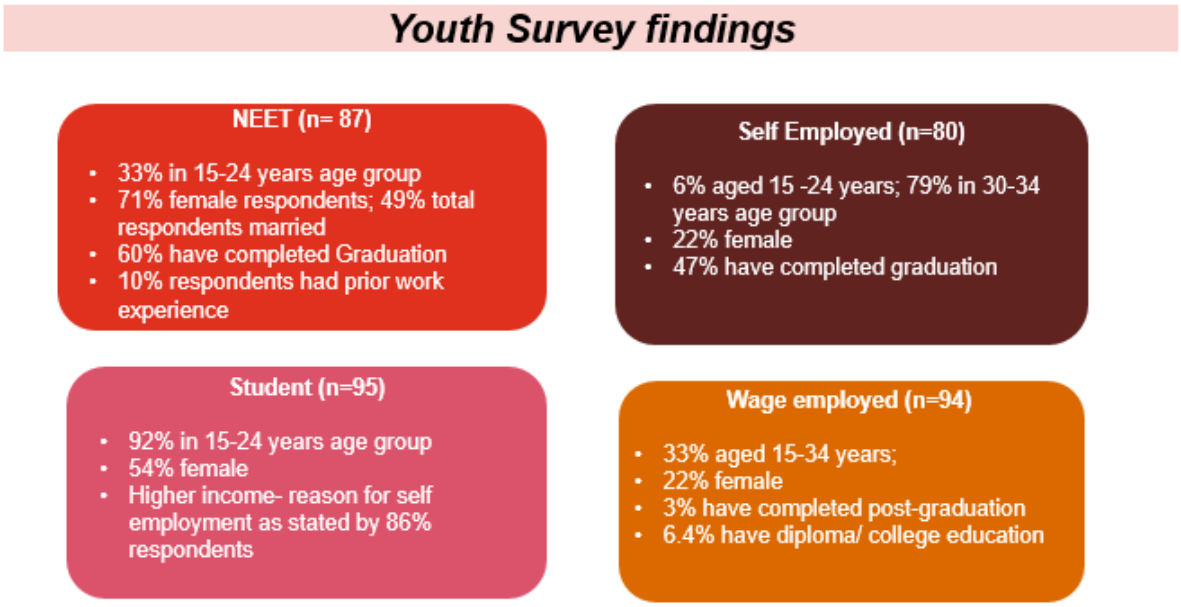
Among those with education of higher secondary and below, salaried employment was the most common form of economic activity.

Table 10 Education Qualification of Respondents and Employment Type

n=241

	Primary	Upper Primary	Secondary	Higher secondary	Diploma	Graduate	Post Graduate
Unskilled worker	50%	40%	24%	8%	0%	4%	0%
Salaried Employment (teacher, government official, etc.)	0%	0%	12%	37%	39%	51%	71%
Skilled worker (tailor, mason, electrician, plumber etc.)	25%	0%	28%	24%	6%	4%	0%
Petty Business/Trade/ Manufacturing	0%	60%	36%	30%	39%	40%	14%
Major Business/Trade/ Manufacturing	25%	0%	0%	3%	17%	2%	14%
Number of Respondents	**4**	**5**	**50**	**76**	**18**	**81**	**7**

Figure 17 Youth survey findings across categories



2.4. Youth under NEET Category

Around 24% of the total respondents were neither in employment, nor in education nor in any training.

Over 63% of the NEET category respondents were females. Majority of the NEET respondents (39%) were between the age group of 25-29 years. **6% of the NEET respondents reported to have completed their Diploma course and 50% had completed their graduation**.

About 38% of the NEET respondents have ever worked before. Three fourth of these respondents have been in NEET category for more than1 year.

97% of the female NEET respondents and 84% of the male NEET respondents wish to work in the future.

Table 11 NEET Category Respondents

Duration in NEET Category (n=87)	Female	Male	Total
Less than 6 months	2%	16%	6%
6 months- 1 year	3%	20%	8%
1- 2 years	27%	40%	31%
2- 3 years	29%	20%	26%
3 - 4 years	6%	4%	6%
4 - 5 years	6%	0%	5%
More than 5 years	26%	0%	18%

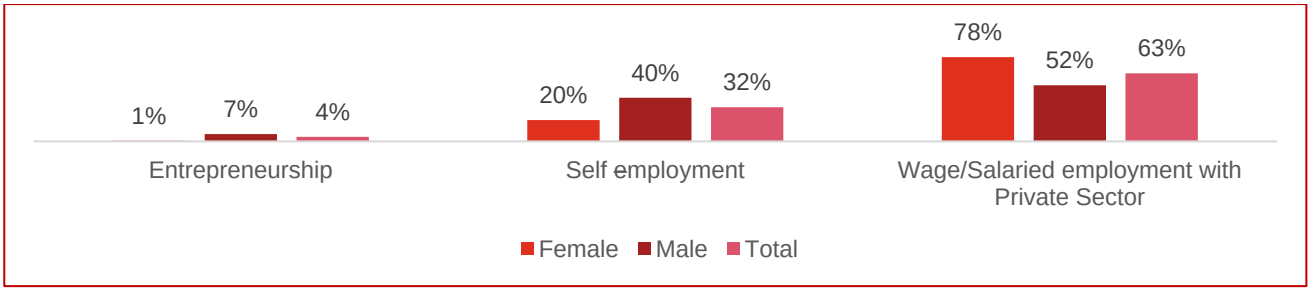
Wish to Work (n=81)	Female	Male	Total
Yes	97%	84%	93%
Total	60	21	81

Actively Seeking Work (n=30)	Female	Male	Total
Yes	38%	33%	37%
Total	23	7	30

2.5. Youth Career Aspiration

The youth in the District prefer wage-employment (63%). Both female and male respondents have shown similar interest in the pursuit of wage employment. About 39% of the respondents who preferred wage employment preferred job in the government sector while 45% were not sure about their preference.

Figure 18 Career Aspiration of Youth



22% of the youth perceived that there is lack of adequate employment opportunities available in the District.

The main factors determining the job aspirations of the youth are Salary (wages) / Income (75%), Job Security (50%) and safety/security (23%).

Half of the respondents (all excluding NEET and students) perceived that they were completely prepared for requirements for a job while 27% of the respondents are not sure about their preparedness.

Table 12 Career Aspiration - Factors, Preparedness and Availability of Jobs

Factors Determining Aspiration* (n=360)	Responses
Salary (wages) / Income	75%
Gender suitable role	2%
Social Status	14%
Traditionally Acquired Skills / Family Business	1%
Flexible work arrangements (location, schedule)	6%
Job Security	50%
Opportunities for promotion and career development	6%
Closeness to Residence	12%
Retirement Plans	5%
Safety / Security	23%
Employer provided benefits and perks	4%

Perception of Preparedness for Jobs (n=178)	Responses
Completely Prepared	50%
Moderately Prepared	40%
Somewhat prepared	6%
Not Prepared	3%
No Answer/ Don't Know	1%

Availability of Job Opportunities (n=360)	Responses
Neither adequate nor inadequate	2%
Somewhat adequate	16%
Somewhat inadequate	43%
Very adequate	6%
Very inadequate	22%
No Answer/ Don't Know	11%

Multiple response question

Financial constraint (26%) and lack of work experience (17%) were the major challenges faced by youth in pursuing their career aspiration. Other factors include lack of jobs locally (11%) and Lack of guidance / information on appropriate job available for skill levels (10%).

*Table 13 Career Aspiration – Challenges in pursuing desired career**

Challenges (n=360)	Responses*	Challenges (n=360)	Responses*
Lack of family support / social acceptance of girls being engaged in economic activity	2%	Lack of jobs locally	11%
Pressure related to getting married	6%	Low financial strength	26%
Lack of guidance / information on appropriate job available for skill levels	10%	Inadequate infrastructure to access work-place	1%
Lack of sufficient education qualification	2%	Unsafe working environment	3%
Lack of technical / vocational skills	2%	Others	1%
Lack of work experience	17%		

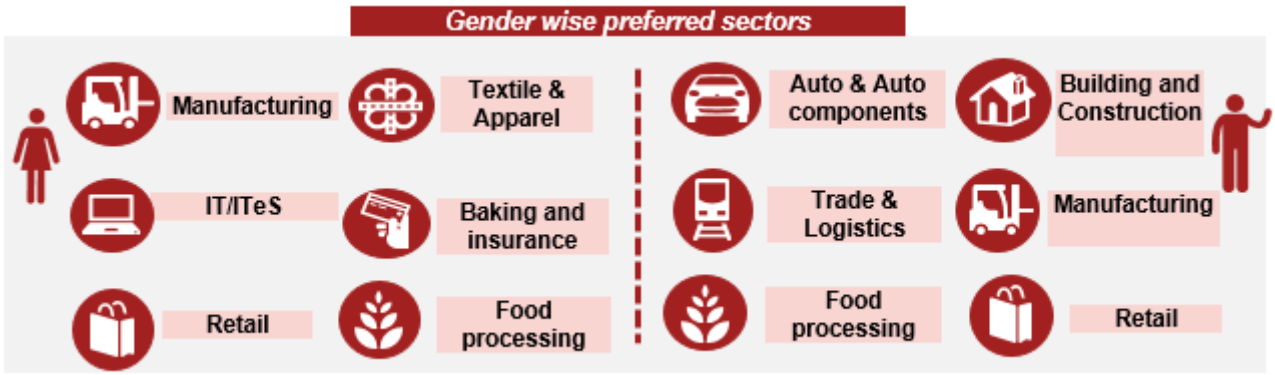
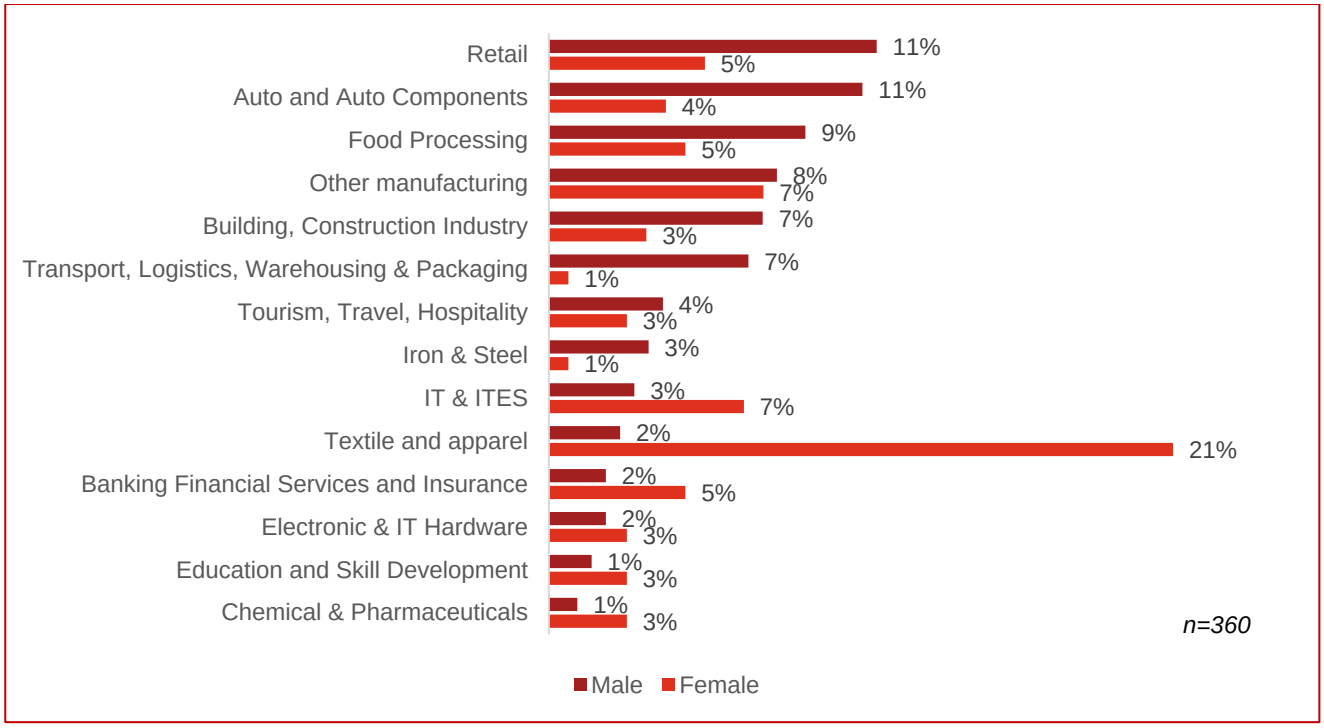


Figure 19 Sectors aspired by respondents



Around 61% of the respondents have expectations of monthly income greater than ₹20,000. Male respondents aspired for higher salaries compared to their female counterparts. Over 51% the respondents in the NEET category aspired for a monthly salary ranging between ₹15,001 to ₹25,000. Compared to respondents in self-employment[14] where 6% aspired for income above ₹20,000 per month, more (33%) respondents in wage employment aspired for the same. Respondents currently in self-employment aspired to get a higher salary (65% wished to get salary above ₹30,000 per month).

[14] Traditionally self-employment includes both enterprises and engaging in a profession/ trade on own account (as defined in the National Sample Surveys on Employment and Unemployment [http://mospi.nic.in/sites/default/files/publication_reports/nss_report_554_31jan14.pdf]. However, in this study, it has emerged that youth prefer to be engaged independently in a trade/ profession on their own account more than setting up an enterprise.

Figure 20 Aspired monthly salary of respondents by category

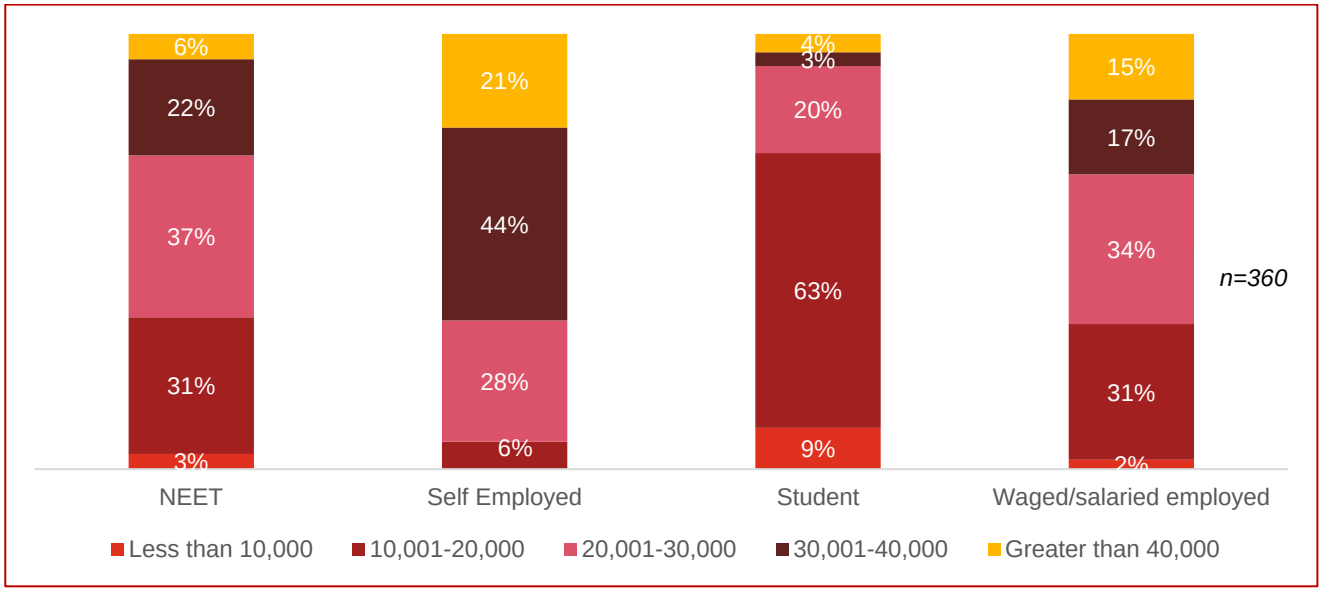
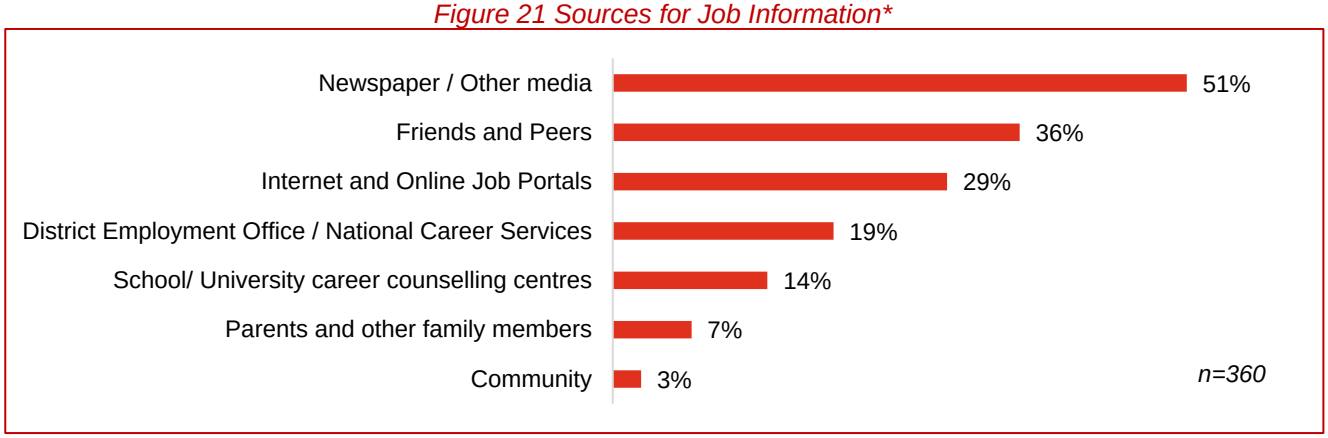


*Figure 21 Sources for Job Information**

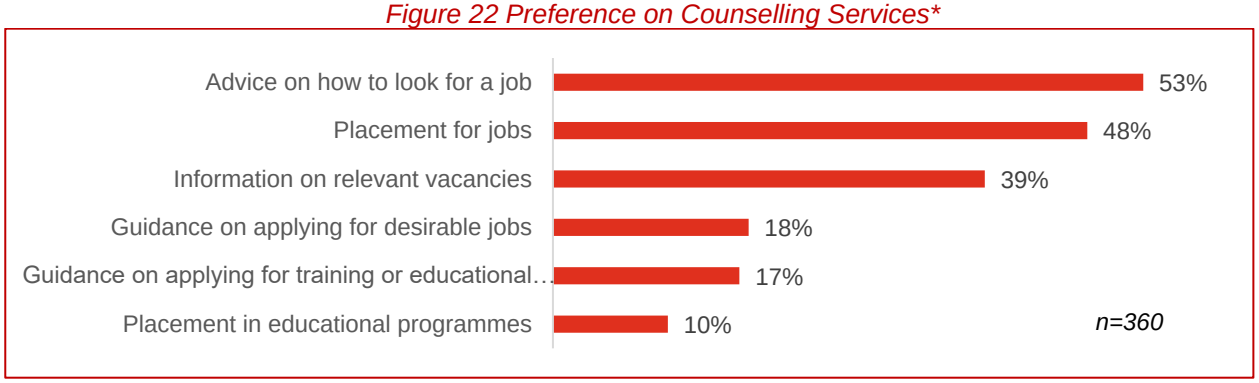


The most important source for the job related information was newspaper and media (51%), followed by friends and peers (36%). Internet and online job portals also played a role is providing job information (29%).

40% of the respondents felt that the counselling services were not adequate in meeting their requirements.

The key inputs requested by the respondents from career counselling services include advice on how to look for a job (53%), placement for jobs (48%) and information on relevant vacancies (39%).

*Figure 22 Preference on Counselling Services**



**Multiple response question*

2.6. Skill Training Preferences of Youth

About 10% of the total respondents had awareness about Govt. run vocational programs but only 3% had undergone any vocational training previously. Over 26% of the total respondents were interested in undertaking any vocational training. Of these respondents 62% preferred the trainings to be short term certificate courses (less than 6 months) and 58% wanted the courses to be part time in nature. Though the respondents weighed most aspects of a training program as being important, they were mostly concerned with reputation of training service provider (76%) and quality of training (76%).

Figure 23 Skill Training type interested in

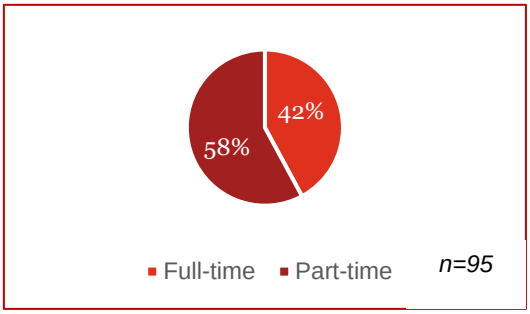
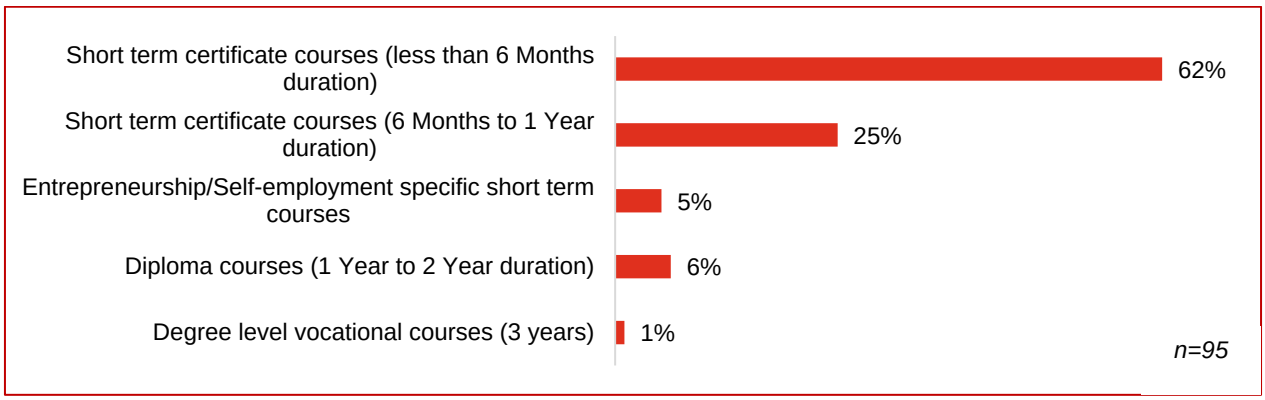


Figure 24 Duration of Skill Training type interested in



3. Employer's and Other Stakeholder's Perspective

3.1. Employers' Perspective

The study covered employers to understand the demand side perspectives of skills. The information was collected through both quantitative survey and qualitative approaches including in-depth interviews and focus group discussions.

The survey covered 34 Industries from primarily from three sectors, with highest representations from the auto and auto components, iron and steel and power, which contribute to majority of the local economy. More than two third of the industries (69%) surveyed were in operations for more than 10 years.

Figure 25 Distribution of Industries by Size

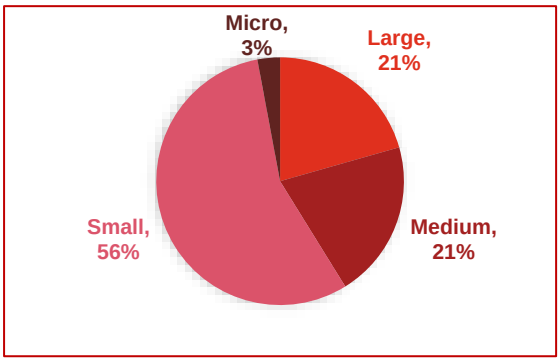
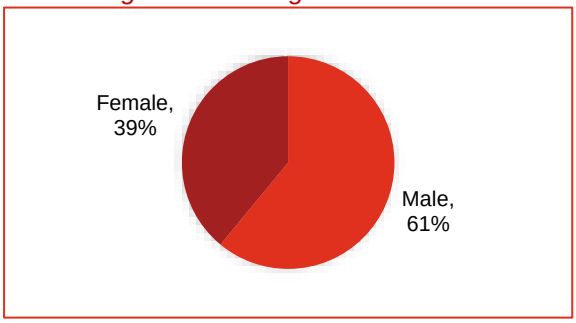


Table 15 Sector wise coverage of Industries in Employer Survey

S.No	Sector	Number of Industries Surveyed	S.No	Sector	Number of Industries Surveyed
1.	Iron, Steel and Other Metals	10	2.	Machinery Equipment	2
3.	Auto and Auto Components	5	4.	Plastics	2
5.	Power	3	6.	Building Construction Painting Industry	1
7.	Chemical & Pharmaceuticals	2	8.	Food Processing	1
9.	Textile and Apparel	2	10.	IT and ITES	1
11.	Leather & Leather Goods	1	12.	Other Manufacturing	1
13.	Logistics	1	14.	Paper and Paper Products	1

Figure 26 Average distribution of workers



All of the employers (100%) recruited through employee reference, from either existing employees or known sources as a mode of recruitment.

Advertisements in Newspapers (42%) was the second most preferred mode of recruitment. There has been slower uptake of recruitments from Campus recruitment in arts/science/commerce colleges (6%) and Campus recruitment in ITIs/Polytechnic (5%).

The most common challenge faced by employers include the candidate's disinterest and attitude (97%) followed by high local wages (76%).

*Table 16 Modes and Challenges in Recruitment Process**

Key Modes of Recruitment			Key Challenges faced in Recruitment		
S.No	**Particulars**	**%**	**S.No**	**Particulars**	**%**
1.	Employee Reference	100%	1.	Candidate Disinterest and Attitude	97%
2.	Advertisements in Newspapers	42%	2.	High local wages	76%
3.	Campus recruitment in arts/science/commerce colleges	6%	3.	Lack of requisite core skills	6%
4.	Social networks	3%	4.	Lack of requisite soft skills	3%
5.	Campus recruitment in ITIs/Polytechnic	3%	5.	Lack of Prior Experience	3%
			6.	Nature of work requires strenuous physical labour	3%

The surveyed industries were largely dominated by the male workers. Skilled workers dominated the share of workforce (43%) followed by semi-skilled workers (26%).

The key cause of attrition was better job opportunities (87%) and lower wage issues (84%). Also, employers stated that candidate's disinterest (74%) to do work led to attrition in the organization

Figure 27 Distribution of workers-Skill Levels

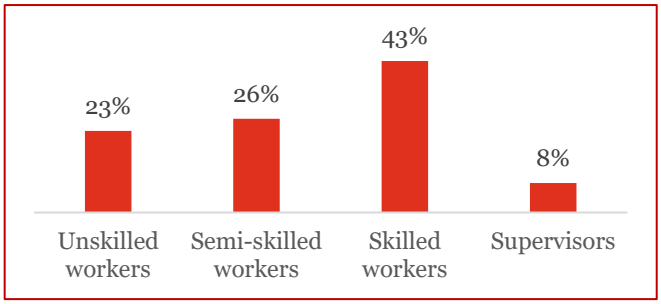
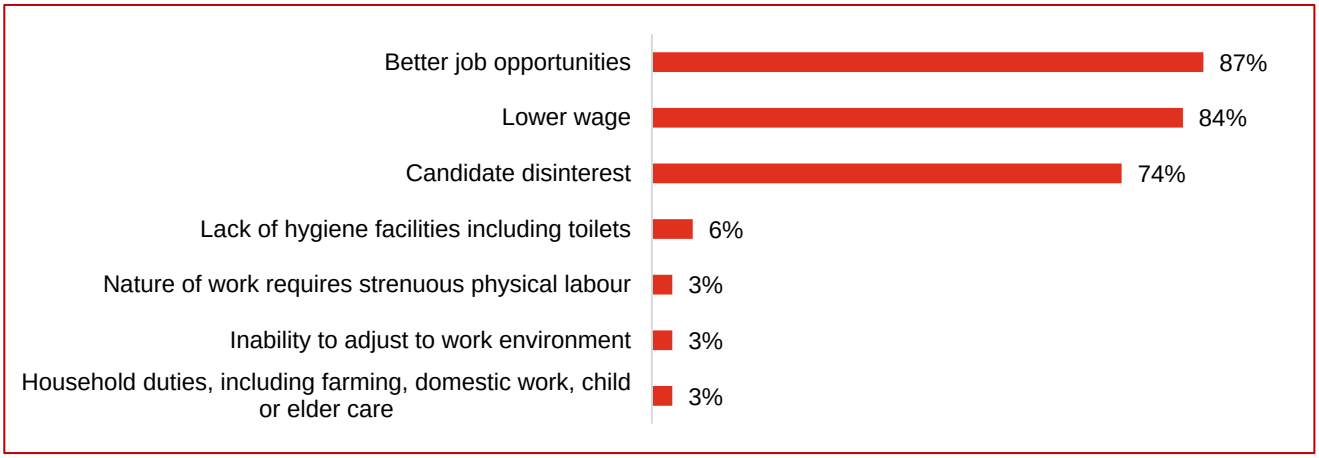
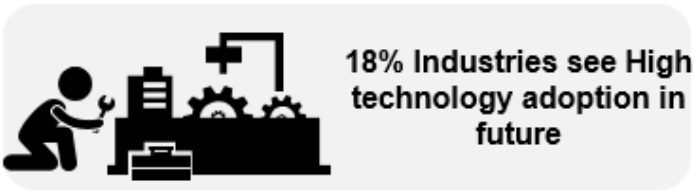


*Figure 28 Key causes of Attrition**



Over 7% of the employers stated that domain skill upgradation of the workers needed utmost focus.

About 18% of the employers feel there is high growth prospects in the industries, 18% of the respondents see high adoption of technology in the future but only 6% of the respondents have already initiated plans in adoption of technology.



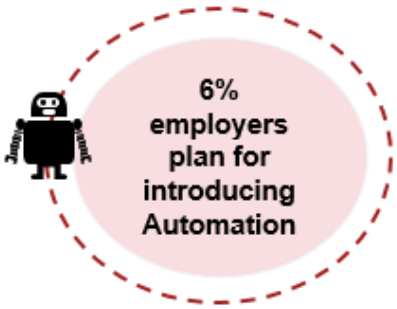


Table 17 Growth Prospects and prospective adoption of technology

Growth Prospects of Industry	%	Level of Technology adoption	%	Plans to adopt Technology	%
High	18%	**High**	18%	Yes	6%
Medium	76%	**Medium**	74%		
Low	3%	**Low**	9%	No	94%

3.1.1. Focus Group Discussion with Industry Representatives

A focus group discussion was conducted with sixteen stakeholders from various organizations in sectors such as boiler manufacturing, auto components, agro-processing, and food processing. In-depth Interviews with other stakeholders were conducted, with the discussion points summarized below:

Table 18: Focus Group Discussion - Key Points

S No	Topic	Findings
1.	Awareness of government skill training programs	• Low awareness on Government schemes that are aimed at skilling of workers, such as AMMA Skill Training schemes and other apprenticeships
2.	Quality of ITI/ Polytechnics/ Engineering colleges in the district	• The faculty of ITIs need to be updated on industrial requirements and advances in technology to ensure transfer of information to students in classroom. • Private ITI and Polytechnic colleges are more commercial and the quality of practical application of skills is not adequate. • Training the youth on industry and market-driven sectors in collaboration with large industries has better opportunities and potential with adequate infrastructure.
3.	Candidate Attitudes/ Abilities	• Youth attitude towards employment opportunity doesn't match with the industry requirement. Soft- skills of youth needs to be strengthened. • Fresh recruits in automotive and leather industry doesn't have adequate technical skills, but it is not the same with respect to other sectors like textiles and construction.
4.	Migrant workers	• Majority of the industries are dependent on migrant workers for semi-skilled jobs as the local youth are not available to do that. Migrant workers across the country are available in Chennai job markets. • Migrant workers are not adequately skilled and hence have the risk for high attrition rates, even though they are willing to work for lesser pay (contractual roles).
5.	Womens' employment	• Women have more scope for employment in service sector – hotel, retail, trade, etc. • Access to workplace is not a constraint due to good road and rail connectivity in the district.

3.2. Other Stakeholders' Perspectives

Representatives from IT-ITes Industry: Artificial intelligence, big data analytics and cloud computing are the emerging new areas in IT-ITeS which will lead businesses for the next five to six years. Adoption of new technologies will change the profile of present jobs and will evolve into higher domains with more computerization that pose challenges to the IT services industry. One of the major challenges is to recognize the nature of jobs in future and re-skill the present workforce for the transition to digital work. The industry has tie up with state-run premier institutions like the Indian Institute of Technology-Madras to enhance the skills of students entering the workforce in the IT sector.

Service sector consultations included representatives from hospitals, IT companies, hotels and pharmaceutical distributors. The former revealed that hospitals only hires experienced workers especially for technical roles such as, Nursing, Auxiliary Nurse and Mid-wife (ANM), General Nurse and Mid-wife (GNM) and General Duty Assistant (GDA). Non-technical roles include receptionists, insurance management, pharmacy workers and administrative support roles. However, attitude and work ethics (stealing) are major concerns.

Consultations at the District Employment Office's weekly job fair revealed that IT enabled services and software companies are functioning in the District. However, Government support for smaller IT companies is non-existent, and ELCOT plots are too costly for the average IT company in the District. Currently, retention is low, and workers tend to go from company to company in the hope and prospects for marginally higher salaries. In the hospitality industry, housekeeping and catering are recruited through walk-in interviews. Post induction, recruits are trained for 3-6 months. BSc Tourism graduates work in administrative roles and as tourist guides with some knowledge on regional languages and Hindi.

Government Officials: Employers conduct job fairs in colleges, ITIs and polytechnics for recruitment and select several applicants but only few are interested to take up the job and continue in the same job for more than a year. Most applicants are 10th or 12th pass-outs. Youth tend to shift from job to job, and since there is huge demand for labour, employers work with the high attrition rate. Employers look for office staff, salespersons, and software developers.

College/ ITI/ Training Institute representatives and Government Officials: The representatives from Government ITIs revealed that the automobile industry has high intake of most trades – machine cutter, fitter, mechanic, turner, etc. Among students, fitter, wireman, instrument mechanic trades are in demand. The institutes are not able to provide industrial training through hands-on training and industrial visits. Students are willing to migrate to major industrial hubs, and keep shifting between companies. They however stay in the same sector. Engineering graduates and diploma holders have to complete for the same jobs and at times opportunities for diploma holders are inadequate.

General issues raised by Industrial Associations of Chennai: Poor electricity supply and high electricity charges is a challenge to sustain any industry. Insufficient supply of skilled labourers is felt in most of the industries in Chennai. Cost incurred for transportation of goods increases the value of the product that has an impact on the profit, High rate of interest by financial institutions for lending money and the cost of industrial accommodation/sheds/plots/land are high to afford.

4. Skill Gap Analysis

4.1. Skill Gap Assessment - Incremental Demand for Skilled & Semi Skilled Workforce

As per our methodology for estimating demand and supply, it can be seen that **manufacturing, Communication and services related to broadcasting, construction, trade and repair services, BFSI, real estate, and repair of computers and personal and household goods** show high levels of demand for both skilled and semi-skilled workers. The detailed methodology is explained in Appendix A.2.

Table 19 Sector wise Incremental Demand for Skilled and Semi Semi-Skilled Workers between 2019 and 2025

Sectors	Incremental Demand for Skilled Workers			Incremental Demand for Semi Skilled Workers			Total Incremental Demand
	2019-21	2022-25	Total	2019-21	2022-25	Total	Total
Allied Activities	106	152	258	743	1,063	1,806	2,064
Manufacturing	3,254	4,594	7,848	6,507	9,188	15,696	23,543
Construction	1,266	1,828	3,094	3,166	4,569	7,735	10,829
Trade & Repair Services	1,421	1,981	3,402	4,920	6,858	11,777	15,180
Hotels and restaurants	616	859	1,474	1,193	1,663	2,857	4,331
Transportation and storage	716	975	1,691	1,718	2,340	4,058	5,749
Communication and services related to broadcasting	12,818	19,532	32,350	6,409	9,766	16,175	48,524
Financial and insurance activities	3,856	5,638	9,494	1,928	2,819	4,747	14,240
Real estate	2,066	3,081	5,146	5,164	7,702	12,866	18,013
Public Administration	2,306	3,215	5,521	1,844	2,572	4,416	9,937
Education; Human health & Social Work Activities	2,265	3,176	5,440	1,812	2,541	4,352	9,793
Arts, entertainment and recreation	867	1,202	2,069	694	961	1,655	3,724
Repair of computers and personal and household goods	2,907	4,029	6,936	2,326	3,223	5,549	12,486
Other Services	1,377	1,908	3,286	1,102	1,527	2,629	5,914
Total Demand	**35,840**	**52,169**	**88,009**	**39,526**	**56,792**	**96,318**	**184,327**
Total Supply	**20,899**	**27,866**	**48,765**	**14,953**	**19,938**	**34,891**	**83,657**
Total Skill Gap	**14,941**	**24,303**	**39,244**	**24,572**	**36,854**	**61,427**	**100,671**

5. District Skilling Action Plan

5.1. District Action Plan

The District level training projects below suggests the potential areas for skill development interventions and job opportunities in the future. It identifies the potential job roles mapped with NSQF linked QPs and the potential of employment opportunities over the next five years with a focus on youth. The job roles have been shortlisted based on the analysis of findings from the skill gap analysis, secondary research, youth aspiration survey, enterprise survey, district level consultations and discussions with industry associations.

Table 20 Summary of Trainings

S. No	Sector	Trades	Target (Persons)	Budget (₹)
1.	10,750	₹24.55 Crores • Automotive Service Technician (Two and Three Wheelers) • Brake Specialist • Customer Relationship Executive • Maintenance Technician -Electrical • Maintenance Technician-Mechanical • Repair - Welder	10,750	₹24.55 Crores
2.	4,600	₹6.24 Crores • Industrial Production Worker – Food Processing • Quality Assurance Manager • Traditional Snack and Savoury Maker • Cold Storage Technician	4,600	₹6.24 Crores
3.	4,000	₹7.32 Crores • Plumber (General) • Solar Domestic Water Heater Technician • Field Technician – AC • Field Technician – Refrigerator • Field Technician - Washing Machine • Field Technician - Other Home Appliances	4,000	₹7.32 Crores
4.	4,540	₹7.35 Crores · Housekeeping Attendant (Manual Cleaning) • Chef-de-partie • Billing Executive • Facility Supervisor • Tour escort and Driver • Assistant Catering Manager • Front Office Associate • Guest Relations Manager	4,540	₹7.35 Crores
5.	14,000	₹47.06 Crores • Supervisor - Roads and Runways	14,000	₹47.06 Crores

		• Fabricator • Construction Welder • Construction Electrician • Quality Technician		
6.	4,200	₹3.62 Crores • Accounts Executive (Recording, Reporting) • Goods & Services Tax (GST) • Exports Assistant • Mutual Fund Agent	4,200	₹3.62 Crores
7.	6,600	₹13.55 Crores • Associate - CRM • Associate - Desktop Publishing(DTP) • Domestic IT helpdesk Attendant • Web Developer • Associate-F&A Complex	6,600	₹13.55 Crores
8.	3,200	₹4.31 Crores • Retail Sales Associate • Retail Store Operations Assistant • Distributor Salesman • Retail Trainee Associate	3,200	₹4.31 Crores
9	9,400	₹29.55 Crores • Medical Records & health Information Technician • Blood Bank Technician • General Duty Assistant • Medical Equipment Technician (Basic Clinical Equipment) • Pharmacy Assistant • Medical Laboratory Technician • Ambulance Driver	9,400	₹29.55 Crores
10.	5,600	₹9.17 Crores • Reach Truck Operator • Fork lift operators • Warehouse Supervisor • Material Handling Equipment (MHE) Maintenance Technician • Ecommerce Operations Team Lead	5,600	₹9.17 Crores
11.	6,700	₹9.63 Crores • Customer Care Executive (Call Centre) • Customer Care Executive (Relationship Centre) • Customer Care Executive (Repair Centre) • Distributor Sales Representative • Network Engineer • Telecom Technician - IoT Device/System (Installation & M2M Communication Setup)	6,700	₹9.63 Crores
Total			**73,590**	**₹162.35 Crores**

Note:

1. The intended target groups are different from the eligibility criteria prescribed as part of the Qualification Pack. Target Group refers to the preferred set of youth who stakeholders have identified are most likely to benefit from the training. This could come from the Aspirations expressed in the Quantitative Survey, feedback from Industry and Govt. Stakeholders. For instance, though a training in handicrafts might require only 5th grade as an eligibility- criteria, the target group would be rural women in a cluster. TNSDC and the TSPs can continue to use the minimum criteria as mentioned in the Qualification Pack; however, qualifications that may constrain an interest-group may appropriately considered on a case-to-case basis (as approved by TNSDC).
2. The QP NOS reference numbers and the training hours have been taken as per the latest QP NOS compilation (as on 17th October 2019). However, in the same compilation, some job roles do not have training hours mentioned. **In such cases, we have taken the average training hours for the sector and NSQF level within the sector and applied those as notional hours.** We have also used insights from field consultations to arrive at training hour estimates which we believe are reasonably accurate.
3. An attempt was made to map each proposed job role with a QP NOS reference number. **In the cases where accurate mapping has not been possible, we have mapped the job role with the nearest QP NOS reference number.** In cases where we have proposed new job roles, we have indicated that a QP NOS reference is to be designed for the same.
4. The Cost of Training has been calculated using the following method: Each job role has training hours, training target (persons), and a cost category. The cost category has been determined by the National Skills Qualification Framework (NSQF) with respect to the level of capital expenditure and operational expenditure for imparting the course aligned to that specific job role. Therefore, each cost category corresponds to a particular cost norm calculated per trainee per hour. The calculations have been done as per the Government order (H-22011/2/2014-SDE-III) issued by MSDE on 4th January 2019. The categories are defined as follows:
   - INR 42.40 for Category-I
   - INR 36.30 for Category -II
   - INR 30.30 for Category-III

   The Cost of training in the project shelves represents the calculation of: (training target × training hours × per hour cost) + (training target × number of days of training × INR 100).

   Where:
   Number of days of training = training hours / 8
   Transportation costs per trainee per day = INR 100

   To the figures arising from the above formula, the training and assessment costs (INR 1,000 per trainee × training target for the whole project) has also been added. The total training cost for each project arrived through such a process has been added to the summary table above.

The training projects are described below:

Table 21 Training Project 1- Auto and auto components sector

Name of the Project: Training in Auto and auto components sector							
Key Economic Drivers:							
• Auto and Auto components sector has shown a positive growth over the years. • Service and maintenance of auto components is a high demand sub-sector							
Key Partners:							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training (in hours)**	**Cost Category**	**Target Group**	**Training Target (People)**	**Cost of Training (₹)**
Automation Specialist	6	ASC/Q6807	550	1	Diploma /B. Tech/ BE in Industrial / Electrical / Electronic Engineering	250	0.76 Crores
Automotive Service Technician (Two and Three Wheelers)	4	ASC/Q1411	450	1	Class 10th pass	2500	6.2 Crores
Brake Specialist	4	ASC/Q1414	380	1	ITI-Automobile/ 10th Class	1000	2.09 Crores

Customer Relationship Executive	4	ASC/Q1106	250	2	Class 12th pass	1000	1.23 Crores
Maintenance Technician - Electrical	4	ASC/Q6803	450	1	Diploma /B. Tech/ BE in Industrial / Production / Mechanical Engineering	2000	4.96 Crores
Maintenance Technician- Mechanical	3	ASC/Q6805	350	1	ITI / Mechanical Engineering / Fitter	2000	3.85 Crores
Repair - Welder	4	ASC/Q1902	400	1	Class 8th pass	2000	4.39 Crores
Total						10,750	23.47 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							1.08 Crores
Total cost							**₹24.55 Crores**

Key Considerations:

The youth can be encouraged to take up advanced agricultural methods to increase production.

Table 22 Training Project 2- Food processing Sector

Name of the Project: Training in Food Processing							
Key Economic Drivers:							
• Expected growth and investment potential in Food processing Sector • Food processing amongst top 3 sectors aspired by youth as per primary survey							
Key Partners: APEDA (Agricultural and Processed Food Products Export Development Authority), ITI							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training (in hours)**	**Cost Category**	**Target Group**	**Training Target (People)**	**Cost of Training (₹)**
Food Prodcuts Packaging Technician	5	FIC/Q7001	240	1	12th Class Pass	500	0.66 Crores
Industrial Production Worker – Food Processing	2	FIC/Q9005	240	1	5th class Pass	1500	1.98 Crores
Quality Assurance Manager	4	FIC/Q7602	240	1	M.Sc.	600	0.79 Crores
Traditional Snack and Savoury Maker	4	FIC/Q8501	240	1	8th Class Pass	1000	1.32 Crores
Cold Storage Technician	4	FIC/Q7004	240	3	Diploma/ITI	1000	1.03 Crores
Total						4,600	5.8 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							0.46 Crores
Total cost							₹6.24 Crores
Key Considerations: This sector is most suited to absorb workers shifting out of agriculture. It is also a favorable Industry for the employment of women.							

Table 23 Training Project 3- Domestic appliances repair and services Sector

Name of the Project: Training in Domestic appliances repair and services							
Key Economic Drivers:							
• Urbanization will lead to increase consumption ad purchase of domestic appliances. This will lead to growth in Repair sector of domestic appliances and computers							
Key Partners: ITI							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training (in hours)**	**Cost Category**	**Target Group**	**Training Target (People)**	**Cost of Training (₹)**

Helper Electrician	2	CON/Q0601	350	1	10th pass	600	1.15 Crores
Plumber (General)	3	PSC/Q0104	410	1	5th pass	600	1.36 Crores
Field Technician – AC	4	ELE/Q3102	300	2	8th pass	1000	1.47 Crores
Field Technician – Refrigerator	4	ELE/Q3103	300	2	8th + 2 yrs / 10th pass	400	0.59 Crores
Field Technician - Washing Machine	4	ELE/Q3106	300	2	8th + 2 yrs / 10th pass	400	0.59 Crores
Field Technician - Other Home Appliances	4	ELE/Q3104	360	2	8th pass	1000	1.76 Crores
Total						4,000	6.9 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							0.40 Crores
Total cost							₹7.32 Crores
Key Considerations: Youth can be trained to provide services for repair of domestic appliances. ITI and Diploma graduates can also be given in this sector.							

Table 24 Training Project 4-Tourism Sector

Name of the Project: Training for Tourism Sector							
Key Economic Drivers: • Medical Tourism is the most prominent sector, • Credit offtake high for tourism and hotel sector • Estimated Incremental demand of 4,000+ persons in hotel and restaurant sector in next six years							
Key Partners: ITI, Tourism and Hospitality Skill Council, Tourism Department							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training (in hours)**	**Cost Category**	**Target Group**	**Training Target (People)**	**Cost of Training (₹)**
Food & Beverage Service Steward	4	THC/Q0301	300	2	Class 10th pass	1200	1.76 Crores
Housekeeping Attendant (Manual Cleaning)	2	THC/Q Q0203	240	2	Class 8th pass	1200	1.41 Crores
Chef-de-partie	6	THC/Q0404	285	1	Class 8th pass	300	0.47 Crores
Billing Executive	4	THC/Q5801	290	2	Graduate	240	0.34 Crores
Facility Supervisor	5	THC/Q5709	365	2	ITI	200	0.36 Crores
Tour Vehicle Driver	4	THC/Q4202	300	3	Class 8th pass	300	0.39 Crores
Assistant Catering Manager	6	THC/Q5901	475	2	Class 12th pass	500	1.16 Crores
Front Office Associate	4	THC/Q0102	280	3	Class 12th pass	300	0.36 Crores
Guest Relations Manager	6	THC/Q0108	440	2	Class 12th pass	300	0.64 Crores
Total training cost						4,540	6.9 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							0.45 Crores
Total cost							₹7.35 Crores
Key Considerations: • Tourism is the most prominent sub sector, and youth can be employed in this sector easily • Woman can be employed in the sector							

Table 25 Training Project 5- Construction Sector

Name of the Project: Training for Construction sector							
Key Economic Drivers: • Construction is one of the identified sectors with high skill demand in the next five years							
Key Partners: ITI, Polytechnics							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training (in hours)**	**Cost Category**	**Target Group**	**Training Target (People)**	**Cost of Training (₹)**
Draughtsman	4	CON/Q1301	600	1	ITI/ Diploma in Civil	7,200	23.72 Crores
Supervisor - Roads & Runways	6	CON/Q1004	550	1	Graduate/ ITI	300	0.91 Crores
Quality Technician	6	CON/Q0403	516	1	Class 12th pas	1,500	4.26 Crores
Fabricator	4	CON/Q1206	600	1	Class 12th pass	2000	6.59 Crores
Construction Welder	4	CON/Q1252	600	1	Class 10th pass	1500	4.94 Crores
Construction Electrician	4	CON/Q0603	636	1	Class 10th pass	1500	5.24 Crores
Total training cost						14,000	~ ₹ 45.65 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							₹ 1.4 Crores
Total cost							₹47.06 Crores
Key Considerations: • Tie up with upcoming investment sites to understand the need of manpower in construction sector							

Table 26 Training Project 6- Banking and Insurance Sector

Name of the Project: Training in Banking, Digital marketing and finance							
Key Economic Drivers: • The large number of MSME units and have potential for better marketing and financial management of their enterprises • High credit offtake in BFSI sector • These skill training programs would also benefit the traditional sector artisans in the district							
Key Partners: **BFSI SSC**							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training (in hours)**	**Cost Category**	**Target Group**	**Training Target (People)**	**Cost of Training (₹)**
GST Accounts Assistant	4	BSC/Q0910	190	3	Graduation in Commerce	600	0.49 Crores
Export Assistant	4	Can be in line with AMH/Q1601	270	2	Class 12th pass	600	0.79 Crores
Mutual Fund Agent	4	BSC/Q3802	120	3	Class 12th pass	1000	0.51 Crores
Life Insurance Agent	4	BSC/Q3801	225	3	Class 10th pass	1000	0.97 Crores
Accounts Executive	4	BSC/Q1001	100	3	Graduate in Commerce	1000	0.43 Crores

(Recording, Reporting)							
Total						4,200	₹ 3.20 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							₹ 0.42 Crores
Total cost							₹3.62 Crores
Key Considerations: With the growth in BFSI sector and introduction of GSTs, there is a need to skilled workforce to work in the sector. Youth, especially woman can be trained and provided meaningful employment in this sector.							

Table 27 Training Project 7: IT/ITeS

Name of the Project: Training in IT/ITeS							
Key Economic Drivers: • Chennai is the major hub for IT/ITeS **Key Partners**: Major IT firms, Large							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training (in hours)**	**Cost Category**	**Target Group**	**Training Target (People)**	**Cost of Training (₹)**
Associate - Clinical Data Management	7	SSC/Q2401	400	2	Bachelor's Degree in Computer Science/ Biology	600	1.17 Crores
Associate - CRM	5	SSC/Q2202	400	2	Class 12th pass	1000	1.95 Crores
Associate - Desktop Publishing(DTP)	7	SSC/Q2702	400	2	BE	1000	1.95 Crores
Domestic IT helpdesk Attendant	4	SSC/Q0110	400	2	Class 12th pass	2000	3.9 Crores
Web Developer	5	SSC/Q0503	400	2	Graduate/Diploma	1000	1.95 Crores
Associate-F&A Complex	7	SSC/Q2302	400	2	Bachelor's Degree in Commerce	1000	1.95 Crores
Total						6,600	₹ 12.88 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							₹ 0.66 Crores
Total cost							₹13.54 Crores
Key Considerations: Formalization of traditional sectors is important. The existing artisans need upskilling and fresh trainings can be imparted to new entrants.							

Table 28 Training Project 8: Retail Sector

Name of the Project: Training in Retail Sector							
Key Economic Drivers: • Urbanizing population will spur the growth of large retailers **Key Partners:** Retail SSC							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training (hours)**	**Cost Category**	**Target Group**	**Training Target (People)**	**Cost of Training (₹)**
Cashier	2	RAS/Q0102	200	2	Graduate only	400	0.39 Crores
Retail Sales Associate	4	RAS/Q0104	280	2	10th Class	400	0.55 Crores

Retail Store Ops Assistant	1	RAS/Q0101	200	2	10th Class	600	0.59 Crores
Seller Activation Executive	4	RAS/Q0301	280	2	10th Class	400	0.55 Crores
Digital Cataloguer	4	RAS/Q0302	280	2	12th Class	800	1.09 Crores
Retail Trainee Associate	3	RAS/Q0103	280	2	10th Class	600	0.82 Crores
Total						3,200	₹ 3.98 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							₹ 0.32 Crores
Total cost							₹4.31 Crores

Key Considerations:

- Women can be targeted – but adequate facilities must be provided
- On the job training can be provided by local retailers

Table 29 Training Project 9: Healthcare Sector

Name of the Project: Training for Healthcare sector

Key Economic Drivers:

- Healthcare is a booming sector in the district.
- World class medical facilities and globally renowned facilities
- Incremental demand of around 9000+ skilled and semi-skilled workers in next three years in this sector

Key Partners: Hospitals, Medical colleges, Nursing colleges

Job Roles	NSQF Level	NSQF Code	Duration of Training (in hours)	Cost Category	Target Group	Training Target (People)	Cost of Training (₹)
Emergency Medical Technician	4	HSS/Q 2301	240	1	12th Pass with Science	1000	1.32 Crores
Medical Records & health Information Technician	4	HSS/ Q 5501	600	1	12th Pass with Science	1000	3.29 Crores
Blood Bank Technician	4	HSS/Q2801	1000	1	12th Pass with Science	1200	6.59 Crores
General Duty Assistant	4	HSS/ Q 5101	240	2	10th Pass	1000	1.17 Crores
Medical Equipment Technician (Basic Clinical Equipment)	3	HSS/Q5601	600	1	12th Pass	1100	3.62 Crores
Pharmacy Assistant	4	HSS/Q5401	200	2	12th Pass	2000	1.95 Crores
Medical Laboratory Technician	4	HSS/ Q 0301	1500	1	12th Pass with Science	1000	8.24 Crores
Ambulance Driver	4	ASC/Q9706	400	1	10th class	1100	2.42 Crores
Total						9,400	₹ 28.6 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							₹0.94 Crores
Total cost							₹29.54 Crores

Key Considerations: The Healthcare sector has completely moved into using high-end technological medical equipment and methods for treating patients. The industry is rapidly developing, fuelled by large investments from existing corporate hospital chains and new entrants backed by private equity investors. Woman can be employed in the sector easily.

Table 30 Training Project 10: Logistics Sector

Key Economic Drivers:

- Urbanizing population will spur the growth of large retailers- trade and transportation sector demand increases
- Large industrial clusters present in the district

Key Partners: Retailer's Association, Large industries, Logistics Sector council

Job Roles:	NSQF Level	NSQF Code	Duration of Training (hours)	Cost Category	Target Group	Training Target (people)	Cost of Training (₹)
Inventory Clerk	3	LSC/Q2108	250	1			

5.2. Key Recommendations

Study findings reveal that there is an emerging demand for skilled workforce in the District with several investments lined up within the district. However, access to skills, livelihoods and gainful employment varies across the district. Technical skills, lack of soft skills, aspirations, migration patterns and access to financial institutions emerge has key impediments in the employment of youth. However, it also emerges that opportunities for the youth, especially in sectors like tourism, trade and retail, and construction and repair services. Recommendation on key interventions that needs to be taken up in order to foster the participation of youth in the economy are as follows:

- **Student Counselling and industry collaborations:** Youth aspirations for jobs in the different sectors do not match with the opportunity available in the industry or service sectors. Hence, the opportunities available in the local industries and service sectors should reach the youth to tune themselves with the openings and what qualification and skill requirements are expected out of them. The following can be undertaken:
    - Organizing seminars/melas for students in collaboration with the industry.
    - Counselling sessions to students to enable them understand the market situation and job opportunities status with respect to their qualification/skill.
    - Local industries and service sector can train the youth by providing internships (short term) for better understanding of the job roles and responsibilities through tie-ups with appropriate institutes.

- **Unified job portal for placements:** Youth aspiration findings indicate that youth have a preference for placement services/ guidance with respect to applying for suitable jobs. Developing a **unified job portal** for job postings at all levels of skill across sectors can be developed. Such a portal would enable both employers and candidates to minimize time and effort in finding suitable vacancies and profiles.

- **Promotion of skill development in Service sector:** Private activity in the service sector can be nurtured to provide local employment to youth at a livable wage. Construction, trade and tourism, hospitality, retail and logistics can absorb local youth in significant numbers, and provide jobs suited to the needs of youth. Skill development programs can focus on such sectors, based on consultations with local players and training service providers.

- **Promotion of traditional village and household industries:** The Small Industries Product Promotion Organization (SIPPO) promotes traditional industries which have availed credit schemes under the Prime Minister's Employment Generation Program (PMEGP) of the Khadi and Village Industries Commission (KVIC). Consultations revealed that traditional artisans and home-based businesses face marketing challenges, which need to be overcome to ensure sustainability. Interventions can identify local partners for providing marketing and technical support to such beneficiaries, to ensure that traditional sectors such as sungudi and handloom saris are sustained. In addition, traditional industries can be formalized through appropriate skill assessment and certification process under the Recognition of Prior Learning modality. This can be done in collaboration with the Handicrafts and Carpet Sector Skill Council (HCSSC).

- **Training of trainers:** The Training Service Providers should have adequate qualified trainers and upskilling trainings should be given to the trainers about the current industry and technology. There is a need to active professional development intervention for the trainers and a certifying or licensing mechanism should be introduced to ensure that they are adequately updated on the market expertise on a regular basis.

- **Soft-skills and Employability Skills to be prioritised:** Across all sectors, employers have identified the lack of inter-personal skills and communication skills among the youth. Businesses in the IT-ITES and tourism sectors highlighted the particular lack of skills in spoken English. Appropriate skills program including soft skills, communication skills, and spoken English skills need be provided at school / diploma / graduation levels.

Appendix

A.1 Methodology for Selection of sample for Youth Aspiration survey

Sampling Design for Youth Survey

A total of 360 youth was surveyed in the district, which included youth in both self-employment and wage-employment, unemployed youth, youth on education system, and youth under NEET category to get a balanced representation of various socioeconomic and demographic characteristics of the population.

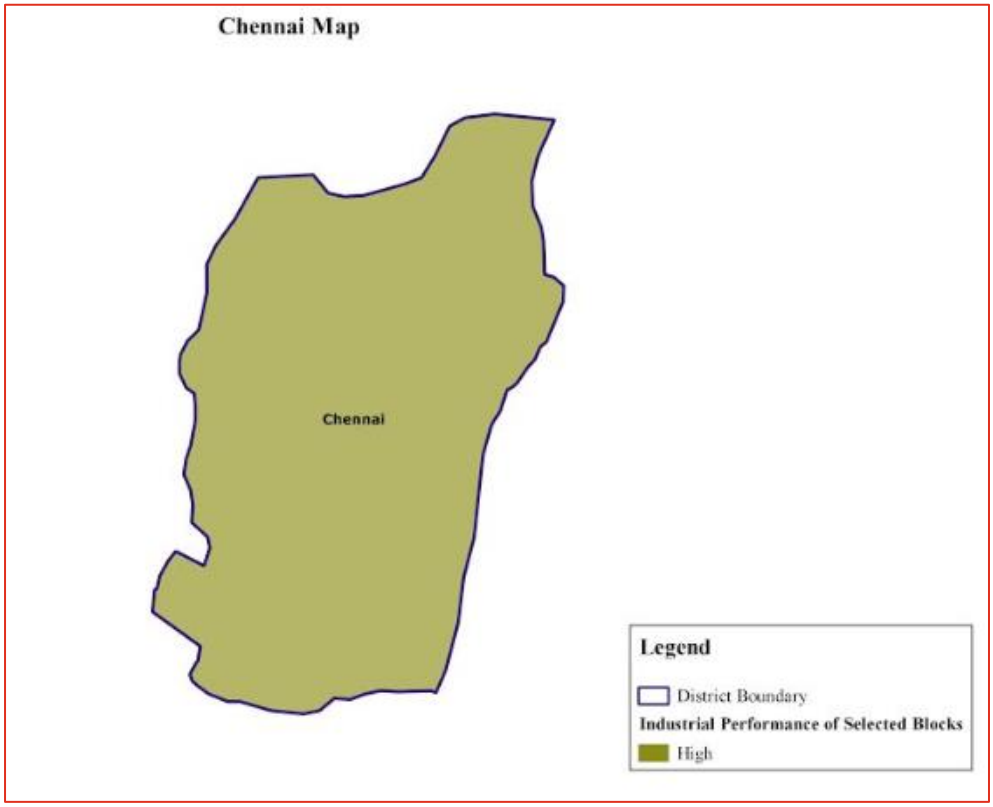
1. Students from educational and training institutions:
The list of General arts/science/commerce colleges, engineering colleges, polytechnic colleges and Industrial Training Institutions was obtained. A list of educational institutions was randomly sampled from the list. Of the selected institutions, a list of randomly selected students were interviewed.

2. Household Level Survey:
In the selected blocks, few villages and wards were randomly selected. After consultation with the head of the village/ward, a sample of households was selected.

3. Self – Employed Youth:
To cover Self – Employed Youth in the sample, a roster of beneficiaries from the Pradhan Mantri Employment Generation Programme (PMEGP) shall be randomly selected from the list which will be obtained from the concerned authority at the district level.

4. Employed in the informal sector:
The youth from unorganized sector were identified at the cluster-level after obtaining and examining the list of enterprises that are not registered and those workers were doing job-work type of activities.

Figure 29 Chennai map



A.2 Methodology for Present and Future Labour Demand – Supply and Gap Estimation

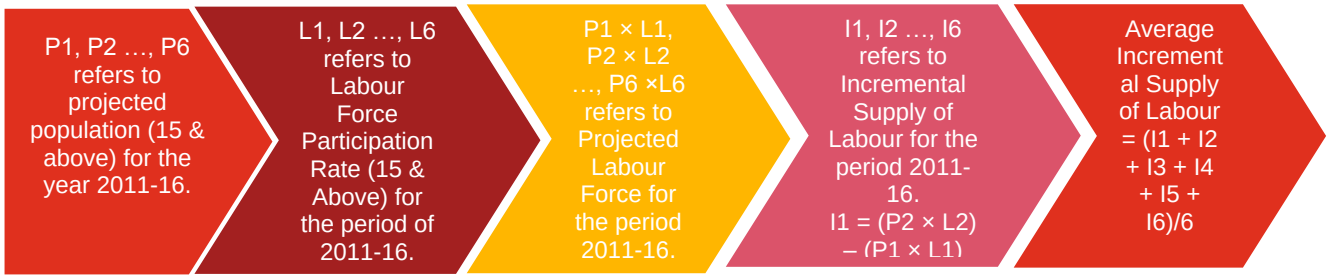
Demand Estimation:

We adopted employment elasticity approach to forecast the labour demand. Employment elasticity is the measure of percentage change in employment associated with one percentage change in economic growth. The employment elasticity approach indicates the ability of an economy to generate employment opportunities. We estimated sector specific employment elasticity using historical data and assumed it to remain constant in the near future. If the estimated sector specific elasticities at district level varied significantly with national and state level estimates, we rationalized the estimated elasticities based on national and state level trends. Automation is another factor that is considered before arriving at the final labour demand estimates in different sectors. While some jobs may become obsolete with the technological advancement, new opportunities will arise for professionals who understand technology. Therefore, demand estimates were further revised based on employer consultation. The flowchart below explains the step involved:

Supply Estimation

We estimated the average incremental supply of labour for the period 2011-16 and assume it to remain constant for the period of 2019-25. Although the population (15 & above) is increasing, the labour force participation is decreasing in the state[15]. The labour force participation rate may continue to follow the decreasing trend, especially for the age category 15-29 years, primarily because of increasing economic well-being, high educational aspiration and higher salary expectations. The flowchart below explains the step involved in supply estimation:

Figure 31 Key steps of supply estimations



[15] Report on Employment-Unemployment Survey, 2011-12, 2012-13, 2013-14, 2015-16 & 2017-18.

A.3 List of Stakeholders Consulted

Table 32: List of Stakeholders

S.No	Stakeholder	Category
1.	Joint Director Training	Govt. official
2.	Joint Director Employment	Govt. official
3.	District Skill Development Officer	Govt. official
4.	District Employment Officer	Govt. official
5.	District Industries Center General Manager	Govt. official
6.	DDU-GKY Program Officer	Govt. official
7.	Ramalingam Construction Company Pvt Ltd	Industry
8.	S S Engineer	Industry
9.	Premier press parts	Industry
10.	Chidambaram Fishnets Pvt.Ltd.	Industry
11.	Airzone	Industry
12.	R.K Industries	Industry
13.	Aline Private Limited	Industry
14.	Polyene General Industries Private Limited	Industry
15.	Four Star Industries	Industry
16.	Bosonic Electric	Industry
17.	Siva Sai Engineering	Industry
18.	Super Tech Equipment	Industry
19.	S.R. Industries	Industry
20.	Siva Shakthi Industries	Industry
21.	MARS Industries	Industry
22.	G.P Gear Products Private Limited	Industry
23.	Sri Akila Castings	Industry
24.	S.S Engineerings	Industry
25.	KRJ Industries	Industry
26.	Allfab Engineers	Industry
27.	Visa Engineering Works	Industry
28.	Ferro Alloys Corp Limited	Industry
29.	Devi Polymer Private Limited	Industry
30.	National Switch Gear	Industry
31.	Merit Technologies India Limited	Industry
32.	Dinesh Engineering Works	Industry
33.	Professional Courier	Industry
34.	Sri Kals Graphics Printers	Industry
35.	Sun Bright	Industry
36.	Shri Vaari Electricals	Industry
37.	Omega Inspection and Analytical	Industry
38.	GSK Machine Tools	Industry
39.	IPL Products	Industry
40.	Anjappar Chettinad AC Restrant	Industry

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