Skilling for the Future

Skill Gap Assessment & Action Plan for Tamil Nadu

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Tamil Nadu Skill Development Corporation

Tamil Nadu Skill Development Corporation (TNSDC) was established in 2013 as a not-for-profit public limited company incorporated under section 25 of the Companies Act, 1956 (corresponding to section 8 of the Companies Act, 2013) to meet the growing industrial demand for skilled workforce and to transform the state into the skill capital of the country. TNSDC is the nodal agency for skill related training and aims to catalyse the skill development ecosystem in the state. It actively collaborates with Government agencies, reputed private skill training institutions and industry partners to impart industry oriented and placement linked skill training.

The Tamil Nadu Skill Development Corporation has engaged PricewaterhouseCoopers Private Limited (PwC) to carry out "Skill Gap Assessment Study and Action Plan 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 districts.

Acknowledgement

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List of abbreviations

S.No	Abbreviation	Expanded Form
1.	ASER	Annual Status of Education Report
2.	ASI	Annual Survey of Industries
3.	BFSI	Banking, Financial Services and Insurance Sector
4.	BPL	Below Poverty Line
5.	BSNL	Bharat Sanchar Nigam Limited
6.	BSNL - RGMTTC	BSNL-Rajiv Gandhi Memorial Technical Training Center
7.	CIFT	Central Institute for Footwear Technology
8.	CIPET	Central Institute for Plastic Engineering and Technology
9.	COE	Centre of Excellence
10.	DDU-GKY	Deen Dayal Upadhyaya Grameen Kaushalya Yojana
11.	DES	Directorate of Economics and Statistics
12.	DIC	District Industries Center
13.	DISE	District Information System for Education
14.	GDDP	Gross District Domestic Product
15.	GoTN	Government of Tamil Nadu
16.	GSDP	Gross State Domestic Product
17.	GVA / GSVA	Gross Value Added / Gross State Value Added
18.	ITI	Industrial Training Institute
19.	IT-ITES	Information Technology and Information Technology Enabled Services
20.	LFPR	Labour Force Participation Rate
21.	Manuf.	Manufacturing
22.	NAPS	National Apprenticeship Promotion Scheme
23.	NEET	Not in Education, Employment, or Training
24.	NIC	National Industrial Classification, 2008
25.	NSDC	National Skill Development Corporation
26.	NSQF	National Skills Qualification Framework
27.	NULM	National Urban Livelihood Mission
28.	PMKVY	Pradhan Mantri Kaushal Vikas Yojana
29.	PSU	Public Sector Undertaking
30.	Pub. Admin.	Public Administration
31.	QP-NOS	Qualification Pack – National Occupational Standards
32.	SIPCOT	State Industries Promotion Corporation of Tamil Nadu
33.	SSC	Sector Skill Council
34.	TANSIDCO	Tamil Nadu Small Industries Development Corporation
35.	TANUVAS	Tamil Nadu Veterinary and Animal Sciences University
36.	TIDCO	Tamil Nadu Industrial Development Corporation
37.	TN-GIM	Tamil Nadu Global Investors Meet
38.	TNSDC	Tamil Nadu Skill Development Corporation
39.	Tr. & Tou.	Trade and Tourism Sectors
40.	WPR	Worker Population Ratio

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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 need felt 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 Study and Action Plan 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 districts. The study aims at identifying sources for wage employment and self-employment (including entrepreneurship) in all 32[3] districts, estimating the sector-wise current and future workforce demand (over the next six years i.e. up to 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.

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[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
[3] Prior to the announcement of the division of Villupuram, Tirunelveli, Kanchipuram, and Vellore districts.

Methodology for Study:

This 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:

1. **Youth aspiration survey:** a quantitative survey **covering 11,520 youth** across the following groups – persons 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. Six blocks in each of the districts were covered.

2. **Quantitative employer survey**: a quantitative survey covering 1,322 employers with adequate representation from Large, Medium, Small and Micro Industries across the key sectors and industries defining the district economy.

3. **Focus Group Discussions (FGDs) 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. In all, the study involved more than twenty focus group discussions (with a minimum of 10-15 participants) and nearly five hundred individual consultations across the State.

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 (up to 2025) categorised as skilled and semi-skilled workforce requirement. In addition, an estimate of skill gaps over the following four years (2026-29) was also estimated and is attached as an annexure. 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 are 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	• At 29 years, the median age of Tamil Nadu is higher than the national average of 26 years. The median age will increase further to 37 years by 2026; thus, the State needs to invest in skill development immediately at multi-levels to reap benefits of the demographic dividend. • Among the major states, Tamil Nadu is the most urbanised State (48%). It continues to urbanise at a rapid pace.
Economic Analysis	• Tamil Nadu is the second largest contributor to the Indian economy. The economy of Tamil Nadu grew at a CAGR of 5.5% between 2011-12 and 2017-18. • It ranks 5th in terms of GSDP per Capita ₹142,267 (2017-18). **Agriculture Sector:** • In the past decade, vagaries of weather conditions have affected crop cultivation. However, recent recovery has resulted with the sector growing at 15% between 2017-18 and 2018-19.

	• Increased urbanisation (with exposure to several alternate career options) and varied weather conditions (repeatedly affecting the sector and causing economic losses) are making the career prospects within the sector less aspirational to the Youth. • Growing at an average growth rate of 14.2% per annum, Livestock has emerged as an alternative form of income within the sector. The State is the second largest in the country in terms of poultry and dairy production. • With an average growth of 4.1% per annum between 2011-12 and 2017-18, the agriculture and allied sector in Tamil Nadu has grown at a pace faster than the national average.
	Industrial Sector
	• Industrial sector grew at 7.8% per annum between 2011-12 and 2017-18. Tamil Nadu is the third largest State in manufacturing after Maharashtra and Gujarat. • Tamil Nadu has the highest number of registered industrial units and workforce according to the Annual Survey of Industry[4]. Manufacturing sector in the State is predominantly the Medium, Small and Micro Enterprise (MSME) units. The key industries include automobiles, engineering, pharmaceuticals, garments, textile products, leather products, chemicals, and plastics. • Most of the Industries are labour intensive and provide employment opportunity for skilled and semi-skilled workers. • The recently announced policy initiatives, specifically in Aerospace and Defence, Textiles, Food Processing, Auto and Auto-component industries, and others will drive the industrial growth in the upcoming years.
	Services Sector
	• Services sector contributes to 52% of the GSDP. The sector grew at a CAGR of 6.6% between 2011-12 and 2017-18. • The key sub-sectors within the service sector, having economic growth and employment prospects for skilled workforce in the State, include Trade, Professional Services and Communication. The State is one of the leaders in the Healthcare sector, and accounts for 40% of medical tourists in the country. • IT & ITeS exports from Tamil Nadu have increased to an estimated ₹ 1,111.79 billion (US$ 17.25 billion) by 2017-18[5]. • The State complements its manufacturing and services industries with a strong logistical network. Tamil Nadu is the only State with three major ports, and four international airports. The State has one of the highest national highway networks in India.[6]
Labour Market Analysis	• The State has a labour force participation rate (57%) higher than the national average (50%) owing to the larger share of working age population. However, during the recent years, a decreasing trend in the LFPR raises concern, largely due to the significant drop in the female labour force participation rate.[7] • The primary sector has witnessed continuous decline in the share of employment and currently employs over 35% of the workforce vis-à-vis the national average of 46%. • Manufacturing (18%), Construction (12%) and Trade activities (11%) are other major sectors in terms of employment share.

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[4] ASI 2015-16
[5] https://www.business-standard.com/article/companies/tamil-nadu-s-it-ites-exports-pick-up-pace-in-2017-18-grow-8-55-118061200464_1.html
[6] NHAI
[7] Employment and Unemployment Survey, Labour Bureau 2015-16

Education & Skill Development	• 4.7% of the State's population (aged 15 years and above) have undergone vocational training of some kind; lesser than the national average of 5.4%. • The current apprenticeship scheme generally favours public sector institutions, mainly due to their need for trainees in large numbers; however, such apprenticeships do not transition into employment prospects for the trainee, as the recruitment process at the public sector institutions constrain regularisation of the apprentices into full-time employees. • Currently, training service providers are largely catering to entry-level mass jobs like Tailoring or Embroidery, BPO/Call centre operations, etc. Majority of training courses offered at present are in the Apparel & Textile, Telecom and Electronics industries. There is requirement for skilled workers with higher competency levels, in the Engineering and Food Processing industries among others.

Findings from Primary Survey

Youth Profile and Aspirations	• About 84% of the youth respondents engaged in economic activity were working in a field related to their education / training. • Over 16% of the respondents who had completed a Diploma and 12% of the graduates were engaged in unskilled work. • Around 55% of the Not in Education, Employment or Training (NEET) category respondents wished to work at some point in the future. A third of the respondents highlighted the lack of locally available jobs as a reason for being in NEET category. About 25% of females in the NEET category highlighted lack of family support as a reason for the same. • Over 25% of the youth aspire for employment in the Public Sector. • As per the youth respondents Salary (wages) / Income, Social Status, and Job Security were key determinants for selection of work. • Lack of jobs in the vicinity of their residence, pressure related to getting married, lack of career guidance, are identified as major challenges in pursuing desired careers. • Youth perceive relevant work experience, soft skills, and certified technical skills as key factors that determine employability and employment. • Female respondents aspired for securing careers within Food Processing, BFSI, and Agri-business industries, while males aspired for Automotive, Iron, Steel & Other Metals (Fabrication), and Argo-business industries. • Median Income expectation on the entry-level jobs was around ₹16,000 per month for females and ₹20,000 per month among males. The Income expectation among respondents with higher levels of qualification exceeded the reported incomes of similarly qualified respondents by around 100% or more. This indicates a vast disconnect between expected wage from the youth and wage offered by the industry. • Over 12.4% of the respondents were aware of Govt. run vocational training programs. • There is a requirement for strengthening the availability of labour market information and counselling services.
Employer & Other Key Stakeholder Perspective	**Quantitative Survey** • About 88% of the employers recruit through employee references; only 5% of the employers recruit directly from institutions offering vocational courses, primarily because of the employers' perception or experience on the mismatch between industry requirement and skills acquired by the trained youth. • High local wages, candidates' disinterest and attitude are the major challenges faced by the employers in the recruitment and retention of workforce. • On an average, 28% of the workers were unskilled while the remaining were either semi-skilled (27%) or skilled (38%). • Over 27% of the industries affirmed the deployment of migrant workers. Southern and Central Tamil Nadu were the major sources of migrant labour from within the

	State. Eastern and Central India were the major sources of migrant workers from other parts of India. [89]
	• The prevailing competition among various employers on wages is a major driver of attrition. Workers leave their jobs even at a marginal increase in monetary benefits, irrespective of losing other benefits like Insurance and Provident Fund.
	• Over 17% of the respondents were considering adopting high levels of technology. The employers see a greater role for upskilled / re-skilled labour who can adopt to newer and efficient techniques.
	• About 22% of the employer survey respondents had awareness about Govt. run vocational programs.
	• Though employers are investing in technological upgradation, there is very limited effort on full automation of production process.
	Qualitative Inputs
	• Employers of manufacturing industries observed that, the youth prefer service sector jobs in industries like IT/ITES, BFSI, and Logistics including jobs defined under Gig- economy.
	• Employers claim that migrant workers help keep their production costs competitive to international markets. The apparel / textile is facing stiff competition from Bangladesh. However, the employers prefer locals at the supervisory roles.
	• As per the employers, key challenges in recruiting from vocational programs was the mismatch in skills acquired vis-à-vis industry requirement, and their lack of exposure to or experience in working environment due to absence of internships and apprenticeships under the vocational programs.
	• MSMEs face tough competition from the larger industries to source apprentices, interns and workers and hence require support from the Govt. on ensuring enough availability of skilled / semi-skilled workers.
	• The youth also found the harsh working conditions and lack of amenities including sanitation and transport as in many industries as a major deterrent to work in the manufacturing sector.
	• English Communication was a major challenge among workers in the services sector. soft skills, interpersonal skills, teamwork, and attitude are other major challenges across all sectors.
	• Training service providers, District officials, and industries highlighted dearth of good quality trainers for both soft skills and job-specific technical skills. The centralised model of 'Sector Skill Councils' being responsible for training and certifying trainers and assessors made it hard for the stakeholders to access good quality trainers and assessors.
	• Though industries are willing to collaborate with the Govt. for skill development and vocational initiatives, simplification of processes was urgently required in apprenticeship and short-term skill development programs.
Incremental Demand	• As per an estimate, nearly 32.8 lakhs of additional skilled and semi-skilled workforce would be in demand over the next 6 years.
	• Key sub-sectors driving the demand are Manufacturing, Education & Healthcare Construction, Communication- IT/ ITES, Trade, BFSI, Real Estate & Business Services, Logistics and Allied sectors of agriculture.
	• The industry wise incremental demand for skilled and semi-skilled workers (between 2019 and 2025) is given below:

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[8] Primary Survey
[9] https://timesofindia.indiatimes.com/city/chennai/Tamil-Nadu-now-home-to-1-million-migrant-workers-Study/articleshow/50861647.cms

Estimated Incremental Demand, Supply and Skill Gap in Tamil Nadu (2019-2025)			
Sub-Sectors	Skilled Workforce	Semi-Skilled Workforce	Total
Manufacturing	3,53,284	7,06,568	10,59,852
Construction	93,783	2,34,457	3,28,239
Education & Healthcare Services	1,81,708	1,45,366	3,27,074
Communication / IT / ITES	1,32,504	66,252	1,98,756
Trade & Repair Services	39,019	1,35,064	1,74,083
BFSI	1,03,203	51,601	1,54,804
Allied Activities of Agriculture	15,917	1,11,419	1,27,336
Real Estate & Business Services	31,876	79,690	1,11,566
Logistics	31,468	75,523	1,06,990
Arts and others	49,380	39,504	88,884
Hotels and restaurants	24,367	47,210	71,577
Others	2,78,101	2,53,377	5,31,477
Total Skilled Workforce Demand	13,34,608	19,46,031	32,80,639
Total Skilled Workforce Supply	6,56,194	10,14,298	16,70,493
Estimated Skill Gap	6,78,414	9,31,733	16,10,147

Recommendations:

1) Convergence of Skilling Interventions: TNSDC is the State Skill Mission designated for the State of Tamil Nadu. Apart from TNSDC, several line ministries/departments and PSUs are involved in imparting vocational skills. Other interventions implemented in the State include - career counselling and job fairs, apprenticeships, self-employment and entrepreneurship development. There is an urgent need to converge the interventions/ efforts under these institutions to ensure standardisation of approach, quality assurance, market responsiveness, and de-duplicating efforts (and/or beneficiaries). There is also a case for developing a common Labour Market Information System (LMIS) that will aid effective monitoring of Govt. programs, dynamic decision making, and tracking of available labour force across the State. These efforts can rationalise mutual interaction between the stakeholders (the youth/trainee, the employers, and the training service providers) and enhance mutual responsiveness and market outcomes.

2) Training of Trainers: There is a dearth of trainers and master trainers across the State and especially in the less developed Districts like Dharmapuri, Perambalur, Ariyalur, Virudhunagar etc. There is also limited efforts and investments for continual upgrading/ upskilling of the trainers. TNSDC can consider establishing Regional Trainers' Academies (across Chennai, Coimbatore, Madurai, Trichy, and

Tirunelveli) equipped with adequate facilities to train, assess and certify trainers and in partnership with the Sector Skill Councils (SSCs), industry bodies and/or relevant national institutions. In line with the Center of Excellence of the Apparel Sector Skill Council at Tiruppur, opportunities exist to collaborate with SSCs across sectors like, Capital Goods, Automotive, Food Processing, Healthcare, etc.

3) Improving participation of Women in Economic activity: Women career aspirants reported concerns about the non-availability of proper transport, sanitation, safety and security at workplaces. In fact, some of the SIDCO estates have highlighted the lack of public transport connectivity. About a quarter of the female respondents identified restrictions placed upon them by their families as a challenge in pursuing a career, especially after marriage. Industries have highlighted a preference for employing women, finding them to be better in regularity and discipline. Thus, there is a need for dedicated effort to counsel women and their families/ community to improve their participation in the labour force. In addition, the Govt. and Industries could work together to provide adequate support systems like the public transportation, day-care facilities for children, and security.

4) Breaking the myths and market perceptions of the Youth: The youth need systematic counselling about the larger economic trends and career prospects, especially about options outside the public sector employment or employment in certain white collared and high-prospect blue-collared jobs. There is mismatch in perception and aspirations of youth about the salaries/wages, working conditions, career growth prospects, etc. Hence, there is a requirement for initiating career and market related counselling at the secondary levels of education and continued through higher levels of education.

5) Awareness Generation: There is low awareness among the youth and employers about vocational training and skill development interventions implemented by the Government. The efforts of TNSDC need further percolation through Media and Social Media engagements. Case studies, in the form of short-films, capturing the positive impact of skill development interventions to be developed, and utilised for promotional purposes.

6) Strengthening Soft-skills and Employability Skills: Employers across all sectors have acknowledged the limitations on inter-personal skills and communication skills among the youth, as constraining their effective performance of work. Businesses in the IT-ITES and tourism industries highlighted the need for strengthening the skills in spoken English. Given that the existing educational institutions and their mandate do not cater to the requirement of soft-skills and employability skills, it is important for TNSDC to consider designing a targeted intervention on improving the soft-skills and employability skills of the State's Youth. TNSDC can learn from the experiences of other States in this regard, and develop a custom-pack of the interventions, encompassing 21st century employability skills and soft-skills, in addition to spoken-English and basic information and communication technology (ICT). TNSDC should consider implementing this across Schools and Colleges, in addition to integrating the same along with long-term and short-term skill development program.

7) Strengthening Industry-experience: It is seen that the earning potential among graduates does not vary significantly from Diploma / ITI certificate holders over their career path. To enhance the value of the programs at the graduate level, it is necessary to strengthen their exposure to work environments (through guided industry-visits, internships or apprenticeships) for both technical and non-technical programs across the industrial and services sectors. It is also important to consider mandatory and periodic industry exposure for the faculties/ trainers, to develop an industry-ready workforce.

8) Strengthening deployment of Internship/ Apprenticeship at MSMEs: MSMEs have highlighted the lack of availability of trainees to be deployed as apprentices at their industrial units, as the trainees are often placed in large industries in bulk. Enhancement in the Government supported stipends to the trainees for preferring MSMEs over the large industries, or a hybrid model of additional incentives/ stipend in addition to extended period of deployment [increase in the apprenticeship period] or assurance of regularisation into employment, could be considered to improve participation of MSMEs and balance the deployment with small/medium and large units. The MSMEs have also faced operational constraints with frequent attritions among the trainees deployed as apprentices. It is suggested, that an appropriate check and balance mechanism put in place to ensure successful completion of the apprenticeship

program by the trainees. It is also suggested that there is a mandatory inclusion of 'internship' in all the short-term courses, to enable adequate industry exposure and hands-on experience.

9) **Promotion of Traditional Sectors & Indigenous Products:** Tamil Nadu is home to several traditional vocations of handicrafts, handlooms and arts. However, many of these are at the risk of dying out owing to lack of appropriate patronage, documentation and transmission of skills. The youth prefer alternate vocations more lucrative than traditional vocations. It is necessary for the Govt. of Tamil Nadu to promote the traditional skill-based occupations by formalising the traditional skills and ensuring market access/development through linkages. TNSDC in partnership with agencies like TNHDC, KVIC, should implement targeted interventions including developing Qualification Packs and carry out training programs including through RPL Mode.

10) **Catering to the Emerging Needs:** Skills demand is driven by the policy initiatives, programmatic interventions and technological advancements.

   o **Electric Vehicles**: The Indian Government's push to popularise the electronic vehicles through the FAME[10] I & II Schemes present both a challenge and opportunity for the Auto & Auto-component industries to cater to the emerging demand. While the initiative is said to cut several millions of jobs, it provides an opportunity for up-skilling and re-skilling of the existing workforce to redeploy them into the rapidly changing industry needs. This also mandates the need for introduction of newer courses aligning to the emerging market requirements.

   o **Language Training:** Tamil Nadu is one of the favoured destinations for Investments (both domestic and foreign) in the country. The State has a strong tourism sector owing to its cultural heritage and medical facilities. The increased interactions with the advent of globalisation makes multilingualism a mandatory skill need. Trainings in other Indian languages, English and other foreign languages like Japanese and Chinese are necessary to maintain the competitiveness of the local labour market.

   o **Infrastructure:** 12 cities in Tamil Nadu are upgrading their infrastructure under the smart cities mission. With this, there is an emergence of new-approach to conceptualising public infrastructure. There is an opportunity for the state to become a case study for state-of-the-art facilities. These initiatives have a visible inclusion of 'innovation' and 'technical and technological improvements' in every facets of reconstruction and/or improvement to the basic and advanced infrastructure e.g. automated bio-toilets, metro-rail, etc. Pre-fabricated structures, 'smart' electrical equipment and appliances, and façade installations are in high demand. In addition, green jobs including adoption of Solar Technology, Rain Water harvesting, sewerage and drainage upgradation, recycling of plastics etc. will be the other areas of demand.

   o **Paramedical & Geriatric Care:** The State's population is ageing with 30% of the State's population to be aged above 50 years by 2026. High prevalence of lifestyle diseases including diabetes are on the rise not only in the State but also across the globe. These trends are expected to drive the demand for paramedical professionals providing support in Scanning, Testing & emergency services apart from Geriatric care for the aged and the unwell.

   o **Automation and Robotics**: Automation is driving the replacement or optimization of labour in several industries at a global level. Though the manufacturing industries in the State, do not see an immediate transformation into a highly automated-environment, there is an opportunity to cater to the global market for such developments. Institutions like IIT Madras, NIT- Trichy and Anna University could partner with each other for introducing training courses in the field of automation and robotics.

   o **Data Analytics, Big Data and AI**: The IT/ ITES industries is seeing a major evolution services, the products provided and the associated skills. Data Analytics, Blockchain, Big Data, Machine Learning & Artificial Intelligence, are some of the key areas of skill requirements in the industry.

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[10] Faster Adoption and Manufacturing of (Hybrid) and Electric Vehicles [FAME]

Tamil Nadu could emulate other States that have initiated training programs for tapping into such potential. Institutions in the state including University of Madras, IIT-Madras, IIM-Trichy, Anna University, NIT-Trichy and Madras School of Economics can be partnered with for the programs.

- o **Emergency and Disaster Management –** The State has been exposed to the vagaries of nature having witnessed droughts, floods and cyclones during the recent years. To respond effectively to these challenges, the State will need skilled workforce in the field of natural disaster management. The key emerging skills would include environment management, lifeguard, first aid training, and earth mover operators among others.

11) Demand-responsive Sectoral broad basing and Targeted Skilling: There is a necessity for greater diversity in the skill trainings offered in the state, in terms of sectors and higher levels of the NSQF including supervisory roles and courses with higher technological requirements. The exposure to advanced machinery to make candidates job ready is less than enough, even in ITIs and polytechnics. The key industries aspired by the youth include Auto and Auto-ancillary, Food Processing, Agri-business, handicrafts and handlooms. These sectors are witnessing concerted efforts from the Govt. and investments from the private sector. They also hold potential for considerable self-employment, especially among females. Detailed District-wise action plans, which highlight possible skill development initiatives to meet the above requirements are attached as separate annexures to the report. The collated industry-wise summary of these are attached under annexure-8 of this main report.

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Introduction

1. Introduction

1.1. Background

Skill Development initiatives are key aspects of the Government of India's approach towards human resource development. The National Policy on Skill Development and Entrepreneurship (2015) views the creation of a skilled labour force as crucial for economic development[11]. The demographic structure of India and its position as a global economic player inform the skill development programs introduced by the Government. Another area of policy focus is the formally educated population in the country, deemed "conventionally educated", need to be equipped with employable skills.

The India Skills Report 2018 published by the United Nations Development Program[12] cites five major trends (ref, adjacent figure). India's transition into a knowledge economy serves as a crucial stage for skill development. Also important is 'entrepreneurship', which is expected to create jobs in a changing economy, both within and outside the country. Therefore, the Policy envisions a skill development ecosystem, which operates on a large scale (with employment and entrepreneurship promotion components) with globally accepted standards.

Figure 1: Major Trends Affecting Indian Workforce

The Skill India Campaign launched in 2015, aimed at scaling up the skill development infrastructure in the country and to skill youth across various sectors. The implementation framework for Skill India articulated within the National Skill Development Mission, aims to create an outcome-focused approach with the participation of various stakeholders to align the demand of employers with aspirations of the country's workforce. The institutional support mechanism at the national level includes the National Skill Development Agency (NSDA), the National Skill Development Corporation (NSDC) and the Directorate General of Training (DGET), and a wide range of sector skill councils. Skilling mandate at the State level rests with the respective State Skill Development Missions. In addition to the Ministry of Skill Development and Entrepreneurship, various other ministries also run their own skill development schemes, catering to a wide spectrum of beneficiaries (sometimes overlapping). The various skill development schemes administered by the Central Government are as follows:

Table 1: Skill Development Schemes - GoI

S No	Name of Scheme	Administering Ministry
1.	Pradhan Mantri Kaushal Vikas Yojana (PMKVY)	Ministry of Skill Development and Entrepreneurship
2.	Skills Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP)	
3.	Udaan	
4.	Sub-Mission on Polytechnics	
5.	Vocationalisation of School and Higher Education	
6.	Craftsmen Training Scheme	
7.	National Apprenticeship Promotion Scheme	
8.	Deen Dayal Upadhyaya Grameen Kaushalya Yojana	Ministry of Rural Development
9.	National Urban Livelihoods Mission	Ministry of Housing and Urban Affairs
10.	Initiatives for Minorities	Ministry of Minority Affairs

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[11] National Policy on Skill Development and Entrepreneurship, Ministry of Skill Development and Entrepreneurship, GoI, 2015 [https://www.msde.gov.in/assets/images/Skill%20India/
National%20Policy%20on%20Skill%20Development%20and%20Entreprenurship%20Final.pdf]

[12] India Skills Report 2018, UNDP [http://www.in.undp.org/content/dam/india/docs/poverty/india-skills-report-2018_undp.pdf]

S No	Name of Scheme	Administering Ministry
11.	Financial Assistance for Skill Training of Persons with Disabilities	Ministry of Social Justice and Empowerment
12.	Vocational Training Centres in Tribal Areas	Ministry of Tribal Affairs

Source: Various Government Websites

1.2. Skill Gap Studies – Their Relevance

Skill Gap assessment studies are 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 (social and economic).Policy-makers can derive insights related to the: (i) direction of economic development and the resultant implication on the workforce requirement; (ii) magnitude of skilled workforce required to sustain the economic development; and iii) preparedness of institutions to respond to such a requirement, with minimum assured quality and standards, across the geographies. Skill Gap assessment studies, as they are understood and articulated at the international, national and regional levels, bring-out actionable recommendations. They are especially important to design demand-responsive skill development programs. Responsiveness of the short-term skilling programs such as the Centre sponsored PMKVY and DDU-GKY or the State sponsored programs under the TNSDC, can be improved by bringing in market and aspiration perspectives. Even for long-term skilling (as imparted by ITI and Polytechnics), bringing in the perspectives of employers can facilitate market-relevant curriculum development, industry-exposure and employment.

The National Skill Development Corporation (NSDC) has published the national sector-specific skill gap reports across twenty-five sectors to date[13]. In addition, it has also conducted and published skill gap studies at State level in all States of the Country except Bihar[14]. The future growth prospects, the adequacy and quality of available human resources to address the demands of the key sectors inform the skill gap estimations. Such estimations analyse demand for individual job-roles and skill profiles and provide pointers for developing policies and programs for skill development and education. Apart from the Government of India, international agencies such as the United Nations Development Program and World Economic Forum also publish reports estimating the demand and supply of skilled labour across various sectors and economies.

1.3. Skill Development in Tamil Nadu

Skill development efforts in the State have been oriented towards investment promotion[15]. In addition to centrally sponsored schemes, the State government administers skill development initiatives through various departments, with the Tamil Nadu Skill Development Corporation (TNSDC) as the nodal agency. The Tamil Nadu Skill Development Corporation, in addition to directly implementing short-term skilling interventions, partners with various government bodies such as the Tamil Nadu Corporation for Development of Women, Tamil Nadu Slum Clearance Board and Tamil Nadu Handicrafts Development Corporation to implement various short- and medium-term skilling intervention across several sectors[16]. The table below presents the skill development schemes run by the State Government.

Table 2: Skill Development Schemes - GoTN

S No	Name of Scheme	Implementing Department/ Body
1.	Short- and Medium-term Skill Training Courses	Tamil Nadu Skill Development Corporation
2.	Skill Development Training (Mahalir Thittam)	Tamil Nadu Corporation for Development of Women, Rural Development and Panchayat Raj
3.	Tamil Nadu Rural Transformation Project	
4.	Entrepreneurship Development & Innovation Training	Micro, Small and Medium Enterprises

Source: TN Government Website, TNSDC Website

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[13] Executive Summaries of Skill Gap Studies, MSDE, GoI [https://www.msde.gov.in/executive-summary-report.html]
[14] State Skill Gap Reports, National Skill Development Corporation [https:/s/www.nsdcindia.org/nsdcreports]
[15] Skill Development: Sector Profiles, TN-GIM [http://www.investingintamilnadu.com/doc/TN-GIM-Skill-Development-sector-profile.pdf]
[16] Ongoing Skill Training Courses, Tamil Nadu Skill Development Corporation
[https://www.tnskill.tn.gov.in/Downloads/Ongoing%20Skill%20Training%20Courses.pdf]

In 2012, the National Skill Development Corporation (NSDC) commissioned a skill gap study for Tamil Nadu. The skill gap study extrapolated the study findings of 12 Districts to all the Districts in the State, and employers of various sizes and sectors. The study was conducted using a mixed method design: both primary and secondary data was used, with quantitative and qualitative inputs collected from various stakeholders such as youth, employers, industry associations, government officials, and skill training providers, across 12 districts.

Challenges to the development of Skilled Workforce in Tamil nadu

Information Asymmetry	Disincentives for Skill Acquisition	Issues in Training Quality and Delivery

Inadequacies in Performance On-the-Job	Inhibition in Attitudes and preferences towards skilling

1.4. Context of the Present Assignment

The skill gap estimation for Tamil Nadu needs an update: the earlier study conducted in 2012 is dated and probably not relevant at the current context, as it was carried out through a simple limited coverage-based study and an extrapolation for the State with 10-year estimates. A comprehensive and a contemporary estimation would reveal relevant insights and findings related to the demographic profile, socio-economic characteristics of the youth, and the emerging sectors, skill-sets in demand and job roles. A new skill-gap assessment study would also capture developmental initiatives that contributes to the economy at present and that which would contribute during the immediate years ahead. It is also expected to capture the sensitivities and dynamics around the National and global factors that contribute to the growth of the sectors – international economic fluctuations and Central government initiatives across various sectors (namely, Make in India, Start-up India, Sagarmala etc.). In order to capture these phenomena, the new skill-gap assessment study would have to have greater coverage in terms of qualitative and quantitative data.

For this purpose, Tamil Nadu Skill Development Corporation (TNSDC) for the first time has commissioned a comprehensive State-wide study with samples selected from across 6 blocks under each District and covering all the Districts in the State. The TNSDC has retained PricewaterhouseCoopers Private Limited (PwC), through a competitive tender process to conduct a study titled "Skill Gap Assessment Study and Action Plan for Tamil Nadu". PwC undertook skill gap analysis, identified developmental opportunities in each District, and estimated priority sector-wise current and future demand for skilled and semi-skilled workforce (over the next six years) and articulated training/ skill development projects to respond to the estimated requirements across the priority sectors. In comparison to the previous Skill Gap study, the current assignment covered the entire State (i.e. all 32 districts) for primary data collection.

The youth aspiration survey was a quantitative survey covering youth across the following groups: employed (in formal and informal sectors), students/ trainees in formal education, vocational and skill training institutions (Polytechnics, ITI), and those who fall under the Not in Education, Employment or Training (NEET) category. The sample selection ensured representatives of the Districts. In addition, the study had an extensive quantitative employer survey with adequate representation from Large, Medium, Small and Micro Industries across the Industry and Services sectors. In addition, the findings were duly validated through select high level consultations with District-level Industry Associations within the priority sectors and through Focus Group Discussions (FGD's) across industry representatives. Annexure-1 to this report captures the detailed methodology adopted for the study.

State Context

2. Socio-Economic and Demographic Context of the State

2.1. Demography

As per the census 2011, Tamil Nadu's total population stood at 7.21 Crores, making it the sixth largest State in India. Chennai, Kancheepuram, Vellore, Tiruvallur, and Salem, were the most populous Districts, accounting for over 27.4% of the total State population. Tamil Nadu's decadal growth was 15.6% between 2001 and 2011, as compared to 17.7% at the national level. The table below compares key socioeconomic indicators of Tamil Nadu with national average. Among the large States, Tamil Nadu is the most urbanized State.

Table 3: Demographic Indicators of Tamil Nadu

Indicators	Tamil Nadu	India
Urbanisation	48%	31%
Population density	555	382
Sex Ratio (Females per 1,000 males)	996	943
Literacy rate	80%	73%
Per Capita Income (INR)	142,267	98,867
Population Below Poverty	11.28%	21.92%

Source-Census 2011
Population density as population per square kilometre

Although Tamil Nadu performs remarkably better than the other States on key human development indicators, its population is older and thus has a relatively smaller demographic window of opportunity.

Figure 2 Population pyramid, Tamil Nadu 2011 & 2026
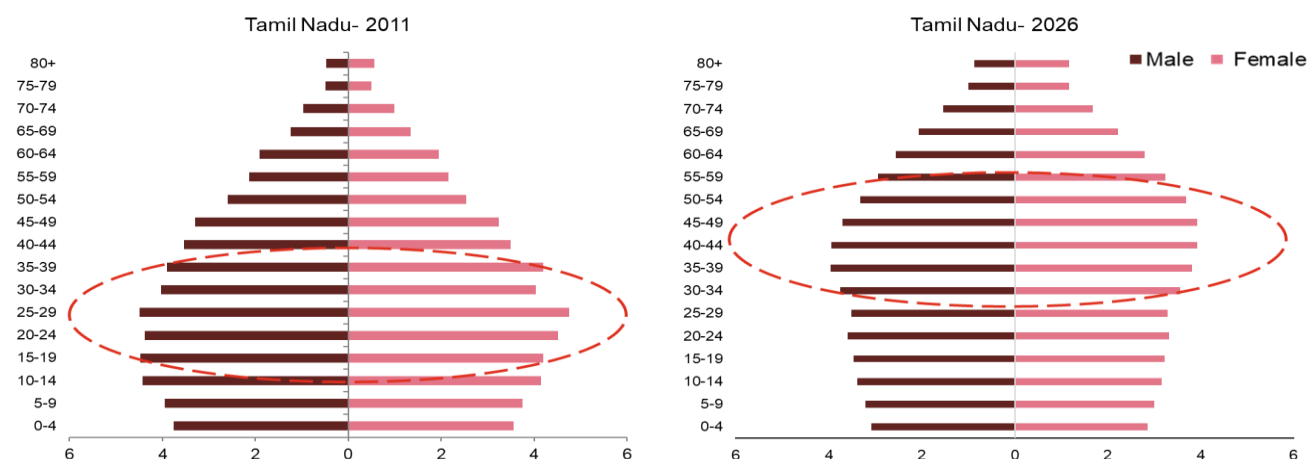
As per the census 2011, Tamil Nadu's median age was 29 years, compared to the country's median age of 25 years[17]. Furthermore, between 2011 and 2021, the share of population within the age group 15-29 years will decrease by about 5 percentage points from 27% to 22%, which is significantly higher than the anticipated decrease of 1.5 percentage points at the national level[18]. It is also projected that the median age for the State of Tamil Nadu will be 35 years and 37 years by 2021 and 2026 respectively, which is higher than country's projected median age of 29 years and 31 years during the same period. The principal reason behind the rise of median age is that the Total Fertility Rate (TFR) has consistently been below the UN specified replacement-

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[17] Median Age – 50th percentile of the age distribution

[18] Report of the technical group on population projections constituted by the national commission on population, May 2006

level fertility rate of 2.1. The demographic analysis of Tamil Nadu suggests that the State must intervene immediately and invest in its youth to make them rich human capital.

2.2. Migration

According to the Census 2011, about 20 Lakh people migrated from Tamil Nadu as per the definition of the place of last residence. Women constituted 53% of the migrated population. Overall, about one-fourth of the total migrants left the State for the livelihood opportunities and another one-fourth migrated because of marriage. A gender specific analysis of reasons for moving from the State indicates that 'livelihood opportunities' was the main reason for the migration among the males while 'marriage' for the females.

Figure 3 Reasons for migration
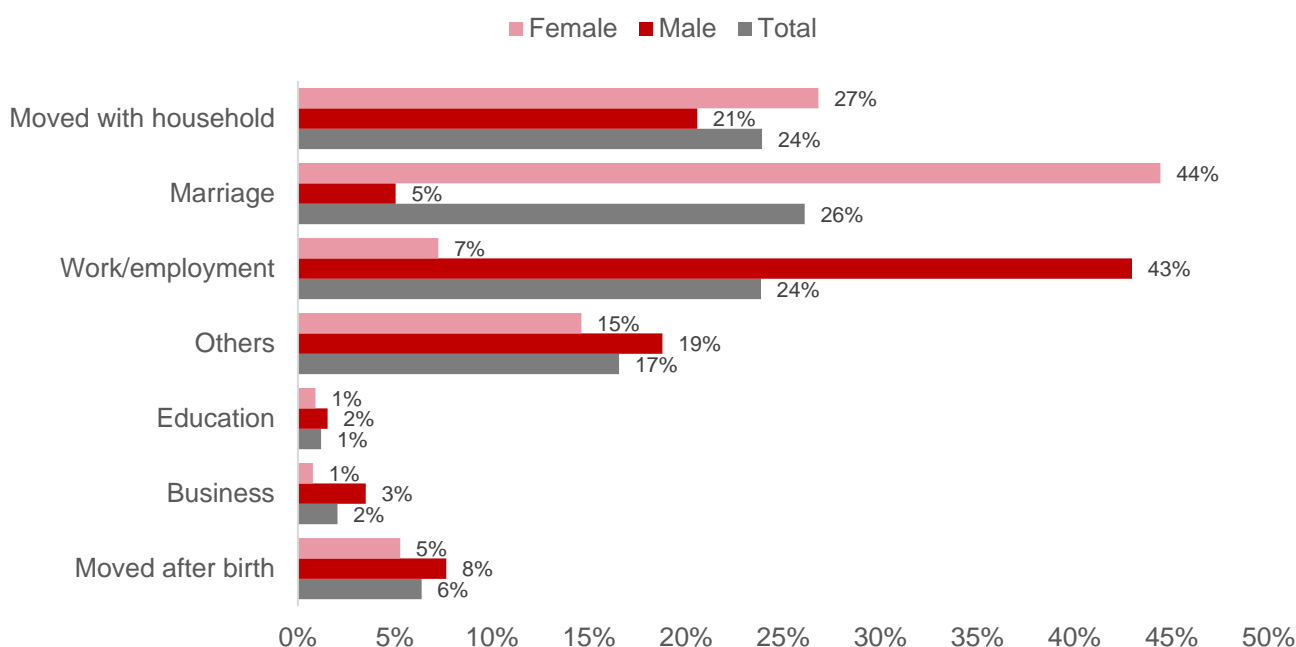
Persons migrating from Tamil Nadu preferred southern States, as their key destination. Among the southern States, Karnataka was preferred the most, followed by Kerala, Puducherry and Andhra Pradesh. These four southern States accounted for 80% of the total migration from Tamil Nadu. After these States, Maharashtra received highest number of migrants from Tamil Nadu. The out-migrants from Tamil Nadu preferred southern States over other States due to cultural affinity, boom in information and technology industries and ease of language.

Figure 4 Top five destinations for migrants' population of Tamil Nadu
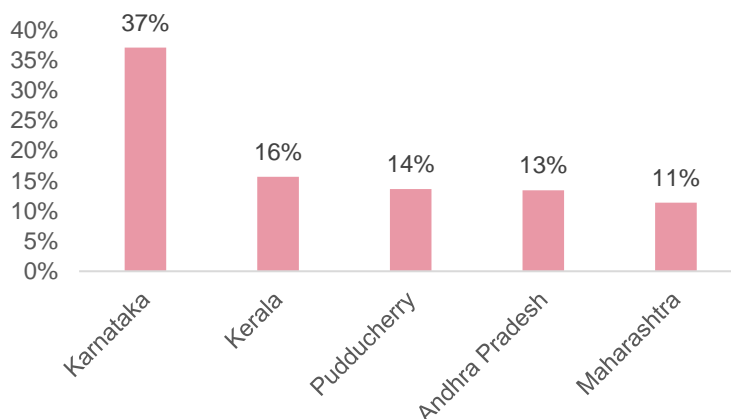
2.3. Economy

Tamil Nadu has registered a growth rate of 8.1% in 2017-18, staging a recovery from the effects of November 2016 demonetization. The fastest growing sector was primary sector, which clocked a record double-digit growth of 15.1% in 2017-18, followed by the construction sector that marked a recovery from 0.4% growth rate in 2016-17 to 4.4% in 2017-18. The growth was further aided by the healthy performance of Manufacturing and Services Sectors, which registered a growth rate of 9.3% and 6.5% respectively. Among the five largest State economies in India, Tamil Nadu ranked fourth in terms of GSDP growth between 2011-12 and 2017-18, registering the compounded annual growth rate (CAGR) of 6.4%, compared to the national average of 6.9%.

Table 4: Annual growth rate of GSDP/GDP for Five Largest State Economies

State	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	CAGR between 2011-12 & 2017-18
Tamil Nadu	5.4%	7.6%	4.9%	8.2%	4.3%	8.1%	6.4%
Gujarat	10.9%	7.6%	10.5%	10.2%	10.1%	-	9.8%
Karnataka	6.2%	9.6%	6.2%	11.1%	7.7%	9.3%	8.3%
Maharashtra	6.1%	6.9%	6.3%	7.6%	10.0%	7.3%	7.4%
Uttar Pradesh	4.7%	5.8%	4.0%	8.8%	7.3%	6.4%	6.2%
India	5.5%	6.4%	7.4%	8.2%	7.1%	6.7%	6.9%

Source: Central Statistics Office CAGR: Compound Annual Growth rate
- Not Available
GSDP/GDP at constant (2011-12) prices

Table 5: Per Capita GDP in INR

State	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	CAGR between 2011-12 & 2017-18
Tamil Nadu	103,600	108,156	115,303	119,866	128,547	132,838	142,267	
		4.4%	6.6%	4.0%	7.2%	3.3%	7.1%	5.4%
Gujarat	101,075	110,617	117,429	128,068	139,327	151,340	-	
		9.4%	6.2%	9.1%	8.8%	8.6%	-	8.4%
Karnataka	98,567	103,504	112,189	117,844	129,507	137,917	149,071	
		5.0%	8.4%	5.0%	9.9%	6.5%	8.1%	7.1%
Maharashtra	113,154	118,597	125,284	131,623	139,949	152,122	161,330	
		4.8%	5.6%	5.1%	6.3%	8.7%	6.1%	6.1%
Uttar Pradesh	35,917	37,044	38,596	39,548	42,371	44,786	46,919	
		3.1%	4.2%	2.5%	7.1%	5.7%	4.8%	4.6%
India	71,609	74,599	78,348	83,091	88,746	93,888	98,867	
		4.2%	5.0%	6.1%	6.8%	5.8%	5.3%	5.5%

Source: Central Statistics Office
GSDP/GDP at constant (2011-12) prices
- Not Available

The per capita income in the State is significantly higher than the national average. It grew from ₹ 103,600 in 2011-12 to ₹ 142,267 in 2017-18 with an annual growth rate of 5.4%.

Primary Sector

Owing to the failure of Northeast monsoon, the State suffered the worst drought in 2016-17[19]; due to which, there was a sharp decline in the production of crops with crop sector witnessing negative growth rate of 16.8% in 2016-17. . Overall, the primary sector registered a negative growth of 2.6% in 2016-17. However, in 2017-18, with the improvement of water availability and the efforts of State Government and farmers, the primary sector marked a recovery and grew by 15.1%, largely on account of significant improvement in crop sector (a record growth of 25.6%)[20]. Tamil Nadu's primary sector grew at an average annual growth rate of 4.4% between 2011-12 and 2017-18. One of the major drivers of growth within the primary sector has been the livestock, which grew at an average annual growth rate of 14.2% between 2011-12 and 2017-18. Growing human population, increasing urbanisation, rising domestic incomes and changing lifestyles in the State have led to increasing demand for livestock products[21]. The share of primary sector in the overall economy decreased from 13.1% in 2011-12 to 11.9% in 2017-18, a phenomenon akin to the country's economy. Higher value of the manufacturing and services sector products, coupled with faster growth in these sectors, has led the fall in the share of primary sector in the overall economy. As of 2015-16, 35.4% workers (aged 15 years and above) were employed in Primary Sector, while the sector contributed around 12% to the economy, indicating a lower worker productivity in the sector[22].

Table 6: Growth of economic sub-sectors within Primary sector

Item	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	CAGR between 2011-12 & 2017-18
Crops	-21.5%	19.7%	4.0%	-4.7%	-26.8%	25.6%	-2.5%
Livestock	7.9%	18.2%	13.8%	12.1%	24.3%	9.5%	14.2%
Forestry and logging	-2.4%	-1.2%	-5.9%	-0.4%	-0.4%	-2.7%	-2.2%
Fishing and aquaculture	1.0%	0.9%	8.1%	9.0%	-10.3%	5.9%	2.2%
Mining and quarrying	-10.8%	-2.6%	-18.8%	73.3%	21.5%	16.7%	9.6%
Primary Sector	**-10.9%**	**16.5%**	**6.6%**	**4.2%**	**-2.6%**	**15.1%**	**4.4%**

Source: Central Statistics Office
GSVA at constant (2011-12) prices

The major State economies, barring that of Uttar Pradesh, are largely not reliant on Agriculture. However, Tamil Nadu has performed remarkably better in agriculture and allied sector with a CAGR of 4.1% between 2011-12 and 2016-17, exceeding the growth rate of comparable States and country.

Table 7: Growth in Agriculture & Allied sector

State	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	CAGR between 2011-12 & 2017-18
Tamil Nadu	-10.9%	17.2%	7.4%	2.6%	-3.6%	15.0%	3.5%
Gujarat	-13.8%	26.6%	0.01%	-1.6%	9.9%	-	2.8%
Karnataka	-5.1%	7.2%	4.3%	-9.9%	3.2%	6.0%	0.7%
Maharashtra	-0.4%	12.3%	-10.7%	-3.2%	22.5%	-8.3%	1.2%
Uttar Pradesh	4.4%	-1.4%	-2.9%	4.3%	5.7%	6.2%	2.3%
India	1.5%	5.6%	-0.2%	0.6%	6.3%	3.4%	2.4%

Source: Central Statistics Office
- Not Available
GSVA at constant (2011-12) prices

[10,11] www.thehindu.com/news/national/tamil-nadu/tn-economy-back-on-fast-track/article24576620.ece

[21] Growth of livestock sector in Tamil Nadu-A total factor productivity approach, M.Prabhu, Madras veterinary college

[22] Fifth Annual Employment and Unemployment Survey, Ministry of Labour and Employment

Secondary Sector

Tamil Nadu ranks third in terms of the size of manufacturing sector, behind Gujarat and Maharashtra, signifying its strong industrial base[23]. Between 2011-12 and 2017-18, the manufacturing sector grew above the national average but below the comparable States such as Gujarat, Karnataka, Maharashtra and Uttar Pradesh. However, the recent estimate suggests a positive outlook for the manufacturing sector in the State as the sector registered a growth rate of 9.3% in 2017-18. The share of manufacturing to the overall economy increased only marginally from 22% to 24%, between 2011-12 and 2017-18. As of 2015-16, manufacturing sector employed 17.5% of the total workforce in the State[24]. Tamil Nadu faces stiff competition from neighbouring State like Andhra Pradesh in attracting investment in manufacturing sector. Major portion of the State's industrial production happens within 150 km of Chennai and therefore, to push industrialization beyond its capital, the State will need to create social infrastructure beyond Chennai[25].

Table 8: Size and growth in manufacturing sector

State	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	CAGR between 2011-12 & 2017-18
Tamil Nadu	11.7%	-1.8%	-2.5%	23.2%	9.0%	9.3%	7.8%
Gujarat	23.3%	2.6%	21.1%	15.8%	11.4%	-	14.6%
Karnataka	5.8%	5.0%	-0.5%	21.1%	11.1%	6.7%	8.0%
Maharashtra	8.2%	10.0%	5.1%	8.2%	8.3%	7.6%	7.9%
Uttar Pradesh	4.1%	13.7%	-10.0%	26.4%	16.9%	5.1%	8.8%
India	5.5%	5.0%	7.9%	12.8%	7.9%	5.7%	7.4%

Source: Central Statistics Office
- Not Available
GSVA at constant (2011-12) prices

The GVA in construction sector has grown from 92.4 thousand crore rupees to 1.11 lakh crore rupees at a CAGR of 3.2%, marginally above the national annual growth rate of 3.0%. However, the share of construction sector to the overall economy of Tamil Nadu has decreased marginally from 13.3% in 2011-12 to 11.3% in 2017-18. As of 2015-16, the construction sector employed 12.3% of the workforce, ranking third after agriculture and manufacturing in terms of engagement of workforce.

Table 9: Growth in Construction sector

State	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	CAGR between 2011-12 & 2017-18
Tamil Nadu	0.2%	8.2%	0.9%	5.4%	0.4%	4.4%	3.2%
Gujarat	3.2%	8.5%	2.8%	-0.4%	3.4%	-	3.5%
Karnataka	-5.2%	12.8%	0.3%	2.8%	-2.3%	3.8%	1.9%
Maharashtra	-3.8%	3.8%	7.9%	3.5%	4.9%	4.5%	3.4%
Uttar Pradesh	1.0%	1.1%	6.5%	5.2%	1.1%	3.0%	3.0%
India	0.3%	2.7%	4.3%	3.7%	1.3%	5.7%	3.0%

GSVA at constant (2011-12) prices; Source: Central Statistics Office
-Not Available

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[23] Gujarat's GVA for 2017-18 is not known. At the CAGR of 12% the estimated GVA in manufacturing is 3.47 lakh crore rupees.
[24] Fifth Annual Employment and Unemployment Survey, Ministry of Labour and Employment
[25] www.business-standard.com/article/economy-policy/tamil-nadu-fights-to-retain-edge-in-make-in-india-race-115010801176_1.html

Service Sector

Owing to slowdown in service sector during 2015-16 and 2016-17, the overall growth rate in the sector between 2011-12 and 2017-18 has been lower than the national average and major States such as Maharashtra, Gujarat, Karnataka and Uttar Pradesh. However, the recent estimate suggest that the sector is on the path of recovery with 6.5% annual growth rate in 2017-18. In line with the national trend, the service sector is the major contributor to the overall economy in Tamil Nadu, with 51.9% share. The share of services sector has grown by 1.5 percentage points between 2011-12 and 2017-18. As of 2015-16, service sector employed the largest, 34% of the workforce, indicating sector's importance in terms of economic contribution and employment share.

Table 10: Growth in Service sector

State	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	CAGR between 2011-12 & 2017-18
Tamil Nadu	6.8%	9.0%	8.7%	3.9%	4.6%	6.5%	6.6%
Gujarat	12.4%	5.9%	8.6%	7.7%	9.8%	-	8.9%
Karnataka	11.0%	11.0%	9.3%	12.4%	7.9%	10.6%	10.4%
Maharashtra	8.3%	8.1%	9.3%	8.0%	9.6%	9.7%	8.8%
Uttar Pradesh	6.8%	7.1%	9.2%	7.5%	5.7%	6.9%	7.2%
India	8.3%	7.7%	9.8%	9.6%	7.5%	7.9%	8.5%

Source: Central Statistics Office
- Not Available
GSVA at constant (2011-12) prices

Table 11: Growth of sub-sector within service sector

Sub-Sector	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	CAGR between 2011-12 & 2017-18
Trade, repair, hotels and restaurants	12.4%	10.3%	4.1%	-0.9%	1.7%	6.4%	5.6%
Transport, storage, communication	6.8%	5.1%	5.1%	6.6%	2.5%	1.9%	4.6%
Communication & services related to broadcasting	4.1%	17.0%	11.8%	14.5%	3.0%	4.6%	9.0%
Financial services	9.7%	11.6%	10.2%	2.7%	2.0%	5.0%	6.8%
Real estate, ownership of dwelling & professional services	7.2%	10.0%	13.2%	7.5%	6.3%	7.5%	8.6%

Source: Central Statistics Office
GSVA at constant (2011-12) prices

Within service sector, real estate, ownership of dwelling and other professional services together accounted for 17% of the total economic size in 2017-18, the second largest share after manufacturing. The sector grew at a CAGR of 8.6%, however, it employed less than 1% of the workforce in 2015-16. Similarly, financial services sub-sector accounted for 6% of the overall economy in 2017-18 but employed only 1.5% of the workforce. Trade & repair sub-sector accounted for 9.6% of the GSVA and employed 10.4% of the workforce. With a share of about 5% of the overall GSVA in 2017-18, transport and storage sub-sector employed a significant 6% of the workforce. Information and communication services sub-sector employed 2% of the workforce in 2015-16

2.4. Industrial Development in the State

Overview

Tamil Nadu has a wide array of industries that include automobiles, manufacturing components, engineering, pharmaceuticals, garments, textile products, leather products, chemicals, plastics, etc. It ranks first among the States in terms of the number of factories and industrial workers.[26] The Annual Survey of Industries gives us some insights about the share of gross value added by different sectors in the industrial sector of Tamil Nadu:

Table 12: Share of gross value added in the industrial sector

Rank	Sectors	Share of Gross Value Added by each sector
1.	Motor Vehicles, Trailers and Semi-Trailers	18.3%
2.	Textiles	9.1%
3.	Basic Metals	8.9%
4.	Machinery and Equipment N.E.C	7.6%
5.	Wearing Apparel	6.3%[27]

The top five industries account for more than half of the total industrial output, one-fifth of which is accounted by automobile industries. As far as employment goes, the top five sectors such as apparel, textiles, food, motor vehicles and leather employ a combined total of 56% of the total employment in the industrial sector.

Table 13: Industries Ranked by Share of Workers Employed in Industrial Sector

Rank	Sectors	Workers employed in Industrial Sector
1.	Wearing Apparel	15.5%
2.	Textiles	15.0%
3.	Motor Vehicles, Trailers and Semi-Trailers	10.8%
4.	Food Products	8.4%
5.	Leather and Related Products	6.7%[28]

The apparel and textile industries employ[29] about a third of the total people working in the industrial sector.

The following are the major industrial promotion organizations/ bodies in the State: -
- State Industries Promotion Corporation of Tamil Nadu (SIPCOT)
- Tamil Nadu Industrial Development Corporation Ltd (TIDCO)
- Tamil Nadu Small Industries Development Corporation Limited (TANSIDCO)

State Industries Promotion of Tamil Nadu (SIPCOT)

SIPCOT has been instrumental for augmenting Tamil Nadu's industrial growth for years by facilitating setting up of SEZ's across the State. These include:

Table 14 Special Economic Zones under SIPCOT[30]

SEZ's under SIPCOT	Type of Industries
Hi-Tech SEZ, Sriperumbudur	Electronic industries
Hi-Tech SEZ, Oragadam	Electronic Hardware industrial units
Granite SEZ, Bargur	Granite industries

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[26] www.ibef.org
[27] Annual Survey of Industries 2015-16.
[28] Annual Survey of Industries 2015-16.
[29] Annual Survey of Industries 2015-16.
[30] https://www.sipcot.com/

SEZ's under SIPCOT	Type of Industries
Engineering SEZ, Perundurai	Engineering industries
Engineering SEZ, Ranipet	Engineering industries
Transport Engineering SEZ, Gangaikondan	Transport Engineering goods including manufacture of tyres and tubes for all purposes

Although Special Economic Zones (SEZ) under SIPCOT are spread across Tamil Nadu; most of the clusters are situated in Districts of Chennai, Kancheepuram, and Tiruvallur. SIPCOT has developed industrial areas in 12 Districts with 20 SEZs. The map below shows the industrial clusters promoted by SIPCOT. SIPCOT has taken initiatives to accelerate the pace of industrial growth in different districts such as Sivagangai, Dindigul, and Thootukudi among others to ensure that disbursal to spurt the industrial growth in backward and under developed areas.

Tamil Nadu Industrial Development Corporation Ltd. (TIDCO)

The principal purpose for establishing TIDCO was to identify and promote the establishment of large and medium scale industries within the State of Tamil Nadu in partnership with the private sector. It has commissioned over 85 projects to date with a total equity investment of ₹3,540 million along with the investments of the private players. It has its holdings in 27 companies.

TIDCO's projects cover a wide range of sectors such as Iron & Steel, Fertilizers, Chemicals, Petrochemicals, Engineering, Automobiles, Agri and Food Processing, Leather, Textiles, Pharmaceuticals, Floriculture, Horticulture, Electronics & Communication, Infrastructure/ Industrial parks includes Agri- Export Zones (AEZs) and Special Economic Zones (SEZs). These industrial estates and SEZs have also been the engine of job growth in Tamil Nadu. The prospective SEZs are listed below:

Table 15: Special Economic Zones and their features

SEZs & Projects	Districts	Features
SEZ Nanugeri	Tirunelveli	Projected to generate 50,000 jobs over 5-7 years
SEZ Pearl City Food Port	Thoothukudi	Dedicated Food Processing park
SEZ Ennore	Tiruvallur	Projected to generate 50,000 jobs over 5-7 years
SEZ Perambalur	Perambalur	Projected to generate 50,000 jobs over 5-7 years
SEZ Rakindo	Coimbatore	Integrated Feeder Township Development Project with IT SEZ.
SEZ IT-ITES TIDEL II	Chennai	IT and ITES SEZ with an International Convention Centre
SEZ IT-ITES TIDEL III	Chennai	IT and ITES SEZ with an International Convention Centre
Marine Biotechnology Park	Kancheepuram	Bio resource center envisages Gene bank, culture Collections, Central Analytical labs, a pilot bioreactor & extraction and Technical Assistance.
SEZ Pharmaceuticals	Krishnagiri	Estimated to create 10,000 employment over 10-year period of its operation
AEZ Cuddalore	Cuddalore	Tamil Nadu is a major producer of Raw Cashew.
LNG Import Terminal	Thiruvallur	It handles 5 million tonnes per year of LNG and is working since 2016.

Tamil Nadu Small Industries Development Corporation Ltd. (TANSIDCO)

TANSIDCO[31]helps to develop and maintain industrial estates in potential growth centres with necessary infrastructure and provide three main facilities to the entrepreneurs for setting up small-scale industries. Key initiatives include the upgradation of infrastructure in established clusters to improve their competitiveness,

Table 16: Clusters under Industrial Infrastructure Upgradation Scheme

Clusters	Blocks/Towns	Districts	Cost (Rs. In crores)
Cluster of Auto ancillary units	Ambattur	Chennai	51
Pharmaceutical Cluster	Alathur	Kancheepuram	20
Pumps & Motors Cluster	Kurichi	Coimbatore	66
Engineering & Technical Cluster	Thuvakudi	Tiruchirappalli	65

TANSIDCO has also proposed to invest more than ₹ 40 crores under Additional Central Assistance Scheme and Integrated Infrastructural Development Scheme across the State. However, the concentration of these initiatives is largely within the Chennai Metropolitan Region.

The State has seen a phenomenal growth of MSMEs (Micro, Small & Medium Enterprises)[32]. The MSME industry in Tamil Nadu comprises of electronic products, engineering products, auto ancillaries, leather products, chemicals, plastics, garments, jewellery subsectors. There are 12.94 Lakh registered number of units in the State, providing employment opportunities to about 81lakh persons[33]. Since 2007-08, around 7.22 lakh entrepreneurs have filed Entrepreneur's Memorandum (EM) Acknowledgement Part-II, providing employment opportunities to about 41.41 Lakh persons with total investments ₹ 1,09,074.17 Crores as of 2016-17.[34]

The XII Five Year Plan period (2012-17), considered a target of 15 lakh direct and indirect employment generation. The employment generation during the plan period came out as follows:

Table 17: Employment generation in the MSME Sector in Tamil Nadu

Year[35]	Incremental Employment Generation
2012-13	338,435
2013-14	343,665
2014-15	352,152
2015-16	232,476
2016-17	615,482
Total	**1,882,210**

However, the MSME sector is witnessing new challenges in meeting with the changing dynamics of the modern economies. As of June 2018, government policy note tabled by the MSME Department in the Assembly revealed that the total number of registered micro, small and medium industrial units in Tamil Nadu had dipped by a significant 18.45% in 2017-18 from the previous year. In 2016-17, the cumulative employment generated between 2012-13 and 2016-17 in the MSME sector stood at 18,82,210. However, according reports in 2017-18, this cumulative number dwindled to 13,78,544. In absolute numbers, as many as 2,67,310 MSMEs were registered and operational during 2016-17; this figure fell to 2,17,981 during 2017-18, meaning 49,329 industrial units wound up their operations in one year, owing to several factors including the natural calamities (cyclones and floods), and the large scare tax reforms.[36]

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[31] http://www.sidco.tn.nic.in/
[32] The enterprises are classified in Manufacturing and Service enterprises, based on the investment in plant and machinery/equipments (excluding land and building).
[33] dcmsme.gov.in
[34] This is the form for registering our prospective or existing enterprises is known as Entrepreneur's Memorandum. The form comes in two part. Part I to be filled by prospective entrepreneur, Part II to be filled in by existing enterprises.
[35] Micro, Small and Medium Enterprises Department Policy Note Demand No.44 2017 - 2018
[36] https://www.thehindu.com/news/national/tamil-nadu/what-revival-close-to-50000-units-shut-shop-in-past-year/article24107824.ece

Figure 5 Distribution of TANSIDCO & SIPCOT Industrial Parks
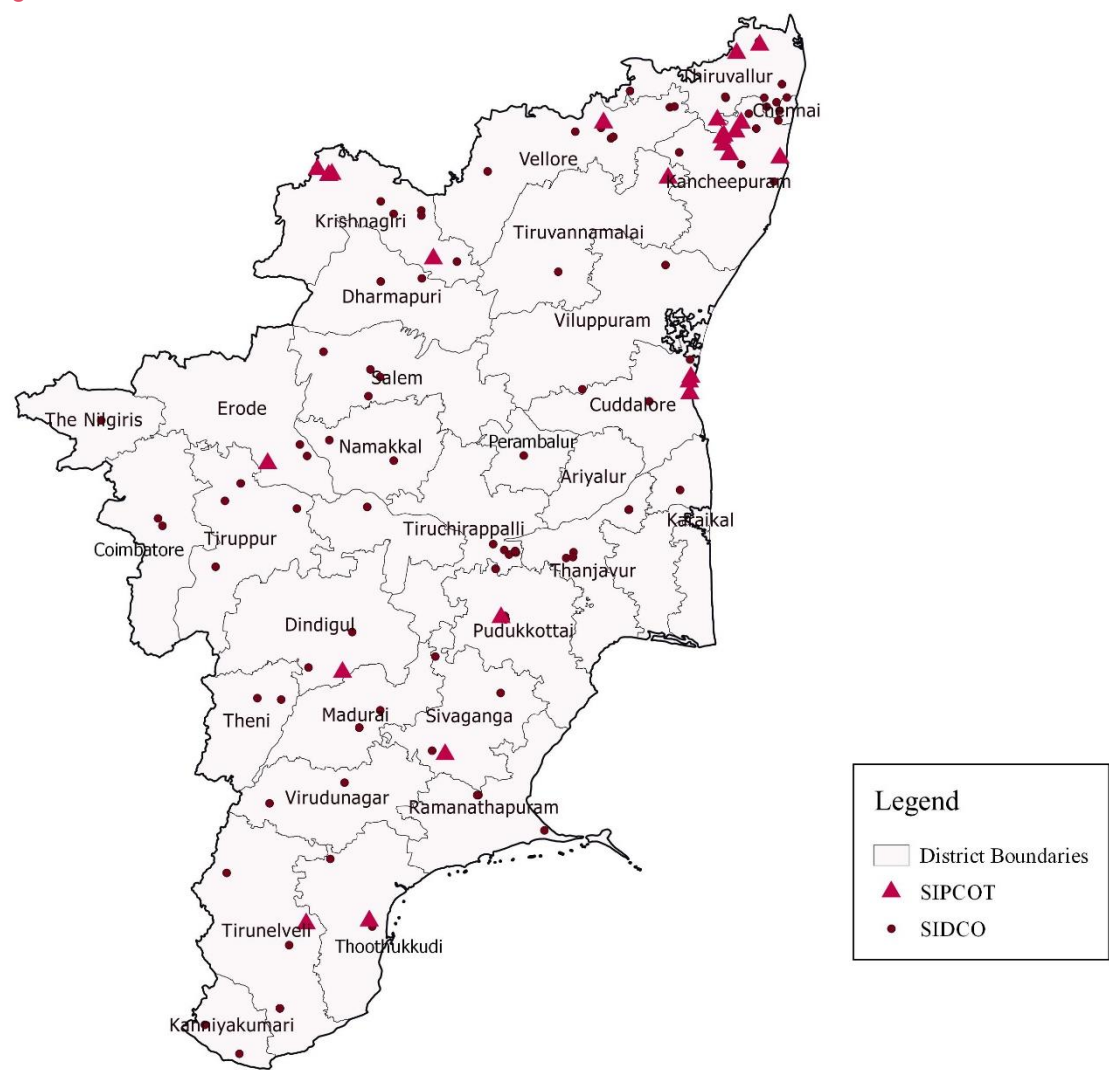
Source: PwC Analysis

2.5. Economic Drivers

The following policy initiatives and infrastructure initiatives are set to drive the State's economy in the immediate future:
- Tamil Nadu Vision 2023
- Targeted Policy Initiatives under Aerospace & Defence, Information Technology, Food Processing, Textile, Auto and Auto parts, Eco Tourism, Biotechnology and Solar Energy.
- Sagarmala Program of the Ministry of Shipping,
- Defence Corridor Projects
- Smart City Program
- SEZs proposed by SIPCOT and TIDCO among others

The State's geographical location and the industrial development provide a conducive environment for investments. During the Tamil Nadu Global Investors Meet held in 2019, an investment worth ₹ 1,50,000 Crores has been proposed in more than 20 sectors. This investment has potential to create about 4,50,000 direct jobs over the next 2-3 years. These investments are expected to generate further investments and jobs in the future, especially in the ancillary industries.

Table 18 Proposed Investments under Tamil Nadu GIM 2019

S.No	Industries	Investment in ₹ Crores	Direct Employment
1.	Construction & Real Estate	20,742	1,68,650
2.	Textiles & Apparels	10,250	93,348
3.	IT & ITeS	7,683	63,750
4.	Electronics & Hardware	4,563	41,507
5.	Multi-Sector	15,628	31,570
6.	Oil & Gas	10,211	20,320
7.	Automobile & Auto Components	23,339	13,409
8.	Logistics	3,550	8,400
9.	Chemicals & Petrochemicals	44,439	5,055
10.	Healthcare	1,250	3,000
11.	Renewable Energy	6,072	2,287
12.	Hospitality & Tourism	683	1,582
13.	Heavy Engineering	1,139	1,455
14.	Finance	60	1,000
15.	Agri and Food Processing	320	780
16.	Manufacturing	263	519
17.	Aerospace	600	500
18.	Print and Media	2,520	500
19.	Steel Manufacturing	138	465
20.	Light Engineering	47	400
21.	Logistics/ Construction	750	400
22.	Pharmaceuticals & Biotechnology	16	160

S.No	Industries	Investment in ₹ Crores	Direct Employment
23.	Glass Manufacturing	720	100
24.	Skill Development	21	-
	Total	**1,55,003**	**4,59,157**

Source: Guidance Bureau, Dept. of Industries, Govt. of Tamil Nadu

- Not Available

2.6. Labour Market

Labour Force participation rate

The Labour Force Participation Rate (LFPR) in Tamil Nadu for persons aged 15 years and above was 57% in 2015-16 as against the national average of 50%[37]. The trend is consistent for younger age brackets as well. For the persons aged 18-29 years, LFPR in Tamil Nadu was 5% points higher than the national average of 45%. Higher LFPR in Tamil Nadu is due to larger labour force participation among females in both rural and urban areas. However, wide gender disparity exists in labour force participation rate across rural and urban areas within Tamil Nadu. The reasons for lower female LFPR may include high net enrolment ratio among girls due to various Government incentives, domestic responsibilities, increase in household income, family social status[38], and structural factors like poor skill training, lack of support for woman entrepreneurs, informality of work and challenges at workplace. Within Tamil Nadu, gender gap in LFPR (44%) was higher among urban population compared to the rural population (30%). This could be possibly due to higher educational attainment by individuals in urban areas, making them unavailable for labour force participation at younger age. Larger share of the population still resides in rural areas leading to larger labour force.

Table 19: Labour force participation rate, 2015-16

	15 Years and Above						18-29 Years					
	Tamil Nadu			India			Tamil Nadu			India		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Rural	81%	51%	66%	77%	27%	53%	75%	41%	59%	71%	23%	49%
Urban	69%	25%	47%	69%	16%	44%	54%	22%	38%	55%	16%	36%
Total	76%	39%	57%	75%	24%	50%	67%	32%	50%	67%	21%	45%

Source: 5th round of employment & unemployment, Ministry of Labour & Employment (MoLE), Government of India

Worker Population Ratio

In line with the trend in labour force participation rate, the Worker Population Ratio (WPR) in the State was higher than the national average[39]. The overall WPR of Tamil Nadu for the age group 15 years and above is 55% compared to 48% at the national level. The difference is mainly due to relatively larger workforce participation of females in the State. For e.g. the male WFPR in the urban areas was same (67%) as that of the national level for the age group 15 and above, while the female WPR was 23% at State level and 14% at national level. Similarly, in rural areas the male WPR at State level is 78% and at national level is 74% (a differential of 4% points), whereas among female the differential is of 23% points (48% in Tamil Nadu & 25% in India). Hence, higher workforce participation of females in Tamil Nadu has improved the overall WPR of Tamil Nadu.

Table 20: Worker Population Ratio, 2015-16

	15 Years and Above						18-29 Years					
	Tamil Nadu			India			Tamil Nadu			India		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Rural	78%	48%	63%	74%	25%	50%	67%	32%	50%	63%	19%	42%
Urban	67%	23%	45%	67%	14%	41%	49%	17%	33%	49%	12%	31%
Total	73%	37%	55%	72%	22%	48%	59%	26%	43%	59%	17%	39%

Source: 5th round of employment & unemployment, MoLE

Table 21: Sector wise distribution of employed persons (aged 15 years and above) based on NIC 2008

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[37] LFPR refers to the no of people working or available for work as a percentage of total working age population.
[38] Verick, Sher; Women's labour force participation in India: Why is it so low?, ILO, 2014
39 WPR refers to the no of people working as a percentage of total working age population.

	Tamil Nadu				India			
	2011-12	2012-13	2013-14	2015-16	2011-12	2012-13	2013-14	2015-16
Primary	39.7%	36.7%	34.9%	35.4%	52.8%	50.3%	46.9%	46.1%
Secondary	28.2%	29.1%	31.0%	30.6%	20.1%	20.9%	22.9%	22.4%
Tertiary	32.2%	34.3%	34.2%	34.0%	27.1%	28.8%	30.3%	31.4%

Source: Annual Employment and Unemployment Survey (Round 2-5), Ministry of Labour and Employment

Tamil Nadu's economy has undergone the type of development partly explained by Lewis' two-sector model.[40] The model explains that, as the manufacturing sector grows, the surplus unskilled workers in the farm sector shifts to the manufacturing sector due to higher wages increasing the productivity in farm as well as in manufacturing sector. However, the movement of labour from primary to manufacturing and services sector has not been to the extent as postulated by the Lewis two sector model. The employment share in agriculture sector witnessed a fall from 39.7% to 35.4%, between 2011-12 and 2015-16 (fall of 4.3% points compared to the fall of 6.7% points at the national level). This could primarily be due to the lack of skill training programmes to impart the required skill in the manufacturing and services sector, in addition to jobless growth in these sectors. The employment share in secondary sector has increased from 28.2% in 2011-12 to 30.6% in 2015-16 (increase of 2.4% points versus 2.3% points increase at India level). Employment share in tertiary sector has marginally increased from 32.2% in 2011-12 to 34% in 2015-16 (increase of 1.8% points compared to 4.3% points at India level).

Table 22: Change in employment distribution for select states and India, 2011-12 & 2015-16

	2011-12			2015-16			Change in Primary Sector	Change in Secondary Sector	Change in Tertiary Sector
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary			
Tamil Nadu	39.7%	28.2%	32.2%	35.4%	30.6%	34.0%	-4.3%	2.4%	1.8%
Gujarat	54.1%	21.2%	24.7%	49.0%	22.1%	28.9%	-5.1%	0.9%	4.2%
Karnataka	59.0%	17.2%	23.8%	49.7%	19.0%	31.3%	-9.2%	1.7%	7.5%
Maharashtra	55.0%	16.7%	28.3%	55.4%	14.6%	30.0%	0.4%	-2.1%	1.7%
Uttar Pradesh	52.4%	23.6%	24.0%	45.4%	27.0%	27.7%	-7.0%	3.3%	3.6%
India	52.8%	20.1%	27.1%	46.1%	22.4%	31.4%	-6.7%	2.3%	4.4%

Source: Annual Employment and Unemployment Survey (Round 2-5), Ministry of Labour and Employment

Among the major States, Tamil Nadu has the least percentage of workforce employed in the primary sector. However, its per capita income is not growing at a pace typical of an industrialized economy. This is primarily because the largest share of the workforce (47%) employed as casual labour (Table 24). There is an urgent need for skilling the workforce in order to move them to the organized sector away from casual labour. States like Karnataka have seen larger transfer of workers.

Table 23: Sector wise employment, 2015-16

Sectors	Tamil Nadu	India
Agriculture, forestry and fishing	35.0%	45.7%
Mining and quarrying	0.4%	0.4%
Manufacturing	17.5%	10.5%
Electricity, gas, steam and air conditioning supply	0.3%	0.3%
Water supply; sewerage, waste management and remediation activities	0.5%	0.3%
Construction	12.3%	11.3%
Wholesale and retail trade; repair of motor vehicles and motorcycles	10.4%	10.6%
Transportation and storage	5.9%	4.9%
Accommodation and Food service activities	2.1%	1.6%
Information and communication	1.9%	0.8%
Financial and insurance activities	1.5%	1.1%

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[40] The model proposed in the 'Economic Development with Unlimited Supplies of Labour' by Arthur W Lewis in 1954 proposes that in an economy with a primary sector with excess labour supply (like agriculture in India), even with marginally higher wages, the industrial sector will be able to attract massive labor, which will enable the Industrial sector to expand. The expansion will increase in increased savings in the Industrial sector, which will be further invested in expansion setting of a virtuous cycle of labour absorption.

Sectors	Tamil Nadu	India
Real estate activities	0.3%	0.2%
Professional, scientific and technical activities	1.0%	0.9%
Administrative and support service activities	1.8%	1.6%
Public administration and defence; compulsory social security	1.2%	1.7%
Education	3.4%	4.3%
Human health and social work activities	1.3%	1.1%
Others	3.3%	2.6%

Source: 5th round of employment & unemployment, MoLE

The nature of employment in Tamil Nadu and India varies significantly. As of 2015-16, the majority (47%) of workforce in Tamil Nadu was employed as casual labour, as against 33% casual labour at the national level. The proportion of self-employed workforce in Tamil Nadu is 26% compared to 47% self-employed workforce at the national level. The proportion of Wage/Salaried Employee in Tamil Nadu (24%) is higher than the national average (17%).

Table 24: Nature of employment, 2015-16

Nature of Jobs	Tamil Nadu	India
Self Employed	26%	47%
Wage/Salaried Employee	24%	17%
Contract Worker	3%	4%
Casual labour	47%	33%

Source: 5th round of employment & unemployment, MoLE

As of 2015-16, majority of the workforce classified as self-employed and casual labour earn less than ₹ 5,000 per month; however, the proportion was relatively lesser among salaried employees. 40.3% of the self-employed and 48.3% of the casual worker worked for less than ₹ 5,000 per month whereas 21.6% of the salaried employee earned less than ₹ 5,000 per month. Over 77% of the casual labours earned less than ₹ 7,500 per month, compared to 62.4% of self-employed labour and 45% of salaried employee. In the income bracket above ₹ 7,500 per month the majority of workers belonged to self-employed or salaried employee category. About 18.8% of the salaried employees lie in the income group of ₹ 10,001 - ₹ 20,000 per month, followed by 13.7% of the self-employed workforce and only 5.3% of the casual labour. About 16% of the salaried employee earned more than ₹ 20,000 per month, followed by 5.6% of the self-employed workforce and only 0.6% of the casual labour. The income distribution in self-employment sector is relatively better than that in casual labour, however the proportion of casual labour in the total workforce is much larger (Table 24). This could possibly be due to lack of skill and resources available among those employed as casual labourers.

Figure 6: Average monthly earning, Tamil Nadu, 2015-16
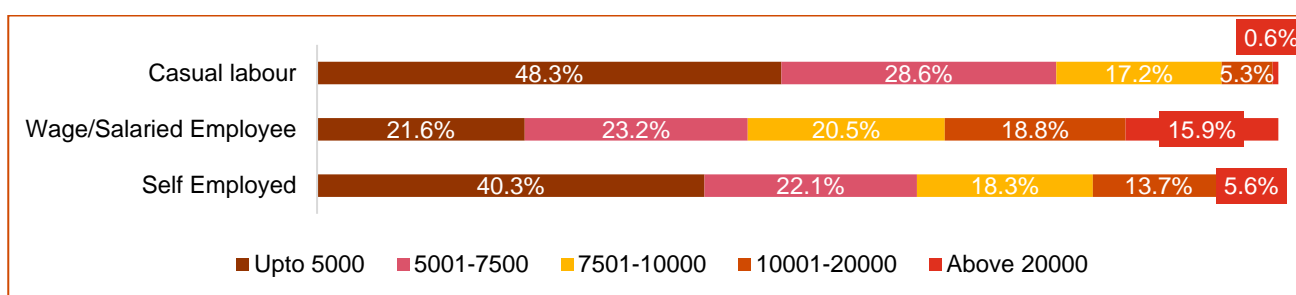
Source: 5th round of employment & unemployment, MoLE

Unemployment

The overall unemployment rate of the State (4%) was lower than the national average (5%); however, the youth unemployment rate (among persons aged 18-29 years) at 14% was marginally higher than the national average of 13%[41].

Table 25: Unemployment rate, 2015-16

| | 15 Years and Above | | | | | | 18-29 Years | | | | | |
| | Tamil Nadu | | | India | | | Tamil Nadu | | | India | | |
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Rural	4%	6%	5%	4%	8%	5%	11%	21%	14%	11%	18%	13%
Urban	3%	7%	4%	3%	12%	5%	10%	21%	13%	12%	28%	15%
Total	3%	6%	4%	4%	9%	5%	11%	21%	14%	11%	20%	13%

Source: 5th round of employment & unemployment, MoLE

Further, it is found that the unemployment rate of the youth in age category 18-29 years is the highest among the youth with graduation and above level education. This highlights the problem of educated unemployment in the State, especially among the males. This could be due to the mismatch between the skill demanded in the market and the skill supplied by educational institutions.

Table 26: Unemployment rate with education level for the youth in age category 18-29 years

Education Level	Male	Female	Total
Not literate	1%	6%	3%
Below Primary	-	-	-
Primary	1%	1%	1%
Middle/Secondary/Higher Secondary	3%	3%	3%
Certificate Course at Undergraduate Level	7%	11%	9%
Diploma at Undergraduate Level	13%	10%	12%
Graduate & Above	17%	17%	17%

Source: 5th round of employment & unemployment, MoLE
- Not Available

2.7. Status of Education

The adjusted net enrolment ratio of Tamil Nadu is higher than the national average at elementary and secondary level; however, there is room for improvement.[42] About 11% of the secondary school age population is out of school, in 2016-17. Net enrolment is higher among females. With an adjusted net enrolment of 97% at the elementary level, Tamil Nadu is close to achieving the goal of universal primary education (UPE).

Table 27: Adjusted net enrolment ratio

| | Tamil Nadu | | | | | | India | | | | | |
| | Elementary (I-VIII) | | | Secondary (IX-X) | | | Elementary (I-VIII) | | | Secondary (IX-X) | | |
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2014-15	95.8	97.0	96.4	78.0	83.2	80.5	89.8	93.5	91.6	55.1	55.7	55.4
2015-16	96.8	98.6	97.7	86.2	93.7	89.8	89.9	94.2	91.9	62.1	63.6	62.8
2016-17	96.2	97.7	96.9	84.8	93.2	88.8	87.2	91.6	89.2	61.6	63.4	62.4

Source-U-DISE flash statistics, 2016-17

The dropout rate has improved over the years, falling from 2% in 2014-15 to 0.9% in 2016-17 at the elementary level[43]. Similarly, the dropout rate has fallen at the secondary and higher secondary level. A pattern can be

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[41] Unemployment rate is the no of people unemployed as a percentage of total labour force.
[42] Total no of students in the theoretical age group for a given level of education enrolled in that level ,expressed as a percentage of total population in that age group.
[43] Proportion of pupil from a cohort enrolled in a given grade at a given school year who are no longer enrolled in the following school year.

observed regarding the dropout rate at both the State and the national level. Dropout rate is low at elementary level followed by high dropout rate at the secondary level and low dropout rate at higher secondary level. Although poor academic performance is one of the causes of dropout, such is not the case here as the dropout rate is lower at higher secondary level compared to the secondary level. Financial responsibility could be one of the reasons for high dropout at the secondary level.

Table 28: Dropout Rate by educational stage

		Elementary			Secondary			Higher Secondary		
	Year	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Tamil Nadu	2014-15	2.0	2.0	2.0	16.1	8.0	12.2	4.5	4.4	4.4
	2016-17	0.6	0.9	0.8	13.6	6.3	10.0	4.9	2.9	3.8
India	2014-15	4.0	4.3	4.2	17.9	18.0	17.9	1.5	1.6	1.5
	2016-17	6.0	6.3	6.1	19.9	19.8	19.9	6.4	5.5	5.9

Source-U-DISE flash statistics, 2016-17

The retention rate at the elementary and secondary level in Tamil Nadu is much higher than the national average.[44] Major factors affecting the retention rate are the affordability of the school and the quality of education provided by the school.

Table 29: Retention rate, 2016-17

	Elementary			Secondary		
	Boys	Girls	Total	Boys	Girls	Total
Tamil Nadu	95.7	96.7	96.2	89.2	93.3	91.2
India	69.9	71.4	70.6	55.9	55.1	55.5

Source-U-DISE flash statistics, 2016-17

Despite high levels of enrolment, the State lags the national average in terms of learning outcomes at the primary and upper primary education levels. As seen in the Annual Survey of Education Report, 2016, barring the class eight students who could divide, the State has performed poorly on other indicators of learning outcomes. [45]

Figure 7 Education Outcomes - Rural, ASER 2016
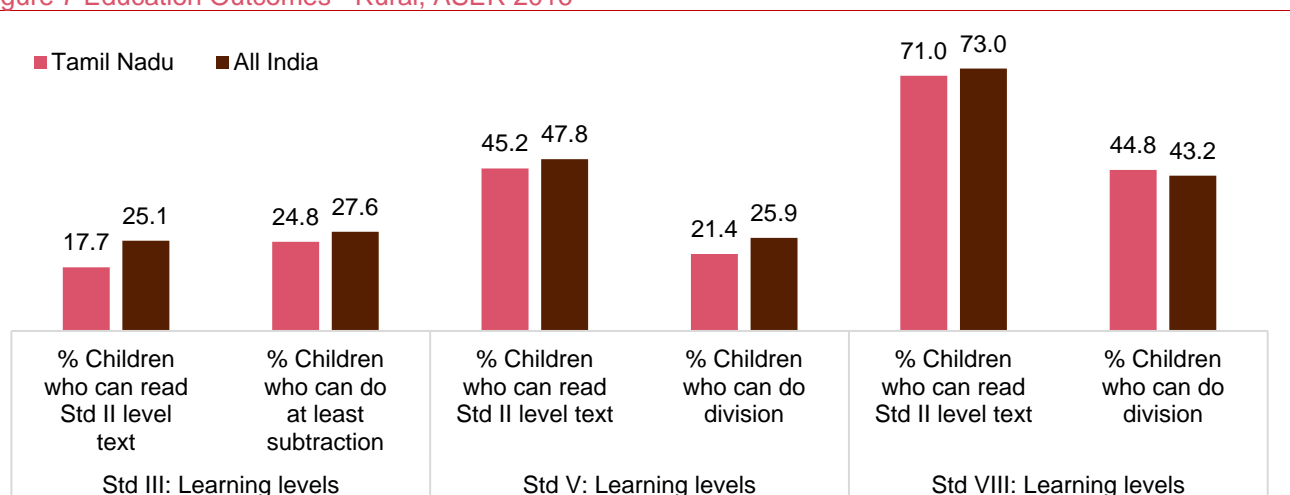
As per the National Employability Report conducted by Aspiring Minds, the students from the State's engineering colleges have been consistently ranked in the bottom 25th percentile in terms of Employability (on

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[44] Retention rate is the percentage of a school's students who continue at that school the next year.
[45] Annual Status of Education Report, 2016

an average). Chennai and Thiruvallur region, considered the hotspot of engineering colleges in the State fare poorly in comparison to other metropolitan areas in the country.

2.8. Vocational Education

It emerges from the Employment and Unemployment Survey 2015-16, that only 4.7 percent of the State's working age population has received any sort of vocational training. This, in comparison, is lower than the national average of 5.5%. This is also much lower than the main competing economies of Gujarat and Karnataka, where 7% and 8% of the population had received any vocational training.

Figure 8 Percentage of persons aged 15 years & above who received Vocational Training, EUS 2015-16
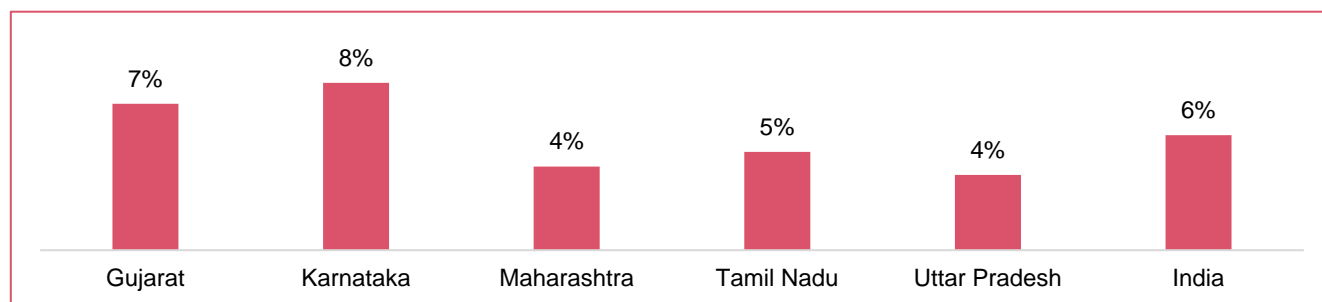
Figure 9 Percentage of Population aged 15 years and above who have received vocational training
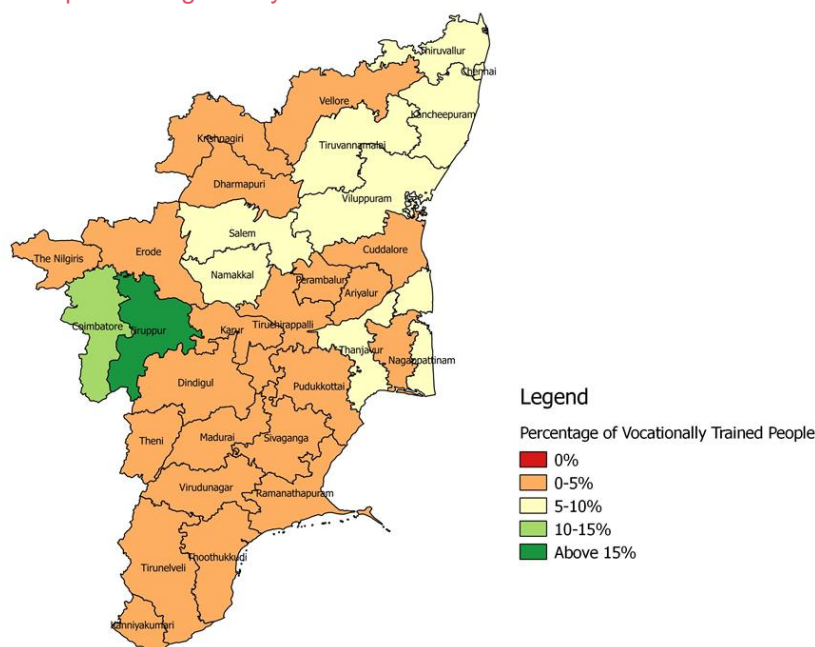
Source: District Level Report: EUS 2013-14

According to the District level estimates by the Labour Bureau's Employment and Unemployment survey, Coimbatore and Tiruppur are the only two Districts with at least 10% of the population aged 15 years and above having undergone any sort of vocational training. In 22 out of the 32 districts, less than 5% of the population have received vocational training indicating a skewed supply across Districts. The skill training infrastructure of

the Districts include Industrial Training Institutes (ITI's) offering long term programs, companies providing Apprenticeships and skill training centers implementing schemes like short term programs under TNSDC, Pradhan Mantri Kaushal Vikas Yojana (PMKVY), and Deen Dayal Upadhyay Grameen Kaushalya Yojana (DDU-GKY) under the Ministry of Rural Development.

Long Term Vocational Courses under ITIs

There are 335 ITIs in the State affiliated with the National Council for Vocational Training (NCVT), with an approved capacity of 51,890 seats spread across 73 trades; 75 ITIs out of the 335 ITIs are Govt. ITIs. The utilisation is around 80%. According to the Dept. of Employment and Training over 69-70% of the students completed their training upon passing the examinations. In addition, there is concentration of capacity in ITIs across a few trades. Though there are 73 trades available across various ITIs, 80% of the approved seats are concentrated between nine trades.

Figure 10 Trades in ITIs by share of Capacity (2017-18)
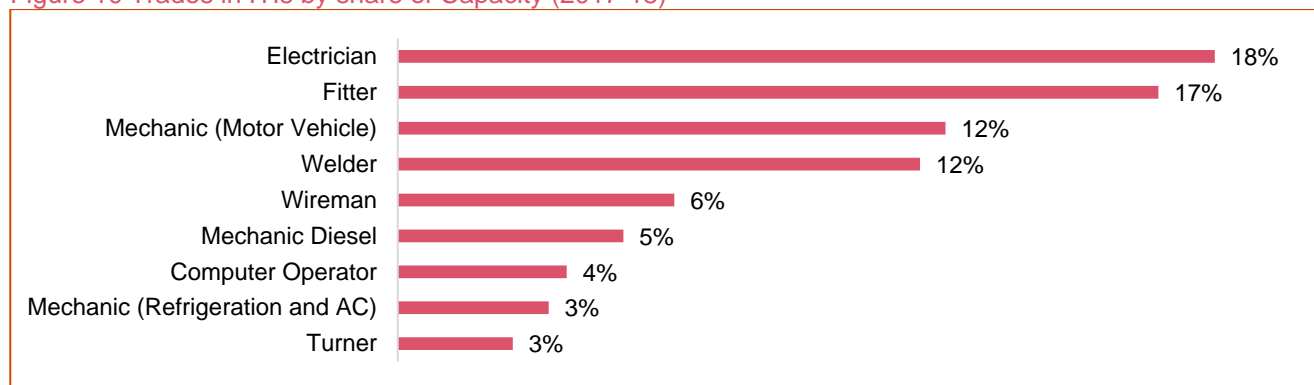
Source-NCVT-MIS

Apprenticeship Program

The State has on boarded more than 2,300 industrial units onto the National Apprenticeship Promotion scheme (NAPS) through special drives and has currently 6,285 students enrolled as apprentices[46]. However, going by the last available update on the NAPS portal, only 142 Industrial units have taken on board apprentices. It is also seen that a large share of the apprentices has been engaged by the public sector viz. Central Govt. and State Govt. entities in the state like BHEL (Trichy and Vellore), Tamil Nadu State Transport Corporation (TNSTC), Neyveli Lignite Corporation, Tamil Nadu Paper Limited (TNPL), Integral Coach Factory (ICF- Perambur) among others. This indicates less than desirable adoption of the scheme by the Private sector, which has engaged only 28% of the apprentices in the State.

Table 30 Apprenticeship by Industries

Establishment Type	Industries	% share of apprentices
Central Public Sector Undertaking	22	42%
Private Sector	78	28%
Central government	21	16%
State Public Sector Undertaking	16	11%
State Government	5	4%

Source-NAPS-MIS

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[46] Dept. of Labour, Employment and Training, Govt. of Tamil Nadu

Short Term Skill Development Programs

Tamil Nadu Skill Development Corporation

Table 31 Industry-wise Coverage since 2013-14 - TNSDC

Industries[47]	Seats	% Share
Telecom	1,70,940	37%
Apparel & Textile	1,32,831	29%
Agriculture	42,090	9%
Automotive	28,980	6%
Construction	12,065	3%
Media & Entertainment	9,168	2%
IT/ITEs	8,220	2%
Logistics	7,170	2%
Others	50,925	11%
Total	4,62,389	100%

Source: TNSDC

The Tamil Nadu Skill Development Corporation (TNSDC) is currently providing Short-term skill development programs ranging from 1 month to 6 months duration. The trainings comply with the National Skill Qualification Framework (NSQF) and implemented by a variety of institutions including Public and private sector industries and institutions. The training capacity is around 4, 62,389. It is seen that 2/3rd of the trainings were divided between the Telecom and the Apparel & Textile sectors.

Though the trainings are spread over 400 courses, it is observed that over 69% of the trainings were spread between 12 courses. Majority of the programs are implemented by Public Sector institutions like the BSNL, Institute of Road Transport, State Govt. Departments, and Central Govt. technical institutions like Central Institute of Plastic Engineering and Technology and the Central Footwear Training Institute.

Table 32 Trade-wise Coverage since 2013-14 - TNSDC

Trade	Capacity	Share
Embroidery	54,990	12%
Sewing Machine Operator	38,270	8%
ICT Engineer	34,000	7%
Network Management Engineer	34,000	7%
Infrastructure Engineer	30,640	7%
Micro irrigation technician	22,800	5%
Broadband Technician	20,400	4%
Optical Fibre Technician	20,400	4%
Self Employed Tailoring	17,919	4%
Optical Fibre Splicer	15,300	3%
Tower Technician	15,300	3%
Commercial Vehicle Driver Level 4	13,800	3%
Others	1,44,570	31%
Total	4,62,389	100%

Source: TNSDC

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[47] Industries have been largely classified as per Sector Skill Council under which the trades fall under.

However, TNSDC has sought to diversify the training provided in recent years, offering a greater variety across other sectors and trades. In 2018-19, there was some thrust towards Light Engineering and Leather among the sectors. Niche trainings were also provided under Green Jobs, Gems & Jewellery and Plastic Engineering.

Table 33 Industry Wise Trainings Completed in 2018-19

Industries[48]	Number	Share	Industries[48]	Number	Share
Apparel	38,586	28%	Agriculture & Allied	2,305	2%
Light Engineering	24,291	17%	Telecom	2,289	2%
Leather	12,056	9%	Retail	1,991	1%
IT&ITES	8,445	6%	Plastic Engineering	1,447	1%
Construction	8,356	6%	Textiles	1,356	1%
Automobile	5,802	4%	Refrigeration & Air Conditioning	699	0%
Beauty & Wellness	4,383	3%	Gems & Jewellery	656	0%
Health care	3,710	3%	Food Processing	449	0%
Hospitality	3,679	3%	Handicrafts	429	0%
Media & Entertainment	2,898	2%	Green Jobs(Solar)	105	0%
Logistics	2,447	2%	Security	80	0%
BFSI	2,442	2%	Others	11,223	8%
			Total	1,40,124	

Source: TNSDC Policy Note, 2018-19

Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

Under the central govt. sponsored Pradhan Mantri Kaushal Vikas Yojana (PMKVY) more than 21,000 trainees have been enrolled in courses under 20 industries / sectors across the State. It is observed that nine industries account for almost 87% of all the trainings. Sewing Machine Operator, Self Employed Tailor, Stitcher (Goods & Garments), and Cutter-Goods & Garments (trades with similar skillsets) account for 35% of all intake under the scheme.

Industries[48]	Capacity	Share
Apparel	6,103	28%
Leather	2,508	11%
Electronics and Hardware	1,946	9%
Media and Entertainment	1,697	8%
Beauty and Wellness	1,587	7%
Agriculture	1,541	7%
Tourism & Hospitality	1,440	7%
IT-ITeS	1,106	5%
Retail	1,087	5%
Others	2,818	13%
Total	**21,833**	100%

Source: TNSDC – PMKVY Smart Porta

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[48] Industries have been largely classified as per Sector Skill Council under which the trades fall under.

Deen Dayal Upadhyaya Grameen Kaushal Yojana (DDU-GKY)

The DDU-GKY program under the Tamil Nadu Corporation for Development of Women (TNCDW) focuses on training for the Rural youth who fall under the below the poverty line (BPL) category. The program has successfully accomplished its target of 43,530 earmarked for the period 2012-13 to 2018-2019. The trainings focussed on the IT, Apparel, Automobile industries.

Table 34 DDU-GKY Coverage between 2012-13 and 2018-19

Industries[49]	Share of Capacity
Information Technology	32%
Apparel and Textile	22%
Automobile	9%
Industries	7%
Other	28%
Total	43,530

Source: Policy Note, Dept. of Rural Development and Panchayat Raj (DRDRP), GOTN

Other Skill Development Schemes

1) **RMSA Vocationalisation of Higher Education**- The scheme aims at minimising the gap between education provided and the availability of employment opportunities in the market, in addition to reducing the dropout rate at the secondary school level. Currently, the scheme is being implemented in 67 schools across the 67 Educational Districts with two NSQF compliant trades per school. The six trades covered include Agriculture, Multi Skill Foundation Course, Electronics and Hardware, Beauty and wellness, and Automotive and Apparel. In the academic year 2018-19, 5,342 students benefitted through this scheme.

2) **NULM Employment through Skill Training & Placement (EST&P**) – The program, targeted at urban youth who fall under the BPL category, and implemented under the aegis of the TNCDW. Training for 12,000 trainees of 2018–2019 is in underway. The program will train an additional 9,000 urban poor youth during the year 2019–20. The sectors of focus are largely similar to the programs under the DDU-GKY.

3) **Other Dept. of Rural Development Trainings** – Under the IFAD funded Post Tsunami Sustainable Livelihood Programs with poultry, vegetable and mushrooms cultivation, Dry fish production, coir products, Floriculture, toys making, cashew nut processing, beauty parlour, saree printing, etc. 3,477 Joint Liability groups have been supported through skill training. In addition, sponsored Vocational training was provided to 5,216 unemployed youth.

4) **Amma Skill Training Scheme (Dept. of MSME) –** The scheme envisages to fulfil the requirement of skilled workforce in the manufacturing sector through on-the-job training. The Govt. provides a stipend support to the industries. For the year 2018-19, a total of 25,246 candidates have been trained under the Amma Skill Training and Employment Scheme, against a target of 25,000 candidates.

5) **Other Dept. of MSME Trainings -**The Dept. of MSME also runs the following training institutes viz.

   a. Government Technical Training Centre, Guindy, Chennai
   b. Institute of Tool Engineering, Dindigul
   c. Institute of Ceramic Technology, Virudhachalam
   d. Government Scientific Glass Training Centre, Coimbatore

6) **ICT Academy of Tamil Nadu (Dept. of IT) –** The agency though provides a majority of trainings through TNSDC in the IT/ ITES industries has also provided employability skills training and entrepreneurship training to more than 650 students (for other Govt. agencies and departments) during 2018-19.

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[49] Industries have been largely classified as per Sector Skill Council under which the trades fall under.

In addition, several Govt. Departments and organizations have already channelled their skill training programs through the Tamil Skill Development Corporation including

1) Dept. of Information Technology,
2) Dept. of Horticulture / Agriculture,
3) Tamil Nadu Adi Dravidar Housing & Development Corporation
4) Tamil Nadu Slum Clearance Board,
5) Directorate of Technical Education,
6) Department. of Transport

2.9. Shortlisting Priority sectors in the State

In order to identify the priority sectors, a four-quadrant matrix was developed to identify the key sectors in terms of economic growth and employment share of the sector.

- Sectors with more than 5% growth and more than 5% employment share were classified in quadrant 1

- Sectors with more than 5% growth but less than 5% employment share were clubbed in the quadrant 2

- Sectors with less than 5% growth and less than 5% employment share were categorized in quadrant 3; and

- Sectors with more than 5% employment share but less than 5% growth were identified in the quadrant 4.

Sectors in the quadrant 1 and quadrant 4 were identified as high priority sectors for the State.

Manufacturing is one of the major sectors in Tamil Nadu that has not only grown at above 5% between 2011-12 and 2017-18, but has also provided the employment to a significant proportion of the workorce; about 18% of the workforce was employed in manufacturing sector in 2015-16. Manufacturing sector plays important role for overall skill development ecosystem as it is a labour intensive sector and known to accommodate a large number of skilled and semi-skilled workers, The Agriculture and allied sector has grown at only 4.1% between 2011-12 and 2017-18, however, the proportion of workforce dependent on agriculture was 35% in 2015-16. Surplus workers from the farm sector needs to move to the higher value and fast growing manufacturing and services sectors with adequate support from the State through skill development. \Construction sector has provided employment to 12.3% of the workforce, being the third largest employment generator after agriculture and manufacturing, however, the sector has grown at a very low rate of 3.2%. Similarly, trade and repair services has contributed 10.4% to the employment share, despite a low 5.5% annual growth rate. Sectors such as minning and quarrying, communication & broadcasting services, real estate services and financial services have grown at an annual rate of more than 5%, however, they contribute less than 2%, respectively, to the employment share. Tourism related sector like hotels and restaurants have grown at an annual rate of 5.7% providing employment to 2.1% of the workforce. Tourism sector needs to grow at a higher rate to generate more employment. Other services like education, health, social work, arts and entertainment, trade union and other professional organisation relate services, administrative and suppport service activities, household related professional services etc. have grown at a combined annual rate of 7.5%, with education having the largest employment share of 3.4%.

Figure 11: Employment growth and share matrix
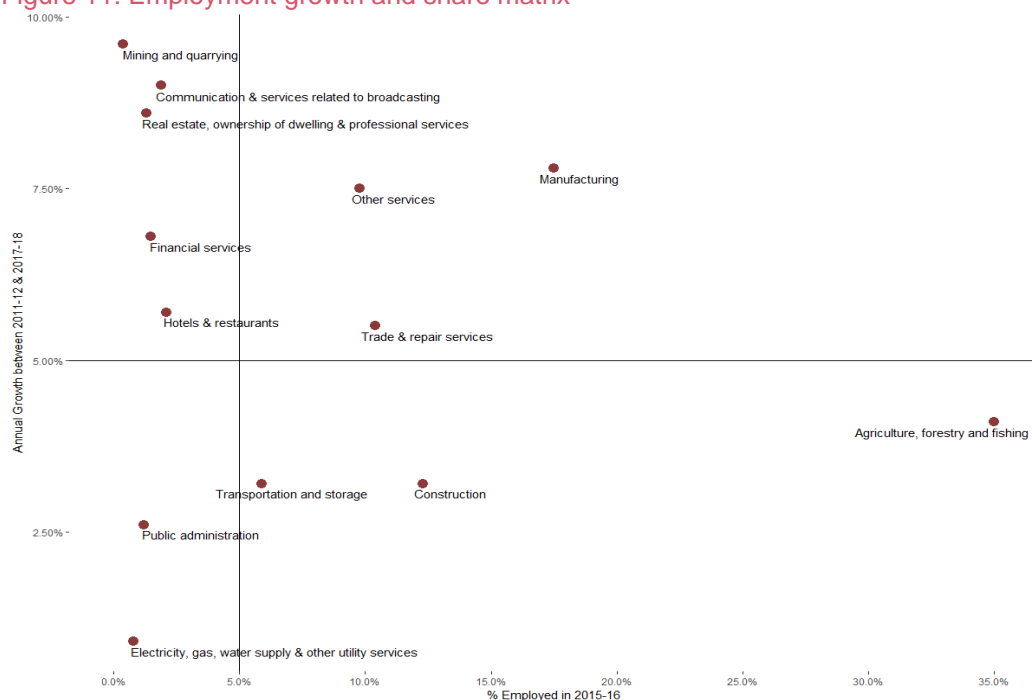
Source: 5th round of employment & unemployment, MoLE

GSVA at constant (2011-12) prices

Further, the occupation-wise credit[50] as compiled by the Reserve Bank of India as well as the sectors identified as priority under the Vision 2023, and the thrust under the Global Investors Meet 2019 were used to short list the most prominent sectors at the state level.

Table 35 Occupation wise Credit - RBI

S.No	Industry (Occupation)	Credit Outstanding (Rs. Crs)				Share of Total Industrial Credit
		2013-14	2014-15	2015-16	2016-17	
1	Construction and Housing	94,923	1,04,987	1,14,910	1,18,837	32.9%
4	Wholesale and Retail Trade	48,137	51,304	60,968	64,236	17.8%
2	Engineering	46,519	45,471	44,996	42,972	11.9%
3	Textiles	35,289	35,424	37,222	38,982	10.8%
6	Food Manufacturing & Processing	14,708	15,658	16,738	16,706	4.6%
7	Chemical, Rubber and Plastics	13,063	12,853	13,584	12,694	3.5%

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[50] GeoCrede.Com

S.No	Industry (Occupation)	Credit Outstanding (Rs. Crs)				Share of Total Industrial Credit
		2013-14	2014-15	2015-16	2016-17	
8	Transport Operators	8,712	8,539	10,200	12,931	3.6%
9	Petroleum, Coal Products & Nuclear Fuels	6,617	4,967	5,073	3,329	0.9%
10	Paper, Paper Products & Printing	5,935	6,992	7,251	7,076	2.0%
11	Other Industries	5,818	5,474	6,837	8,250	2.3%
12	Manufacture of Cement & Cement Products	5,783	5,730	4,676	4,057	1.1%
13	Gems and Jewellery	5,420	7,761	8,731	8,587	2.4%
14	Mining & Quarrying	5,254	3,301	3,142	8,081	2.2%
15	Tourism, Hotel & Restaurants	5,149	4,352	4,401	4,946	1.4%
16	IT and Telecommunications	3,001	3,008	2,968	2,567	0.7%
17	Leather & Leather Products	2,175	2,342	2,194	2,229	0.6%
18	Beverage & Tobacco	1,879	1,764	1,820	1,501	0.4%
19	Recreation services	1,783	1,486	1,586	1,626	0.5%
20	Woods and Wood Products	1,382	1,517	1,835	1,737	0.5%

Thus, based on the GDDP Growth, occupation-wise data credit outstanding data shared by the RBI and the policy initiatives of the Govt. of Tamil Nadu including the focus sectors of the Tamil Nadu Global Investors meet, the following sectors were shortlisted for greater focus:

1. Apparel & Textile Manufacturing
2. Engineering, Automotive & Metals
3. Agri & Food Processing
4. Healthcare
5. Chemical & Petrochemical
6. Building & Infrastructure
7. Tourism & Hospitality
8. IT / ITES

In addition, traditional and indigenous industries like handicrafts, handlooms etc. were also covered as part of the study.

Youth Perspective

3. Youth Perspective

A structured household survey tool was administered among 360 youth (young men and women in the age group of 15-34 years) in each District. The sample was drawn from six blocks in each district classified by economic development. In total, 11,520 youth were surveyed across 192 blocks across the State. The sample has a representation of various socio-economic and demographic categories in line with the objective of the study to capture the perspectives of a diverse group of youth, especially from the rural areas and belonging to the disadvantaged sections of the society. The study also focused on the educated youth.

Figure 12 Respondent Profile
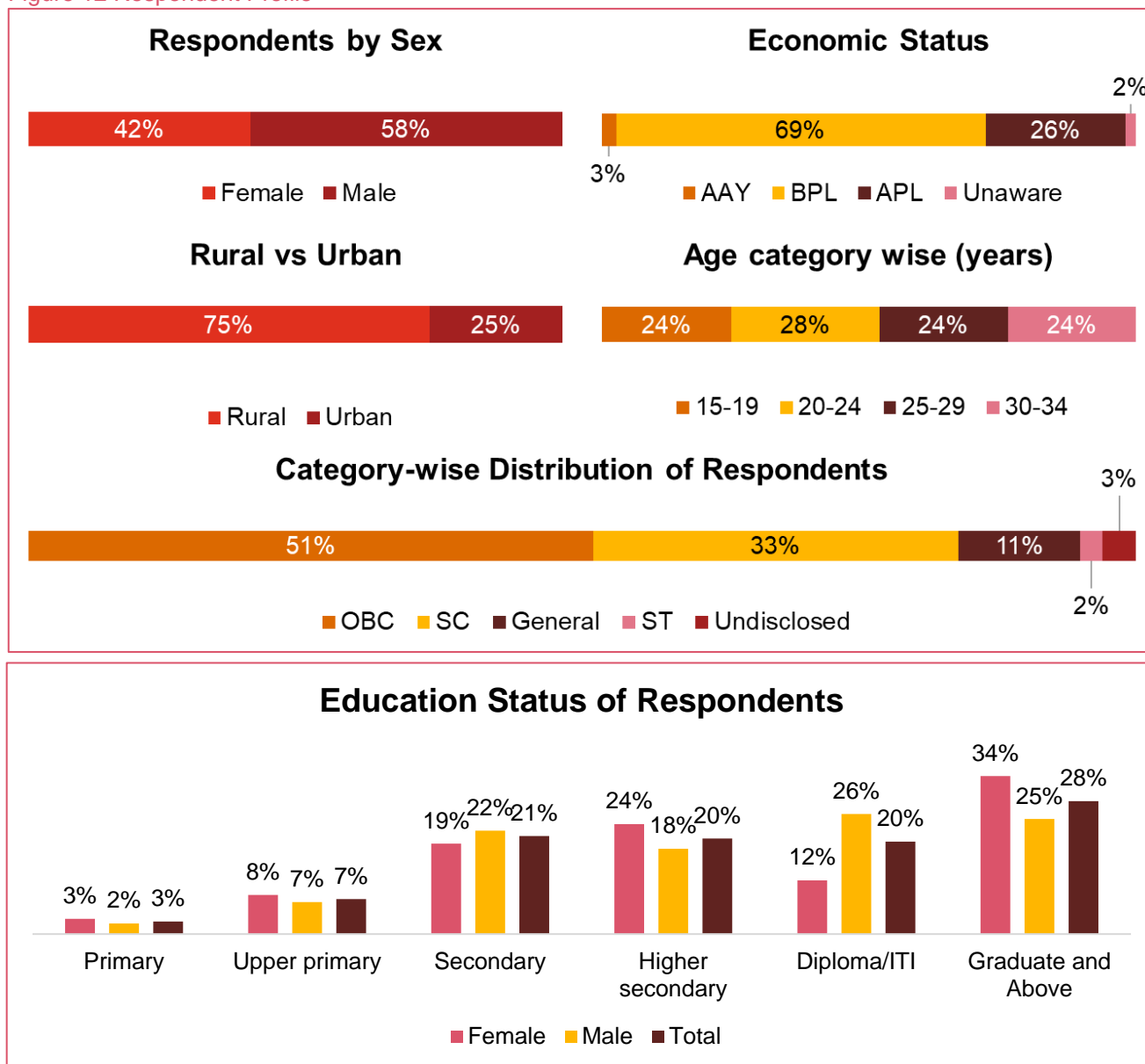
3.1. Respondent's Current status

The sample sought to identify youth engaged across economic activities, education, and those who fell under the NEET (Not in Education, Employment, or Training) category. Wage / salaried employment, Education and NEET category had 26% respondents each while self-employment composed of another 21%. Only one percent of the respondents were entrepreneurs. Nearly 40% of the female respondents were in the NEET category.

Figure 13 Respondent's Current Status by Gender
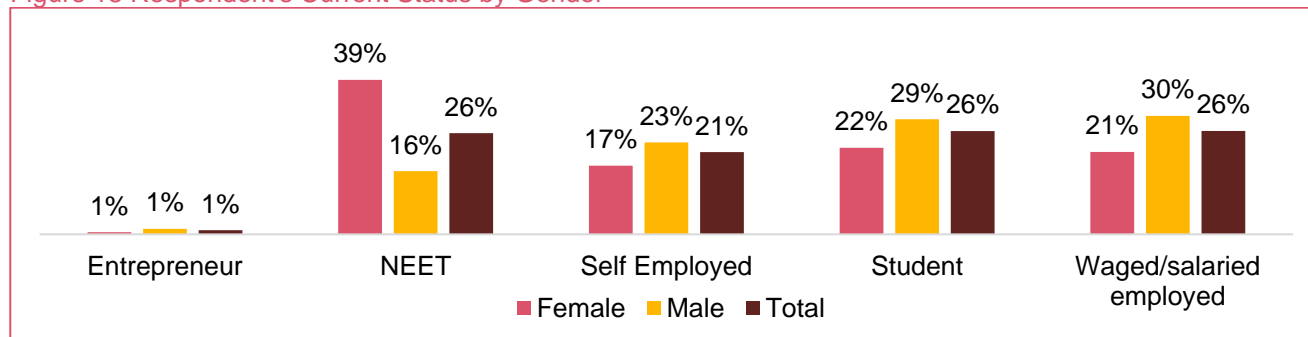
Classifying the sample across age categories, nearly 4/5ths in the 15-19 years age category were students. It is observed that though the percentage of respondents falling under the NEET category decreases gradually between the 20-24 years age category (36%) and 30-34 years age category (21%), they constitute a substantial share of the sample. On the other hand, the self-employed category increases in share with age category.

Figure 14 Age Category wise Distribution of Respondent Status
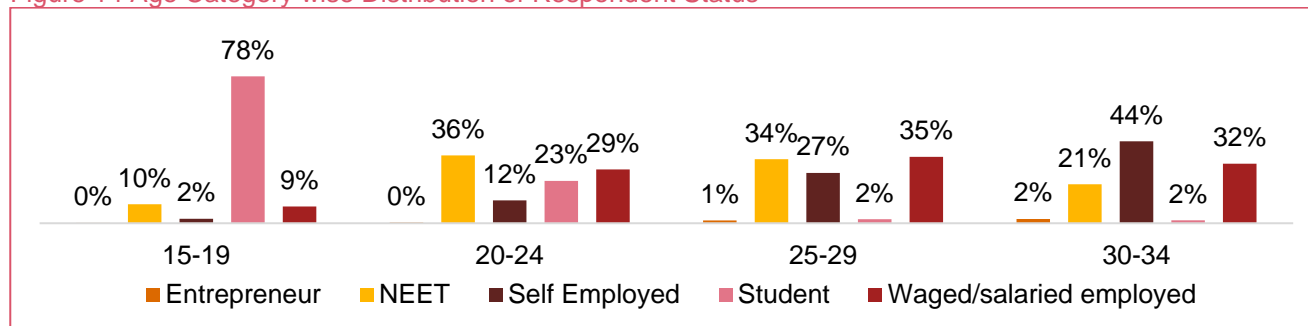
Figure 15 Respondent Status (20-34 years)
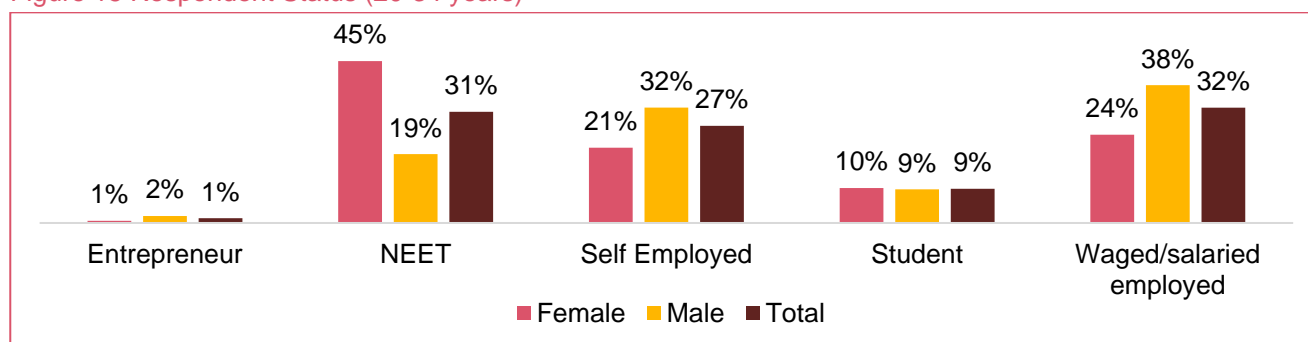
As seen in, Figure 14 respondents between ages twenty to thirty-four years were more likely to be in the labour market. Hence, they were analysed separately. It is seen that 45% of the females fell under the NEET category against 19% of the males. About 70% of the males were engaged in economic activity (self-employment or wage salary employment). It is seen that self-employment is a dominant form of economic activity across both males and females.

3.2. Economic Activity of Respondents

Over 57% of the total respondents reported to have been ever engaged in work or economic activity. However, only 49% of the respondents were presently engaged in work. About 62% of all those who had dropped from the workforce were female. Around 84% of those respondents who had ever worked / engaged in economic activity reported to have worked in a field related to their education or training.

Among those engaged in economic activity, the median monthly income of the respondents engaged in economic activity was ₹9,968, i.e. less than ₹10,000 per month. While the median monthly income among females was ₹7,912, among males, it is ₹11,713. Over 70% of the female respondents engaged in economic activities earned ₹10,000 per month or less indicating that they were either engaged in low skilled jobs or the employers were not willing to pay/ paying for their skills.

Figure 16 Monthly income of Respondents (INR) by Sex
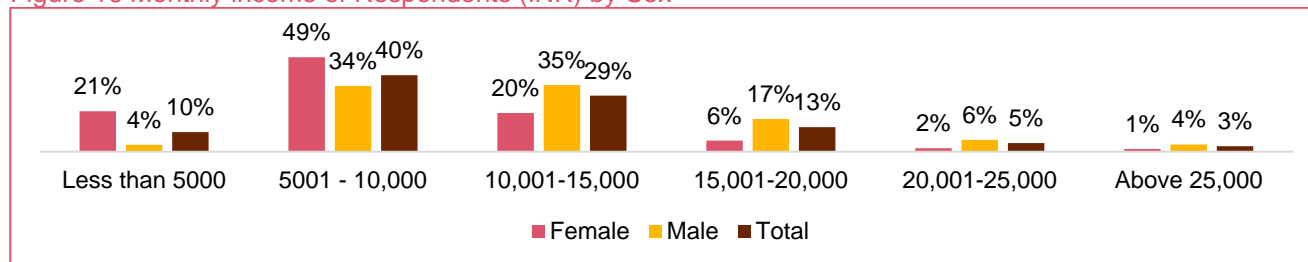
Table 36 Median Income by education Level

Education Level	Median Monthly Income
UP and Below	₹8,605
Secondary	₹9,443
Higher secondary	₹9,693
Diploma/ITI	₹10,781
Graduate and Above	₹11,935

There is a positive relationship between education qualifications and incomes. However, the difference between the median income of the respondent with education level of upper primary and below (₹8,605) and the respondent with at least a Graduation (₹11,935) is only ₹3,330 per month. It is observed that 70% of respondents engaged in economic activity and with at least a graduation level education earned less than ₹15,000 a month. Though graduates do increase their incomes with experience, most of them continue to earn less than ₹15.000 per month even after 3-4 years of experience. The median income (₹14,195 per month) is not substantially larger than the income Diploma / ITI holders (₹13,287). This indicates that higher levels of education alone aren't translating into substantial differences in income among the youth.

Figure 17 Distribution of Income Categories by Education Level
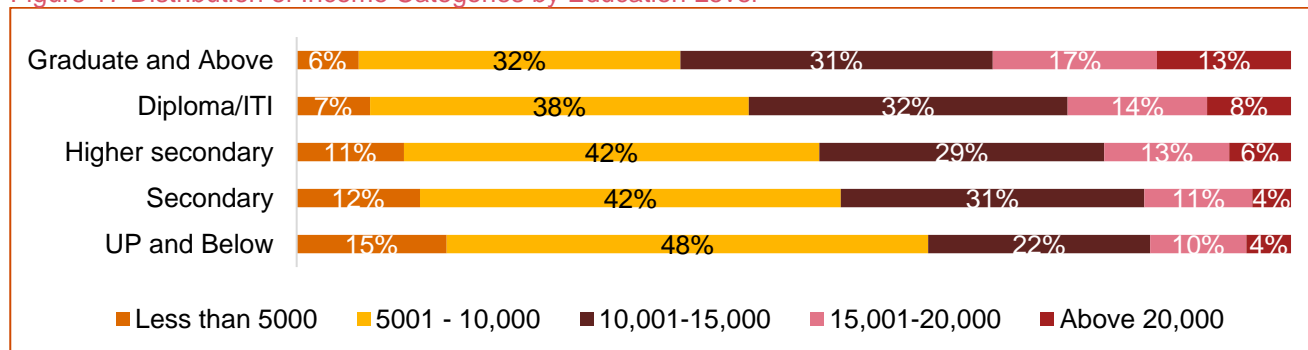
There is a trend of increasing formalisation in jobs with increased education qualification, with 39% of the graduates employed in wage / salaried employment vis-à-vis 11% of respondents with higher secondary qualification. However, around one-fifth of the 'Graduates and above category' are engaged in agriculture and unskilled labour. This further indicates that, there is substantial scope in providing market linked skill development programs even among respondents with higher education qualifications.

Table 37 Education Qualification of Respondents and Employment Type

Employment Type \Qualification	Upper Primary and Below	Secondary	Higher secondary	Diploma/ITI	Graduate and Above	Total
Unskilled Work	33%	26%	24%	16%	12%	22%
Agriculture and Allied	17%	16%	14%	9%	7%	13%
Salaried Employment	2%	4%	11%	17%	39%	16%
Skilled worker (tailor, mason, electrician, plumber etc.)	37%	41%	34%	44%	25%	36%
Business / Trade / Manufacturing	16%	19%	22%	20%	21%	20%
Total Respondents for Education Qualification	**981**	**1,749**	**1,288**	**948**	**1,617**	**6,583**

3.3. NEET Category Respondents

Around one-fourth of the respondents were from the NEET category. Among these, 63% were female. About 56% of the female respondents in the NEET category had been out of economic activity or education for more than 2 years compared to 26% of the male respondents. Over 39% of the respondents in the NEET category were between the ages 20-24 years while 32% are between 25-29 years.

Table 38 NEET Category Respondents

Duration in NEET Category					Wish to Work			
	Female	Male	Total			Female	Male	Total
Less than 6 months	7%	19%	11%		Yes	52%	59%	55%
6 months- 1 year	13%	29%	19%		Total	1,880	1,079	2,959
1- 2 years	24%	26%	25%		Actively Seeking Work			
2- 3 years	18%	13%	16%			Female	Male	Total
More than 3 years	38%	13%	29%		Yes	59%	86%	70%
Total	1,880	1,079	2,959		Total	989	642	1,631

52% of the female respondents and almost 59% of the male respondents in the NEET category, wish to work in the future. About 58% of those female respondents have been actively seeking work. On the other, hand 86% of the male respondents in this category wishing to work are actively seeking work opportunities.

Figure 18 Reasons for NEET

Reason	Female	Male
Scarcity of Local Jobs	30%	39%
Lack of Family Support	25%	7%
Low Paid Jobs	20%	29%
Awaiting Results for Competetive Exams	18%	25%
Upaid HH Work	13%	11%
Marriage	13%	1%
Preparing for government jobs	10%	13%
Unwilling to Migrate outside TN	6%	7%
Remoteness of Residence	3%	3%
Lack of Skills	3%	5%
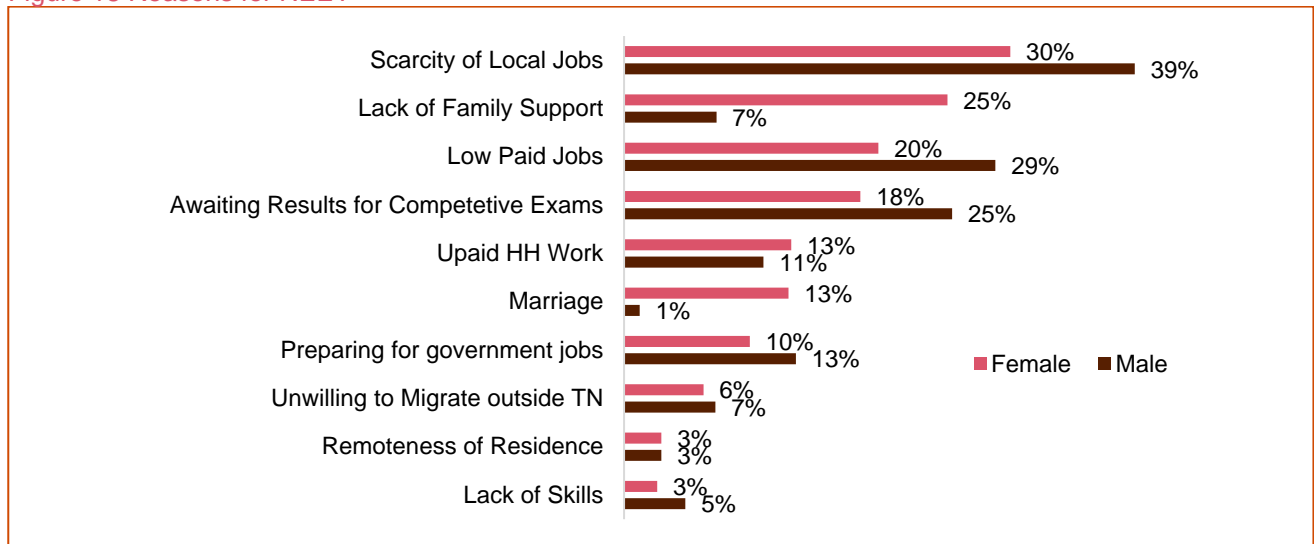
Multiple Response Question, total may add up to more than 100.

The scarcity of jobs locally was the reason, most cited by the respondents to continue in the NEET status. Females highlight 'lack of family support, low paid jobs and 'awaiting results for competitive exams' as the key reason. Males identify 'lack of local jobs', 'low paid jobs' and 'awaiting results for competitive exams. They are less averse to migration in comparison to females.

3.4. Youth Aspirations

The youth in the State expressed preference largely for self-employment[51] (29%) and wage / salaried employment with the public sector (25%). Males have shown a marginally higher interest in the pursuit of self-employment, while females have a higher interest in pursuit of public sector employment.

Figure 19 Career Aspiration by Sex
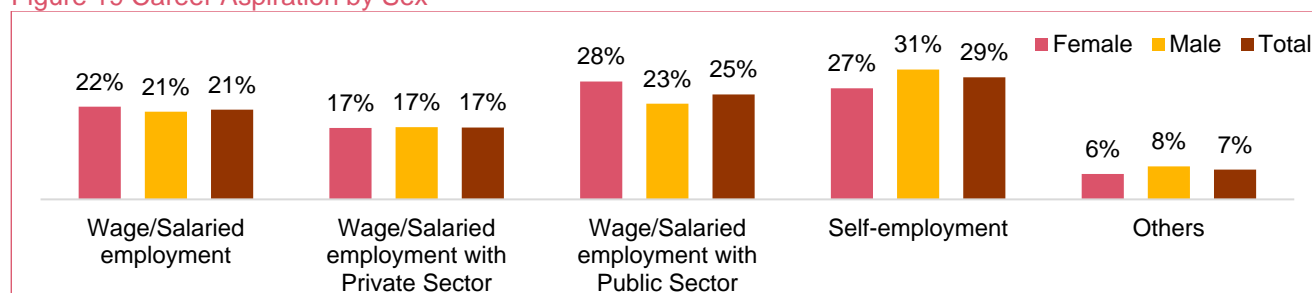
N= 11,520

The main factors determining the aspiration of the youth are salary (wages) / income (81%), job security (51%), and social status (26%). 51% of the youth feel they are or largely are well prepared for requirements for a job while only 9% feel they are unprepared. The main reason for the youth feeling prepared is their available work experience in the relevant field (39%) and relevant academic qualifications (33%). 56% of the respondents feel there is a lack of adequate employment opportunities available in the District.

Table 39 Career Aspiration - Factors, Preparedness and Availability of Jobs

Factors Determining Aspiration (n=11,520)	Responses*	Perception of Preparedness for Jobs	Responses
Salary (wages) / Income	81%	Completely Prepared	34%
Job Security	51%	Largely Prepared	21%
Social Status	26%	Moderately Prepared	20%
		Somewhat prepared	10%
Closeness to Residence	19%	Not Prepared	9%
		No Answer	5%
Flexible work arrangements (location, schedule)	15%	**Availability of Job Opportunities**	**Responses**
Safety / Security	13%	Very adequate	7%
		Somewhat adequate	13%
Opportunities for promotion and career development	6%	Neither adequate nor inadequate	18%
		Somewhat inadequate	31%
		Very inadequate	25%
Multiple Response Question, total may add up to more than 100.		No Answer	5%

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[51] 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

Over 38% of the youth do not see much challenge in pursuing their career. Among the challenges that the youth see in pursuing their careers, the lack of jobs locally is the most cited (19%). Other key factors include lack of proper information on jobs (16%) and pressure related to getting married (15%), especially among women

Table 40 Career Aspiration – Challenges in pursuing desired career

Challenges	Responses	Challenges	Responses
Lack of local job availability	19%	Lack of technical / vocational skills	9%
Lack of guidance / information on appropriate job available for skill levels	16%	Lack of work experience	9%
Pressure related to getting married	15%	Lack of family support / social acceptance of girls being engaged in economic activity	5%
Low financial strength	14%	Inadequate infrastructure to access work-place	4%
Lack of sufficient education qualification	12%	Lack of Soft Skills	3%
Unsafe working environment	11%	No Challenge	38%
Multiple Response Question, total may add up to more than 100. N=11.520			

The key factors influencing their employability, according to the respondents, were years of relevant experience and education attainment (32%) and soft skills (15%). Clear Communication (54%) and Team Work (37%) were identified as key skills specific to their aspired jobs. Analytical Thinking (24%) and leadership (22%) were other identified areas of skill development. While 47% of the respondents had already taken steps to meet these requirements, 30% were intending to continue their education. There was considerable aspiration for vocational training and apprenticeship with at least 1/5th of the respondents aspiring for both.

Table 41 Key Requirements to enhance employability and steps to achieve aspirations

Key Requirements to enhance employability (n=11,520)			
Requirements	Responses	Requirements	Responses
Years of Relevant Work Experience	32%	Certifications of Technical Skill	9%
Education attainment (level of education)	32%	Relevant work experience in similar position or field	6%
Soft skills	15%	Others	7%
Key Skills Required for desired job* (11,520)			
Clear communication	54%	Coordination Skills	19%
Team work	37%	Time management	17%
Analytical thinking	24%	Active listening	16%

Leadership	22%	Attention to detail	6%
Creativity, originality and initiative	19%	Critical thinking and analysis	5%
New Steps to achieve aspirations (11,520)			
Steps	Responses	Steps	Responses
Already in Pursuit	47%	Vocational / Skill Training	22%
Continuing Education	30%	Apprenticeship / Gathering Work Experience	20%
Multiple Response Question, total may add up to more than 100.			

Female respondents aspired for careers in Food Processing, BFSI, Building & Construction, while males aspired for careers in Auto and Auto Components and Iron & Steel. Males had a more diverse aspiration than females.

Table 42 Aspired Industries[52]

Females		Males	
Industries	%	Industries	%
Food Processing	20%	Auto and Auto Components	14%
BFSI	13%	Iron & Steel	12%
Building, Construction Industry	12%	Handloom & Handicrafts	11%
Agri-business	11%	Agri-business	8%
Healthcare Services	5%	Building, Construction Industry	8%
Education and Skill Development	4%	BFSI	7%
Electronic & IT Hardware	4%	Chemical & Pharmaceuticals	7%
Iron & Steel	4%	Furniture and Furnishing	6%
Gems & Jewellery	4%	Healthcare Services	5%
Furniture and Furnishing	3%	Real Estate	4%
Handloom & Handicrafts	3%	Domestic Help	4%

Multiple Response Question, total may add up to more than 100.

Figure 20 Preference for location of work

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[52] Industries have been largely classified as per Sector Skill Council under which the trades fall under.
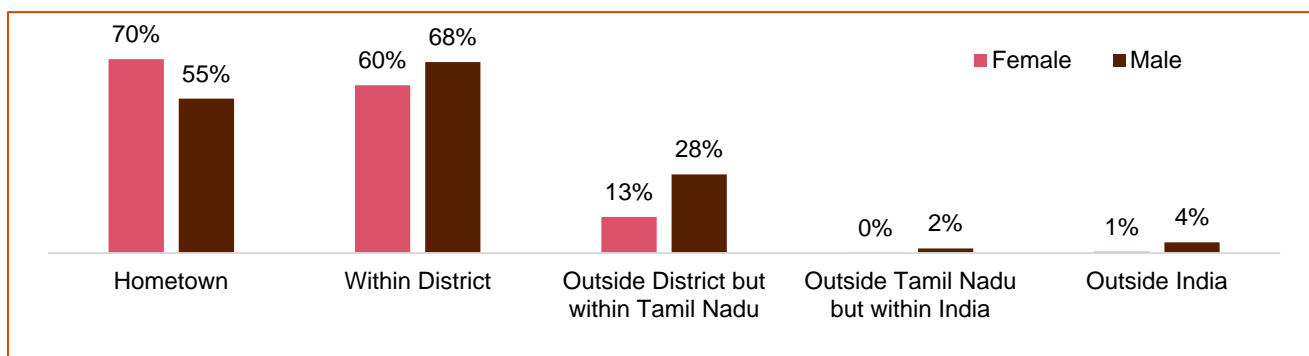
Multiple Response Question, total may add up to more than 100.

There is a general reluctance among the respondents to migrate outside of their hometown with 65% of the respondents aspiring for a career within their district while 61% aspired to find a job within their hometown. However, there is more acceptance among males than females to migrate to locations outside of their home town. The median expectation of salary among female respondents was around ₹16,000 per month while the male respondents aspired for around ₹20,000 per month. Those already engaged in economic activity have higher aspirations than students and those falling under NEET category. However, the difference in median aspired income between the NEET category and the wage / salaried employed is only 15%. It is observed that the monthly income aspired, varies across the respondent status as well as education levels.

Figure 21 Monthly Income Aspiration
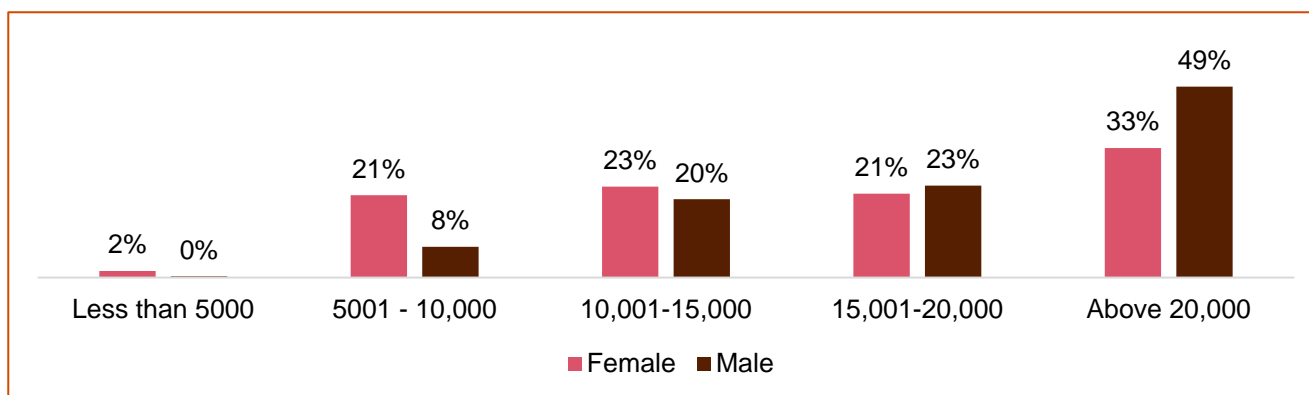
Multiple Response Question, total may add up to more than 100.

Table 43 Monthly Income Aspiration by Respondent Status

Category	Entrepreneur	NEET	Self Employed	Student	Waged/salaried employed
Less than 10,000	4%	20%	14%	10%	13%
10,001-15,000	12%	25%	15%	26%	19%
15,001-20,000	18%	22%	16%	26%	25%
20,001-25,000	13%	13%	20%	16%	19%
25,000 and above	49%	16%	34%	23%	23%
No Response	3%	3%	1%	1%	0%
Number of respondents (N)	120	2,957	2,403	3,017	3,022
Median Salary Expectation (₹)	25,625	16,136	21,250	17,692	18,600

Table 44 Monthly Income Aspiration by Education Attainment

Category	Upper Primary & Below	Secondary	Higher Secondary	Diploma/ITI	Graduate & Above
Less than 5000	2%	1%	1%	0%	0%
5001 - 10,000	32%	18%	15%	8%	5%
10,001-15,000	21%	25%	24%	22%	16%
15,001-20,000	19%	22%	22%	25%	23%
20,001-25,000	12%	16%	15%	19%	19%
25,000 and above	12%	16%	21%	25%	21%
Number of respondents (N)	1,173	2,421	2,360	2,283	3,283
Median Salary Expectation (₹)	13,810	16,364	17,273	19,000	24,737

Respondents with higher levels of education aspired for higher incomes ranging between a median income of ₹13,810 per month by respondents who had completed upper primary to ₹24,737 per month by the graduates. The aspirational income of the respondents exceeds the reported income by respondents who are engaged in economic activities in each category by 25% to 100%, the divergence increasing with each level of education. Thus, there emerges a gap between the awareness and expectations of the youth and the market prevalence.

Figure 22 Monthly Income Aspiration vs Reported income of respondents by Education Category
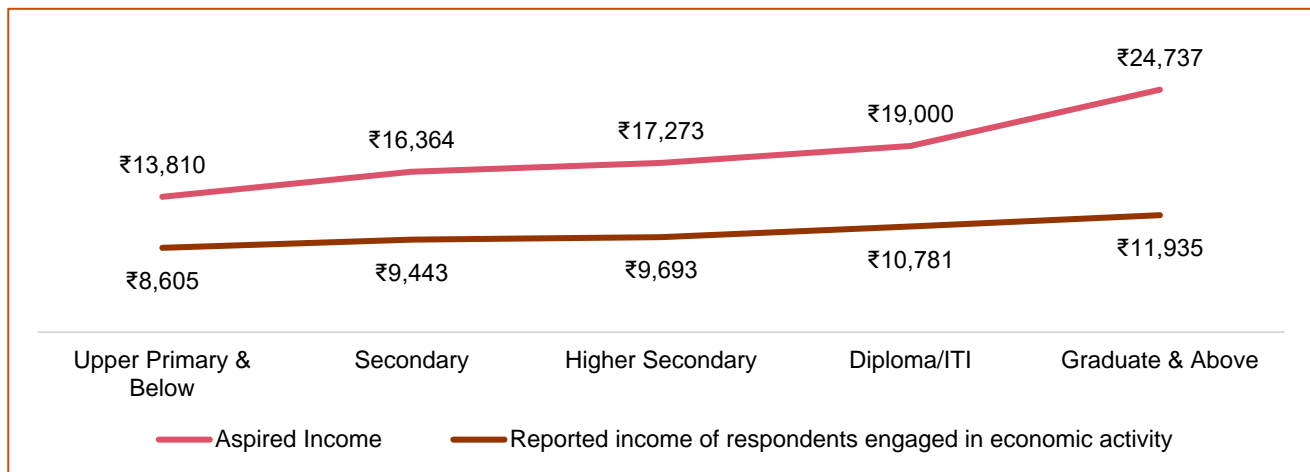
Less than 20% of the respondents felt the accessibility to career counselling / guidance was adequate. About 17% of the respondents were unaware of such services indicating a necessity for wider outreach in the activities.

Figure 23 Accessibility to Career Counselling / Guidance

Figure 23 Accessibility to Career Counselling / Guidance
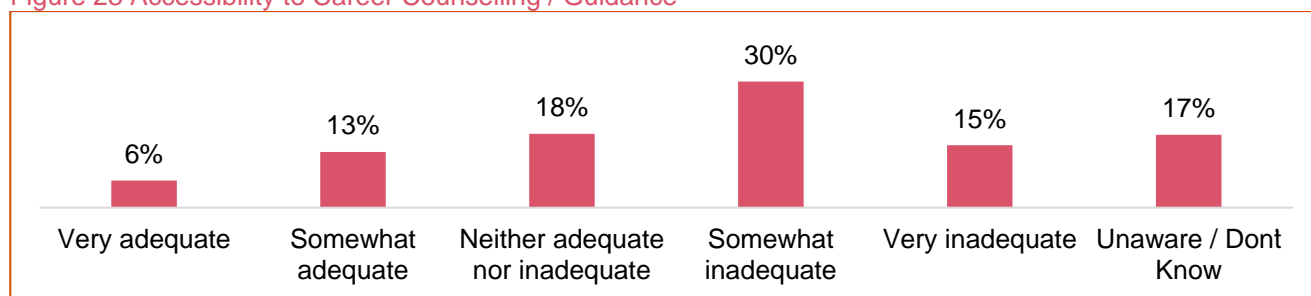
The most important source for Job related information was Friends & Peers (65%) followed by the Newspaper / other media (61%). Over 42% of the respondents accessed the information through the newspapers and other media. The District employment office was identified as a source by only 136% of the respondents.

Figure 24 Source for Career / Job -related information
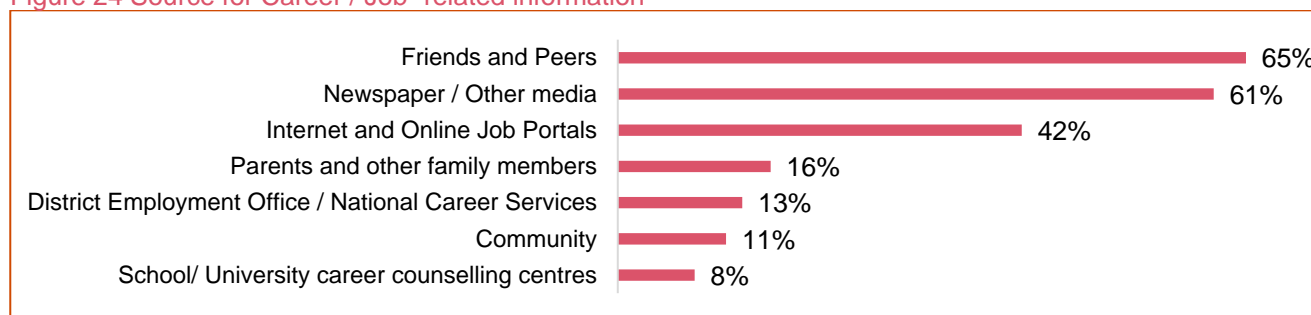
3.5. Skill Training Preferences

12.4% respondents have awareness of Govt. run vocational programs

1.4% respondents have undergone some vocational training

33.5% respondents are interested in undertaking vocational training

About 12% of the respondents had any awareness of Govt. run vocational programs while only 1.4% had undergone any vocational training previously. 33% of the respondents were interested in undertaking any vocational training. Of these respondents 70% preferred the trainings to be short term certificate courses. Around 2/3rd of these respondents preferred part time training programs.

Figure 25 Skill Training type

Short term certificate courses (less than 6 Months duration)	70%
Short term certificate courses (6 Months to 1 Year duration)	18%
Diploma courses (1 Year to 2 Year duration)	7%
Others	5%
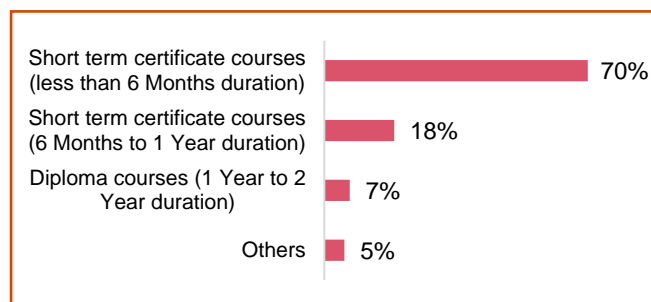
Figure 26 Full Time vs Part Time

- Full-Time 33%
- Part Time 67%

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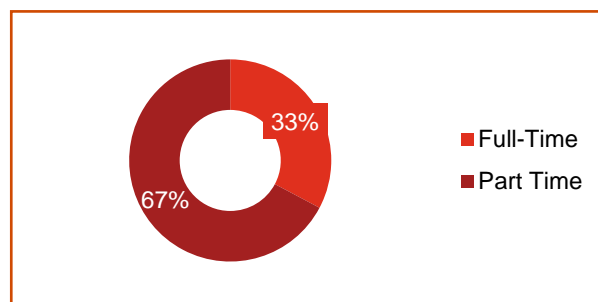
Stakeholder Perspective

4. Other Stakeholders' Perspective

The study covered employers, industrial associations and other key stakeholders 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.

4.1. Employers' Perspective

The quantitative survey covered more than 1,322 units from more than 30 industries. The industry wise coverage of industries is given in the Table below. Metalwork, Auto & Auto Components, Textile and Apparel were the major industries covered. Of the overall sample, there is a significant representation of all the different enterprise types – 52% were small scale enterprises, 23% were medium industries and 5% were large industries.

Figure 27 Distribution of Industry by Size (%)
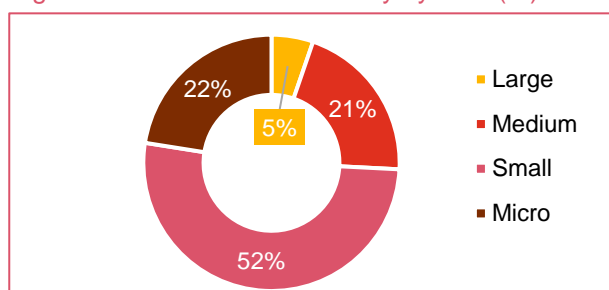
Table 45 Industry-wise[53] coverage of Units

S.No	Industries	Coverage	S.No	Industries	Coverage
1	Iron, Steel and Other Metals	247	18	Healthcare Services	11
2	Auto and Auto Components	174	19	Power	11
3	Machinery Equipment	133	20	Renewable Energy & Green Jobs	10
4	Textile and Apparel	125	21	Other Manufacturing	9
5	Chemical & Pharmaceuticals	105	22	Warehousing and Packaging	9
6	Building Construction Painting Industry	84	23	IT and ITES	6
7	Food Processing	83	24	Media & Entertainment	6
8	Tourism Travel and Hospitality	55	25	Logistics	5
9	Retail	45	26	Mining & Quarrying	5
10	Plastics	45	27	Oil Gas and Hydrocarbon	4
11	Paper and Paper Products	32	28	Education and Skill Development	3
12	Agri-business	25	29	Gems and Jewellery	3
13	Electronic and IT Hardware	19	30	Beauty and Wellness	2
14	Furniture and Furnishings	19	31	Handloom and Handicrafts	2
15	Rubber	17	32	Aviation and Aerospace	1
16	Leather & Leather Goods	15	33	Others	4
17	Capital Goods	13			

Employee reference is the major mode of recruitment (88%). Employers also use the local community and media advertisements and manpower agencies for recruiting the workforce. Especially in the case of recruiting migrant workers, most employers have labour contractors who source workers from other States.

The most common challenge faced by employers was candidates' disinterest and attitude (82%), followed by work hours (20%) and high local wages (18%)

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[53] Industries have been largely classified as per Sector Skill Council under which the trades fall under.

Table 46 Modes and Challenges in Recruitment Process

Key Modes of Recruitment			Key Challenges faced in Recruitment		
S. No	Particulars	%	S. No	Particulars	%
1.	Employee Reference/ Other Referrals	88%	1.	Candidate Disinterest and Attitude	65%
2.	Local Community	27%	2.	High local wages	58%
3.	Advertisements in Newspapers	15%	3.	Nature of work requires strenuous physical labour	14%
4.	Recruitment/ Manpower Agencies	7%	4.	Lack of requisite core skills	13%
5.	Others	6%	5.	Lack of Prior Experience	10%
6.	Campus recruitment in ITIs/Polytechnic	5%	6.	Lack of basic education requirement	6%
7.	Social Networks	4%	7.	Lack of requisite soft skills	6%
8.	Web Portals	2%			

Multiple response question

Figure 28 Average distribution of workers by Sex
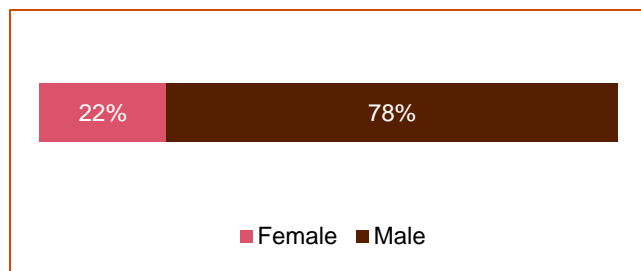
Figure 29 Distribution of workers by Skill Levels
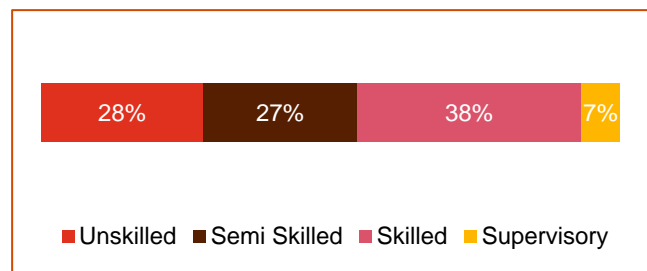
The workforce within the surveyed industries were largely male workers (78%). Textile Industries usually employ a higher proportion of females while the metal / industries predominantly employ males. Skilled workers dominated the share of workforce (38%) followed closely by unskilled and semi-skilled workers (28% and 27% each). Supervisory roles constitute marginal share of the workforce.

Table 47 Sources of Migrant workers

Sources of Migrant Workers from TN			Sources of Migrant Workers from outside of TN		
S.No	Particulars	%	S.No	Particulars	%
1.	North Tamil Nadu	28%	1.	Eastern India	73%
2.	South Tamil Nadu	60%	2.	Western India	7%
3.	West Tamil Nadu	29%	3.	Central India	9%
4.	Central Tamil Nadu	44%	4.	North Eastern States	8%
			5.	South Indian States	8%
			6.	North Indian States	10%

Multiple response question, totals may add to more than 100%

Over 27% of the employers affirmed the employment of migrants in their workforce. The migrants were both from within and outside of Tamil Nadu. Among the migrants from within Tamil Nadu, around 60% of the employers sourced workers from Southern Tamil Nadu and 44%[54] from Central Tamil Nadu. Among the migrants from outside of the State, Eastern India was the most prominent sources of workers. The key Industries

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[54] Multiple response question, totals may add to more than 100%

employing migrants include Apparel and Textile, Building and Construction, Auto and Auto-components, Beauty & Wellness, and Tourism & Hospitality.

Figure 30 Key causes of Attrition*

Better job opportunities	71%
Lower wage	70%
Candidate disinterest	50%
Inability to adjust to work environment	11%
Nature of work requires strenuous physical labour	9%
Migrant nature of workforce	8%
Household duties, including farming, domestic work,…	8%
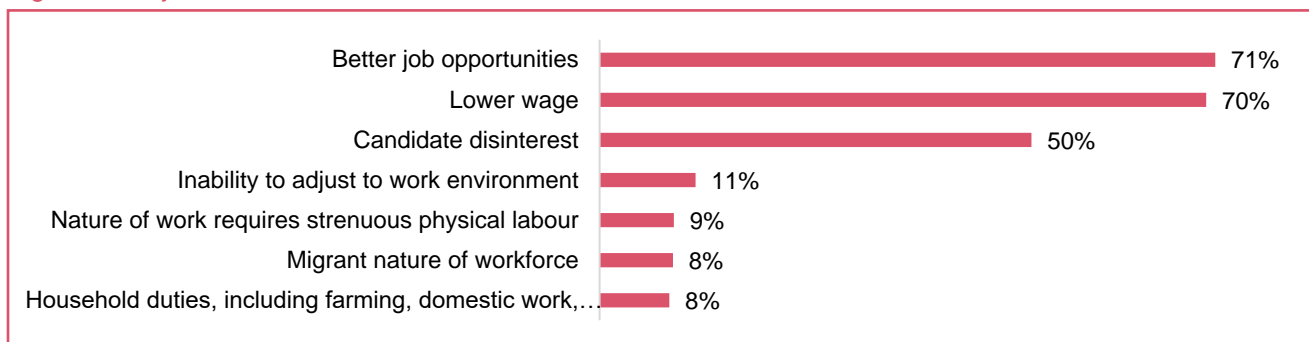
Better job opportunities, especially within the District, is seen as the major reason for attrition (71%) alongside the low wages in the industries (70%) whereby attrition is experienced even at a marginal increase in daily wages.

The workforce tends to keep a close watch for the firms that pay more and switch even for marginal increases in wage/salary. Also, as was observed in the youth survey, there seems to be a lack of steady upward mobility and increase in wages in the job because of which workers switch to better wage-earning opportunities. The employers also observed that lack of passion and general disinterest among the workers, as a major reason for the attrition.

About 28% of the respondents feel there is high growth prospects in their industry. About 17% of the respondents see prospects for high adoption of technology. Among these, 16% of the respondents have already initiated plans in adoption of technology.

Table 48 Growth Prospects and prospective adoption of technology

Growth Prospects of Industry	%	Level of Technology adoption	%	Plans to adopt Technology	%
High	28%	High	17%	Yes	16%
Medium	51%	Medium	41%		
Non-committal	14%	Low	31%	No	84%

The employers see a moderate demand for both minimally skilled and skilled workers while the demand for supervisors is only 5%. The labour-intensive nature of the industry (especially in the Small and Micro category) which is a major reason for the preference of workers as opposed to supervisors, employers provide either domain related training or trainings for the advancement in their careers.

Table 49 Demand for workers by Skill Level and type of training provided to workers

Demand for Workforce in next 5 years				Type of Training Provided for Workers	
	Minimally Skilled	Skilled	Supervisory	Type of Training	%
High Demand	12%	15%	5%	Domain Skills on recruitment	28%
Medium Demand	23%	22%	5%	Up-skilling to meet technical needs	20%
Low Demand	18%	13%	14%	Career Advancement	18%
No Opinion	46%	50%	76%	Induction	14%

Key Insights on Skill Development / Training

- 22% of the employer survey respondents were aware of any vocational programs run by the Govt.

- The highest awareness was about TNSDC (16%) followed by the Craftsman Training Scheme and the Apprenticeship training scheme. There was low awareness about other schemes.

- Only 22% organizations had recruited from a vocational / skill training program in the previous 3 years with ITIs and Polytechnics being the major sources.

- Of key challenges in recruiting from vocational / skill development programs have been the lack of exposure to / experience of working in a real-time work environment and mismatch of skills.

- 61% the respondents were keen in working with the Govt. on Skill Development Programs

4.2. Other Stakeholders' Perspectives

The study also included in-depth interviews of more than 20 stakeholders in each District, including the line departments involved in the Skill Development, Livelihood and Employment and Industrial development related activities, Industrial Associations, Vocational Education and Skill Development institutions among others. More than 25 Focus group discussions under the aegis of the Govt. Departments and industry associations were carried out to further capture the perspectives of the industries. The key areas of discussions are:

Industrial Growth

The industrial sector has recovered from the external shocks of demonetization and GST. There are expectations for Industrial development, through the implementation of the Chennai-Kanyakumari Industrial Corridor, the Defence Corridor, and initiatives like CEU promotion alongside ports. The industries are facing competition not only from other emerging markets like Bangladesh and Philippines, but also from other states in the country across several sectors. Andhra Pradesh (Automotive, Food Processing), Kerala (IT-ITES, Tourism & Hospitality), Gujarat (Textile), Jharkhand and Odisha (Apparel) are emerging as key alternative destinations.

Labour Market

The industries driving the State's economy, at present, are largely labour-intensive including Apparel, Textile, Machinery and Equipment (especially among MSMEs). Though the competency, efficiency and quality of the output, especially in the manufacturing sector are recognized across the country and the world, the cost advantage is a key driver of demand. Labour is an important component of the total cost and Industries often optimize on this front. Low wages and challenging work conditions, especially in the manufacturing sector are cited by the youth, public officials and training service providers as reasons for unfavourable perception regarding employment. Hence, the industries often have to recruit migrants and unskilled workers for lower wages.[55][56]

The industries have highlighted availability of opportunities in the skilled and supervisory category in the State for the local youth but report a shortage of skilled workers in this category.

Industries and other Stakeholders opine that, the strong social security system in the State reduces the opportunity costs for unemployment and the youth are likely to wait longer in the labour market to find a job of their liking. In addition, the Industrial belts from neighbouring States like Bengaluru near Dharmapuri & Krishnagiri, Sri City north of Chennai, Palakkad near Coimbatore, and Trivandrum near Kanyakumari tend to attract workers and add to the competition.

Women Employment

Female employment is largely concentrated in the textile, food processing and handicrafts industries and the retail under the services sector. However, there is increasingly greater acceptance of females in trades such as welding, CNC machine operations etc. which were hitherto considered male jobs. It has been observed that women workers tend to drop out of the labour force into their twenties and after marriage. They use opportunities to obtain skills in specific industries like Apparel & Textiles, Food Processing, and Beauty & Wellness. These industries provide them the opportunity to learn a life skill, get short-term employment and an opportunity to re-join the labour force later if necessary. Thus, there is a constant stream of women joining and leaving the sectors. Stakeholders opine, female workers also tend to be more regular and disciplined during the course of their employment.

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[55] https://economictimes.indiatimes.com/news/politics-and-nation/india-has-wage-problem-not-job-problem-mohandas-pai/articleshow/69812223.cms?from=mdr
[56] https://timesofindia.indiatimes.com/city/chennai/tamil-nadu-youth-not-willing-to-work-for-low-wages/articleshow/70166633.cms

Youth Aspirations

The aspirations of the youth are largely oriented towards white collared jobs, especially in the IT-ITES and BFSI sectors. However, this does not match the needs of the local economy, which is dominated by manufacturing. Small-scale industries find it tough to match the aspiration for high wages and the brand name of large-scale institutions in the State. However, even large industries face supply constraints due to reluctance of the youth to take up blue-collared jobs, especially due to widespread notions of lack of amenities and hostile work environment. The industries in in the less urbanised regions, perceive a preference among the youth to migrate to major cities like Chennai, Coimbatore, and Bangalore (Hosur) for employment, and hence create a shortfall in the local economy. The youth prefer jobs in the Services sector, (especially in retail, food delivery and cab services) which give short-term monetary benefits vis-à-vis employment in other industries with benefits like ESI and PF.

Training & Skill Development

The awareness about Skill Development programs was moderate, with CTS and ATS schemes being popularly known. There is lower awareness about other short-term skilling program. Some of the key challenge within the Training & Skill Development Ecosystem in the State is summarized below:

Training infrastructure:

- While long-term courses in ITIs meet the requirements for the job roles in demand, the students would require greater exposure to work like environment, upgraded equipment and curriculum. The short-term vocational programs are largely focused on select sectors like BFSI, Apparel & Made ups and do not cater to the high-end requirements of the local economy.

- Institutes like CIPET, CFTI, TANUVAS, BSNL-RGTTMC, Institute of Printing Technology, are located around Chennai. This increases the challenges involved in mobilisation and retention of candidates. The NIFT-TEA institute and the Centre of Excellence for Apparel sector set up by the Sector Skill Council at Tiruppur and the Fisheries University campuses at Thiruvallur and Thoothukudi on the other hand are examples of such localisation.

Trainers:

- There is a lack of sufficiently skilled Trainers across the board. The Sector skill council provided trainings are largely focussed in the National Capital Region (Delhi) or cities like Chennai. There is

Training Content:

- Niche requirements in each District viz. Sea Food / Salt Processing in Thoothukudi / Ceramics in Cuddalore, Poultry and Bus Body Building in Namakkal, Rubber Moulding in Madurai, Locksmiths in Dindigul, and Rubber in Kanyakumari are currently not being met.

- Soft Skills including Time Management, Communication, Team Work, Personality Development and dressing sense are particularly lacking among trainees across the board.

- English Communication Skills are lacking even among graduates from degree programs across the state. This is of particular requirement in the IT-ITES sector.

Operational Challenges

- There is a noted preference of allotment of apprentices / placements to large-scale industries from ITIs and Skill Development Programs. The industries opine, apprentices have greater opportunity to learn a wide range of skills from MSME units, which are often reduced in the largely automated and structured environments in large-scale industries.

- Delays in reimbursements under apprenticeship/ training schemes result in working capital constraints for Small Scale Industries. The industries have experienced severe attrition midway into training. The industries identify the lack of incentives (or disincentives) for students to complete (discontinue) a

program as a major challenge. These affect both their achievement of training targets but also their own industrial output.

- Ambiguity regarding Insurance and cover for Industrial accidents to trainees are a major challenge for the MSMEs to extend apprenticeship offers.

Migration

The minimally skilled worker requirements are largely filled-up through migrant workers, ranging between 10-15 lakh people. They are sourced from Eastern and Northern parts of India especially Odisha, Assam, West Bengal, and Bihar. Though they possess minimal skills, they have the tendency to acquire the skills on the job after 6 months to one year in the same organisation. Many migrant workers move with their families enabling a longer association with the firms. The major employers of migrant workers are Construction, Textiles and Tourism & Hospitality sectors. In specific pockets like Chennai, Kanchipuram and Thiruvallur, migrants are employed even in the skilled workers category including in job roles in the Engineering, and Tourism & Hospitality sectors.

Priority Sectors

5. Priority Sectors

In addition to the six sectors identified in section 2.8, two additional sectors, Tourism & Hospitality and traditional industries were analysed in detail to understand broad sectoral trends, skill requirements and employment potential. The eight priority sectors are highlighted below:

Apparel & Textile Manufacturing

Engineering, Automotive & Metals

Agro & Food Processing

Healthcare

Chemical & Petrochemical

Traditional Industries

Building & Infrastructure

Tourism & Hospitality

IT / ITES

Apparel and Textile Manufacturing

Profile:
The Apparel and Textile Sector is the largest employer (outside of agriculture) and the second largest by Industrial output in the State. The State accounts for 19% of the Nation's Textile output with a robust network of all the sub-sectors of the Textile industry. [57] Tamil Nadu leads the Country in Textile sector with 46% of spinning capacity, 60% of yarn export, 20% of Power loom capacity, 12% of Handloom capacity, 70% of Cotton Fabric Knitting capacity, 20% TUFs investments, employing around 31 lakh of which 50%-60% are expected to be female. With more than ₹ 50,000 crores as exports, the State holds 1/3rd of entire textile business in the country.[58]

Emerging Trends:
Investments of more than ₹10,250 crores are expected in the State with potentially a Lakh of direct employment over the upcoming years. The sector continues to dominate the State, consistently occupying 6% share (2nd highest among Industries) in all credit availed from banks since 2013-14.[59] However, the sector is facing several challenges. These include, competition from other countries, especially Bangladesh and other states in India including Andhra Pradesh, Gujarat Jharkhand, and Odisha. An extremely labour-intensive industry, wages form a major component of the input costs. The higher economic development in the Western parts of the State has resulted in high wages and resultant loss in competitiveness. The dyeing sub-sector faces an acute shortage of labour with an average age of workers exceeding 40 years, owing to disinterest among the youth. There are also challenges in the efficiency of the output due to usage of out-dated technology. The Government of Tamil Nadu under its integrated textile policy has envisaged a greater infusion of technology in the sector. Further the Industry has seen a move towards "Zero Effect, Zero Defect" to improve the efficiency and reduce ecological burden. Both hinge upon the ability of the Industry to upskill themselves.

The sector experiences high attrition from the female dominated workforce, as women tend to quit the labour force after a marriage / maternity. However, they often re-join the workforce during times of economic necessity. The labour shortage in the Western Districts is forcing the industrial units to look for workers from across the state and other parts of the country. Thus, this sector is heavily reliant on the migrant workers from across the country, especially from the Eastern India who number more than 6-7 lakhs in total) and Southern Tamil Nadu. However, they are largely unskilled or minimally skilled who acquire the required skills on the job. However, even among the migrant workers attrition or absenteeism is chronic and often in bulk. This is forcing the hands of the industries to consider moving to the southern districts of the state which have lower wages.

Focus Districts:
Coimbatore (Textile), Tiruppur (Apparel) & Karur (Home Textiles)

Emerging Districts:
Thoothukudi, Namakkal, Dindigul, Virudhunagar, and Madurai

Key Skill Requirements:
Supervisory roles including Quality Control, Machine Operators, Machinists, and Designers, are key job roles are in great demand across the State. At the semi-skilled level, there is requirement for upskilling existing workers with better equipment and technology including Sewing Machine operators and embroidery. The intended technological upgradations and "Zero Effect, Zero Defect" policy would require much greater absorption of skilled workers in the coming years. Though there exists a considerable infrastructure for training, majority cater to entry-level skills. These do not meet industry standards and require re-skilling at the time deployment on work.

Expected Potential Employment & Upskilling: 4,00,000

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[57] Annual Survey of Industries
[58] Tamil Nadu Integrated Textiles Policy
[59] RBI Data compiled by GeoCrede

Engineering, Automotive and Metals

Profile:
The engineering and allied sectors contribute to 40% of the State's Industrial output with Auto and Auto-components contributing to nearly 19%[60]. The State is home to major multinational automobile companies and has had a long history in fabrication, machinery and components especially in the MSME sector due to extensive Ancillarisation. The State contributes to more than 35% of the national auto component output and 21% of the exports in automobiles. The sectors employ 30% of the industrial workforce. This sector is expected to be further boosted by the development of the Defence Corridor project.

Emerging Trends:
Investments of around ₹25,250 crores are expected in the State with potentially a direct employment of more than 25,000 over the upcoming years. The sector is consistently occupying 7-8% share (among the top 3 among Industries) in all credit availed from banks since 2013-14.[61] The sector spans the length of the state. The value chain across the state starting from fabrication and rolling out of final goods are spread over the technological spectrum, from highly labour orientation (bus body building) to highly automated environments (assembly of cars). The sector has also potential to develop entrepreneurship with further ancillarisation. In the recent times, the auto industry across the country has faced a slump in sales and has contributed to a stagnation. Key reasons include the impending implementation of BS-VI norms, changing consumer preferences and demand for Electrical vehicles[62]. In addition, competitiveness from states like Andhra Pradesh, Karnataka, Maharashtra and Gujarat play an important role in the development of the sector. The assembly-line oriented industries, which are physically less strenuous also provide large scale employment for women.

The MSME industries in these sectors are extremely labour intensive and must compete with the larger customers for the same pool of skilled workers. The MSME units often highlight lack of placements or apprenticeships from the local ITIs as the students are often placed in larger industries as trainees in the major cities of the state. This results in lack of resources at the skilled level. In pockets of North Tamil Nadu, this has forced the Industries to employ migrant workers. Though aspirational for youth, the Industries also report facing heavy attrition. The industries also have updated their manufacturing processes and not all ITIs / Polytechnics in the state meet the requirements including operation of CNC machines. Considering the new Electric Vehicle policy, the Auto components Industries are faced with a challenge of mass upskilling / re-skilling of the workforce to meet the demand of the new technology replacing the internal combustion machine.

Focus Districts:
Chennai, Thiruvallur, Kanchipuram, Krishnagiri (Hosur), Coimbatore, and Namakkal

Key Skill Requirements:
Supervisory roles including CNC Operators, Welders, Injection Moulding, Fitters, Diploma in Mechanical Engineering, Heavy Motor Vehicle Repair, and the intended technological upgradations EV policy would require much greater upskilled workers in the coming years. Multinational companies and their ancillary units require high levels of soft skills including adhering to timelines, communication, and team work among others which are reported to be lacking among recruits. There is a general lack of skill in working on assembly lines.

Expected Potential Employment & Upskilling: 1,50,000

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[60] Annual Survey of Industries
[61] Reserve Bank of India
[62] https://qz.com/india/1718440/maruti-tata-motors-to-soon-see-revival-says-jk-tyre-india-chief/

Agri and Food Processing

Profile:
The food processing and allied sectors contribute to 7% of the State's Industrial output with and contribution of the 10% of the employment[63]. The State is a leader in Spices & Cashew Nuts (Largest), Poultry and Dairy (2nd Largest), Coconut (2nd Largest), Tea & Coffee (3rd Largest) and Fruits (7th). The State contributes to 7% of India's output in the sector. It ranks 4th in Marine Fish and 6th in Inland Fish production.[64]The sector holds the highest potential to employ workers transitioning from agriculture sector, especially women.

Emerging Trends:
Investments of around ₹1,300 crores are expected in the State.[65] The State is home to 24,000 food processing firms registered as Small and Micro Enterprises and 1,100 large units.[66] The sector is set to witness considerable growth with thrust from the States' food processing policy of 2018. The Govt. of Tamil Nadu is developing Mega and Ultra Mega food parks in 11 districts, Dairy Plants across 6 districts and Fish Processing across 2 districts in the state. It envisages increasing the processing of food commodities five times from the present Two percent to Ten percent. These will provide a major fillip to the development of the sector and drive employment.

The sector is consistently occupying 2-3% share in all credit availed from banks since 2013-14. The sector spans the length of the state.

Figure 31 Food Processing Clusters in Tamil Nadu
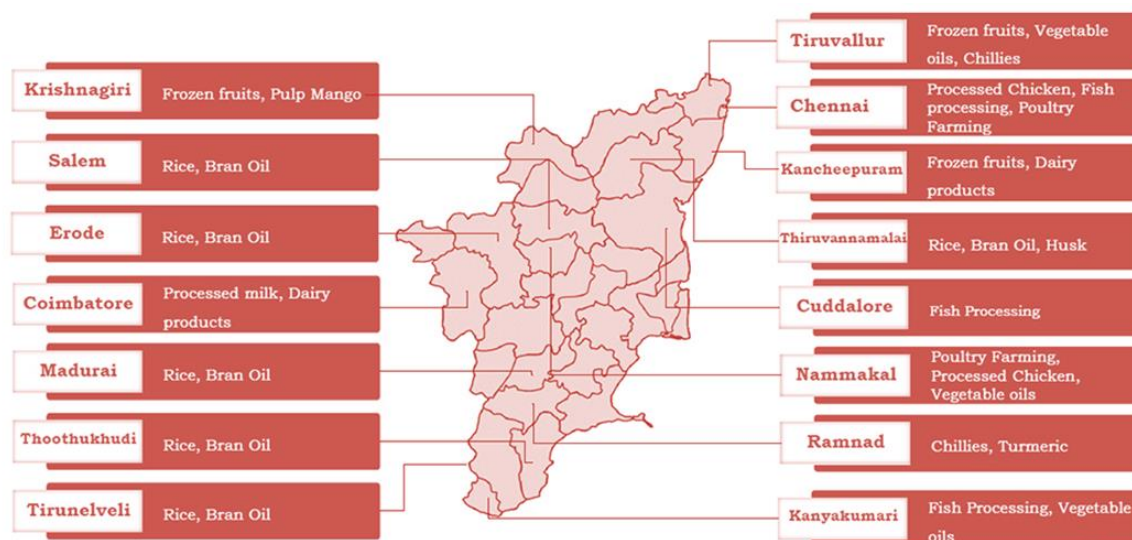
Source: TN-GIM.

The food-processing sector is labour intensive with potential for Entrepreneurship. There is a lack of training infrastructure oriented towards this sector, especially catering to the local clusters. It is aspirational for youth, especially females. The industries require high level of skills to meet the strict guidelines mandated by law.

Focus Districts:
State-wide

Key Skill Requirements:

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[63] Annual Survey of Industries
[64] Tamil Nadu Food Processing Policy 2018
[65] TN GIM -2019 & CAPEX CMIE data
[66] Tamil Nadu Food Processing Policy 2018

Lab Technicians, Quality Control, Chemists (Salt Industry), Refrigeration Technicians, are key skills required in the highly skilled categories. Food Entrepreneurs, Helpers and Logistic related job roles in Packing, Warehousing and Supply Chain management are also expected to be in demand.

Expected Potential Employment & Upskilling: 4,00,000 – 6,00,000.

Healthcare

Profile:
Tamil Nadu is a national and a global leader in provision of healthcare services. Tamil Nadu ranks third among all Indian states in the NITI Aayog Health Index which is reflected in vastly improved health outcomes including low maternal and infant mortality rates. The state Govt. has several initiatives driving the universalisation of healthcare including the Chief Minister's comprehensive insurance scheme, birth companion program, Whole Body Check-up Schemes etc. In the tertiary healthcare, it is a chief driver of medical tourism in India accounting for over 40% of the foreign and 30% of the domestic medical tourists.

Emerging Trends:
Investments worth, ₹1,250 crores with are expected in the state according to the MoUs signed as part of the TN-GIM 2019. The sector is getting a fillip with the proposed establishment of an All India Institute of Medical Sciences (AIIMS) in Madurai. The state is set to continue to hold its dominant position in the provision of advanced healthcare in the country. In addition, the state also faces an increasingly ageing population with more than 30% of the population expected to be over the age of 50 years by 2026. At present there is a shortfall of skilled workers in the paramedical and geriatric care categories. It is one of the aspirational sectors for the youth with 9% of the sample identifying it as a sector of preference. With increasing welfare programs like the Whole Body, Women Special Check Up Schemes, there will be an increased uptake of medical services across the state. A substantial share of the workforce is made of immigrant workers from neighbouring state of Kerala to bridge the skill requirements. The sector also has potential for opportunities abroad.

Focus Districts:
Chennai, Kanchipuram, Thiruvallur, and Vellore

Emerging Districts:
Madurai

Key Skill Requirements:
Geriatric care, Nurses and paramedical support staff like Emergency Medical Technician, Laboratory Technicians, Ambulance drivers etc. are most required.

Expected Potential Employment & Upskilling: 30,000

Chemical & Petrochemicals:

Profile:
There are over 3,000 industrial units across the Chemical, Plastics and Rubber sectors in the state employing nearly 200,000 workers.[67] The State accounts for ~6% of the national production and ranks 3rd in India. The state exported more than USD 913.77 million in FY 2017-18 of Chemical & Petrochemical products. It is estimated that the polymer industry has over 8000 SMEs providing jobs to more than 10 lakh people.[68]

Emerging Trends:
According to the TN-GIM 2019 data, Investments of more than ₹44,000 crores are expected in the state. TIDCO has initiated the development of "Tamil Nadu Polymer Industries Park" in Ponneri which is expected to house 84 medium and small-scale plastic component manufacturing units with an investment of ₹264 crores. Upon scaling up it is expected to generate 32,000 jobs[69]. It is one of the focus sectors of the state's investment promotion drive. The RBI has mapped around ₹13,584 crores of credit outstanding amounting and ranks among top 10 industrial sectors. The recent ban on single use plastic has posed a challenge to the sector. There is a requirement for upgrading the products while also providing opportunity for the growth of recycling units. There is an emergent skill requirement in these emerging areas. Tightening of environmental regulations have also created the requirement for Supervisory and support job roles related Effluent to control and treatment. CIPET, Chennai is a leading institution providing technical and human resource support to the Industry. There is considerable challenge, in finding mould manufacturers and mould operators. The Industries, in Erode, Madurai, Thoothukudi, have a need for a local arm of CIPET to act as a common facility / extension centre. Even among graduates qualified in Chemistry and associated subjects, the Industry find a lack of training in handling equipment including test tubes. Salt Processing units across the state have difficulty in finding graders and quality assurance. Employers feel that there are also misplaced perceptions about the sector among the youth with regard to their own safety. Hence, the sector is dominated by younger migrants at the entry-level labour category while the supervisory roles are dominated by workers around 50 years old. Employers are keen at upskilling their workers and open to enrolling them in skill training programs.

Focus Districts:
Chennai, Kanchipuram, Thiruvallur, Kanyakumari (Fishnets), Madurai, Thoothukudi,

Emerging Districts: Ramanathapuram, Erode, Salem-Erode (Household Utensils), Thanjavur-Pudukkottai

Key Skill Requirements:
Supervisory roles including Chemist, Quality Control, Fishnet Machine Operation, Lab Technician, Advanced Plastics Mould Manufacturer, Machine Operator Assistant– Injection Moulding and Plastics Product & Mould Designer, CNC operators.

Expected Potential Employment & Upskilling: 1,00,000

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[67] Annual Survey of Industries
[68] https://www.tngim.com/focus-sectors/chemicals-and-petrochemicals/
[69] https://www.thehindu.com/news/cities/chennai/govt-to-go-ahead-with-polymer-industries-park/article24107870.ece

Building, Construction and Infrastructure:

Profile:
Construction Sector forms 40% of the Industrial sector output and 11% of the state's overall output. It is one of the largest employers outside of agriculture employing 12% of the state's workforce. It has grown at 2.8% between 2011-12 and 2017-18. However, the sector's credit growth has been at 8% between 2013-14 and 2016-17 indicating future investments. Tamil Nadu is India's most urbanized state and is expected to further urbanize with a significant majority living in urban areas[70]. Several districts have witnessed negative rural population growth in the previous decade. Several policy initiatives both at a state and central level are expected to drive sector's growth including affordable housing, smart city[71], highway expansion, airports modernisation, industrial parks, and port and waterway expansion and Sagarmala program.

Emerging Trends:
According to the TN-GIM 2019 data, Investments of more than ₹20,742 crores are expected in the state with an expected direct employment of 1,68,650 jobs. As per the State Government's assessment there is a demand for 8.37 lakh houses in urban areas under the PMAY Urban Scheme[72]. Nearly ₹22,000 Crores have been allocated under for this purpose. Development of Food Processing and dairy parks are on the anvil in more than 20 locations in the state in excess of ₹1,300 Crores.[73] Twelve cities in the state have been selected under the smart cities mission. The infrastructure upgradation includes (i) retrofitting and restoration of public spaces like parks, beaches, and lakes,(ii) development of water and sewerage networks and (iii) creation of road side amenities. Highway expansion projects worth ₹7,000 crores are being planned by the NHAI. Infrastructure expansion in Ports and Airports in Chennai and Thoothukudi are also expected to generate skilled demand in the sector. Industry respondents have pointed the low capacity in the state in ITIs in courses related to the Building & Construction Sector. According to the NCVT MIS, the present approved capacity of the state is around 1,600 seats split between the Draughtsman, Plumber, Carpenter and Electrician courses[74]. There is an extreme dearth of traditional skills and emerging skills like, false ceiling installers, façade installers, among others.

Focus Districts:
Across the State

Key Skill Requirements:
Draughtsman, Plumber, Carpenter, Electrician, False ceiling Installers, Façade installers.

Expected Potential Employment & Upskilling: 1,00,00

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[70] Census, 2011
[71] http://smartcities.gov.in/content/
[72] http://www.newindianexpress.com/states/tamil-nadu/2019/feb/01/housing-ministry-sanctions-68110-affordable-homes-for-tamil-nadu-1932629.html
[73] CMIE, CAPEX database
[74] NCVT MIS

Tourism & Hospitality

Profile:
Tamil Nadu was the most popular tourist destination in the country, accounting for 21% all domestic tourist visits and 18% of foreign for tourists. It has consistently ranked among the top 2 destinations for tourists. It has grown at a CAGR of 16% between 2011 and 2017[75]. Classical Tamil literature divides the landform into five 'tinais' or regions viz. Kurinji (Mountains), Mullai (Forests), Marutham (Fertile Plains), Neithal (Coastal Region), and Palai (Dry Lands). The diverse landscape and rich cultural history make it the home to numerous natural and historical wonders, ranging from hill stations, wildlife sanctuaries, temples, mangroves, beaches and backwaters. The state is also home to the 'Madras Music Season', one of the largest cultural events in the world hosting more than 3,500 concerts over the course December and January. The state's thriving health facilities are also a major pull for health tourism. The state accounts for 40% of all foreign health tourists apart from a fifth of domestic health tourists. The sector employs 2.1% of the state's workforce and is expanding.

Emerging Trends:
Tamil Nadu Vision 2023 envisages an investment of US$ 2.1 billion by 2023. It is also estimating threefold increase in foreign tourist arrival close to 15 million. Around ₹682 crores of prospective investments were received as part of TN GIM 2019. Plans are on the anvil for extensive investments in Medical tourism through medi-cities in Perundurai, Erode and Madurai. The state has also invested in water sports including yachting, water-skiing, and speed boats in facilities at Tharangambadi, Kovalam and Poompuhar. The state is keen to promote eco-tourism and has developed a policy on the same.[76] It has already initiated the plans for development of Eco-tourism spots at eight different locations include Coimbatore, Dindigul, Erode District, Krishnagiri, Salem, Vellore and Thiruvannamalai.[77] Though the sector is developing at a rapid pace, several gaps have been highlighted by the stakeholders across the state. These include, high attrition, lack of soft skills, language abilities, technical understanding of the tourist attraction, and safety training, among others. Officials and other stakeholders have reported an unfriendly atmosphere in several popular destinations. Migrant workers form a considerable share of the workers, especially in hotels and restaurants at entry level jobs. Food and Beverage Executives and Housekeepers. The low attrition rates and salaries are key reasons for hiring of migrant workers in the sector. There is a requirement for formally recognizing the existing workforce through Recognition of Prior Learning. The sector also entails. There is a considerable demand for tourist guides in the state, with an understanding of the cultural natural heritages. Training in multiple Indian and Foreign languages would multiply the employability of the guides. In key tourist locations, soft skills training for vendors, hawkers, hotel and restaurant staff through a "Tourist Mitra / Friend" can improve the experience of tourists.

Focus Districts:
Entire State, especially Chennai Metropolitan Area, Coimbatore, Nilgiris, Dindigul, Madurai, Kanyakumari, Villupuram-Cuddalore
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Key Skill Requirements:
Eco-Tourist Guides, Life-guards, Soft Skills and Language trainings

Expected Potential Employment & Upskilling: 50,000

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[75] IBEF and Indian Tourism Statistics,2018
[76] http://cms.tn.gov.in/sites/default/files/documents/ecotourism_policy_2017.pdf
[77] TNIFMC

IT & ITES

Profile:

India's IT-ITeS sector revenue grew between 7-9% % to 181 billion USD in FY 18[78]. The sector has grown with a CAGR of 10.71% since 2010 and currently employs ~4 Million individuals[79]. It is further expected to grow at a projected ~8% in FY 19 and then grow to 9%-11% by FY 22. Chennai (and Tamil Nadu) is one of the important centers for IT-ITeS sector in the country. As of 2018-19, the state's IT exports are estimated to be around ₹121 thousand crores and employing over 6,60,000 workers.[80] It hosts to leading organizations in the IT /ITES industry. The State has 38 operational SEZs, of which 18 SEZs are specific to the IT / ITeS sector[81]. Around 246 IT Parks are in the Pipeline with a built-up space of 146 million sq. feet in Tamil Nadu.

Emerging Trends

The Information Communication Technology Policy 2018 of the Govt. of Tamil Nadu envisages making the state the leader in the sector. Some of the other key visions include i) Attracting incremental direct investment from foreign and domestic investors across the state ii) To create large scale employment opportunities in the State iii) Ensue world class skill availability iv) To provide IT/ITeS. In addition, initiatives including setting up of Start Up Warehouses (Chennai and Coimbatore), Financial Technology – Center of Excellence (COE) has been set up in Chennai apart from Tech Forum in Madurai. companies with the best business climate and v) To encourage IT/ITeS for masses, especially for youth of the state. Further, to even the spread (out of Chennai) of the IT ITES sector, the Govt. is setting up SEZ's through Electronic Corporation of Tamil Nadu (ELCOT) in seven cities across the state including, Coimbatore, Madurai, Tiruchirappalli, Tirunelveli, Salem and Hosur. These SEZ's are already employing over 70,000 professionals in the sector. The sector has grown over 4% since the start of 2014-15[72] and is expected to grow further. According to TN GIM data, more than ₹10,000 crores of investment and 60,000 jobs expected to be created in the state[82]. Stakeholders have highlighted the paucity of good communication skills, especially the English language. Other soft skills including, interpersonal skills, teamwork, and attitude are other major challenges across the sector. Software developers, Test Engineers, Design Executive in the Software Product Development sun-sector and the IT Services sector. In the business process management sun-sector, Customer Relationship Manager, and the collections executive were job roles in demand. The State Govt. is set to invest considerable amount on the skill development in both the IT-ITES sector and it would be necessary for the TNSDC to actively engage with such partner departments to ensure adequate employability

Focus Districts:
Chennai Metropolitan Area, Coimbatore, Madurai, Tiruchirappalli, Tirunelveli, Salem, and Hosur:

Key Skill Requirements:
Software developers, Test Engineers, Design Executive

Expected Potential Employment & Upskilling: 50,000

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[78]IBEF, 2018

[79]PwC Analysis, 2018

[80] Policy Note, Dept. of IT, GoTN

[81] Tamil Nadu Information Communication Policy

[82] Guidance Bureau, GoTN

Traditional & Indigenous Industries

Overview

Tamil Nadu is home to several traditions of handicrafts, handlooms and arts. Bronze statues & statuettes, Stone Sculptures, handicrafts and handloom traditions originate from several areas in the state. Traditional sectors have a long and vibrant history, and are currently supported by independent artisans, state and central government bodies, private players and non-governmental organizations. The traditional sectors can be mapped regionally as below:

Sector	Tradition	Districts
Handlooms	Hand-printed textiles, Khadi, Applique, Batik, Tie and Dye, Silk Textiles	Madurai, Dindigul, Kanchipuram, Villupuram, Nilgiris, Erode, Kanniyakumari, Tiruchirappalli,
Handicrafts/ Artwork	Paintings, palm handicrafts, reed, coconut fibre handicrafts, Tribal art and handicrafts	Thanjavur, Thiruvallur, Vellore, Erode, Nilgiris, Dindigul, Tiruchirappalli, Karur, Namakkal, Tirunelveli, Kanniyakumari, Thiruvallur, Nagapattinam, Krishnagiri
	Coast-based handicrafts (seashell products)	Cuddalore, Kancheepuram, Nagapattinam, Pudukkottai, Ramanathapuram, Thanjavur, Thiruvallur, Thoothukkudi, Tirunelveli, Nagapattinam
Woodworking	Ornamental carvings, temple carvings, home decor	Villupuram, Sivagangai, Salem, Perambalur, Madurai, Tirunelveli, Tiruppur, Salem
Stone and Clay work	Stone sculptures, ornamental figures, soapstone vessels, handmade bricks, clay vessels and toys	Thanjavur, Namakkal, Villupuram, Kanniyakumari, Tiruvannamalai, Madurai, Salem, Virudhunagar, Cuddalore, Erode, Sivagangai, Nagapattinam
Metal Based Industry	Brass lamps, metal vessels, home décor items, sculptures, jewellery	Tiruvannamalai, Cuddalore, Erode, Tiruchirappalli, Nagapattinam, Cuddalore, Tirunelveli, Thanjavur,

Source: Mappings of AHVY Clusters, KVIC Clusters, Tamil Nadu Handicrafts Development Corporation, National Handicrafts Development Commission Database and Crafts Council of India

Field Insights

Field visits in districts included a traditional sector component, wherein major players were consulted with respect to the status, challenges and growth opportunities. Some district-level coverage is presented below:

Artwork and metal ware in Thanjavur district: The district of Thanjavur is famous for its traditional handicrafts and industrial clusters involved in the production of Thanjavur gold paintings, musical instrument-*veena*, Thanjavur bronze idol making, coir products, metal ware, brass utensils, silk weaving handloom, Bell metal products, icon and art plate works which significantly contribute to the economy of the district. Nachairkoil, Ammapettai, Swamimalai, Korkai, Kumbakonam, Pattukkottai, Tirubhuvanam, and Budhalur

are the major clusters. Image worship is a regular practice in Thanjavur and thus the art of making solid images flourished here. It is home to many sculptors that cast idols of metal, clay and stone, which has been their family tradition. Unaltered and unaffected by modern day civilization, the art and craft of Thanjavur has an internationally acclaimed status. Kumbakonam is an important trade centre famous for metal ware, brass utensils and silk sarees, providing employment opportunities to the local people.

Bronze Idols in Swamimalai: The artisans portray great traditional skills of bronze icons or '*Panchaloha'* (the idols are made of a combination of five different types of metals) idol making in Swamimalai, a taluk in Kumbakonam block. It is a production centre for bronze idols of Gods and Goddesses and great leaders. The town has a heritage of bronze making dating back to the *Chola* period. Most of the villagers nearby are exclusively involved in making bronze icons. This town also has a training unit that instils the art of making bronze icons. Swamimalai is the sole surviving traditional center for Bronze casting in Tamil Nadu. There are around 20 units in this area, each having roughly 25 workers. The monthly turnover of the units are ₹ 25 lakhs.

Anupparpalayam in Tiruppur: The area of Anupparpalayam in Tiruppur has been historically home to utensil makers. Having initially started with silver and copper utensils, the artisans have moved on to ever-silver utensils to meet the market demand. About 8,000 artisans have been traditionally involved in this industry. Most artisans also have a shopfront where they sell their utensils. Major products are Pooja items, aluminium utensils, brass and copper plates, containers, cooking utensils, pots, catering utensils, lamps, etc.

Wood Carving in Perambalur: Wood-carving industry in Perambalur has existed for close to a century. The art of wood carving has been passed through generations now. They have carved idols into wood. Now, they also carve out doors, *vahanas* (chariots) and pillars as per the demand. They receive orders from all over the country and their products have graced various exhibitions in India. It is a high labour-intensive sector. The skilling is done by the families in these villages over the years. Three generations have overlooked the business for which there is a considerable demand in state and as well as countrywide. Their products are exhibited at major exhibitions at Pragati Maidan in New Delhi, Hyderabad and Chennai.

Handloom Saris of Dindigul: Nagal Nagar, a neighbourhood in Dindigul town, and Chinnalapatti a town equidistant to Dindigul and Madurai are known for their weaving communities. The former has a sizeable Saurashtra weaving community, who specialize in tie-and-dye kora silk saris, organic cotton and Benaras cotton saris. Weavers in Chinnalapatti specialize in cotton saris with zari work, and tie-and-dye saris which represent the 'Sungudi' style, which is also seen in weaving communities in Madurai. Qualitative consultations revealed that there are 3,120 looms operated by as many weaving families. Designs follow block-printing and circular patterns. Until a few decades ago, natural dyes were used for printing. Due to competition from textile mills. Artificial dyes have become more popular and are considered more cost-effective.

'Korai Mats' - Reed Mats in Musiri: Reed mats are manufactured in and around the town of Musiri. The grass – korai, also grows in the surrounding areas along the banks of the Cauvery river) and is processed by around 300 units in the area[83]. The mats originally used to be woven using handlooms, but with time the process has shifted to power looms. Mat-making has also shifted from being a traditional livelihood to mass production in factories, which are said to provide employment to about 5,000 families. However, the workforce is localized and ageing. Korai cultivation continues to be a traditional livelihood. Korai Mats are used for a variety of functions in households – sleeping, flooring, curtains and décor. The mats are made of natural grass and cloth and are hence environment-friendly. They are marketed all over the state and country.

Gold Jewellery Making in Mettupalayam: In Mettupalayam Town, around 40 families are engaged in traditional gold jewellery making. The gold is procured from Namakkal for new pieces, and molten from the old pieces given by customers for re-making. The families have been engaged in this sector for centuries and continue to get a wide (albeit shrinking) range of clientele. Reasons for the decline include: competition from jewellery retailers who sell factory-made products, rising costs of gold, transport, and other expenses, lack of interest in later generations in making this a full-time occupation, and the seasonal nature of work, wherein orders only come in certain months of the year (which are considered auspicious).

Challenges

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83 [https://www.thehindu.com/news/cities/Tiruchirapalli/korai-mat-makers-are-now-daily-wage-earners/article22832526.ece]

Based on qualitative consultations and secondary research, the traditional sectors have been facing common challenges, which include:

- **Competition from factory-made alternatives:** in sectors like handlooms, wood and reed products, factory-made alternatives are made of cheaper, synthetic material, which tend to be more durable and available throughout the year. The larger scale and thus lower costs of producing synthetic products (synthetic fibre, plastic wire, etc) allows factories to produce significantly cheaper goods – for instance, a mill-made block-print sari would cost around INR 500, whereas the traditional Sungudi version (with natural dyes, hand-made designs), would cost around INR 2,000. In Tiruppur, metal vessel-making artisans have shifted to stainless steel from traditional bronze and copper to meet the demand for the former.

- **Changing youth aspirations:** Youth from such families wish to move into other jobs, due to the low wages made by traditional artisans – in weaver families in Madurai, Dindigul and Kanchipuram, weavers earn less than INR 600 per day. Notably in Dindigul and Tiruchirappalli, youth from weaver families' work into modern textile units, as working in factories gives higher income than independent handloom weaving/ cooperatives.

- **Loss of skill transfer:** Due to changing aspirations and non-competitive wages, artisanal families are unable to transfer their skills to a younger, more able workforce. In stone sculpting units in Namakkal and tile-making units in Sivagangai, the labour force is ageing, and do not find younger workers to pass on their skills and knowledge. Other artisans' part of discussions in Thanjavur, Thiruvallur, Cuddalore and Perambalur highlighted the same.

- **Lack of technological upgradation:** traditional methods are labour-intensive, and low labour productivity leads to lower wages (due to difficulties in scaling up). In most traditional sectors covered, shifting to newer machinery is seen as expensive, especially for artisans working in cooperatives. Gold-making in Mettupalayam, vessel-making in Tiruppur and reed mat making in Musiri are affected by the same.

- **Inadequate access to markets and marketing support:** natural dye-making for Sungudi saris has captured the interest of fashion designers but has not been adopted on a larger scale. Fashion designers and design houses have the capability to popularize techniques, designs and material, through reaching niche markets and creating brand value around such aspects. Private retailers like Fab India and Kalpa Druma have access to niche markets and brand image, but do not reach a large portion of artisans.

Probable Interventions

1. Promotion of traditional skill-based occupation – income augmentation for artisanal families, credit support and entrepreneurship support will allow more families to continue the livelihood. Possible interventions can include: Marketing support in the form of exhibitions, public-private partnerships for marketing and brand development, and promotion of traditional products among designers, architects, decorators and other such players who can enhance visibility among a larger population.

2. Formalization of traditional skills – development of qualification packs and national occupation standards for existing job roles, recognition of prior learning to certify experienced artisans (as master trainers, assessors and professionals), training of master trainers, and training support persons and developing formal training programs for next-generation members through community skilling hubs will allow

> **Possible Partners:**
> - Tamil Nadu Handicrafts Development Corporation
> - Khadi and Village Industries Commission
> - NGOs such as Crafts Council of India
> - Government College of Architecture and Sculpture, Mamallapuram
> - Private Retailers

traditional sectors to have a systematic skilling ecosystem. However, care must be taken to ensure that the sensitivities of traditional communities are not ignored – traditions are passed on through family and community, with centuries of history. The dignity of artisans must be protected throughout the process, and formalization (planning and implementation) must secure the willing participation of artisans. Established artisans and organizations must be consulted for the same.

Key elements of the interventions can include:

1. Community Mobilization – for participation in planning, implementation and monitoring of interventions
2. Community Skill Hubs (skill hubs exclusive to traditional sectors can be a first-of-its-kind intervention in India)
3. Documentation support and Maintenance of database of traditional sectors
4. Mentoring support for young artisans and entrepreneurs

Demand for Skills

6. Incremental Demand for Skilled and Semi-Skilled Workers

In order to understand the overall labour demand in the state for the coming years, sectoral employment elasticity approach has been adopted. Employment elasticity is a measure of the percentage change in employment associated with a one percent change in economic growth. Based on data availability, the period between 2011-12 and 2015-16 was considered for the elasticity estimation. 68th round Employment and Unemployment Survey by National Sample Survey, various rounds of Employment & Unemployment survey conducted by Ministry of Labour & Employment (MoLE) in India, and Department of Economic & Statistics of Tamil Nadu were the main sources of data on sector specific employment and economic growth. The detailed methodology is attached in Annexure 1.

The table below provides short term (2019-2021) and long term (2022-2025) forecast for labour demand in priority sectors in Tamil Nadu.

Sub-Sector	Incremental Skilled Labour Demand			Incremental Semi-Skilled Labour Demand			Total Demand (2019-25)
	2019-21	2022-25	Total	2019-21	2022-25	Total	
Agriculture[84]	1,609	2,169	3,779	11,264	15,185	26,450	30,228
Allied Activities of Agriculture	6,351	9,566	15,917	44,457	66,962	1,11,419	1,27,336
Mining and quarrying	1,901	2,881	4,782	3,169	4,801	7,970	12,752
Manufacturing[85]	1,41,372	2,11,912	3,53,284	2,82,743	4,23,825	7,06,568	10,59,852
Utilities (Electricity, Gas)	1,132	1,638	2,770	2,264	3,277	5,541	8,311
Construction	36,941	56,842	93,783	92,352	1,42,105	2,34,457	3,28,239
Trade & Repair Services	16,217	22,801	39,019	56,137	78,927	1,35,064	1,74,083
Tourism and Hospitality	10,040	14,326	24,367	19,453	27,757	47,210	71,577
Logistics	13,007	18,461	31,468	31,216	44,307	75,523	1,06,990
Communication / IT / ITES	52,021	80,484	1,32,504	26,010	40,242	66,252	1,98,756
BFSI	40,533	62,670	1,03,203	20,266	31,335	51,601	1,54,804
Real Estate & Business Services	12,607	19,269	31,876	31,519	48,172	79,690	1,11,566
Public Administration	11,048	15,702	26,750	8,838	12,562	21,400	48,151
Education & Health	72,754	1,08,954	1,81,708	58,203	87,163	1,45,366	3,27,074
Arts and others	20,016	29,364	49,380	16,013	23,491	39,504	88,884
Other Services	97,337	1,42,683	2,40,020	77,869	1,14,146	1,92,016	4,32,035
Total Demand	5,34,886	7,99,723	13,34,608	7,81,774	11,64,257	19,46,031	32,80,639
Total Supply	2,81,226	3,74,968	6,56,194	4,34,699	5,79,599	10,14,298	16,70,493
Skill Gap	2,53,660	4,24,754	6,78,414	3,47,075	5,84,658	9,31,733	16,10,147

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[84] Agriculture & Allied Activities include Crop Cultivation, Animal Husbandry, Poultry, Fisheries and Forestry

[85] Manufacturing in Tamil Nadu is driven by Apparel & Textile, Auto and Auto Components, Chemical and Petro-Chemical, Food Processing, Light Engineering, Capital Goods, Electronics and Leather

As per the methodology described above, it is estimated that the State will have an incremental skilled labour demand of around 5.34 Lakhs during the period of 2019-2021 and 7.99 lakhs during the period of 2022-2025 in the priority sectors listed above. This totals to an additional demand of around 13.33 Lakh skilled workers in the state. Concurrently, the semi-skilled demand would be 7.81 Lakhs and 11.64 lakhs respectively. This totals to an additional demand of around 19.45 Lakhs semi-skilled workers. Thus, it is estimated that an additional 32.78 lakh skilled and semi-skilled workers are required till 2025 years. Assuming the present structure of supply of skilled workers, it is estimated that there will be a shortfall of 6.78 Lakhs Skilled Workers and 9.31 Lakhs Semi Skilled workers in the same time period.

The overall incremental demand is largely driven by high demand in manufacturing, construction, education & health, allied sectors of agriculture, communication, trade, and logistics sectors.

As observed in the previous sections, large investments in manufacturing sector will be the key growth drivers for employment generation in the future. Sub-sectors such as auto-components, engineering, textiles and apparel, food processing etc. are more labour intensive in nature and will be the major contributing factors for the high incremental labour demand in the overall sector. On the other hand, other sub-sectors such as automobile and electronics would be relatively less labour intensive resulting in the increased demand for highly skilled persons.

With twelve smart cities planned in the State, 'construction sector' is expected to contribute to the economic growth of the State and provide employment opportunities for many. With an estimated cost of over US$ 1,000 million, the smart city project, will result in variety of construction related activities such as re-development of government land, integration of water supply and waste water-re-use, integration of solid-waste management, under-ground utility ducting and power cabling, affordable housing etc.

Though agriculture and allied sector share in overall employment had been declining in the State, it still employed more than a third of the workforce in 2015-16. However, there is a considerable shift of economic activity from agriculture to the allied sectors of agriculture (Dairy, Poultry, Fishing) etc and the food processing industry[86]. In addition, there has been considerable demand for new-age farming techniques like drip irrigation, green house cultivation, organic farming among others. These are expected to drive the demand for these sectors.

As observed in the table, a high incremental labour demand is also expected in logistics, trade and hospitality sectors with incremental demand about during the short term as well as in long term. The high demand in trade and hospitality sectors could be attributed to recent surge in economic growth in these sectors. The trade, repair, hotel, and restaurants grew over 8% consistently between 2014-15 and 2016-17.

The Trade, Hospitality and Logistics sectors are expected to provide a combined demand of more nearly 4 lakhs. These are driven by the expected overall development in the state along with policy initiatives like the Coastal Shipping, development of tourism circuits under Swadeshi Darshan schemes and the Eco Parks, planned across 8 locations in the state.

The sector-wise skill demand for the extended duration i.e. 2026-2029 has been attached in annexure A.2. However, given the rapid changes in the socio-economic context, re-validation of the estimates would be required after 5 years viz 2024-25.

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[86] Dept. of Economics and Statistics Govt. of Tamil Nadu

Key Recommendations

7. Key Recommendations

Convergence:

There is an urgent need for several departments in the state engaged in Education, Vocational Education, Industrial Development, Agriculture and Allied activities, among others to converge their efforts. Several Departments run Vocational Training / Skill Development Programs in the state. The parallel implementation of Skill trainings by several departments lead to the following (i) Misallocation of training capacity with multiple programs offering the same trades; (ii) Duplication of Beneficiaries without a de-duplicating mechanism like Aadhaar; and (iii) Dip in Quality Assurance owing to varied standards, target groups and monitoring frameworks. The TNSDC, has initiated the centralised allocation and monitoring of programs including those provided in the ITIs, and Institutions like the Institute of Road Transport, TANUVAS, the Fisheries Universities, Tamil Nadu Adi Dravidar Housing & Development Corporation, Tamil Nadu Slum Clearance Board, the Directorate of Horticulture among others. It has also provided support to the Industry Department funded Amma Skill Training Scheme. The TNSDC has also utilised the services of Central Govt. Institutes like BSNL-RGMTTC, CIPET, CFTI, ECI, among others for providing skill development of the higher quality.

Engagement of Industry:

It was found that, in several districts, there was little interfacing between the local Industries, and the local ITIs and polytechnics / vocational training / skill development centers. This results in a mismatch between the trained youth and the labour market requirement. Moreover, this results in a lack of feedback from the Industries on the training curriculum and quality. This creates a vicious circle of unemployment of trained youth and mismatch of trainings to the Industry requirements.

The Directorate of Employment has taken up initiative for providing career counselling services, training for preparation for competitive exams for the disadvantaged sections of the society apart from conducting mini job fairs. These mini job fairs (known as Velaivayppu Velli) are held every Friday at the District Employment Office, bringing together both employers and job seekers on a common platform. It has seen reasonable success, especially for the services sector employers. This initiative can be further improved by bringing on board the Vocational Education / Skill Development centers, Local Industrial Associations, Industrial Estates. Further, the use of a Labour Market Information System (LMIS) that collects and disseminates data from the job seekers and the employers can provide better labour market information. These initiatives will provide better opportunities to those beyond the vicinity and reach of the District Employment office. This can also act as a forum for feedback on the Vocational Training / Skill Development in the state and help in taking course corrections.

The portals of TNSDC and Employment Wing and other Departments should interface between each other. This will further strengthen the labour market interaction and at as bridge between the employers and the target group.

Training of Trainers:

There is a dearth of trainers and master trainers across the State and especially in the less developed Districts like Dharmapuri, Perambalur, Ariyalur, Virudhunagar etc. There is also limited efforts and investments for continual upgrading/ upskilling of the trainers. TNSDC can consider establishing Regional Trainers' Academies (across Chennai, Coimbatore, Madurai, Trichy, and Tirunelveli) equipped with adequate facilities to train, assess and certify trainers and in partnership with the Sector Skill Councils (SSCs), industry bodies and/or relevant national institutions. In line with the Center of Excellence of the Apparel Sector Skill Council at Tiruppur, opportunities exist to collaborate with SSCs across sectors like, Capital Goods, Automotive, Food Processing, Healthcare, etc.

Improving participation of Women in Economic activity:

Women career aspirants reported concerns about the non-availability of proper transport, sanitation, safety and security at workplaces. In fact, some of the SIDCO estates have highlighted the lack of public transport connectivity. About a quarter of the female respondents identified restrictions placed upon them by their families as a challenge in pursuing a career, especially after marriage. Industries have highlighted a preference for employing women, finding them to be better in regularity and discipline. Thus, there is a need for dedicated effort to counsel women and their families/ community to improve their participation in the labour force. In addition, the Govt. and Industries could work together to provide adequate support systems like the public transportation, day-care facilities for children, and security.

Breaking the myths and market perceptions of the Youth:

The aspired monthly income amongst youth was much higher than the prevailing wages youth engaged in economic activity presently earn. This difference ranges between 24% among respondents with primary or lesser education to more than 100% among graduates. This indicates that the youth need systematic counselling about the larger economic trends and career prospects, especially about options outside of Public sector employment or employment in certain white collared and high-prospect blue-collared jobs.

Awareness Generation:

Presently, only 12% of the youth surveyed had awareness of Govt. run vocational programs and only 19% felt they had adequate career counselling or guidance. The general awareness regarding training and skills options is low amongst the target youth. Vocational training is not viewed favourably, especially among the family members of the youth's family. Awareness generation at the community level with family and educational institutions is imperative for ensuring better awareness and understanding of the opportunities and the necessity for attaining Skills. The District Employment office in some districts have taken the initiative to provide career counselling in schools and colleges. This could be further expanded in a systematic manner. Exposure visits to industries and service sector institutions in order to make the youth aware of various job roles may also help.

Nearly 1/3rd of the youth surveyed as per this study aspire for a career in self-employment. However, youth lack appropriate counselling on the opportunities in their line of education / training apart from various initiatives of the Government and Banks to promote it. Even if the youth are interested in self-employment or entrepreneurship, they lack adequate understanding on the processes required to start a venture. It is thus, recommended that sessions on entrepreneurship development and schemes like MUDRA and are introduced within the duration of the vocational training / skill development programs under the aegis of the local banks and the District Industries Centre.

The awareness should also be encouraged through ICT initiatives. The TNSDC's activities need to reach the people through Media and Social Media engagements.

Strengthening Soft-skills and Employability Skills:

Employers across all sectors have acknowledged the limitations on inter-personal skills and communication skills among the youth, as constraining their effective performance of work. Businesses in the IT-ITES and tourism sectors highlighted the need for strengthening the skills in spoken English. Given that the existing educational institutions and their mandate do not cater to the requirement of soft-skills and employability skills, it is important for TNSDC to consider designing a targeted intervention on improving the soft-skills and employability skills of the State's Youth. TNSDC can learn from the experiences of other States in this regard, and develop a custom-pack of the interventions, encompassing 21st century employability skills and soft-skills, in addition to spoken-English and basic information and communication technology (ICT). TNSDC should consider implementing this across Schools and Colleges, in addition to integrating the same along with long-term and short-term skill development program.

Strengthening Industry-experience:

It is also seen that the earning potential among graduates does not vary significantly from Diploma / ITI holders. To enhance the value of graduate programs, it is necessary to strengthen the exposure to work environments among both technical and non-technical students. In technical programs, the industrial visits in the relevant engineering / technical fields and internship programs need to be systematised. In the non-technical courses, apprenticeships in the services sector might be considered as an alternative. These shall expose the youth to the market's requirement for skill and workforce and give a realistic aspiration. However, this will also enable them to explore means to achieve better economic wellbeing through up-skilling or enterprise.

Strengthening deployment of Internship/ Apprenticeship at MSMEs:

MSMEs have highlighted the lack of availability of trainees to be deployed as apprentices at their industrial units, as the trainees are often placed in large industries in bulk. Enhancement in the Government supported stipends to the trainees for preferring MSMEs over the large industries, or a hybrid model of additional incentives/ stipend in addition to extended period of deployment [increase in the apprenticeship period] or assurance of regularisation into employment, could be considered to improve participation of MSMEs and balance the deployment with small/medium and large units. The MSMEs have also faced operational constraints with frequent attritions among the trainees deployed as apprentices. It is suggested, that an appropriate check and balance mechanism put in place to ensure successful completion of the apprenticeship program by the trainees. It is also suggested that there is a mandatory inclusion of 'internship' in all the short-term courses, to enable adequate industry exposure and hands-on experience.

In technical programs, the industrial visits in the relevant engineering / technical fields and internship programs need to be systematised. In the non-technical courses, apprenticeships in the services sector might be considered as an alternative. These shall expose the youth to the market's requirement for skill and workforce and give a realistic aspiration. However, this will also enable them to explore means to achieve better economic well-being through up-skilling or enterprise.

Promotion of Traditional Sectors & Indigenous Products:

Tamil Nadu is home to several traditional vocations of handicrafts, handlooms and arts. Bronze statues and statuettes, Stone Sculptures, and weaving of Silk Sarees are some of the prominent industries even today. However, many of these are at the risk of dying out owing to lack of appropriate patronage, documentation and transmission of skills. Youth do not find enticed with the traditional vocations, as the alternate vocations are perceived to be of better social status and better remunerative prospects. It is necessary for the Govt. of Tamil Nadu to promote the traditional skill-based occupations by formalising the traditional skills and ensuring market access/development through linkages. TNSDC, in partnership with agencies like the Tamil Nadu Handicrafts Development Corporation, Poompuhar, Co-optex, Khadhi and Village Industries Commission (KVIC) and other traditional clusters, should implement targeted interventions to promote traditional vocations/occupations. For this purpose, TNSDC should carry out the following: a) develop Qualification Packs or Q-Files, and the relevant market-linked Curriculum; b) carry out RPL programs for existing workforce (at an Artisan, Trainer, Master Trainer and assessor levels); c) conduct trainings especially for the next generation of the traditional communities through a formal process; and d) promote employment or entrepreneurship through relevant programs of the State and central governments.

Employer Engagement:

More than a third of the youth emphasised the lack of suitable wages as being a key deterrent in taking up local jobs. Concerted efforts are required to ensure that employers are engaged and made aware of their role in advancing the development of youth. Employers will therefore need to be incentivised as well as made aware of capacities of skilled youth in order to ensure that they invest in business units that hire local skilled labour. Wage subsidies and enhanced apprenticeship stipend may attract further employment in the Industries.

Th challenging work conditions, especially in the manufacturing sector are cited by the youth, public officials and training service providers as reasons for unfavourable perception regarding employment. Women aspirants also worry about the availability of proper transport, sanitation, safety and security of workplaces. In fact, some of the

SIDCO estates have highlighted the lack of public transport connectivity Therefore there is a need by the industries to allay such concerns appropriately and work with the Govt. in availing appropriate facilities.

The MSME industries are labour intensive sectors and must compete with the larger customers for the same pool of skilled workers. They have highlighted the lack of placements or apprenticeships from the local ITIs as the students are often placed in larger industries as trainees in the major cities of the state. This results in lack of skilled resources locally. Though the larger industries provide attractive remunerations, exposure to technology, soft skills and other facilities, they are often unable to absorb a large majority of the candidates post the training period. MSME's on the other hand are more likely to retain the trainees on their rolls. Thus,7 measures have to be taken to provide a fairer chance for the participation of MSME units including bringing on board Industrial Associations to improve their competitiveness.

As highlighted above, the TNSDC and other Govt. departments need to act as an interface between skilled beneficiaries and prospective employers as well as regular interaction with new investors, existing industries and other units to respond to their manpower needs.

Demand-responsive Sectoral broad basing and Targeted Skilling

The courses in the state largely adhere to the Qualification Packs and National Occupational Standards (QP-NOS) under the National Skill Qualification framework (NSQF) or the courses under the National Council for Vocational Training (NCVT). However, it is seen that there is a concentration of courses in a few sectors like Apparel and Telecom. The courses are also largely restricted to certain entry level trades. There is a requirement for diversity into training at higher levels of the NSQF including supervisory roles and those with higher technological requirements. It is seen that, even in ITIs and polytechnics, the exposure to advance machinery is less than sufficient to make the candidates job ready. Key sectors aspired for the youth include Food Processing, Agri-business, handicrafts and handlooms. These sectors are receiving concerted efforts from the Govt. and investments from Private sector. They also hold potential for considerable self-employment, especially among females. Courses aligned with such demand and should be taken up at the earnest.

The Industries have shown considerable interest in participating in the Govt's skill development initiatives. The role of the private sector should be further tapped in the preparation of course content, training, internships, and placements. The industries also highlighted the lack of a strict distinctions between job roles as defined by the QP-NOS system in the same sector. The workers, especially in the MSME category would play multiple roles concurrently. Thus, the training should enable a NOS based certification for the trainees to upskill only the relevant additional modules. The use of MOOCs and setting up of training / assessment centers in the relevant Industrial park may aid this further.

The aspirations of the youth, especially on their income and the nature of work are not necessarily linked to the realities of the economy. It was observed, as part of the study, that the income expectation at times are double the actual income, the youth had received for similar levels of education. The State has also been ranked among the last in employability among engineering students according to the National Employability Report. The industries also testify to the same regarding the output of several institutions. Multinational companies and their ancillary units require high levels of soft skills including adhering to timelines, communication, team work among others which are reported to be lacking among recruits. There is also a general lack of skill in working on assembly lines. The curriculum must focus on these areas as well.

Emerging Trends:

- o **Electric Vehicles**: The Indian Government's push to popularise the electronic vehicles presents both a challenge and opportunity for the Auto & Auto-component sector to cater to the emerging demand. This presents an opportunity for up-skilling and re-skilling the workforce to make use of the dividend from this policy

- o **Language Training:** Tamil Nadu is one of the favoured destinations for Investments (both domestic and foreign) in the country. It also has a strong tourism sector, for both its cultural heritage and medical facilities. It is also a major contributor to out-migration in the country. The increased interactions with the advent of globalisation makes multilingualism a mandatory skill.

Trainings in other Indian languages, English and other foreign languages like Japanese and Chinese are necessary to maintain the competitiveness of the local labour market.

o **Infrastructure: :** 12 cities in Tamil Nadu are upgrading their infrastructure under the smart cities mission. With this, there is an emergence of new-approach to conceptualising public infrastructure. There is an opportunity for the state to become a case study for state-of-the-art facilities. Pre-fabricated structures, 'smart' electrical equipment and appliances, façade installations can be expected to be of high demand. In addition, green jobs including adoption of Solar Technology, Rain Water harvesting, sewerage and drainage upgradation, recycling of plastics etc. will be the other areas of demand.

o **Paramedical & Geriatric Care:** The state's population is ageing with 30% of the state's population to be aged above 50 years by 2026. This is further exacerbated by high prevalence lifestyle diseases in the population including diabetes. These are expected to drive the demand for paramedical professionals providing support in Scanning, Testing & emergency services apart from Geriatric care for the aged and the unwell.

o **Automation and Robotics**: Automation is driving the replacement or optimization of labour in several industries at a global level. Though the manufacturing industries in the state, do not see an immediate transformation into a highly automated-environment, there is an opportunity to cater to the global market for such developments. Institutions like IIT Madras, NIT- Trichy and Anna University could be partnered with for introducing such programs for students of Engineering and Technology.

o **Data Analytics, Big Data and AI**: The IT/ ITES sector is seeing a major evolution services, the products provided and the associated skills. Data Analytics, Blockchain, Big Data, Machine Learning & Artificial Intelligence, are some of the key areas of skill requirements in the sector. Tamil Nadu could emulate other States that have initiated training programs for tapping into such potential. Institutions in the state including University of Madras, IIT-Madras, IIM-Trichy, Anna University, NIT-Trichy and Madras School of Economics can be partnered with for the programs.

o **Emergency and Disaster Management –** The state has been exposed to the vagaries of nature having witnessed droughts, floods and cyclones across the state in recent years. The key emerging skills would include environment management, lifeguard, first aid training, and earth mover operators among others.

Annexures

Annexures

A.1. 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:

Figure 32 Steps for Demand Estimation

E1 = Employment in i-th sector in Year 2000-01
E2 = Employment in i-th sector in Year 2010-11
ΔE = Annual Growth Rate of Employment in i-th sector
$\Delta E = [(E2/E1)^{(1/10)} - 1] \times 100$
Source: Census 2000-01, 2010-11

G1 = Gross Value Added in i-th sector in Year 2000-01
G2 = Gross Value Added in i-th sector in Year 2010-11
ΔG = Annual Growth Rate of GVA in i-th sector
$\Delta G = [(G2/G1)^{(1/10)} - 1] \times 100$
Source: Department of Economics & Statistics

e = Employment Elasticity in the i-th sector in the Period 2000-10 = $\Delta E/\Delta G$
ΔG^* = Projected Annual Gross Value Added growth in i-th sector
ΔE^* = Projected Annual Growth Rate of Employment in i-th sector.
$\Delta E^* = \Delta G^* \times e$

LD^n = Projected Labour Demand in i-th sector, n Years after 2010-11
$LD^n = E2 \times (1 + \Delta E^*)^n$
Labour Demand is estimated for the period 2019-25.

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[87]. 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 33 Steps for Supply Estimation

P1, P2 …, P6 refers to projected population (15 & above) for the period 2011-16.	L1, L2 …, L6 refers to Labour Force Participation Rate (15 & Above) for the period of 2011-16.	P1 × L1, P2 × L2 …, P6 ×L6 refers to Projected Labour Force for the 2011-16.	I1, I2 …, I6 refers to Incremental Supply of Labour for the period 2011-16. I1 = (P2 × L2) – (P1 × L1)	Average Incremental Supply of Labour = (I1 + I2 + I3 + I4 + I5 + I6)/6

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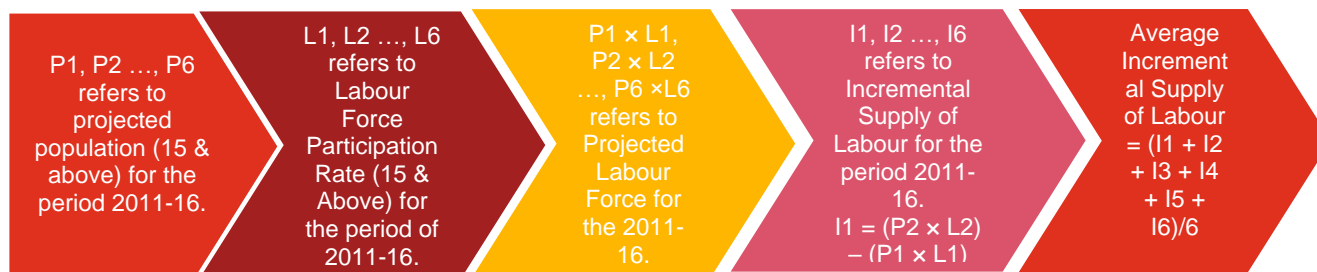
[87] Report on Employment-Unemployment Survey, 2011-12, 2012-13, 2013-14, 2015-16 & 2017-18.

A.2. Incremental Demand for Skilled and Semi-Skilled Workers (2026-29)

Sub-Sector	Incremental Skilled Labour Demand 2026-29	Incremental Semi-Skilled Labour Demand 2026-29	Total Demand 2026-29
Agriculture	2,197	15,378	17,575
Allied Activities[88]	11,046	77,321	88,367
Mining and quarrying	3,336	5,560	8,896
Manufacturing[89]	242,660	485,319	727,979
Utilities (Electricity, Gas)	1,801	3,602	5,403
Construction	67,051	167,628	234,679
Trade & Repair Services	24,226	83,859	108,085
Tourism and Hospitality	15,489	30,010	45,499
Logistics	19,859	47,661	67,520
Communication / IT / ITES	95,405	47,703	143,108
BFSI	74,244	37,122	111,366
Real Estate & Business Services	22,541	56,352	78,892
Public Administration	16,902	13,521	30,423
Education & Health	124,498	99,598	224,096
Arts and Entertainment	32,762	26,209	58,971
Other Services	159,063	127,250	286,313
Total Demand	913,078	1,324,092	2,237,169
Total Supply	374,968	579,599	954,567
Skill Gap	538,109	744,493	1,282,602

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[88] Agriculture & Allied Activities include Crop Cultivation, Animal Husbandry, Poultry, Fisheries and Forestry
[89] Manufacturing in Tamil Nadu is driven by Apparel & Textile, Auto and Auto Components, Chemical and Petro-Chemical, Food Processing, Light Engineering, Capital Goods, Electronics and Leather

A.3. Methodology for Block Selection for Youth Aspiration survey

Sampling Design for Youth Survey

A total of 360 youth was surveyed in each 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 was 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 was 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.

Selection of Block

The block selection methodology involved the identification of blocks by categorizing them into High development, Medium development and Low development. The adjacent picture shows the blocks in Ariyalur selected for the survey. The methodology is explained below:

To categorize blocks, the following data points were used.
• Count of MSME Clusters (based on DC-MSME Report)
• Number of SIDCO Industrial Estates
• Number of SIPCOT Industrial Estates
• Credit Outstanding, 2017-18 at Centre-level (Annual Data published by the Reserve Bank of India)

The following weights were assigned post award of marks:
• MSME Cluster – 25%
• SIDCO Cluster – 25%
• SIPCOT Industrial Estate – 5%
• Annual Centre-level Credit Data – 45%

Based on the above weights, the total score of each block was calculated. The total score was capped at 100. To classify the block as High/Medium/Low, the total score was converted into percentile values and categorized into three groups – 0-33.33th percentile values, 33.33 to 66.67 percentile value and 66.67 to 100 percentile values. The percentile values are calculated with respect to each district as the base.
Based on the percentile classification obtained, blocks were classified as follows:

• 0 to 33.33 percentile value: Low
• 33.33 to 66.67 percentile value: Medium
• 66.67 to 100 percentile values: High

After deriving the above values for the blocks, two blocks are randomly selected from each category. Following this, two blocks were randomly selected from each of the category, as per the mentioned classification. Based on this, the following blocks were selected in each of the districts.

Figure 34 Sampled Blocks

Legend

☐ Tamil Nadu District Boundary

Blocks Identified

🟩 High Industrial Estate - Sample
🟥 Low Industrial Estate - Sample
🟨 Medium Industrial Estate - Sample
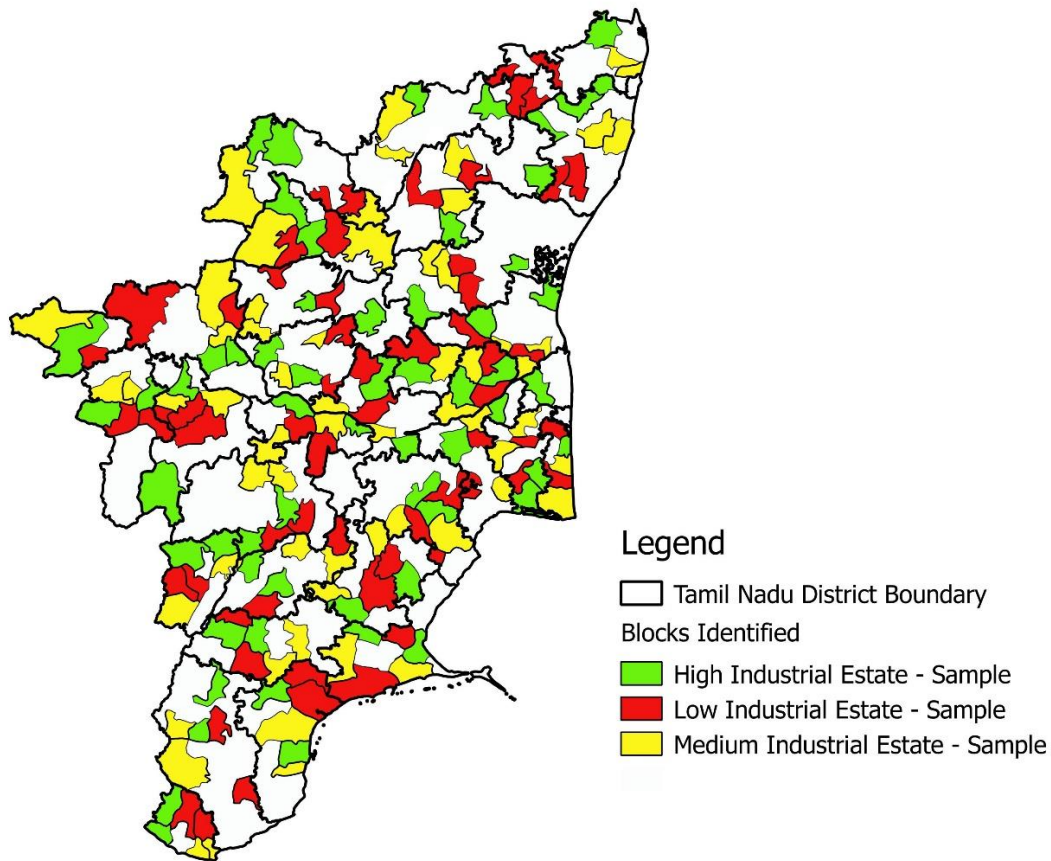
A.4. List of Selected Blocks

S. No	DISTRICT	Block	Block Category by Industrial Development
1.	Ariyalur	Andimadam	Low
2.		T.palur	Low
3.		Sendurai	Medium
4.		Thirumanur	Medium
5.		Ariyalur	High
6.		Jayankondan	High
7.	Coimbatore	Madukkarai	Low
8.		Sultanpet	Low
9.		Periyanayakkanpalayam	Medium
10.		Sarcarsamakulam	Medium
11.		Sulur	High
12.		Thondamuthur	High
13.	Cuddalore	Komaratchi	Low
14.		Nallur	Low
15.		Kattumannarkoil	Medium
16.		Keerapalayam	Medium
17.		Cuddalore	High
18.		Virddhachalam	High
19.	Dharmapuri	Morappur	Low
20.		Nallampalli	Low
21.		Harur	Medium
22.		Pennagaram	Medium
23.		Dharmapuri	High
24.		Palakkodu	High
25.	Dindigul	Nilakottai	Low
26.		Shanarpatti	Low
27.		Oddanchatram	Medium
28.		Vedasandur	Medium
29.		Dindigul	High
30.		Vattalkundu	High
31.	Erode	Ammapet	Low
32.		Talavadi	Low
33.		Andiyur	Medium
34.		Bhavani	Medium
35.		Erode	High

S. No	DISTRICT	Block	Block Category by Industrial Development
36.		Perundurai	High
37.	Kancheepuram	Acharapakkam	Low
38.		Madurantakam	Low
39.		Kattankolathur	Medium
40.		Thiruporur	Medium
41.		Kanchipuram	High
42.		Sriperumbudur	High
43.	Kanniyakumari	Thiruvattur	Low
44.		Thovala	Low
45.		Agastiswaram	Medium
46.		Rajakkamangalam	Medium
47.		Melpuram	High
48.		Munchira	High
49.	Karur	Kadavur	Low
50.		Thanthoni	Low
51.		Aravakurichi	Medium
52.		Krishnarayapuram	Medium
53.		Karur	High
54.		Kulittalai	High
55.	Krishnagiri	Kaveripattinam	Low
56.		Mathur	Low
57.		Thally	Medium
58.		Uttangarai	Medium
59.		Hosur	High
60.		Shoolagiri	High
61.	Madurai	Kottampatti	Low
62.		T.Kallupatti	Low
63.		Alanganallur	Medium
64.		Melur	Medium
65.		Nirumangalam	High
66.		Usilampatti	High
67.	Nagappattinam	Talanayar	Low
68.		Thirumarugal	Low
69.		Keelaiyur	Medium
70.		Vedaranniyam	Medium
71.		Mayiladuthurai	High
72.		Nagappattinam	High
73.	Namakkal	Erumaipatti	Low

S. No	DISTRICT	Block	Block Category by Industrial Development
74.		Namagiripet	Low
75.		Paramathi	Medium
76.		Rasipuram	Medium
77.		Namakkal	High
78.		Tiruchengodu	High
79.	Perambalur	Veppanthattai	Low
80.		Veppur	Medium
81.		Perambalur	High
82.	Pudukkottai	Arimalam	Low
83.		Karambakudi	Low
84.		Arantangi	Medium
85.		Tirumayam	Medium
86.		Pudukkottai	High
87.		Thiruvarankulam	High
88.	Ramanathapuram	Kadaladi	Low
89.		Nainarkoil	Low
90.		Kamudi	Medium
91.		Tiruppullani	Medium
92.		Paramakkudi	High
93.		Ramanathapuram	High
94.	Salem	Ayodhiyapattinam	Low
95.		Mecheri	Low
96.		Idappadi	Medium
97.		Sankari	Medium
98.		Athur	High
99.		Salem	High
100.	Sivaganga	Kalayarkoil	Low
101.		Kallal	Low
102.		Tiruppattur	Medium
103.		Tirupuvanam	Medium
104.		Devakottai	High
105.		Manamadurai	High
106.	Thanjavur	Ammapettai	Low
107.		Thiruvonam	Low
108.		Madukkur	Medium
109.		Papanasam	Medium
110.		Kumbakonam	High
111.		Thanjavur	High

S. No	DISTRICT	Block	Block Category by Industrial Development
112.	The Nilgiris	Coonoor	Low
113.		Gudalur	Medium
114.		Udhagamandalam	High
115.	Theni	Chinnamanur	Low
116.		Uttamapalaiyam	Low
117.		Andipatti	Medium
118.		Kambam	Medium
119.		Bodinayakkanur	High
120.		Periyakulam	High
121.	Thiruvallur	R.K.Pet	Low
122.		Tiruvalangadu	Low
123.		Pulal	Medium
124.		Sholavaran	Medium
125.		Gummidipundi	High
126.		Poonamallee	High
127.	Thiruvarur	Koradacherry	Low
128.		Kottur	Low
129.		Kodavasal	Medium
130.		Nidamangalam	Medium
131.		Muttupet	High
132.		Tirutturaippundi	High
133.	Thoothukkudi	Pudur	Low
134.		Vilattikulam	Low
135.		Ottappidaram	Medium
136.		Srivaikuntam	Medium
137.		Kovilpatti	High
138.		Thoothukudi	High
139.	Tiruchirappalli	Musiri	Low
140.		Uppiliapuram	Low
141.		Andanallur	Medium
142.		Thottiam	Medium
143.		Thiruverambur	High
144.		Turaiyur	High
145.	Tirunelveli	Alangulam	Low
146.		Nanguneri	Low
147.		Ambasamudram	Medium
148.		Tenkasi	Medium
149.		Keelapavoor	High

S. No	DISTRICT	Block	Block Category by Industrial Development
150.		Sankarankovil	High
151.	Tiruppur	Kundadam	Low
152.		Pongalur	Low
153.		Kangayam	Medium
154.		Palladam	Medium
155.		Tiruppur	High
156.		Udumalaipettai	High
157.	Tiruvannamalai	Chetput	Low
158.		Pudupalayam	Low
159.		Polur	Medium
160.		Thurinjapuram	Medium
161.		Tiruvannamalai	High
162.		Vandavasi	High
163.	Vellore	Kaveripakkam	Low
164.		Nemili	Low
165.		Alangayam	Medium
166.		Peranambattu	Medium
167.		Gudiyattam	High
168.		Walajapet	High
169.	Viluppuram	Tirukkoyilur	Low
170.		Ulundurpet	Low
171.		Rishivandiam	Medium
172.		Sankarapuram	Medium
173.		Chinnasalem	High
174.		Koliyanur	High
175.	Virudunagar	Vembakottai	Low
176.		Watrap	Low
177.		Aruppukottai	Medium
178.		Sattur	Medium
179.		Sivakasi	High
180.		Srivilliputtur	High

A.5. Methodology for Population Estimation

Life table survival ratio method[90] is used to estimate the population at the state and district level. Survival ratio is estimated using Sample Registration System (SRS) based abridge life table (2012-16) as estimated by the Decennial Census of India. Abridged life table is a tabulation of number of deaths within various age intervals. The columns of the life table include:

Variable 1: Age Interval, defined as x to x+n (viz. 5 years to 9)
Variable 2: nQx = The proportion of the population in each age interval that is alive at the beginning but is dead before reaching the end of an age interval (viz. 5- 9 years), reflecting the estimated mortality rate for that age interval.
Variable 3: lx = The total number of persons alive at the beginning of the age interval (age 5 in the age interval 5-9 years).
Variable 4: nLx = The total number of person-years in the stationary population for each age interval.
Variable 5: Tx = It is the cumulative sum of the person-years values. It can be viewed as the total number of person-years that would be lived for a particular age cohort if the cohort were to progress through the remainder of the life cycle.
Variable 6: e_x = This column indicates the average remaining lifetime for a given age Interval.

Survival Ratio: It is the ratio between person-years (nLx) in a particular age interval (viz. 5-9 years) the base year and the estimated person-years in the next time period (nLx+t), that expresses survival from a younger age (x) to an older age (x + t).

Survival Ratio is estimated at each age interval in following way:

5 Year Survival ratio (Age Interval, 5-9 Years) = 5L10/5L5

10 Year Survival ratio (Age Interval, 5-9 Years) = 5L15/5L5

Then, population is estimated as:

5 Year survival ratio (Age Interval, 5-9 Years) ✗ Population 2011 (Age Interval, 5-9 Years) = Population 2016 (Age Interval, 10-14 Years)

10 Year survival ratio (Age Interval, 5-9 Years) ✗ Population 2011 (Age Interval, 5-9 Years) = Population 2021 (Age Interval, 15-19 Years)

Net migration is assumed to be Zero.

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[90] https://mpra.ub.uni-muenchen.de/61577/

A.6. List of Large Industries Surveyed

Company	District	Industry
R.K Industries	Chennai	Textile and Apparel
Aline Private Limited	Chennai	Leather & Leather Goods
Sri Akila Castings	Chennai	Other Manufacturing
Devi Polymer Private Limited	Chennai	Power
Professional Courier	Chennai	Others
Shri Vaari Electricals	Chennai	Power
Anjappar Chettinad AC Restrant	Chennai	Food Processing
L G Balakrishnan & Brothers Ltd	Coimbatore	Auto and Auto Components
Sri Kannapiran Mills	Coimbatore	Textile and Apparel
Schuf Speciality Valves India Pvt. Ltd	Coimbatore	Other Manufacturing
Ambal Automobile	Coimbatore	Auto and Auto Components
Srs Cars Pvt Ltd-Vbsrs Hyundai	Cuddalore	Other Manufacturing
Amcor India Pvt. Ltd.	Cuddalore	Warehousing and Packaging
Naga Ltd	Dindigul	Food Processing
Savorit Ltd	Dindigul	Food Processing
Eveready Spinning Mills Pvt Ltd	Dindigul	Textile and Apparel
Sivaraj Spinning Mills Private Ltd	Dindigul	Textile and Apparel
B.K.S. Textiles Private Ltd	Erode	Textile and Apparel
Rpp Infra Projects Limited	Erode	Building Construction Painting Industry
Rohini Textile Industry Pvt Ltd	Erode	Textile and Apparel
Milky Mist Dairy Food Private Limited	Erode	Food Processing
Skm Animal Feeds & Foods (India) Private Limited	Erode	Food Processing
Sree Saravana Engineering Bhavani	Erode	Building Construction Painting Industry
Pinnacle Impex	Erode	Textile and Apparel
Coral Rewinding India Private Limited	Erode	Other Manufacturing
Kayaanlagan India Private Limited	Kanchipuram	Other Manufacturing
RK Industries	Kanchipuram	Textile and Apparel
Kurian Abraham	Kanyakumari	Chemical & Pharmaceuticals
Kumaran Filaments	Kanyakumari	Others
Harini Honda Unit--1,2&3	Kanyakumari	Auto and Auto Components
Derik Auto Agency	Kanyakumari	Auto and Auto Components
Aauraa Home Fashion Pvt Ltd	Karur	Textile and Apparel
Krishnagiri Print Private Limited	Krishnagiri	Others
Siva Motors Private Limited	Madurai	Auto and Auto Components
Sara Packaging	Madurai	Other Manufacturing

Company	District	Industry
Rana Farms And Foods Pte Ltd.	Namakkal	Food Processing
Soundararajan	Namakkal	Textile and Apparel
Lucky Welding Works	Perambalur	Other Manufacturing
Arthanai Loom Center Pvt Ltd	Salem	Textile and Apparel
SP Spinning mills Pvt ltd	Salem	Tourism Travel and Hospitality
SRC Projects Pvt Ltd	Salem	Building Construction Painting Industry
Radisson Salem	Salem	Tourism Travel and Hospitality
Kandagiri Spinning Mills Limited	Salem	Textile and Apparel
Sundaravalli Honda Motors Private Limited	Sivagangai	Retail
Kallaerated Water Works	Sivagangai	Other Manufacturing
Ramsingh Modern Rice Mill	Theni	Food Processing
Menaka Mills Private Limited	Theni	Textile and Apparel
Shri Murugesan TVS	Theni	Retail
Dmart Trichy	Tiruchirappalli	Retail
Chinniappa Yarn Spinners Private Limited	Tiruppur	Textile and Apparel
Poppys Knitwear Pvt Ltd.,	Tiruppur	Textile and Apparel
Icewear Creations Private Limited	Tiruppur	Textile and Apparel
Anthony Garments	Tiruppur	Textile and Apparel
Schuf Speciality Valves India Pvt Ltd	Tiruppur	Other Manufacturing
Jumbo Bag Limited	Tiruvallur	Other Manufacturing
Annai Enterprises	Tiruvallur	Other Manufacturing
Lakshmi Mills Company Ltd	Thoothukudi	Textile and Apparel
Venus Home Appliances	Thoothukudi	Other Manufacturing
Dcw Ltd	Thoothukudi	Chemical & Pharmaceuticals
K R Exports P Ltd	Thoothukudi	Textile and Apparel
Loyal Textile Mills	Thoothukudi	Textile and Apparel
Ktv Health Foods Pvt Ltd	Thoothukudi	Food Processing
Maris Associate Pvt Ltd	Thoothukudi	Textile and Apparel
Ramesh Flowers Pvt. Ltd.	Thoothukudi	Beauty and Wellness
Bhel	Vellore	Other Manufacturing
Essae Teroka Pvt Ltd	Vellore	Electronic and IT Hardware
The Safire Industries	Virudhunagar	Others

A.7. List of Industrial Associations Consulted with

S.No	Asssociation Name	District
1.	Cuddalore Dist. Small And	Cuddalore
2.	Erode Dist. Small Industries Association	Erode
3.	Nagapattinam District Small Scale & Tiny	Nagapattinam
4.	Thanjavur Dist. Small And Tiny	Thanjavur
5.	The Tiruchirapalli Dist.Tiny & Ssi Assn.	Tiruchy
6.	Krishnagiri District. Small & Tiny	Krishnagiri
7.	Ambattur Indl.Estate Manufacturers Assn.	Tiruvallur
8.	Bhel Ancillaries Association	Tiruchy
9.	Bhel Small Scale Industries Association	Tiruchy
10.	Hosur Small And Tiny Inds. Assn.,	Krishnagiri
11.	Nagercoil Konam Indl. Estate Mfrs. Assn.	Kanyakumari
12.	Thirumudivakkam Indl. Estate Mfrs. Assn.	Kanchipuram
13.	Kakkalur Industrial Estate	Tiruvallur
14.	Vadalur SIDCO Industrial Estate	Cuddalore
15.	Thirumullaivoyal Industrial Women	Tiruvallur
16.	Coimbatore SIDCO Industrial Estate	Coimbatore
17.	The South India Hosiery Mfrs Association	Coimbatore
18.	Salem Productivity Council	Salem
19.	Association Of Micro, Medium And	Villupuram
20.	Aasanur Industrial Association	Villupuram
21.	Tirupur Exporters Association (TEA)	Tirupur
22.	Tirupur Chamber Of Commerce And Industry	Tirupur
23.	Textile Committee, Tirupur	Tirupur
24.	Tirupur Export Knit Printers Association	Tirupur
25.	Sector Skill Council - Apparel	Tirupur
26.	NIFT -Tirupur Exporters Association (TEA)	Tirupur

A.8. Industry-wise summary of Skill Development Plan for 2019-21

S.No	Industry / Sector	Total
1.	**Manufacturing**	**4,41,040**
a.	*Food Processing*	*1,11,000*
b.	*Textile & Apparel*	*1,08,300*
c.	*Auto and Auto Components*	*73,350*
d.	*Electronics*	*58,400*
e.	*Iron, Steel and Fabrication (Capital Goods)*	*42,100*
f.	*Chemical & Petrochemical*	*22,800*
g.	*Leather*	*11,600*
h.	*Handicraft*	*5,090*
i.	*Rubber Processing*	*5,000*
j.	*Manufacturing-healthcare devices*	*3,400*
2	**Construction**	**1,27,400**
3	**Education, Training & Healthcare Services**	**1,25,300**
a.	*Healthcare*	*1,07,800*
b.	*Education & Training*	*9,500*
c.	*Soft Skills Training*	*8,000*
4	**Tourism & Hospitality**	**72,070**
5	**Logistics**	**44,500**
6	**Trade and Repair Services**	**40,980**
7	**Communication**	**37,960**
a.	*IT/ ITeS*	*28,560*
b.	*Telecommunication*	*9,400*
8.	**Banking Financial Services and Insurance**	**26,600**
9.	**Agriculture / Allied Activities**	**24,880**
10.	**Real Estate and Business Services**	**1,400**
	Grand Total	**9,42,130**

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