Skilling for the Future

Skill Gap Assessment & Action Plan for Tamil Nadu

District Skill Development Plan for Karur

November 2019

Tamil Nadu Skill Development Corporation,
Integrated Employment Offices Campus (1st Floor)
Thiru. Vi.Ka Industrial Estate,
Guindy, Chennai-600 032

Tamil Nadu Skill Development Corporation (TNSDC)
Integrated Employment Offices Campus (1st Floor)
Thiru. Vi Ka Industrial Estate,
Guindy, Chennai-600 032
T +044 2250 0107
E dettnsdm@gmail.com
W https://www.tnskill.tn.gov.in
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S.No	Abbreviation	Expansion
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.	COE	Centre of Excellence
6.	DDU-SKY	Deen-Dayal Upadhyaya Grameen Kaushalya Yojana
7.	DES	Directorate of Economics and Statistics
8.	DIC	District Industries Center
9.	DISE	District Information System For Education
10.	GDDP	Gross District Domestic Product
11.	GoTN	Government of Tamil Nadu
12.	GSDP	Gross State Domestic Product
13.	GVA / GSVA	Gross Value Added / Gross State Value Added
14.	HCSSC	Handicrafts and Carpet Sector Skill Council
15.	ISDS	Integrated Skill Development Scheme for Textiles
16.	ITI	Industrial Training Institute
17.	IT-ITES	Information Technology and Information Technology Enabled Services
18.	LFPR	Labour Force Participation Rate
19.	Manuf.	Manufacturing
20.	NAPS	National Apprenticeship Promotion Scheme
21.	NASSCOM	National Association of Software and Services Companies
22.	NEET	Not in Education, Employment, or Training
23.	NIC	National Industrial Classification
24.	NSDC	National Skill Development Corporation
25.	NSQF	National Skills Qualification Framework
26.	NULM	National Urban Livelihood Mission
27.	PMKVY	Pradhan Mantri Kaushal Vikas Yojana
28.	PSU	Public Sector Undertaking
29.	Pub. Admin.	Public Administration
30.	QP-NOS	Qualification Pack – National Occupational Standards
31.	SIDCO	Small Industries Development Corporations
32.	SIPCOT	State Industries Promotion Corporation of Tamil Nadu
33.	SIPPO	Small Industries Product Promotion Organization
34.	SSC	Sector Skill Council
35.	TANSIDCO	Tamil Nadu Small Industries
36.	TNPL	Tamil Nadu Newsprint and Papers Limited
37.	TNSDC	Tamil Nadu Skill Development Corporation
38.	TNSRLM	Tamil Nadu State Rural Livelihood Mission
39.	Tr. & Tou.	Trade and Tourism Sectors

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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 13 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. Skill gaps were estimated for a period of 10 years, up to FY 2022. Given the rapid change in the state's social and economic context, there was a need for a fresh assessment of the state's skill ecosystem. There is also a need to understand the needs of the youth from diverse geographical backgrounds across the state, especially reaching out to economically backward regions. It is expected that a contemporary estimation, using both quantitative and qualitative analysis would reveal more relevant insights and findings related to the demographic profile, socio-economic characteristics of the youth, emerging sectors and job roles, and the skill-sets in demand.

The Present Study: The Tamil Nadu Skill Development Corporation (TNSDC) has, through a competitive procurement process, engaged PricewaterhouseCoopers Private Limited (PwC) to carry out "Skill Gap Assessment and Action Plan" for the state. This is the first time such a comprehensive State-wide skill gap study taking into consideration block-level information from each district has been conducted in Tamil Nadu. The study aims at identifying sources for self and wage employment in all 32 districts, estimating the sector-wise current and future labour demand (over the next six years) by industry, and assessing the overall labour supply and estimating the existing and emerging skill gaps.

The Skill Gap study offers insights into: (i) which skills are required to support the State's economic growth, while also catering 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. Workforce demand-projection for the upcoming years, disaggregated as skilled and semi-skilled workforce requirement has been estimated at the district level.

Methodology for Study: Mixed-method research design was adopted encompassing a blend of quantitative and qualitative data collection techniques, and desk research on secondary data sources. 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 (360 respondents in each district) across the following groups – engaged in economic activity (self-employed, wage-employed, entrepreneurs), students in formal education, vocational and skill training institutions (Polytechnics, ITI), and those who fall under the Not in Education, Employment or Training (NEET) category. Six blocks in the district were covered: Karur, Kulithalai, Aravakurichi, Krishnarayapuram, Kadavur and Thanthoni
2. **Quantitative employer survey**: covering 1,321 employers (45 in each district) with adequate representation from Large, Medium, Small and Micro Industries across the key sectors defining the district economy. Forty-five employers were covered in each district.

[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. **Focus- Group Discussions (FGD's) and stakeholder consultations** across a wide group of stakeholders including, representatives from Industrial units (with additional focus on MSME sector), district-level Industry Associations across priority sectors, officials from various government departments, representatives from various higher education institutions, and training service providers.

Estimation of labour demand and supply were undertaken based on the analysis of data sourced from the Census of India, the Department of Economics and Statistics of Government of Tamil Nadu, the Reserve Bank of India, the National Sample Survey Organisation and the Bureau of Labour and Employment under the Ministry of Labour and Employment, Government of India. Estimates were further refined based on the data pertaining to the proposed investments (pragmatically rationalised and considered), and the anticipated developments within key sectors; in addition, due consideration is given to the emerging sectors and job roles. The sectors and job roles in demand have been organized 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 have been 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 of the study: The key findings are presented below:

Demographic Analysis	• At 30 years, the median age of Karur is higher than the state average. It is estimated to increase further to 36.3 years by 2026 indicating a much older population. • The district needs to invest in skill development immediately to reap benefits of the demographic dividend.
Economic Analysis	• Karur is one of the more industrialised districts and contributes to 1.6% of the state GDP. • The economy of Karur grew at a CAGR of 7% between 2011-12 and 2016-17. • Agriculture in the district is dominated by livestock, cultivation and forestry • Paper products, textiles and apparel, basic chemicals, plastic and iron and steel are some of the key Industries in the district. • The service sector has witnessed a steady growth since 2012 to 2017 at around an average of 12% p.a. The share of the sector has decreased from 46% to 44% from 2012 to 2017.
Labour Market Analysis	• The District's overall labour force participation and workforce/worker participation ratio are higher than the corresponding state figures, and for the youth population (15-29 years), the LFPR is lower than the state figure. • More than one-third of the district's labour force is in manufacturing, followed by one-fifth in trade and repair services.
Education & Skill Development	• Only 1.3% of the district population have undergone any kind of vocational training. • The district's population also benefits from neighbouring Tiruchirappalli district's education system, which contains colleges and universities of repute. • The ITI run by Tamil Nadu Newsprint and Papers Limited (TNPL) places apprentices within TNPL for a year. However, not all apprentices are absorbed into the PSU.
Findings from Primary Survey	
Youth Profile and Aspirations	• The majority of college-educated respondents were engaged in salaried employment, skilled work, and farming activities and livestock. • Around 56% of the youth aspire for wage employment • Salary, Job Security and Family Business were key determinants of selection of work. • "Lack of jobs locally" figures as the most cited challenge, followed by "pressure related to getting married", "lack of technical/ vocational skills" and lack of support for girls being engaged in economic activity" in terms of major challenges in pursuing desired careers. • Relevant work experience, soft skills, and relevant education qualification were reported to be the key factors that determine employability and employment. • Preferred sectors for employment were as follows: female respondents cited BFSI, agro-business, textile and apparel and education and skill development. Male respondents cited auto and auto components, agro-business, BFSI and Building and Construction Industry. • More than half of the respondents wanted advice on how to look for jobs, and more than a quarter wanted guidance on applying for desirable jobs. More than a one-fifth wanted information on relevant vacancies.

Employer & Other Key Stake holder Perspective	**Quantitative Survey** • Candidate disinterest, high local wages and lack of requisite core and soft skills are the major challenges faced by the employers in the recruitment and retention of workforce. • On an average, 49% of workers on average in the units were skilled, 37% semi-skilled and 7% supervisory. • Around 62% of employers indicated interest in medium to high technology adoption. **Qualitative Inputs** • In manufacturing sectors, ITI/ Polytechnic graduates (not freshers) are hired in smaller numbers, and most of the workforce is unskilled and given training upon induction. • In sectors like textiles, power loom and sewing machine operation require short-periods of training after which workers acquire skills. • There is a growing scope for fashion designers, as a few garment-making units wish to make their own designs. • There is potential for printing, cement manufacturing and automobile components to grow into clusters. • With respect to challenges in recruiting from vocational training institutions, high attrition rate, lack of quality resources, lack of soft skills and lack of work experience.
Incremental Demand	• Nearly **forty-eight thousand and eight hundred** incremental skilled and semi-skilled workers are expected to be in demand over the next 6 years. • Key sub-sectors driving the demand are Manufacturing, Agriculture-allied Activities, Education; Human health & Social Work Activities, Construction, Repair of computers and personal and household goods and Trade & Repair Services

Recommendations: Based on qualitative, quantitative and secondary information findings and inferences, the following recommendations are made for due consideration:

- **Strengthening the local Skilling Eco-system:** In order to bridge the skill-mismatch between vocational training programs and industry demands, apprenticeship scheme must be popularized further, and priority given to local firms, so that they are able to recruit locally.

- **Development of a Quality Labour Force:** Migrant Support Centres can be set up, which help them with accommodation, workplace related challenges, and up-skilling/ re-skilling. Wage Subsidies/ provisions for living wage can be designed, so that the current workforce is able to work on the shop-floor without major attrition issues. Workplace benefits can be provided based on government support for creches for working mothers, to ensure retention in sectors such as textiles.

- **Promotion of Entrepreneurship and development of incubation facilities:** Based on qualitative findings, young men and women wish to open their own businesses after a few years of work experience, in the areas of textiles (tailoring), food processing (pickle-making, bakery products, etc), bus-body work, and retail shops/ grocery shops. Promoting micro and small entrepreneurs, and self-employment will eventually improve the scope for wage employment as well.

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Karur district was carved out of the greater Tiruchirappalli district in September 1996. Tiruchirappalli currently borders it in the east, Dindigul district in the south, Namakkal district in the north, and Tiruppur in the west. The rivers of Cauvery and Amaravathi run through the district, and hence it is part of the Cauvery river delta region. The district is also known for its home furnishing textile industry.

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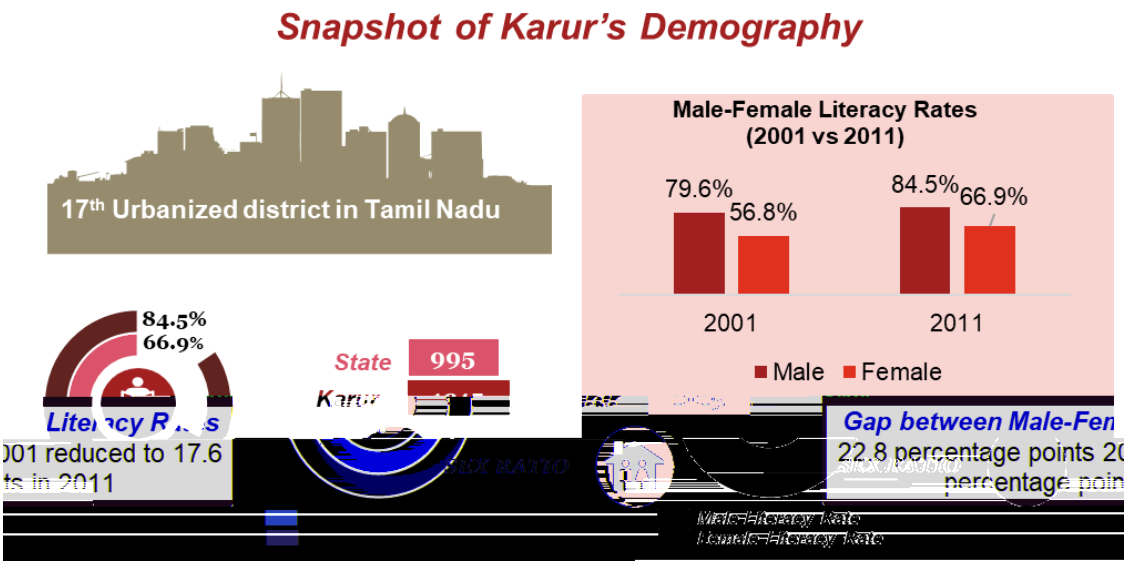
Table 1: Key Demographic Indicators– Karur vs Tamil Nadu[3]

SN	Indicator	Karur	Tamil Nadu
1	Total population	1,064,493	72,147,030
2	Female Population	5,36,309	36,009,055
3	Population Density per sq.km (2011)	367	555
4	Urbanization	40.8%	48.4%
5	SC population (as % of total population)	20.8%	20.0%
6	ST population (as % of total population)	0.1%	1.1%
7	Differently abled population (as % of total population)	1.3%	1.6%
8	Population in age group 15-34 years (as % of total population)	32.5%	34.8%
9	SC population aged 15-34 years (as % of SC population)	33.9%	36.6%
10	ST population aged 15-34 years (as % of ST population)	31.7%	35.0%
11	Literacy rate	75.6%	80.3%



Key Highlights from the analysis of Census Data:

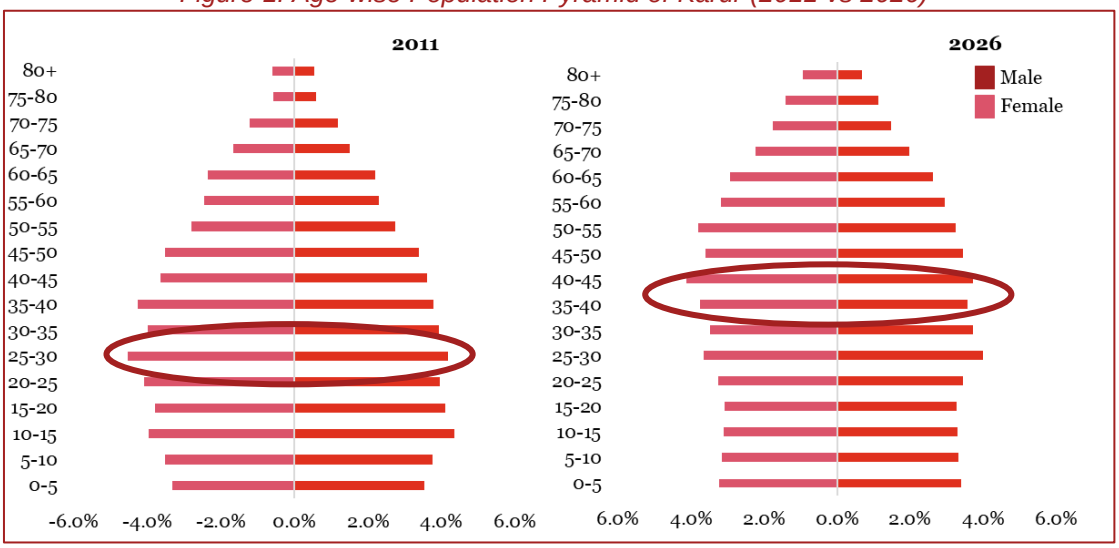
- **Population Growth and Urbanization:** The Decadal growth rate **of the population in the district** was **13.8%** between 2001 & 2011, compared to **15.6%** at state level. The share of urban population has grown by **39.5%** while the rural population has grown at a **lower rate of 2.9%**. An increasing urban population, and migration to urban areas from rural areas could be related to this phenomenon.
- **Literacy:** The district had a female literacy rate of 66.9% while the male literacy rate of 84.5%. These are lower than the corresponding literacy rates at the state level. The literacy rates among males increased by 4.9 percentage points, while among females it increased by 10.1 percentage points, reducing the gap

[3] Census 2011 & 2011

between them from a 22% in 2001 to 17% in 2011. The reducing gap between the male and female literacy rates indicates a higher level of education attainment among females in the district.

- **Youth Demography: 32.6**% of the population was between 15-34 years, in 2011, and the median age, 30 years. This is greater than the median age of the state, which was 29 years in 2011, indicating a relatively older population in the district. The population is set to get much older with median age in 2026 expected to be around 36.3, increasing the share of dependent population as illustrated in the age-wise population pyramid of the district as seen below.

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



Karur has a relatively older and literate population. It also shares borders with developed and industrialized districts, and thus has the potential for benefitting from the spillovers of industrial growth, facilities for education, healthcare, skill development and trade.

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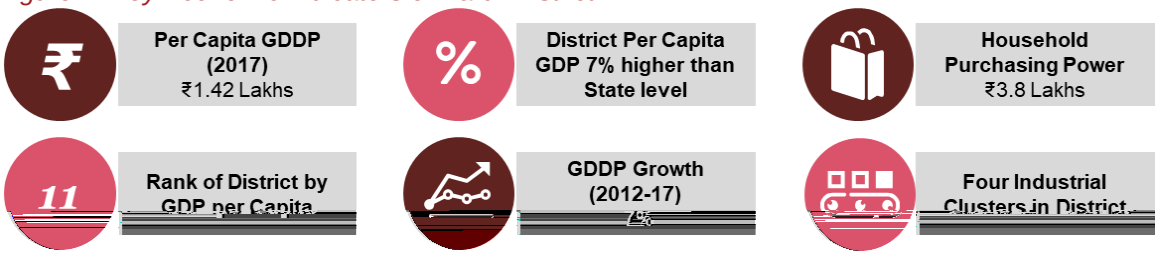
Karur is one of the more industrialized districts of the state and contributes to 1.6% of the states GDP.[5] The district has a flourishing textile and apparel industry, with bus-body building and paper manufacturing units contributing to the economy as well[6]. The district also has the potential to benefit from industrial growth in neighbouring districts, such Coimbatore, Erode, Tiruppur and Tiruchirappalli in the form of employment. The district has a per-capita GDP which is slightly lower than the state level[7][8].

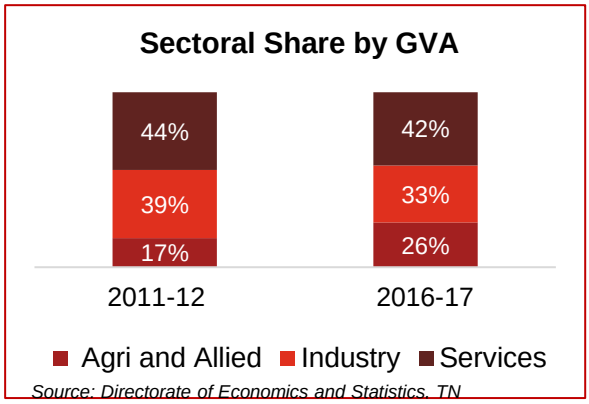
Figure 2: Key Economic Indicators of Karur District



Source: Directorate of Economics and Statistics, TN, PwC – Akara analysis

[4] Age wise Population projected for 2026 based on age group wise life expectancy, birth and death rates
[5] D0ES, GoTN
[6] District Industries Profile, DC-MSME, 2015-16
[7] PwC – Akara Analysis
[8] Household Purchasing Power is calculated from the total purchasing power (disposable income after savings/ investments) of the district, divided by the projected number of households (savings/ investment data calculated from RBI database on savings). Data downloaded from districtmetrics.in, and calculated based on data from Reserve Bank of India, NSSO and Census of India, 2011. A strong correlation exists between the Per Capita GDP, the Banking Sector indicators (adjusted to population) and the consumption expenditure (disposable income) reported under NSSO at the national and state level. This relationship was further verified with data over several years. The state level purchasing power is then further broken down to the district level based on the district level banking data (savings and deposits) and the district level consumption estimates of the NSSO.

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



Source: Directorate of Economics and Statistics, TN

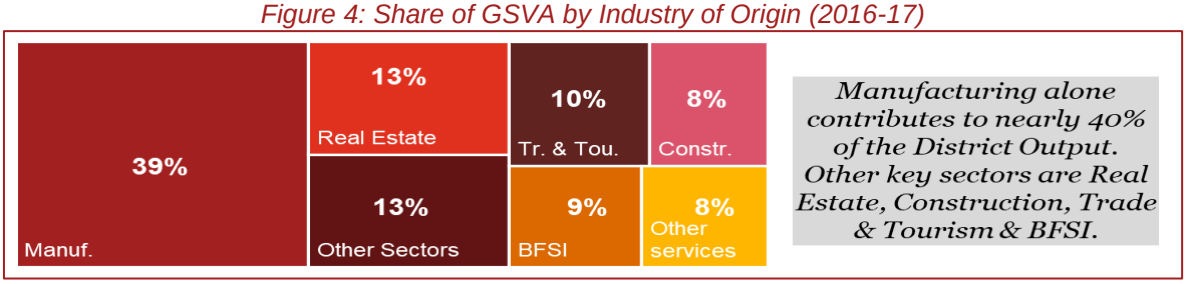
The economy of the district is dominated by the service and Industrial sectors, which accounted for about 75% of the district output in 2017. The district has grown at a compounded annual growth rate of 7% largely driven by the Industrial sector, which grew at an average of 11% per annum across the same period of time. The share of the agriculture sector in the district output increased by 9 percentage points despite a fluctuating output. The services sector has witnessed a steady growth, at 12% CAGR. At a sub-sector level, Manufacturing, Real Estate, Trade & Tourism, Construction & BFSI are the major contributors to the district's economy.

Table 2: Sector wise- Annual Growth Rate in Karur

Sector	2012-13	2013-14	2014-15	2015-16	2016-17	CAGR
Agri & Allied	17%	1%	0%	2%	-11%	***2%***
Industry	14%	9%	3%	23%	9%	***11%***
Services	11%	13%	15%	10%	9%	***12%***

Source: Directorate of Economics and Statistics, TN

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

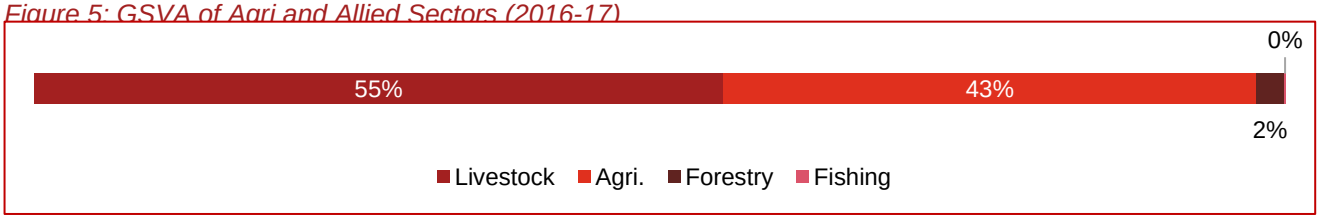


Source: Directorate of Economics and Statistics, TN

Agriculture and Allied Sector

The agriculture and allied sector is a major contributor to the district's economic output. Agriculture in the district is dominated by livestock, cultivation and forestry. Major crops include: rice, pulses, groundnut, coconut, and fruits.

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



Source: Directorate of Economics and Statistics, TN

Industrial Sector

Recent growth in the manufacturing sector (11% between 2012 and 2017) has enabled a growth of the Industrial 11% per annum over the last 5 years. The sector is dominated by the Manufacturing and Construction sectors - they account for almost 99% of the output. Paper products, textiles and apparel, basic chemicals, plastic and iron and steel are some of the key Industries in the district.

Figure 6: Industrial Sector GSVA (2016-17)

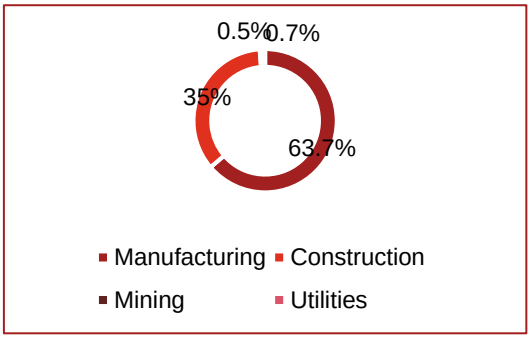


Table 3: Key Clusters and Traditional Industries

Cement Pipes Chinnadharapuram	Home Furnishing Textile Karur	Khadi and Readymade Textiles Karur
Bus Body Building Thanthoni	Mosquito (HDPE) Knitted Fabric Karur	Reed Mats Kulithalai

Source: DC-MSME District Profile

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

Industry	No of Units	Average Workers per Unit	Employees	Share of Total Employment	Share of GSVA
Paper and paper products	28	105	2,959	11%	46%
Other textiles	421	33	13,760	51%	21%
Non-metallic mineral products N.E.C.	28	54	1,499	6%	12%
Spinning, weaving and finishing of textiles	182	10	1,791	7%	4%
Other chemical products	8	12	98	0.4%	4%
Plastic products	42	47	1,956	7%	4%
Basic iron and steel	4	153	612	2%	3%
Beverages	6	40	240	1%	2%
Other food products	3	137	410	2%	1%
Coachwork	56	26	1,448	5%	1%
TOTAL	778	61.7	24,773	92.4%	98%

Source: Annual Survey of Industries 2014-15

According to the ASI 2014-15, more than 337 Industrial units were present in the district, directly employing 17,636 workers. Paper products, other textiles, spinning, weaving and finishing of textiles, plastic products and coachwork were the key industries as per employment. The Tamil Nadu Paper Company Limited (TNPL), a Public Sector Undertaking, is undertaking paper product manufacturing. It can be seen that out of the four major contributors to the total GVA from industries (paper products, other textiles, non-metallic mineral products and spinning of textiles), three have 68% of the total employment as recorded in the survey.

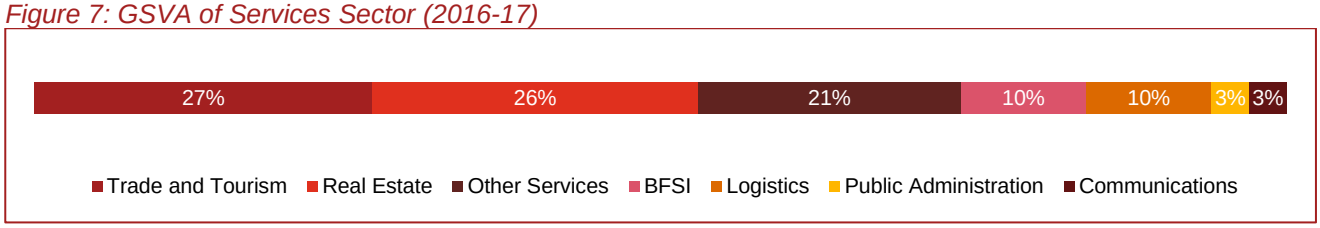
Existing Industrial Estates

- SIDCO Industrial Estate, Athur
- SIDCO Industrial Estate, Vellalapatti

Services Sector

The sector has witnessed a steady growth since 2012 to 2017 at around an average of 12% p.a. The share of the sector has decreased from 46% to 44% from 2012 to 2017. Important tourist attractions include Tirumukkudalur (junction of Cauveri and Amaravathi rivers), Ponnaiyar Dam, Nerur temple, and Rengamalai. The district is also home to several Hindu temples which receive footfall from other parts of the state. Trade and tourism has more than one quarter share in the service sector GDDP.

Figure 7: GSVA of Services Sector (2016-17)



Traditional Sector

'Neera Banam' – Palm Nectar

Neera Banam (padhaneer in Tamil) is the sap extracted from the branches of several varieties of palm trees, most of which are used for producing jaggery and sugar. The drink is consumed in India, Sri Lanka, Africa, Malaysia, Indonesia, Thailand, and Myanmar. In Tamil Nadu, it is extracted from palm and coconut trees before sunrise, and sold in its original form or as toddy (after fermentation)[9].

Since 2018, the department of Agricultural Marketing and Agri-business has implemented the formation of Farmer Producer's Companies for production of Neera Banam, and developing cold storage and transport facilities. The department has also established a **Tamil Nadu Palm Products Development Board** to promote Neera, along with products such as **Palm Jaggery, Palm Sugar, Palm Candy, Preserved Nungu, Palm Fruit Jam, and Palm Chocolate**. As per estimates from the Board, there are **six lakh artisans** employed in palm products industry[10].

As per data from the Coconut Development Board, Karur is one of the twenty districts which has registered Coconut Producer's Societies. As per department data, Karur currently has two Farmer Producer Companies. Neera Banam is served in restaurants as a summer-time drink, and is sourced from within the district. Major locations for Neera production within the district are: Nadayanur, Kulithalai, Thanthonimalai, Paramathi, and Aravakurichi.

Neera has potential to be scaled up further – expanding cold storage and transport facilities can enable producers to sell the product across districts and even states. Since producers can also extract other edible and non-edible products from palm trees, promoting Neera can be a holistic intervention.

[9] Tamil Nadu Palm Products Development Board [http://www.tn.gov.in/hhtk/palm/palm-objectives.htm]
[10] Farmer Producer Companies, Tamil Nadu Agricultural University
[http://www.agritech.tnau.ac.in/farm_association/pdf/PRODUCER_COMPANY.Pdf

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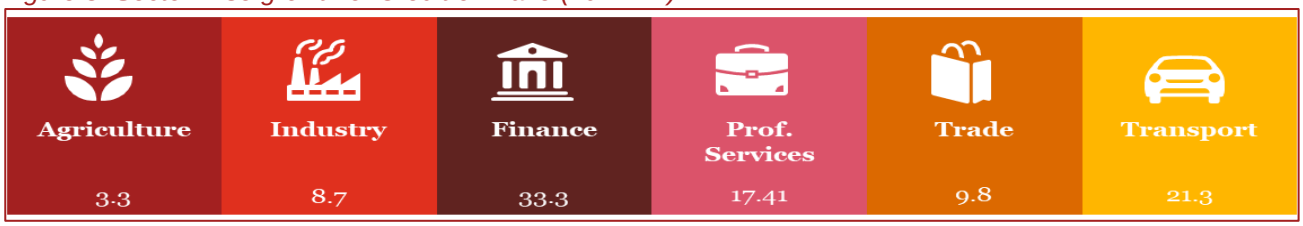
Figure 8: Sector-wise growth of Credit off Take (2012-17) - RBI



According to the data collected from the RBI, the District has seen recent growth in credit[11] especially industry, finance, professional services, trade and transport. Key investments include:

- The Nedungur Textile Unit project is expected to bring in investments of INR 5,000 Crore, with potential employment of 5,000 workers
- The Trichy-Karur Four-lane highway project of the National Highways Authority of India is expected to improve road transportation facilities
- The Karur-Coimbatore Greenfield Expressway is also expected to improve road transportation, and aid in the decongesting of traffic

Construction, textiles, agri-business, light manufacturing and trade are sectors with potential for growth. Tourism and Hospitality can also grow based on promoting religious tourism.

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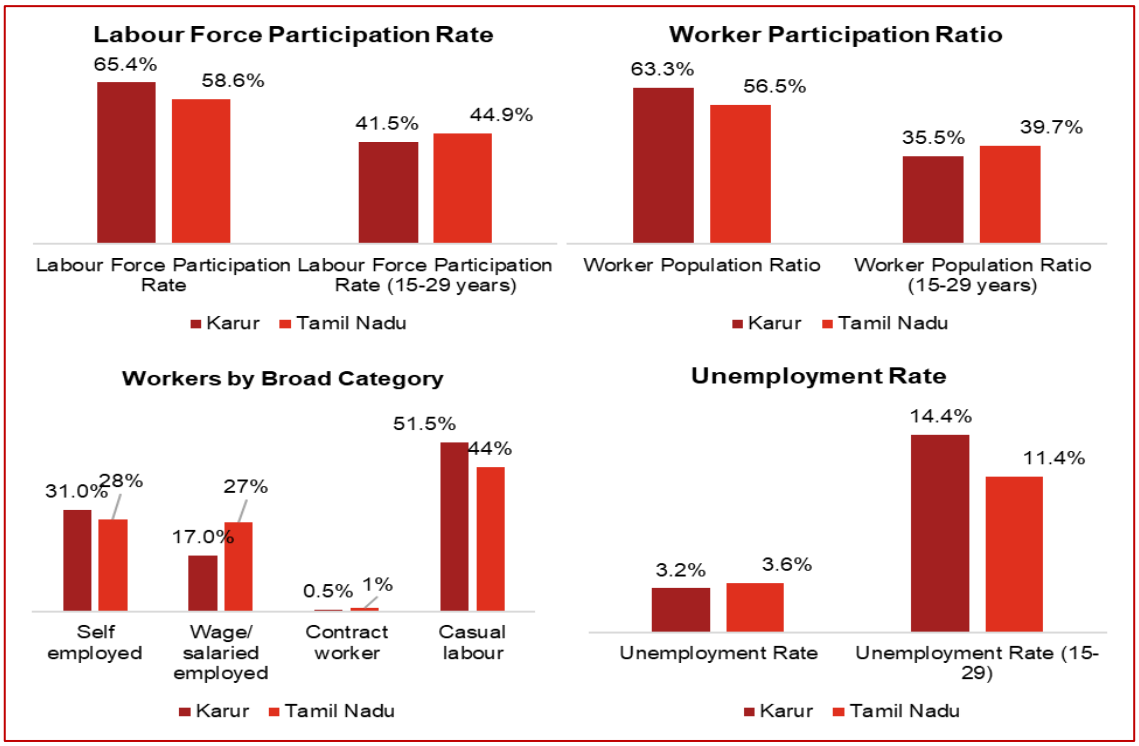
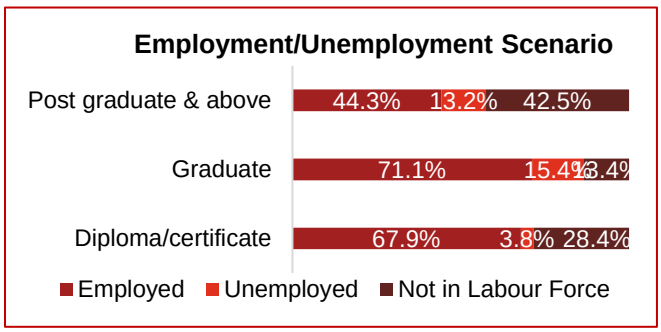
While overall labour force participation and worker population ratio are higher at the district level than at state, the same figures for youth (15-29 years) are lower. This could however be connected to the fact that youth may be in the education system. More than half of the workers in the district seem to be in casual labour, higher in proportion than at state level. Youth unemployment is comparatively high, at 14.4%.

Figure 9: Key Labour Market Indicators[12]



[11] Credit offtake is defined as an increase in credit growth, which happens when lenders mobilize funds to commercial sector in order to earn better returns compared to government bonds and securities.
[12] District Level Estimates, EUS, 2013-14, Labour Bureau

Figure 10: Distribution of working status by Educational Qualification



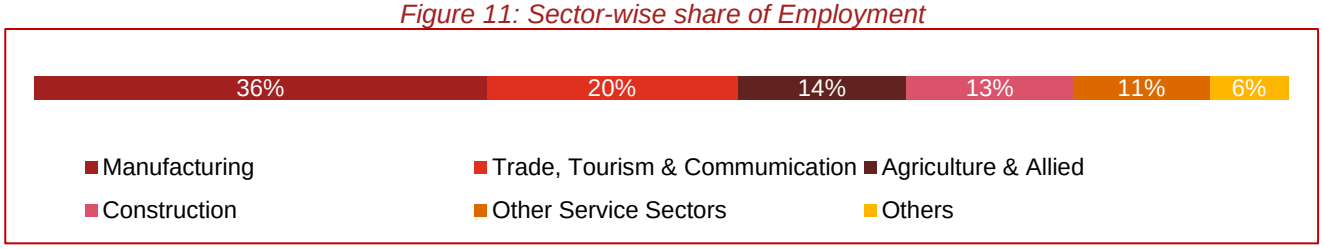
The education-level classification of the sample reveals that among graduates and post-graduates, the unemployment share is higher than 13%, while those with diploma/ certificate qualifications have a significantly lower share of unemployed. This could point to a lack of high-productivity jobs (only 17% of the sample in the district was in salaried jobs and 31% self-employed)[13].

Table 5: LFPR and Unemployment Rate by Sex & Location

	LFPR		Unemployment Rate	
Sex	Rural	Urban	Rural	Urban
Male	78.3%	81.6%	0.7%	1.3%
Female	54.1%	43.4%	4.5%	14%
Total	66.4%	63%	2.2%	5.6%

Disaggregation by area and sex, it is found that females have an rural labour force participation rate 10 percentage points higher than the urban counterpart. The urban unemployment rate for females is 10 percentage points higher than the rural figure[14]. Such a gap is not seen in the figures for males, indicating that urban women face a lack of employment opportunities. This requires further investigation.

Figure 11: Sector-wise share of Employment



More than one-third of the workforce in the district is employed in the manufacturing sector (Industry as a whole contributes to about 32% of GDDP). Trade, Tourism and Communication is the second most important sector in terms of employment followed by agriculture. More than one-tenth are employed in construction, and one-tenth in other service sectors.

A large share of the population is employed in manufacturing, and one-fifth in trade, tourism and communication. However, unemployment among those with college education is a concern.

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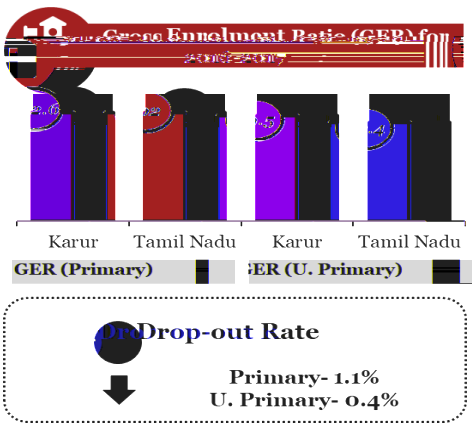
Due to its proximity to Tiruchirappalli district, residents from Karur have access to the major higher educational institutions in the former. Indicators related to education are presented below:

Figure 12: GER and Dropout Rates - DISE



[13] District Level Estimates, EUS, 2013-14, Labour Bureau

[14] District Level Estimates, EUS, 2013-14, Labour Bureau

The Gross Enrolment Ratio[15] at both Primary and Upper Primary are much higher than the state averages[16]. The ratio indicates that the number of students in the district outstrip the expected population in the age cohort by a significant margin. The drop-out rates are marginal at 1.1% at the primary level and 0.4% at the upper primary level.

Arts and science colleges are dominant in the district, and female enrolment in higher education institutions higher than the male counterpart, except in engineering and polytechnic colleges.

Table 6: Institutions of Higher Education in Karur District[17]

Type of Institution	No. of Institutions	Students			Pupil- Teacher Ratio
		Male	Female	Total	
Engineering Colleges	6	7,348	3,597	10,945	11.9
Medical Colleges	2	49	371	420	12
B.Ed. Colleges	7	151	610	761	8.5
Polytechnic Colleges	3	2,255	296	2,551	18.1
General Arts and Science Colleges	10	4,468	8,098	12,566	26.5
Industrial Training Institutes	6	NA	NA	1,257	NA

Source: District Statistical Profile

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The skill training infrastructure of the district include skill training centers implementing schemes like TNSDC, Pradhan Mantri Kaushal Vikas Yojana (PMKVY) and Deen Dayal Upadhyay Grameen Kaushal Yojana (DDU-GKY). Under the PMKVY scheme, one training institute offered courses on self-employed tailor. The below table presents an overview of the short-term skill development centres in the district.

Table 7: Vocational Training under Short Term Skill Development Programs

Scheme	Sector	Job Role	No. of Training Centres	Capacity
Pradhan Mantri Kaushal Vikas Yojana	Apparel	Self Employed Tailor	1	30
Tamil Nadu Skill Development Programs	Agriculture	Tractor operator	1	160
	Apparel	Tailor (Basic Sewing Operator)	3	480
		Surface Ornamentation Techniques	1	140
		Industrial Sewing Machine Operator	1	120
		Sewing Machine Operator	2	140
		Hand Embroider	2	90
		Assistant Fashion Designer	1	20
	Beauty and Wellness	Integrated Course in Hair, Skin and Make Up	1	70
	Gems and Jewellery	Foundation Course for Jewellery	1	100
	Healthcare	Dialysis Assistant	1	117
	IT/ITeS	DTP and Print Publishing Assistant	1	40
		Accounts Assistant using Tally	1	40
		Domestic Data entry Operator	1	20
	Mining	Welder	1	42
Deen-Dayal Upadhyay Grameen Kaushal Yojana	NA	NA	2	1,700

Source: Data collected from TNSDC, Tamil Nadu State Rural Livelihood Mission

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

[15] Total enrolment in elementary education, regardless of age, expressed as a percentage of the official age-group of the population which corresponds to the elementary education in a given school year. The GER shows the general level of participation per stage of school education.
[16] DISE 2016-17
[17] District Statistical Handbook, Govt. of Tamil Nadu

Table 8: Vocational Training under Long Term Skill Development Programs (ITI)

Sector	Job Role	Training Centres	Intake
IT/ ITeS	Desk Top Publishing Operator		

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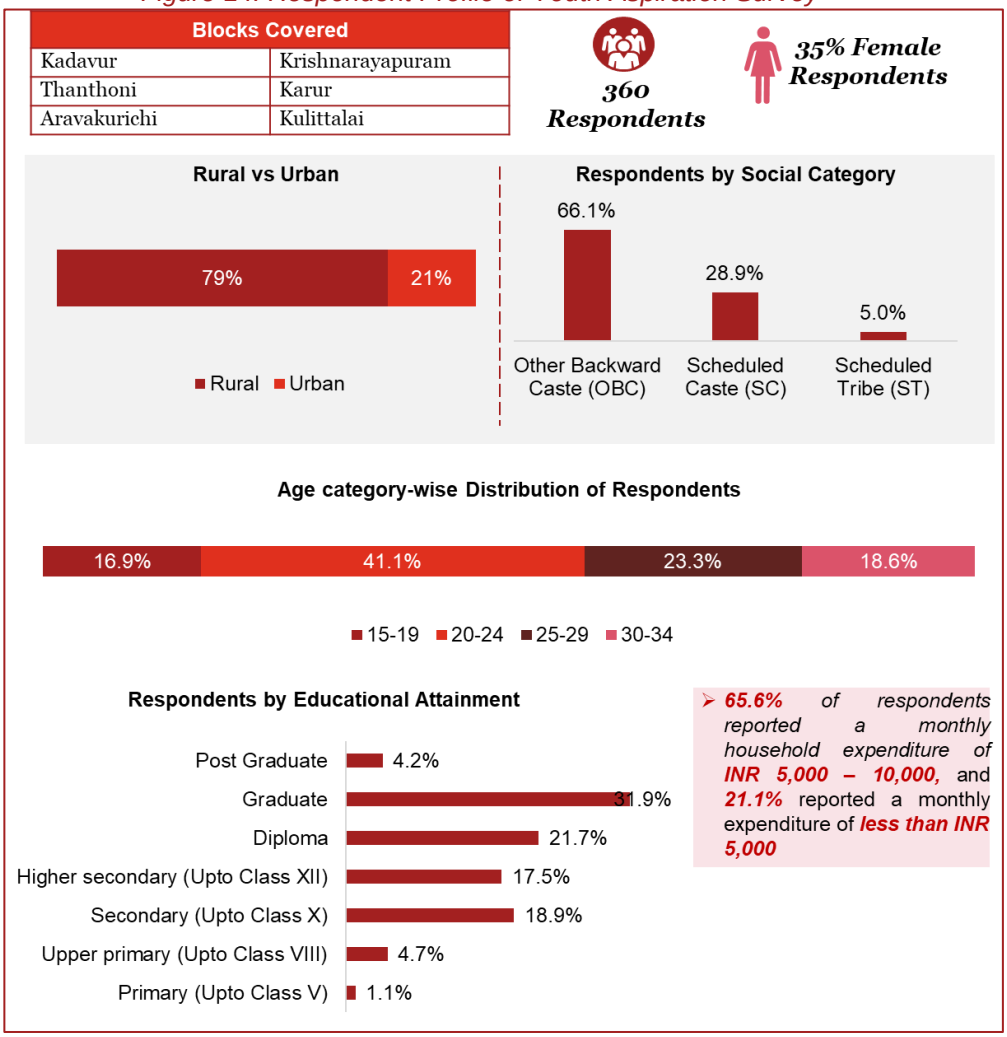
The structured household survey tool was administered with the 360 youth (young men and women in the age group of 15-34 years) from across six blocks. The below figure presents the respondent profile.

Figure 14: Respondent Profile of Youth Aspiration Survey



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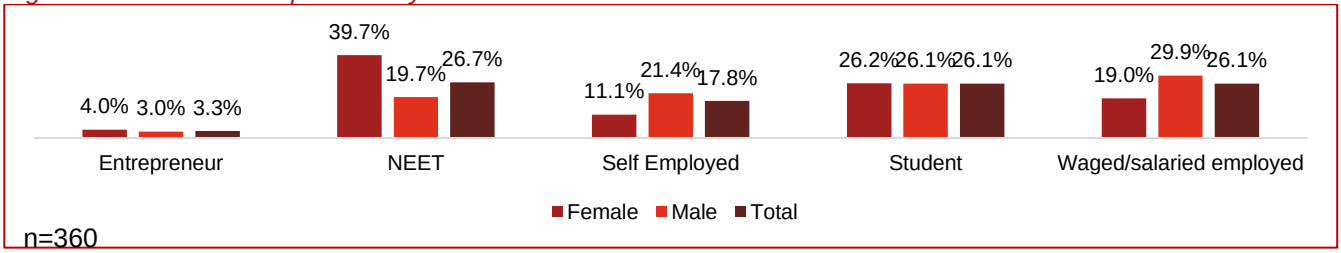
The figure below illustrates the gender wise classification (current status) of the respondents interviewed during the household survey. While the female respondents were predominantly falling in the NEET (62%) category, the male respondents were largely distributed between Wage / Salaried Employment (36%), and Self Employment Education. While more than half (53%) of the total male respondents were engaged in economic activity, around one-third (34%) of female respondents were engaged in economic activity.

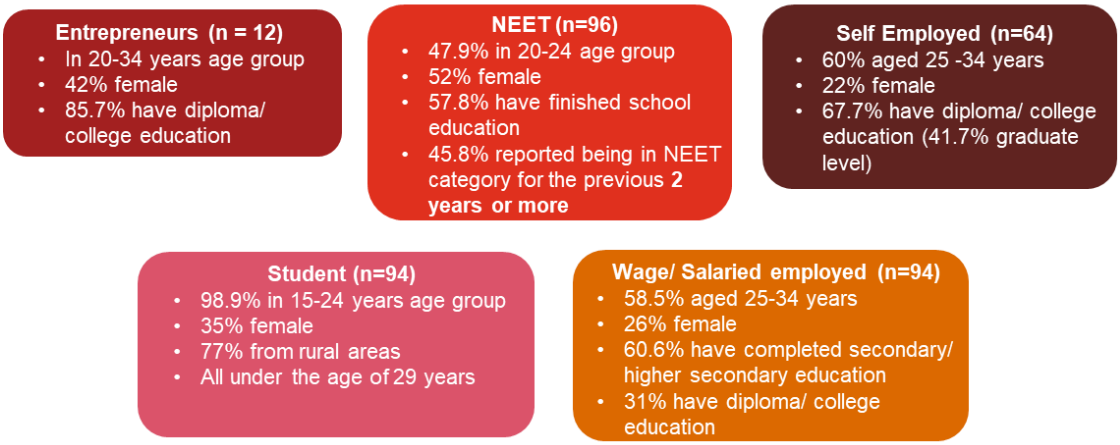
Figure 15: Status of Respondent by Sex



n=360

The below graphic presents the key findings based on the status of respondents.

Figure 16: Findings based on Respondent Status



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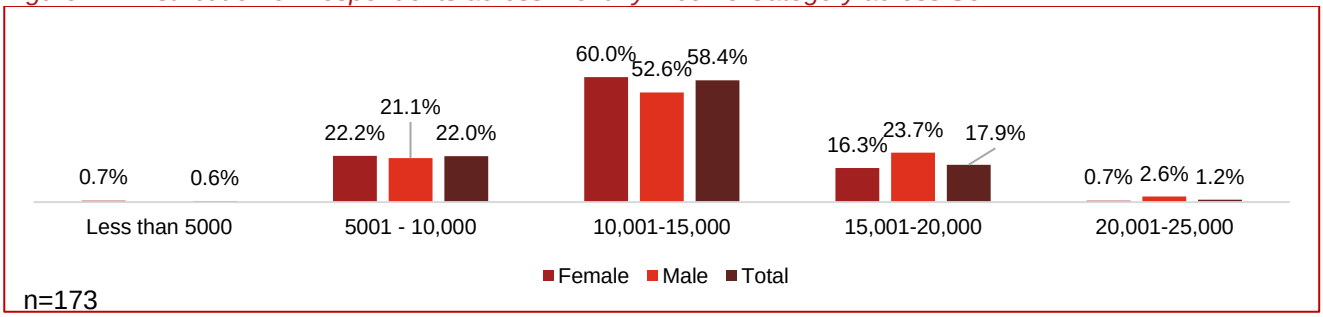
Around half of the respondents were currently engaged in work, and less than 2% had previously worked and were currently not working. Almost all the respondents stated that their work was related to their training. The median monthly income of those who ever engaged in economic activity was ₹12,377. While it was ₹10,313 among females, it was ₹12,765 among males. 47.5% of female respondents had earned a monthly income of ₹10,000 or lesser. The overall median income was higher than the state level (₹9,968). The males earned substantially higher than state levels (₹11,713).

Figure 17: Distribution of Respondents across Monthly Income Category across Sex



n=173

Table 9: Education Qualification of Respondents and Employment Type

Type of Employment	Upto Upper primary (Upto Class VIII)	Secondary (Upto Class X)	Higher secondary (Upto Class XII)	Diploma	Graduate and above	Total
Farm Activities	40%	37.5%	33.3%	28.6%	38.7%	60
Livestock	20%	28.6%	26.7%	31.4%	29.0%	47
Unskilled worker	0%	0%	0.0%	2.9%	3.2%	11
Salaried Employment (teacher, government official, etc.)	0%	0%	0.0%	2.9%	3.3%	4

Skilled worker (tailor, mason, electrician, plumber etc.)	20%	46.4%	53.3%	62.9%	38.7%	81
Unskilled work (MGNREGA, construction labour, mining , brick kiln, household, etc.)	13.3%	19.6%	13.3%	17.1%	16.1%	28
Petty Business/Trade/ Manufacturing	13.3%	3.6%	0%	5.7%	3.2%	8
Other	0%	0%	0%	2.9%	0%	1
Number of respondents	17	56	30	35	35	240

The majority of working respondents were in skilled worker category, followed by farm activities and livestock. The majority of college-educated respondents were engaged in salaried employment, skilled work, and farming activities and livestock. Notably, around a quarter of respondents with post-graduate education were in petty business/ trade/ manufacturing. None of the respondents had undergone vocational training previously.

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Almost 27% of the respondents were in Not in Education, Employment or Training (NEET) category. Within this category, 47.9% were in 20-24 age group and 52% were female. Around 57.8% had finished school education. While 45.8% reported bring in NEET category for the previous 2 years or more, none of the respondents stated that they wished to work. The below table presents the frequency of respondents by duration in NEET category. It can be seen that 22% of female respondents stated to have been in the category for 3-4 years, and 12% for more than five years. Around one-third of male respondents had been in the category for 6 months to a year.

Table 10: NEET Category Respondents

Duration in NEET Category (96)			
	Female	Male	Total
Less than 6 months	8%	15.2%	11.5%
6 months- 1 year	16%	32.6%	24%
1- 2 years	18%	19.6%	18.8%
2- 3 years	16%	21.7%	18.8%
3-4 years	22%	8.7%	15.6%
4-5 years	8%	0.0%	4.2%
More than 5 years	12%	2.2%	7.3%

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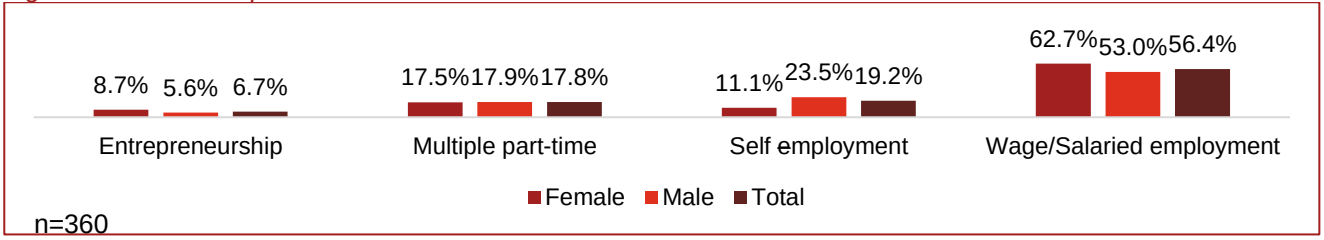
Youth aspirations for type of employment seems to skew towards waged/ salaried employment, with both male and female respondents showing this pattern.

Figure 18: Career Aspiration of Youth



The main factors determining the aspiration of the youth are Salary (wages)/ Income (92.5%), Job Security (46.1%) and Family Business (25%). About 84.7% of the youth (from respondents who are not students or NEET) feel they are largely prepared for requirements for a job, and 14.7% are moderately prepared for jobs. The reason commonly cited for feeling prepared is “Adequately Skilled with understanding of Job” (60%). Around 34.1% felt that they had “adequate academic qualification”. Findings related to factors, preparedness for ideal job and perception of availability of jobs are presented below.

Table 11: Career Aspiration - Factors, Preparedness and Availability of Jobs

Factor Determining Aspiration* (n=360)	Responses
Social Status	92.5%
Salary (wages) / Income	3.3%
Job Security	46.1%
Gender suitable role	2.2%
Flexible work arrangements (location, schedule)	6.9%
Safety / Security	1.4%
Traditionally Acquired Skills / Family Business	25.0%
Emigration Prospects	3.3%
Employer provided benefits and perks	0.6%

Perception of Preparedness for Job (n=170)	Responses
Largely Prepared	84.7%
Moderately Prepared	14.7%

Availability of Jobs (n=360)	Responses
Neither adequate nor inadequate	15.3%
Somewhat inadequate	55.3%
Very inadequate	29.4%

**For multiple choice questions, the responses add up to more than 100%*

Among the challenges which the youth see in pursuing their ideal careers, “lack of jobs locally” figures as the most cited challenge, followed by “pressure related to getting married”, “lack of technical/ vocational skills” and lack of support for girls being engaged in economic activity”.

Table 12: Career Aspiration – Challenges in pursuing desired career

Challenges (n=360)	Responses*	Challenges	Responses
Lack of family support / social acceptance of girls being engaged in economic activity	22.8%	Lack of work experience	8.9%
Pressure related to getting married	32.8%	Lack of jobs locally	65.3%
Lack of guidance / information on appropriate job available for skill levels	11.7%	Low financial strength	1.4%
Lack of sufficient education qualification	10.3%	Unsafe working environment	20.0%
Lack of technical / vocational skills	23.6%	No Challenge	4.4%

**For multiple choice questions, the responses add up to more than 100%*

The key factors determining their employability, according to the respondents were years of work experience and basic and soft skills. The responses are presented below:

Table 13: Key Requirements to enhance employability and steps to achieve aspirations

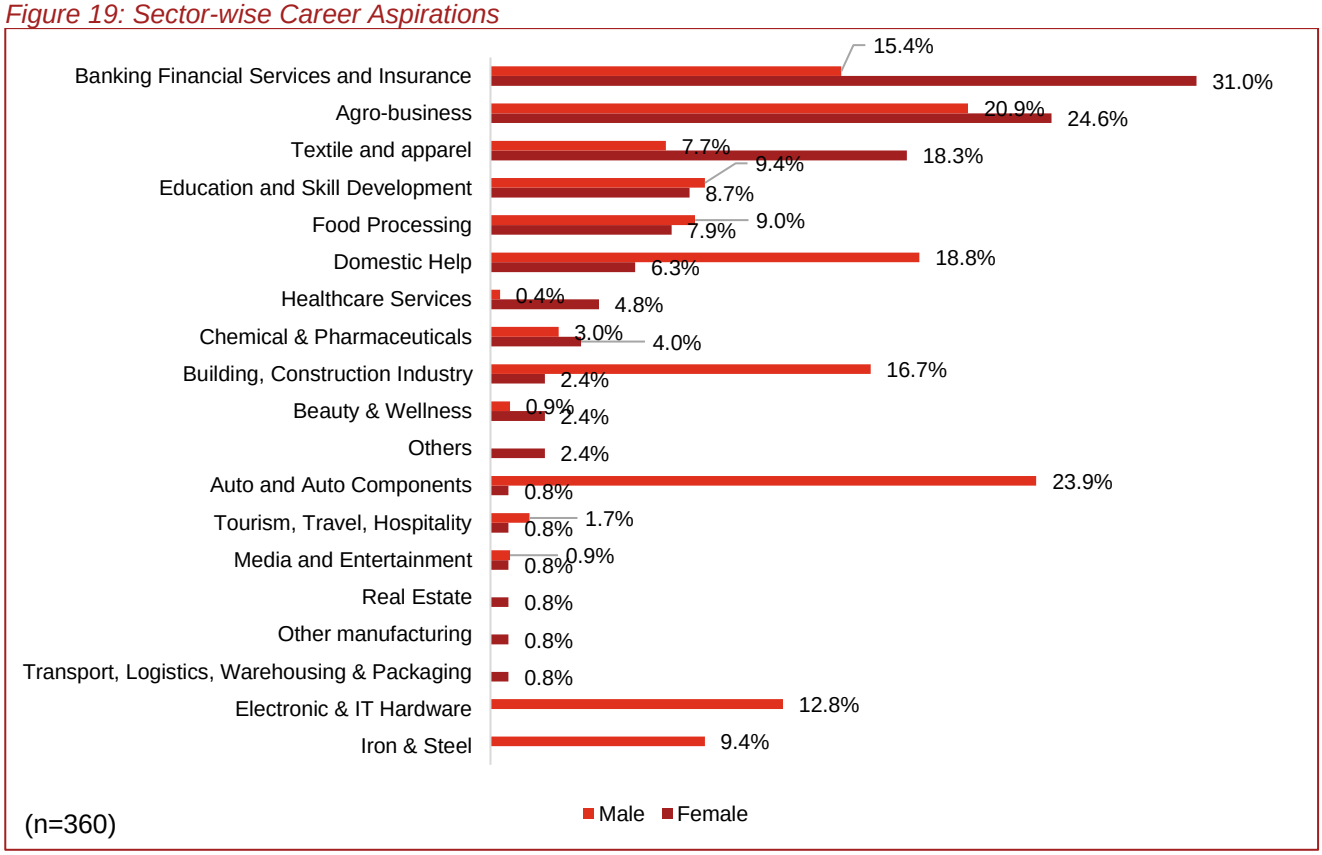
Key Requirements to ehnance employability (n=360)			
Requirements	Responses	Requirements	Responses
Basics and soft skills	14%	Performance in Interviews	1%
Certifications of Technical Skill	6%	Relevant work experience in similar position or field	0%
Education attainment (level of education)	6%	Years of Work Experience	73%
Institution of Education / Skill Training	0%		
Key Skills Required for desired job* (n=360)			
Team work	90.0%	Coordination Skills	9.7%
Clear communication	74.7%	Analytical thinking	7.8%
Leadership	52.8%	Creativity, originality and initiative	1.9%
Time management	45.8%	Attention to detail	1.1%

Active listening	12.8%		
New Steps to achieve aspirations*			
Vocational/ Skill Training	72%	Already Achieved	3%
Continuing Education	26%	Apprenticeship / Gathering Work Experience	13%

**For multiple-choice questions, the responses add up to more than 100%*

The agro-business sector is the most popular and aspired sector among the respondents with 22% youth preferring it. Other Sectors include BFSI, Auto and auto components and domestic help work. Around 70% of respondents indicated a preference for part-time training, and 80% in short-term courses (duration less than 6 months). The gender-wise responses reveal the following: female respondents cited BFSI, agro-business, textile and apparel and education and skill development. Male respondents cited auto and auto components, agro-business, BFSI and Building and Construction Industry.

Figure 19: Sector-wise Career Aspirations

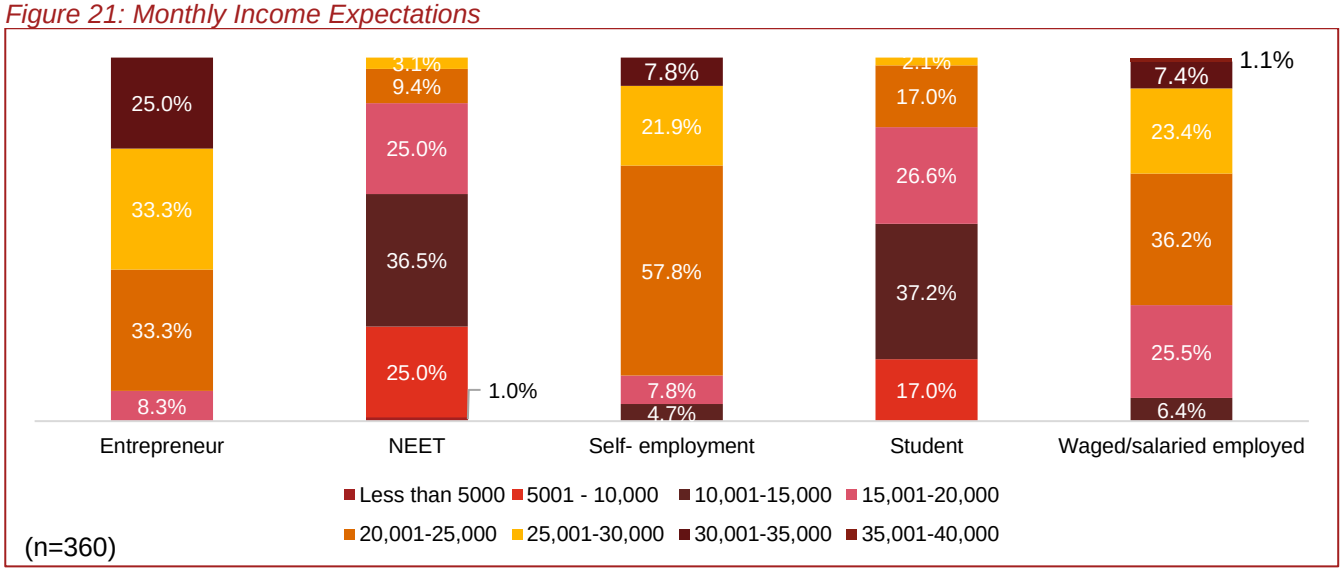


The below graphic presents the gender-wise preferred sectors.

Figure 20: Gender-wise Preferred Sectors

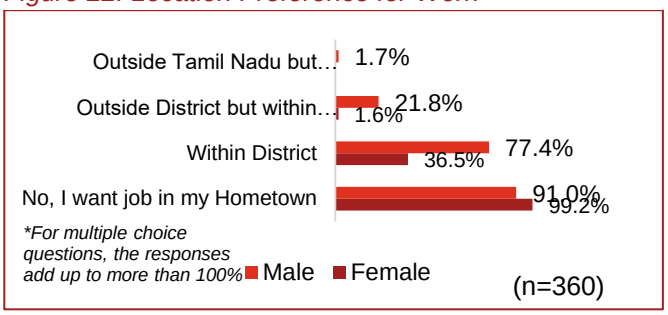
The median income expectation is around ₹15,380. Around 44.8% of the respondents have expectations of monthly income greater than 20,000. Disaggregation by respondent status shows that 58% of entrepreneurs aspire for a salary above INR 25,000, 74% of NEET respondents aspire for a salary above INR 10,000, 87.5% of self-employed respondents aspire for a salary above INR 20,000, 83% of students aspire for a salary above INR 10,000 and 68.1% of wage/ salary employed aspire for a salary above INR 20,000.

Figure 21: Monthly Income Expectations



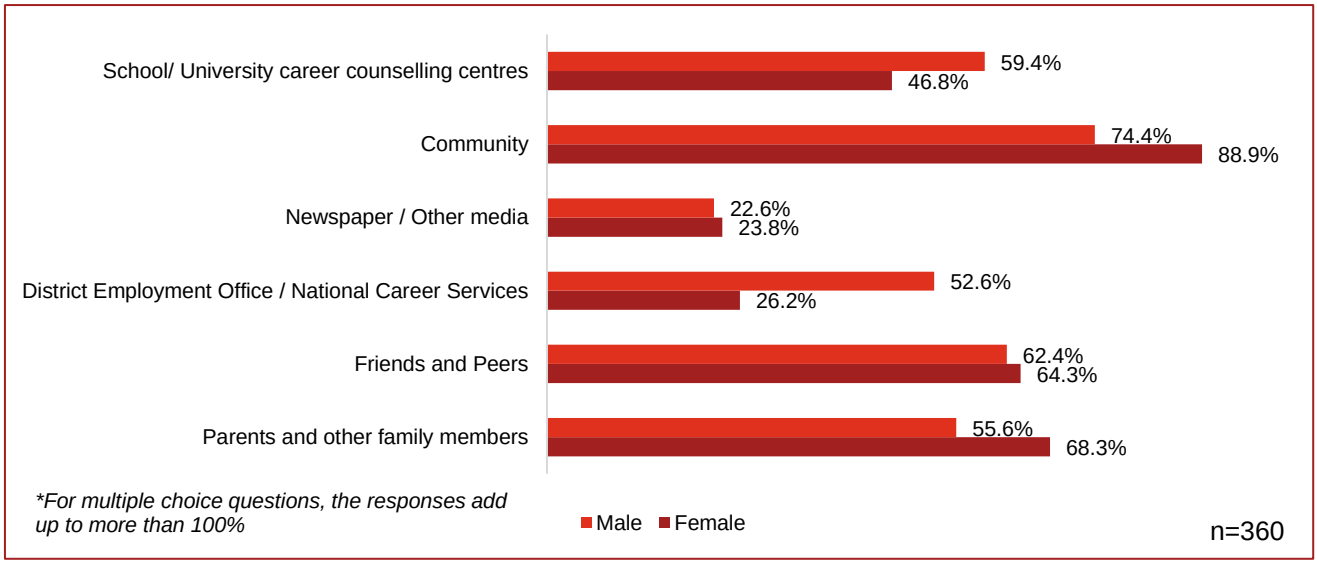
More than half of the respondents preferred a job within their hometown. Only 3.8% of the respondents were willing to migrate outside the district for work. Around 8.5% of respondents were willing to travel outside the district for employment. Female respondents mostly preferred jobs within their district, as did males.

*Figure 22: Location Preference for Work**



The most common source of job-related information cited by the respondents is the community (79.4%), followed by Friends and Peers (63.1%). Around 43.3% stated that they get job-related information from the District Employment Office/ National Career Services. The gender-disaggregated findings are presented below:

*Figure 23: Sources for Job Information**



Around 60% of female respondents and 54% of male respondents stated that counselling services were somewhat inadequate. More than a quarter of both male and female respondents stated that they were very inadequate. In terms of their expectations from counselling services, more than half wanted advice on how to look for jobs, and more than a quarter wanted guidance on applying for desirable jobs. More than a one-fifth wanted information on relevant vacancies.

Figure 24: Accessibility to Counselling Services

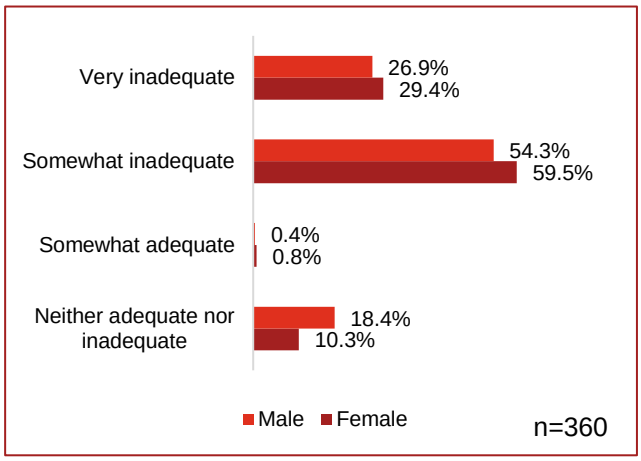
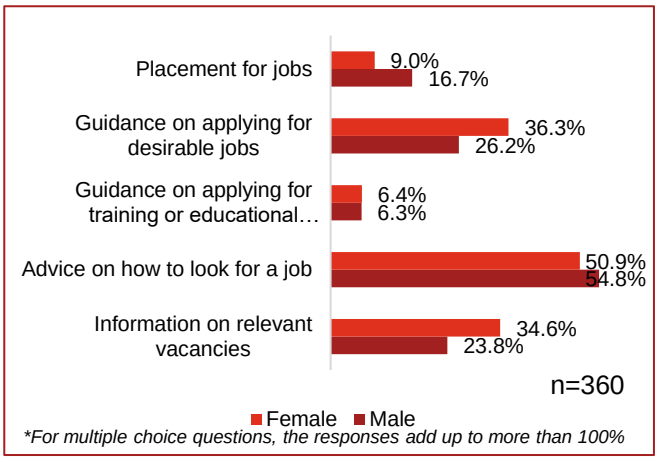


Figure 25: Preferences for Counselling Services



**For multiple choice questions, the responses add up to more than 100%*

Responses indicate that agro-business, BFSI, Auto Components, Domestic Help, Construction and Textiles are sectors, which youth aspire to work in. However, the findings indicate that counselling services are inadequate, and guidance on applying to suitable jobs needs to be given to youth.

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None of the respondents stated that they were aware of government-run training programs, and none had received previous training (n=360). Of those who had indicated interest in undergoing training for their ideal job (n=10), 80% preferred short-term courses of less than 6-month duration. Around 70% (n=10) preferred part-time training. With respect to importance of reputation of training provider, reputation of certifying body, quality of training, practical exposure, and internship/ apprenticeship quality, 80% of the respondents stated that these were important.

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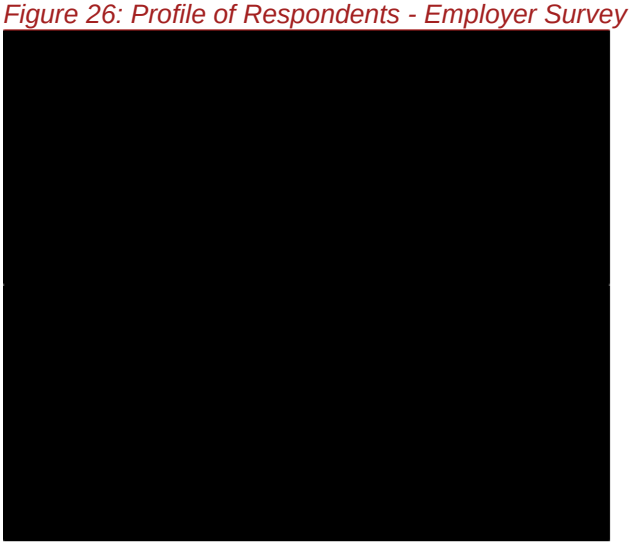
The quantitative employer survey covered 45 employers in various sectors. A focus group discussion was also conducted with industry representatives, associations, etc. to shed light on aspects such as demand, perception of skill level of local workforce, and challenges faced by industries. Around 91% of the employers were in manufacturing, and 42% in textile and apparel sector. Around half of the employers were micro-enterprises, and one-fifth large. The profile of respondents is presented below:

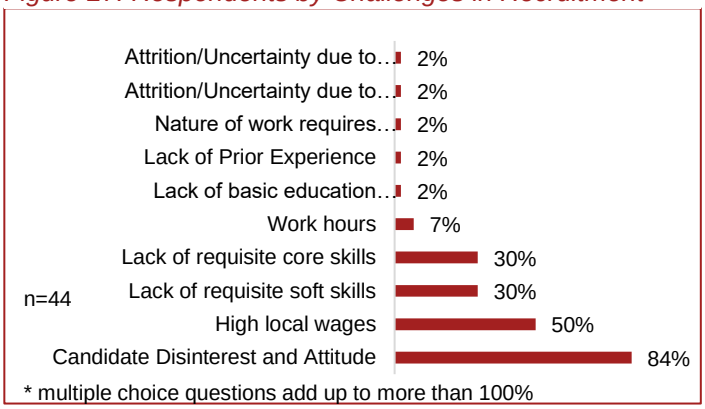
Figure 26: Profile of Respondents - Employer Survey



Sub-sector	Number of Units
Agro-business	1
Auto and Auto Components	2
Building, Construction, Painting Industry	1
Food Processing	1
Iron and Steel	5
Other Manufacturing	12
Textile and Apparel	19
Warehousing and Packaging	3
Others	1

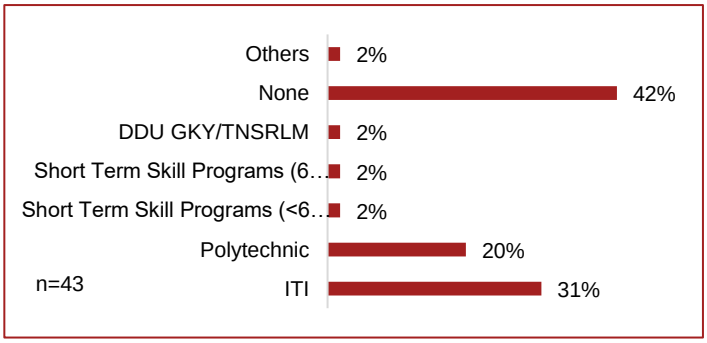
On average, the units had 23% of female employees in their workforce. Common methods of recruitment were found to be employee referrals (53%), manpower agencies (20%), campus recruitment in ITI/ Polytechnics (14%) and local community (6%). Very few respondents mentioned other methods such as job melas, employment exchanges, and recruitment in degree/ engineering colleges. Challenges with respect to recruitment include: candidate disinterest (84%), high local wages (50%) and lack of requisite core (30%) and soft skills (30%).

*Figure 27: Respondents by Challenges in Recruitment**



Questions on recruitment from skill training institutions yielded the following results: while 42% stated that they had not recruited from such institutions, 31% and 20% stated that they had recruited from ITI and Polytechnics respectively. Challenges with respect to such recruitment were thus: high attrition rate (34.9%), lack of quality resources (25.6%), lack of soft skills (20.9%) and lack of work experience (9.3%).

Figure 28: Respondents by Institutional Recruitment



With respect to organization of the workforce by skill level, 49% of workers on average in the units were skilled, 37% semi-skilled and 7% supervisory. On average, 63% of workers were contractual. Around 27% of workers were from outside the state (and 9% from outside the district).

Questions on attrition yielded the following findings: annual attrition rates for male and female workers were 5% and 2% respectively. Causes for attrition included better job opportunities (76%), low wages (47%), lack of interest (36%), inability to adjust to work environment (27%) and household responsibilities (22%).

With respect to growth prospects and adoption of technology, the following findings emerged: nearly 79% of respondents felt that growth prospects were medium or high, and 62% indicated interest in medium to high technology adoption.

Figure 29: Respondents by Skill Level of Workers

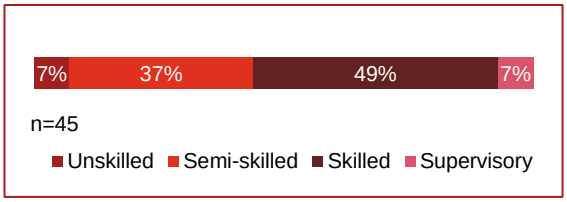


Table 14: Growth Prospects and prospective adoption of technology

Growth Prospects of Industry (n= 44)	%	Level of Technology adoption (n= 43)	%
High	38.6%	High	9.3%
Medium	40.9%	Medium	55.8%
Low	15.9%	Low	34.9%
Can't Say	4.5%		

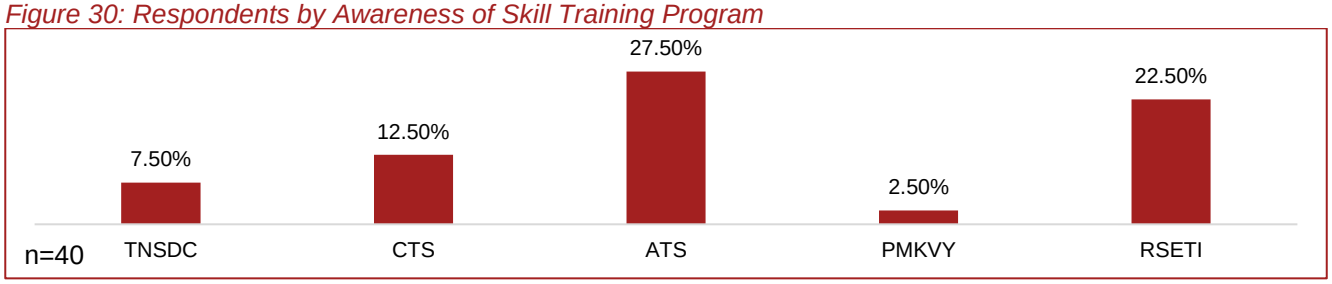
Questions on perception of future demand for workers yielded the following findings: 56% of respondents expressed medium to high demand for skilled workers, 15.5% for minimally skilled workers, and 4.8% for supervisory workers. Around 46% of respondents stated that they give training for their workers, and the below table presents the responses related to type of training:

Table 15: Demand for workers by Skill Level and type of training provided to workers

Demand for Workforce in next 5 years (n=42)				Training Provided for Skilled Workers (n=21)	
	Minimally Skilled	Skilled	Supervisory	Type of Training	%
High Demand	11.1%	18.2%	2.4%	Induction	47.6%
Medium Demand	4.4%	38.6%	2.4%	Domain Skills on recruitment	38.1%
Low Demand	53.3%	13.6%	28.6%	Up-skilling to meet technical needs	4.8%
None	31.1%	29.5%	66.7%	Others	9.5%

Questions on awareness of government-run skill training programs and possible partnerships yielded the following findings: 44.4% of respondents stated that they were interested in working with government agencies or private training providers to source relevant workforce. Awareness regarding skill development programs was as follows: almost 30% of respondents were aware of the Apprenticeship Training Scheme:

Figure 30: Respondents by Awareness of Skill Training Program



Responses indicate that there is medium to high demand for skilled labour perceived in the next five years. However, challenges faced in recruitment in general and from institutions need attention in order to improve the quality of the work force.

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Focus Group Discussion with Industry Representatives: A focus group discussion was conducted with nine stakeholders from various organizations in sectors such as mosquito net making, textiles, chemical processing, construction, plastics and auto components. The following were the major points of discussion:

Table 16: Focus Group Discussion - Key Points

S No	Topic	Findings
1.	Awareness of government skill training programs	Low level of awareness of such programs
2.	Quality of ITI/ Polytechnics/ Engineering colleges in the district	• Such training institutions do not emphasize practical application of knowledge • Students in government ITI tend to have low attendance and pass rates, which discourages employers from recruiting for apprenticeships/ placements • Students in private ITI tend to have better attendance and pass rates, but lack practical knowledge • Local institutions do not reach out to local firms for apprenticeships/ on the job training
3.	Candidate Attitudes/ Abilities	• Due to MNREGA program paying more than factory work, people tend to gravitate towards the former • A job-guarantee scheme program for industries would help local firms with facing labour shortages • Local youth do not prefer shop-floor roles, and tend to prefer white-collar jobs • Local youth also do not prefer to work in smaller firms, and want to migrate to Chennai • Candidate disinterest leads to attrition • However, women workers are more willing to work on the shop-floor, and have lower attrition rates (especially in textiles and mosquito net making) • Candidates recruited through job fairs also tend to aspire to desk-based jobs over shop-floor roles, while the latter has more demand • Machine repair and maintenance workers are also needed, for which supply is low
4.	Migrant workers	• Migrant workers are employed in unskilled/ semi-skilled jobroles • They work for lower pay, and are recruited through manpower agencies • Most workers are from Assam, Odisha and West Bengal • However, they leave after a year or two, and tend to go on holidays together
5.	Technological Transformation/ Automation	• Due to labour shortage, firms which can afford to automate their processes take the option • However, textile industry has a low level of automation, and relies on a mostly female workforce to function

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In-depth Interviews with other stakeholders were conducted, with the discussion points summarized below:

Representatives from Industry Associations and Major Employers: in the healthcare sector, fresh graduates from nursing colleges/ training institutions are not hired, as previous experience is taken as a proxy for ability. In manufacturing sectors, ITI/ Polytechnic graduates (not freshers) are hired in smaller numbers, and most of the workforce is unskilled and given training upon induction. In sectors like textiles, power loom and sewing machine operation require short-periods of training after which workers acquire skills. There is a growing scope for fashion designers, as a few garment-making units wish to make their own designs. In general, unskilled labour is required in large numbers, which migrants (from other states) help to address, and most market-linked skill development is in the form of on the job training. There is potential for printing, cement manufacturing and automobile components to grow into clusters.

Government Officials: While recruiters (in job fairs or vocational institutions) look for shop-floor workers, youth go for the below options:

- White-collar/ desk jobs
- Shop-floor jobs in Chennai/ Coimbatore for higher pay
- Entrepreneurship (among young women/ married women)

Trades like Welder, Fitter and Wireman have scope for placement. Candidates who register for job fairs are 8th-10th standard pass-outs, and tend to have high attrition rates. This could be due to such youth being from agricultural families, and wishing to go back to their traditional livelihoods during the farming season.

College/ ITI representatives: Due to a booming textile industry, youth (especially women) wish to find easy jobs as tailors in local factories. In the event that local employment is not satisfactory, youth move out (however, this is perceived as not being common). Recruiters in ITI hire youth for apprenticeships, but do not provide full-time employment. College recruiters are usually looking for teachers. In both types of institutions, female students tend to get married, and run home-based businesses after marriage.

Promotion of institute-industry linkages and entrepreneurship are essential to promote livelihoods, and better the local skilling eco-system, and to better understand the pace of automation and technological change.

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The district is witnessing a growing industrial sector. As per our methodology for estimating demand and supply, it can be seen that **Manufacturing, Agriculture-allied Activities, Education; Human health & Social Work Activities, Construction, Repair of computers and personal and household goods and Trade & Repair Services** show high levels of demand for both skilled and semi-skilled workers.

Table 17: Sector wise Incremental Demand for Skilled and Semi-skilled Workers between 2019 and 2025

Sector	Demand for Skilled Workers			Demand for Semi-skilled Workers			Total Demand
	2019-21	2022-25	Total	2019-21	2022-25	Total	
Agriculture-allied Activities	419	715	1,134	2,930	5,005	7,935	9,069
Mining and quarrying	72	108	179	120	179	299	478
Manufacturing	1,795	2,593	4,388	3,590	5,185	8,775	13,163
Construction	713	1,170	1,883	1,783	2,924	4,707	6,589
Trade & Repair Services	245	343	588	846	1,189	2,035	2,623
Hotels and restaurants	105	148	253	204	286	490	743
Transportation and storage;	87	118	205	209	284	493	698
Communication and services related to broadcasting	335	509	844	167	255	422	1,267
Real estate, ownership of dwelling and business services	129	193	322	322	483	806	1,128
Public Administration	87	120	207	69	96	166	373
Education; Human health & Social Work Activities	1,489	2,292	3,780	1,191	1,833	3,024	6,804
Arts, entertainment and recreation	220	326	545	176	260	436	982
Activities of membership organizations; Repair of computers and personal and household goods & Other personal service activities	737	1,091	1,828	590	873	1,463	3,291
Other Services	349	517	866	279	414	693	1,559
Total Demand	6,780	10,243	17,023	12,477	19,267	31,743	48,767
Total Supply	3,089	4,119	7,208	5,333	7,110	12,443	19,650
Skill Gap	3,691	6,124	9,816	7,144	12,157	19,301	29,116

[19] Incremental Demand Estimates the additional stock of workforce that are to be created given the expected Economic Conditions in the period of study. This may help in estimating requirement for fresh trainings.

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The below table presents the summary of training projects:

Table 18: Summary of Training Projects

S No	Sector	Trades	Target (Persons)	Budget (₹)
1.	Textile	• Printing Machine operator • Power Loom Operator • Packing Checker • Knotting Machine Operator	4,000	₹6.66 Crore
2.	Food Processing	• Soya beverage making technician • Spice Processing Technician • Food Microbiologist • Convenience Food Maker • Industrial Production Worker – Food Processing • Dairy Processing Equipment Operator • Cold Storage Technician	3,500	₹4.77 Crore
3.	Training in Iron and Steel and Coachwork	• Fitter & Maintenance Water Cooling • Fitter Electrical Assembly • House Keeping with Mechanised Equipment • Iron & Steel: Marker & Signage Painter • Assembly Line Machine Setter • Auto Body Technician Level 4	3,000	₹5.86 Crore
4.	Healthcare	• General Duty Assistant • Blood Bank Technician • Cardiac Care Technician • Diabetes Educator • Emergency Medical Technician - Basic • Medical Records & Health Information Technician	3,000	₹10.48 Crore
5.	Construction	• Foreman – Electrical Works (Construction) • Metal Inert Gas/Metal Active Gas/Gas Metal Arc Welder (MIG/MAG/GMAW) • Mason Marble, Granite and Stone • Foreman Wet Finishing and Flooring • Bar Bender and Steel Fixer • Assistant Electrician	1,800	₹5.94 Crore
6.	Logistics	• Warehouse Packer • Inventory Clerk • Warehouse Supervisor • Reach Truck Operator • Receiving Assistant • Warehouse Quality Checker • Loading Supervisor • Material Handling Equipment (MHE) Maintenance Technician • Goods Packaging Machine Operator	2,700	₹4.22 Crore
		Total Training Target and Training Costs	18,000	₹37.92 Crore

Note:

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

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

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

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

Table 19: Training Project 1

Name of the Project: Training in Textile Sector							
Key Economic Drivers: • The textile sector has potential to employ young women at reasonable salaries, and is already an aspirational sector • Employers indicate interest in skilling/ partnering with skill training programs to ensure a quality supply of labour • The local ITI runs courses related to Sewing Machine Operation, and can expand with help from government and private player collaborations							
Key Partners: ITI, Karur Handloom Export Cloth Manufacturers Association, Karur Weaving and Knitting Factory Owners' Association, Karur Textile Exporters Association							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training (hours)**	**Cost Category**	**Target Group**	**Training Target**	**Cost of Training**
Printing Machine operator	4	TSC/ Q5204	300	1	10th pass	1,000	₹1.65 Crores
Power Loom Operator	4	TSC/ Q2208	300	1	6th pass	1,000	₹1.65 Crores
Packing Checker	4	TSC/ Q0501	300	1	10th pass	1,000	₹1.65 Crores
Knotting Machine Operator	4	TSC/ Q2205	300	1	5th pass	1,000	₹1.65 Crores
					Total Training Cost	4,000	₹6.61 Crores
					Total Assessment and Certification cost (₹ 1,000 per candidate)		₹0.4 Crores
					Total Cost		₹7.01 Crores
Key Considerations: • Since the trainings will be focused on women, part-time and weekend training must be explored to allow women from different backgrounds to join • Financial incentives can be given to trainees from low income and rural backgrounds • Incubation can be given as an option for women who wish to set up their own businesses							

Table 20: Training Project 2

Name of the Project: Training in Food Processing Sector							
Key Economic Drivers: • Food processing is a major sector in the district, and has scope for growth due to increasing incomes, population growth and urbanization • Colleges can partner with industry and training providers to give certificate courses • Traditional food products like palm nectar and jiggery can be produced in streamlined processes							
Key Partners: ITI/ Degree colleges, engineering colleges, Agtech Chem Industries							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training (hours)**	**Cost Category**	**Target Group**	**Training Target**	**Cost of Training**
Soya beverage making technician	4	FIC/ Q8003	240	1	10th pass	500	₹0.66 Crores
Spice Processing Technician	4	FIC/ Q8502	240	1	10th pass	500	₹0.66 Crores
Food Microbiologist	6	FIC/ Q7603	240	3	Bachelor's Degree in Micro-biology	500	₹0.51 Crores
Convenience Food Maker	4	FIC/ Q8503	240	1	10th pass	500	₹0.66 Crores
Industrial Production Worker – Food Processing	2	FIC/ Q9005	240	1	5th pass	500	₹0.66 Crores
Dairy Processing Equipment Operator	4	FIC/Q2002	240	1	10th pass	500	₹0.66 Crores
Cold Storage Technician	4	FIC/Q7004	250	3	12th pass	500	₹0.54 Crores
					Total Training Cost	3,500	₹4.35 Crores
					Total Assessment and Certification cost (₹ 1,000 per candidate)		₹0.35 Crores
					Total Cost		₹4.7 Crores
Key Considerations: • Women in degree and engineering colleges can be targeted							

Table 21: Training Project 3

Name of the Project: Training in Iron and Steel and Coachwork Sectors							
Key Economic Drivers: • Iron and Steel and bus-body building are sectors with potential • Training youth to become workers and entrepreneurs can develop the sectors							
Key Partners: ITI, engineering colleges, Coach-building companies							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training (hours)**	**Cost Category**	**Target Group**	**Training Target**	**Cost of Training**
Fitter & Maintenance Water Cooling	4	ISC/Q0820	300	1	8th pass, 10th pass	500	₹0.83 Crores
Fitter Electrical Assembly	3	ISC/ Q1001	310	1	12th pass	500	₹0.85 Crores
House Keeping with Mechanised Equipment	2	ISC/ Q0408	300	1	12th pass	500	₹0.83 Crores
Iron & Steel: Marker & Signage Painter	3	ISC/ Q0913	380	1	12th pass	500	₹1.05 Crores
Assembly Line Machine Setter	6	ASC/ Q3603	450	1	12th pass	500	₹1.24 Crores
Auto Body Technician Level 4	4	ASC/ Q1405	400	1	12th pass	500	₹1.1 Crores
					Total Training Cost	3,000	₹5.89 Crores
					Total Assessment and Certification cost (₹ 1,000 per candidate)		₹0.3 Crores
					Total Cost		₹6.19 Crores
Key Considerations: • Private players can offer joint courses/ set up workshops in ITI and engineering colleges to offer skill training with market relevance							

Table 22: Training Project 4

Name of the Project: Training in Healthcare Sector							
Key Economic Drivers: • Karur is growing and urbanizing, and hence would require an expanded healthcare system • Healthcare sector has scope for young men and women, and career mobility as well							
Key Partners: Hospitals, Nursing Colleges							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training (hours)**	**Cost Category**	**Target Group**	**Training Target**	**Cost of Training**
General Duty Assistant	4	I/HSS/ Q5101	240	2	8th Pass	500	0.59 Crores
Blood Bank Technician	4	HSS/ Q2801	1,000	1	12th Pass	500	2.75 Crores
Cardiac Care Technician	4	HSS/ Q0101	840	1	12th Pass	500	2.31 Crores
Diabetes Educator	4	HSS/ Q8701	240	2	12th Pass	500	0.59 Crores
Emergency Medical Technician - Basic	4	HSS/ Q2301	240	1	12th Pass	500	0.66 Crores
Medical Records & Health Information Technician	4	HSS/ Q5501	600	1	12th Pass	500	1.65 Crores
					Total Training Cost	3,000	₹8.53 Crores
					Total Assessment and Certification cost (₹ 1,000 per candidate)		₹0.3 Crores
					Total Cost		₹8.83 Crores
Key Considerations: • Residential training and part-time training modes should be explored to allow women of all backgrounds to attend							

Table 23: Training Project 5

Name of the Project: Training in Construction Sector							
Key Economic Drivers:							
• The district's construction sector is a major contributor to GDDP, and shows potential for employment generation							
Key Partners: ITI, engineering colleges							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training (hours)**	**Cost Category**	**Target Group**	**Training Target**	**Cost of Training**
Foreman – Electrical Works (Construction)	5	I/CON/Q0604	900	1	10th Pass	300	₹1.48 Crores
Metal Inert Gas/Metal Active Gas/Gas Metal Arc Welder (MIG/MAG/ GMAW)	4	I/CSC/Q0209	600	1	10th Pass	300	₹0.99 Crores
Mason Marble, Granite and Stone	4	CON/Q0106	600	1	8th Pass	300	₹0.99 Crores
Foreman Wet Finishing and Flooring	5	CON/Q0109	800	1	10th Pass	300	₹1.32 Crores
Bar Bender and Steel Fixer	4	CON/Q0203	400	1	10th Pass	300	₹0.66 Crores
Assistant Electrician	3	CON/Q0602	400	1	10th Pass	300	₹0.66 Crores
					Total Training Cost	1,800	₹6.1 Crores
					Total Assessment and Certification cost (₹ 1,000 per candidate)		₹0.18 Crores
					Total Cost		₹6.28 Crores
Key Considerations: • The trainings should be inclusive of school drop-outs/ young men in NEET category • Trainings can be accompanied by stipends • Trainings can focus on sustainable practices							

Table 24: Training Project 6

Name of the Project: Training in Logistics Sector

Key Economic Drivers:

- Due to its expanding economy and trade, Karur will require more manpower in logistics, transportation and communications
- The sector is a major contributor to GDDP and has potential for growth and employment generation as per demand estimates
- The sector can accommodate semi-skilled labour

Key Partners: ITI, engineering and degree colleges, Tamil Nadu LPG Transport Owners' Association

Job Roles:	NSQF Level	NSQF Code	Duration of Training (hours)	Cost Category	Target Group	Training Target	Cost of Training
Warehouse Packer	3	LSC/Q2303	270	1	8th Pass	300	₹0.45 Crores
Inventory Clerk	3	LSC/Q2108	250	1	12th Pass	300	₹0.41 Crores
Warehouse Supervisor	5	LSC/Q2307	240	1	Diploma	300	₹0.4 Crores
Reach Truck Operator	4	LSC/Q2111	300	1	8th Pass	300	₹0.5 Crores
Receiving Assistant	3	LSC/Q2112	250	2	10th Pass	300	₹0.37 Crores
Warehouse Quality Checker	3	LSC/Q2313	300	3	10th Pass	300	₹0.39 Crores
Loading Supervisor	3	LSC/Q2314	270	2	10th Pass	300	₹0.4 Crores
Material Handling Equipment (MHE) Maintenance Technician	4	LSC/Q2315	280	1	10th Pass	300	₹0.46 Crores
Goods Packaging Machine Operator	4	LSC/Q2216	360	1	10th Pass	300	₹0.59 Crores
					Total Training Cost	2,700	3.96 Crores
					Total Assessment and Certification cost (₹ 1,000 per candidate)		₹0.27 Crores
					Total Cost		₹4.23 Crores

Key Considerations:

- The trainings can focus on young men from various backgrounds – school dropouts can also be included

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Strengthening the local Skilling Eco-system: In order to bridge the skill-mismatch between vocational training programs and industry demands, apprenticeship scheme must be popularized further, and priority given to local firms, so that they are able to recruit locally. Currently, government Industrial Training Institutes and Polytechnics produce about a hundred apprentices/ job seekers every year. However, more than 90% of them leave the district, with 10% going into self-employment (tailoring, browsing centres). The institutions also do not have the wherewithal to track such pass-outs. Government-support in terms of apprenticeship programs for local youth in local industries will help strengthen the skilling ecosystem. Fostering such linkages would help both manufacturers and services providers (healthcare, telecommunications, tourism and hospitality), along with vocational training institutions.

Development of a Quality Labour Force: The following initiatives can be taken:

- Migrant Support Centres can be set up, which help them with accommodation, workplace related challenges, and up-skilling/ re-skilling (qualitative consultations reveal that the textile sector has a significant proportion of migrant workers).
- Wage Subsidies/ provisions for living wage can be designed, so that the current workforce is able to work on the shop-floor without major attrition issues (qualitative consultations reveal that wage levels in sectors other than textiles are lower than the aspirations of local youth).
- Workplace benefits can be provided based on government support for creches for working mothers can also help mitigate attrition (qualitative consultations reveal that marriage and motherhood are impediments to the careers of women working in industries and services).

Promotion of Entrepreneurship and development of incubation facilities: Based on qualitative findings, young men and women wish to open their own businesses after a few years of work experience, in the areas of textiles (tailoring), food processing (pickle-making, bakery products, etc), bus-body work, and retail shops/ grocery shops. The youth aspiration survey reveals that 6.7% of respondents want to take up entrepreneurship and 19.2% want to take up self-employment. Promoting micro and small entrepreneurs, and self-employment will eventually improve the scope for wage employment as well.

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Sampling Design for Youth Survey

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

1. Students from educational and training institutions:

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

2. Household Level Survey:

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

3. Self – Employed Youth:

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

4. Employed in the informal sector:

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

Selection of Block

We conducted the survey in six blocks in Karur with the following stratification - two high performing, two moderate performing and two low performing industrial blocks. To ascertain and rank the blocks into the categories, a multi-faceted approach was undertaken which is outlined as follows. It is to be noted that the ranking of the blocks is on a relative basis that is, ranked with respect to the district and not on a generalized scale.

For categorizing the blocks into High, Medium and Low, we used four data points. We chose variables such as the Count of MSME Clusters, the Number of SIDCO Industrial Estates, the Number of SIPCOT Industrial Estates and finally the outstanding credit annual data from the Aggregate Deposit and Bank Credit of Scheduled Commercial Banks (SCBs) at Centre-Level.

Geographic Information System (GIS) was used to capture the Latitude and Longitude of the individual locations of the Centre (RBI Centre – Credit data), MSME Clusters, SIDCO and SIPCOT Industrial Estates. The same were mapped to the respective blocks by overlaying the locations onto the block map of Tamil Nadu. For enabling aggregation of data at block-level and mapping the location, the block-level map of Tamil Nadu was digitised using in-house GIS technologies.

a. RBI's centre level banking data

The RBI's quarterly release of centre level banking data reports the volume of credit and deposits, and the number of accounts and branches for every centre consisting more than at least three branches in for every centre across India. A centre, as per the definition of the RBI, is a self-governing revenue generating body such as a Municipal Corporation and Municipal Council. Given that banking data serves as a good indicator for the level of economic development in a block, these centres shall be mapped to their respective blocks and the aggregates of the centre level data for every bock shall be considered to determine the level of industrial performance.

b. DCMSME Reports

The Development Commissionerate of Micro Small and Medium Enterprises reports the industrial performance at the district level on a yearly basis. The DCMSME reports the prominent industrial clusters in these districts. The same was collected and mapped to the respective blocks in order to identify blocks with high industrial performance.

c. Cluster Observatory Data for Tamil Nadu

The Cluster Observatory run by the Foundation of MSME Clusters (FMC), Ministry of SSI reports the prominent industrial, MSME, Handicraft, Handloom and Service clusters for all the sates in India. The clusters reported for Tamil Nadu was used to identify the blocks with high industrial activity.

d. List of SIDCO and SIPCOT estates in Tamil Nadu

In addition to the same, the presence of an industrial estate and its years of operation serve as good indicators for the level of industrial activity of a block. Hence, the list of SIPCOT and SIDCO estates across Tamil Nadu was obtained and was mapped to their respective blocks. As for the individual scores for the variables such as the Count of MSME Clusters, 'Number of SIDCO Industrial Estates' and 'Number of SIPCOT Industrial Estates', the scores were awarded based on the aggregate number with each number carrying a score of 10, 10 and 100, respectively.

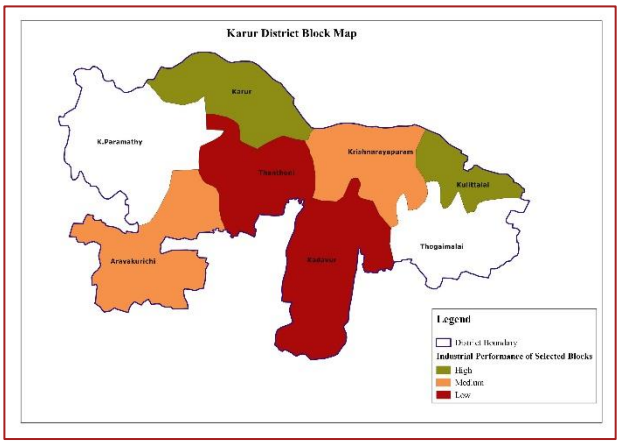
For 'credit data' variable, to accommodate regional differences, percentile calculation was employed at the district-level grouping. The final score of each block was arrived at by considering individual score weights. 25% weights was assigned to MSME and TANSIDCO clusters, 5% weights was assigned to SIPCOT industrial estate clusters and 45% weights was assigned to annual centre-level credit data post awarding of the scores. Based on the weights, the total score of each block was calculated. The total score was capped at 100.

The blocks were then categorized as High/Medium/Low, the total score was then converted into percentile values and was categorized into three groups – 0 to 33.33th percentile values for Low, 33.33 to 66.67 percentile value for Medium and 66.67 to 100 percentile values for High. The percentile values were calculated with respect to each district as the base, to accommodate for regional differences. These were triangulated using the Govt. of Tamil Nadu published list of backward blocks in each the district.

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 Karur.

- **Low – Kadavur, Thanthoni**
- **Medium – Aravakurichi, Krishnarayapuram**
- **High –Karur, Kulithalai**

Figure 31: Blocks Selected for Survey in Karur



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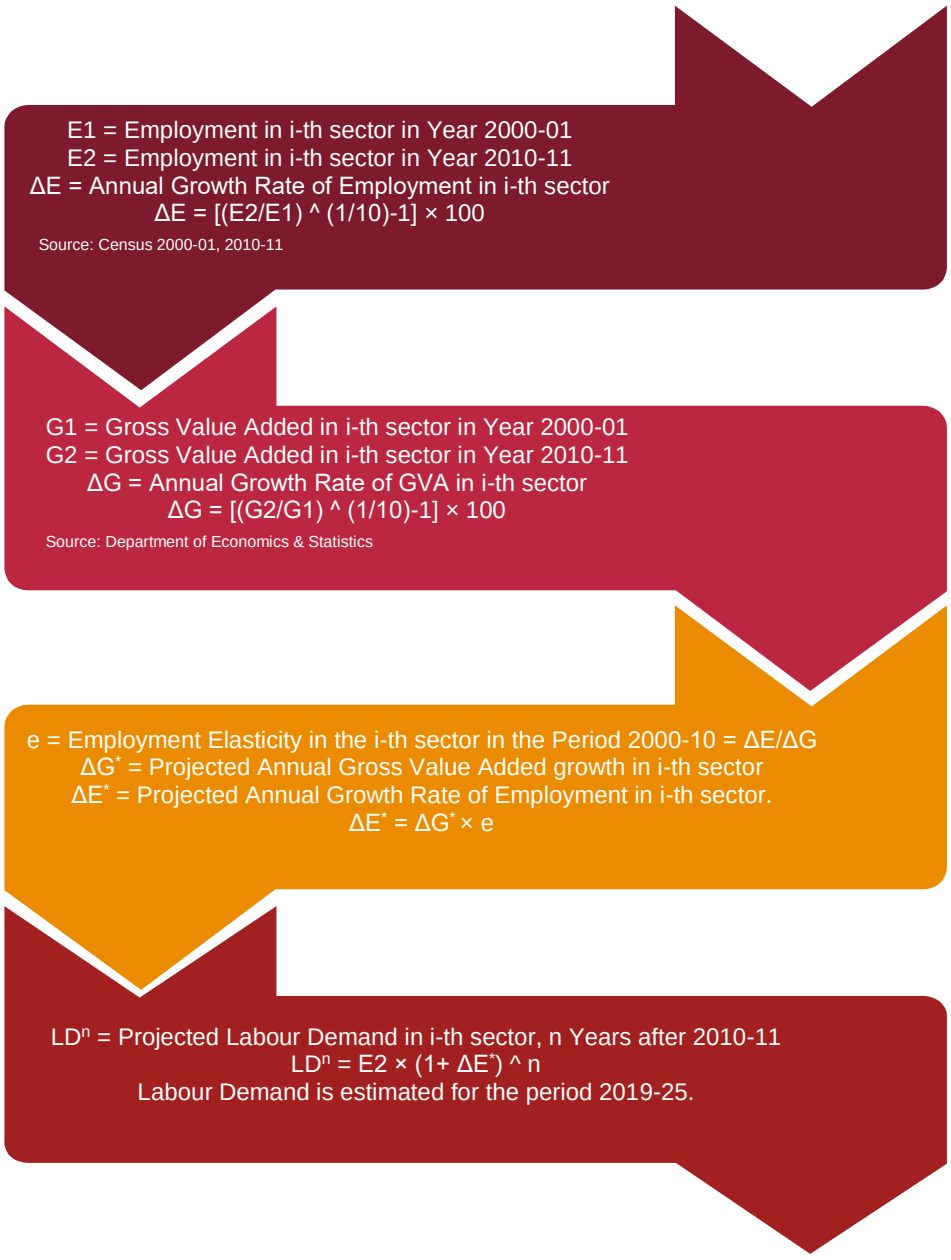
Demand Estimation

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:

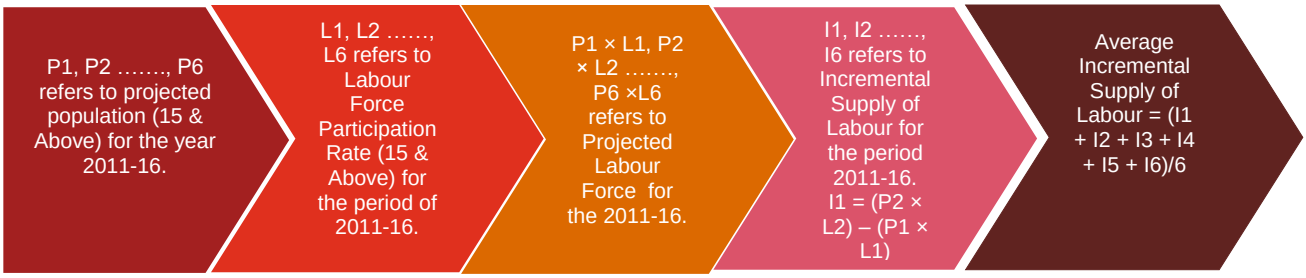
Figure 32: Steps in Demand Estimation



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[20]. 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 in Supply Estimation



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

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Table 25: List of Stakeholders

S No	Stakeholder	Category
1.	General Manager, District Industries Centre	Govt. Official
2.	District Employment Officer	Govt. Official
3.	District Manager, TAHDCO	Govt. Official
4.	Assistant Professor, Placement in-charge, Karur Government Arts College	Higher Education Institution
5.	Principal, TNPL ITI	Training Service Provider
6.	Assistant Professor, The Karur Polytechnic College	Training Service Provider
7.	Principal, Government Women's ITI	Training Service Provider
8.	President, Karur Handloom Export Cloth Manufacturers Association	Industry Association
9.	HR Manager, Atlas Export Enterprises Pvt Ltd/ Karur Textile Exporters Association	Industry Association
10.	President, Karur Weaving and Knitting Factory Owners' Association	Industry Association
11.	Director, Maaruti Coach Building Company	Industry
12.	Restaurant Captain, Hotel NTS Palace	Industry
13.	Ram Filments	Industry
14.	Anil Plastics	Industry
15.	Aaba Knittings	Industry
16.	Golden Knits	Industry
17.	A.S. Elangovan Enterprises	Industry
18.	Keerthika Inpax	Industry
19.	Pradeep Industrial Packers	Industry
20.	Peetee Coach Builders Pvt. Ltd	Industry
21.	Auro Packaging Industry	Industry
22.	Quality Filaments	Industry
23.	Vnc Steel	Industry
24.	Spm Wire Products	Industry
25.	Viji Mills	Industry
26.	Envee Bee Electrodes	Industry
27.	VNC Electrodes	Industry
28.	Cyclone Products	Industry
29.	Lakshmi Metal Finishers	Industry
30.	Meenahkshi Industries	Industry
31.	Rbg Ferrow Alloys Pvt Ltd	Industry
32.	Aravind Milkfoods Private Limited	Industry
33.	Sun Bleaching	Industry

34.	Nandhini Fabrics	Industry
35.	Manju Colors	Industry
36.	Manju Fabrics	Industry
37.	Kk Bleaching	Industry
38.	Aadhavan Textile	Industry
39.	Sri Hari Bus Body Builders	Industry
40.	Anand Engineering Works	Industry
41.	Amaravathi Textile	Industry
42.	Aparna Industries	Industry
43.	Manufacture Mosquito Net	Industry
44.	V.C.K Industries	Industry
45.	Ram Fabrics	Industry
46.	Tvr Coach Builders Private Limited	Industry
47.	Tiger Coach Builders Private Limited	Industry
48.	Royal Coach Builders	Industry
49.	Aauraa Home Fashion Private Limited	Industry
50.	Karur Home Textiles Consortium Pvt Ltd	Industry
51.	Astrum Home Textiles	Industry
52.	Smart Home Textiles	Industry
53.	Aauraa Home Fashion Pvt Ltd	Industry
54.	Shree Senthur Innovations	Industry
55.	Velan Engineering	Industry
56.	Sri Lakshmiraam Industries	Industry
57.	Anantaya Textiles	Industry