



Skilling for the Future

Skill Gap Assessment & Action Plan for Tamil Nadu

District Skill Development Plan for Sivaganga

November 2019



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Table of Contents

Executive Summary	11
1. District Profile	15
1.1. Demographic Profile.....	15
1.2. Economic Profile	16
1.2.1. Sector wise Analysis.....	17
1.2.2. Investments and key economic drivers	19
1.3. Labor Market Profile.....	20
1.4. Education and Skill Development Profile	21
1.4.1. Education Profile	21
1.4.2. Vocational Education and Skill Development Profile	21
2. Youth Perspective	25
2.1. Profile of Respondent Youth	25
2.2. Youths' Educational and Economic Engagement Status.....	25
2.3. Economic Engagement of Youth	26
2.4. Youth under NEET Category	27
2.5. Youth Career Aspirations	27
2.6. Skill Training Preferences of Youth.....	31
3. Employers' and Other Stakeholders' Perspective	33
3.1. Quantitative Employer Survey.....	33
3.2. Focus Group Discussion with Industry Representatives	34
3.3. Other Stakeholders' Perspectives.....	34
4. Skill Gap Analysis	37
4.1. Skill Gap Assessment - Incremental Demand for Skilled & Semi-skilled Manpower.....	37
5. District Skilling Action Plan and Recommendations	39
5.1. District Skilling Action Plan–Key Training Projects	39
5.2. Key Recommendations	48
Appendix	50
A.1 Methodology for Block Selection in Youth Aspiration Survey.....	50
A.2 Methodology for Present and Future Labour Demand – Supply and Gap Estimation	52
A.3 List of Stakeholders	53

List of Tables

Table 1: Key Demographic Indicators– Sivaganga vs Tamil Nadu	15
Table 2: Sector wise- Annual Growth Rate in Sivaganga	17
Table 3: Key Clusters and Traditional Industries.....	18
Table 4: Profile of Manufacturing Sector from ASI (2014-15)	18
Table 5: LFPR and Unemployment Rate by Sex & Location	20
Table 6: Elementary Education Profile - DISE.....	21
Table 7: Institutions of Higher Education in Karur District.....	21
Table 8: Vocational Training under Short Term Skill Development Programs.....	21
Table 9: Vocational Training under Long Term Skill Development Programs (ITI).....	22
Table 10: Education Qualification of Respondents and Employment Type	26
Table 11: NEET Category Respondents	27
Table 12: Career Aspiration - Factors, Preparedness and Availability of Jobs	28
Table 13: Career Aspiration – Challenges in pursuing desired career.....	28
Table 14: Key Requirements to enhance employability and steps to achieve aspirations (n=360).....	28
Table 15: Growth Prospects and prospective adoption of technology	34
Table 17: Focus Group Discussion - Key Points.....	34
Table 18: Sector wise Incremental Demand for Skilled and Semi-skilled Workers between 2019 and 2025.....	37
Table 19: Summary of Training Projects	39
Table 20: Training Project 1.....	41
Table 21: Training Project 2.....	42
Table 23: Training Project 3.....	43
Table 24: Training Project 4.....	44
Table 25: Training Project 5.....	45
Table 26: Training Project 6.....	46
Table 30: Training Project 7.....	47
Table 31: List of Stakeholders	53

List of Figures

Figure 1: Age-wise Population Pyramid of Sivaganga (2011 vs 2026)	15
Figure 2: Key Economic Indicators of Sivaganga District.....	16
Figure 3: Sectoral Share of GVA (2011-12 & 2016-17).....	17
Figure 4: Share of GVA by Industry of Origin (2016-2017)	17
Figure 5: GVA of Agri and Allied Sectors (2016-17).....	17
Figure 6: Industrial Sector GVA (2016-17)	18
Figure 7: GVA of Services Sector (2016-17)	19
Figure 8: Finished Flower Tile	19
Figure 9: Sector-wise growth of Credit off Take (2013-2016) - RBI	19
Figure 10: Key Labour Market Indicators	20
Figure 11: Distribution of working status by Educational Qualification.....	20
Figure 12: Sector-wise share of Employment.....	20
Figure 13: GER and Dropout Rates - DISE.....	21
Figure 14: Population Undergone Vocational Training.....	23
Figure 15: Respondent Profile of Youth Aspiration Survey	25
Figure 16: Status of Respondent by Sex.....	26
Figure 17: Findings based on Respondent Status	26
Figure 18: Distribution of Respondents across Monthly Income Category across Sex	26
Figure 19: Career Aspiration of Youth	27
Figure 20: Sector-wise Career Aspirations.....	29
Figure 21: Monthly Income Expectations	30
Figure 22: Location Preference for Work*	30
Figure 23: Sources for Job Information*	30
Figure 25: Preferences for Counselling Services	31
Figure 24: Accessibility to Counselling Services	31
Figure 26: Profile of Respondents - Employer Survey	33
Figure 27: Respondents by Challenges in Recruitment*.....	33
Figure 28: Respondents by Skill Level of Workers.....	33
Figure 30: Blocks Selected for Survey in Sivaganga	51
Figure 31: Steps in Demand Estimation	52
Figure 32: Steps in Supply Estimation.....	53

List of Abbreviations

S.No	Abbreviation	Expansion
1.	BFSI	Banking Financial Services and Insurance Sector
2.	CSIR-CECRI	Council of Scientific & Industrial Research-Central Electro-Chemical Research Institute
3.	DDU-GKY	Deen-Dayal Upadhyaya Grameen Kaushalya Yojana
4.	DES	Directorate of Economics and Statistics
5.	DIC	District Industries Centre
6.	DISE	District Information System for Education
7.	GDDP	Gross District Domestic Product
8.	GVA	Gross Value Added
9.	ITI	Industrial Training Institute
10.	IT-ITES	Information Technology and Information Technology Enabled Services
11.	KVIC	Khadi and Village Industries Commission
12.	LFPR	Labour Force Participation Rate
13.	Manuf.	Manufacturing
14.	MIS	Management Information System
15.	NCVT	National Council for Vocational Training
16.	NEET	Not in Employment, Education or Training
17.	NIC	National Industrial Classification (2008)
18.	NSDC	National Skill Development Corporation
19.	NSQF	National Skills Qualification Framework
20.	NULM	National Urban Livelihood Mission
21.	PMEGP	Prime Minister's Employment Generation Program
22.	PMKVY	Pradhan Mantri Kaushal Vikas Yojana
23.	PSU	Public Sector Undertaking
24.	Pub. Admin.	Public Administration
25.	QP-NOS	Qualification Pack – National Occupational Standards
26.	SIDCO	Tamil Nadu Small Industries Development Corporation Limited
27.	SIPCOT	State Industries Promotion Corporation of Tamil Nadu
28.	SIPPO	Small Industries Product Promotion Organization
29.	SSC	Sector Skill Council
30.	TANSTIA	Tamil Nadu Small and Tiny Industries Association
31.	TIDCO	Tamil Nadu Industrial Development Corporation
32.	TN-GIM	Tamil Nadu Global Investors Meet
33.	TNSDC	Tamil Nadu Skill Development Corporation
34.	TNSRLM	Tamil Nadu State Rural Livelihood Mission
35.	Tr. & Tou.	Trade and Tourism Sectors

Executive Summary

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

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 and the State as a whole. 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 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 the 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 360 youth respondents in the 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 Sivaganga were covered: Kalayarkoil, Kallal, Tiruppattur, Tirupuvanam, Devakottai and Manamadurai.
2. **Quantitative employer survey:** covering 45 employers with adequate representation from Large, Medium, Small and Micro Industries across the key sectors defining the district economy.
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. In all, more than twenty-five focus group discussions and nearly five hundred individual consultations have been conducted 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. 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: Key findings of the study are presented hereunder:

 <p>Demographic Analysis</p>	<ul style="list-style-type: none"> The district's median age was 29 years in 2011 and is expected to increase to 34.7 years in 2026. Around 31% of the district's population is urban. Sivaganga is well connected to other industrial centres such as Madurai and Tiruchirappalli
 <p>Economic Analysis</p>	<ul style="list-style-type: none"> Sivaganga is one of the less industrialized districts of the state and contributes to 1.06% of the state's GDP. It ranks 28th in terms of GDDP per Capita ₹0.76 Lakh (2017-18). Industrial sector grew at 3% CAGR between 2011-12 and 2016-17. The sector is dominated by the Manufacturing and Construction sub-sectors Textiles, food processing, plastics, and chemicals are some of the key industries in the district Services sector contributes to 64% of the GSDP. The sector grew at a CAGR of 4% between 2011-12 and 2016-17. Real estate contributes 28% to service sector GVA, followed by trade and repair services (26%) The district is known for its higher educational institutions, religious tourist sites and Chettinad architecture.
 <p>Labour Market Analysis</p>	<ul style="list-style-type: none"> The district's overall labour force participation and worker population ratio are lower than the state figures, and for the youth population (15-29 years). Around 44.7% of the labour in the district is in casual labour, which is slightly higher than the state level figure (44%).
 <p>Education & Skill Development</p>	<ul style="list-style-type: none"> 4.1% of the district's population have undergone vocational training. The Central Electro Chemical Research Institute, an apex training institution in the field of electro-chemicals, provides short-term training in battery production Alagappa University has set up a Skill Development Centre, offering training in fashion design and computer applications.
<p>Findings from Primary Survey</p>	
 <p>Youth Profile and Aspirations</p>	<ul style="list-style-type: none"> 82% of the youth respondents engaged in economic activity were working in a field related to their education / training More than 60% college-educated respondents were engaged in salaried employment, skilled work, petty and major business Almost 52% of the Not in Education Employment or Training (NEET) category respondents stated that they wished to work. Out of these, 75% stated that they had been searching for a job. Salary (wages)/ Income (89.2%), job security (82.5%) and social status (20.3%) are key factors determining aspirations Challenges faced in terms of career were "lack of jobs locally" figures as the most cited challenge, followed by "lack of sufficient qualification", "low financial strength", and "pressure related to getting married" Key factors determining employment were perceived to be years of work experience and basic and soft skills Female respondents cited textile and apparel, education and skill development, building and construction, and agro-business as preferred sectors of employment. Male respondents cited electronic and IT hardware, building and construction, other sectors, tourism and hospitality and auto and auto components as preferred sectors of employment. Around 40% of the respondents have expectations of monthly income more than ₹ 15,000. With respect to components in counselling programs, respondents stated preferences for information on relevant vacancies, placement services and placement in education programs
 <p>Employer & Other Key Stakeholder Perspectives</p>	<p>Quantitative Survey</p> <ul style="list-style-type: none"> Common methods of recruitment were found to be employee referrals, and advertisements in newspapers Candidate disinterest and attitude and high local wages were challenges faced by employers while recruiting workers

	<ul style="list-style-type: none"> • 52% of workers on average in the units were unskilled, 26% were skilled • Causes of attrition include: better job opportunities and candidate disinterest • All respondents felt that growth prospects for their industry were medium to high, and 66.7% indicated interest in medium-level technology adoption <p>Qualitative Inputs</p> <ul style="list-style-type: none"> • Youth in general aspire to join white-collar jobs, and graduates from ITI tend to migrate to Chennai and Coimbatore to work in large industries • Training Service Providers, District officials, and Industries highlighted the youth preference for employment in white-collar jobs, service sector and large units • Though industries are willing to partner with the Govt. in Skill Development and vocational initiatives, MSMEs felt that such programs should accommodate the needs of smaller units, since the district has a majority of MSMEs, and they are willing to offer training which is immediately relevant to their needs
 <p>Incremental Demand</p>	<ul style="list-style-type: none"> • An incremental demand of nearly 43,256 skilled and semi-skilled workers are estimated over the next 6 years • Key sub-sectors driving the demand are manufacturing, construction, education, human health and social work, and repair of household goods, and construction

Recommendations: Based on qualitative, quantitative and secondary information findings and inferences, the following recommendations have been identified for consideration:

- **A unified job portal for job postings at all levels of skill across sectors** – Both job-seekers and employers will benefit from a centralized, streamlined employment portal which accommodates listings from all sectors and skill levels. The need for the same has emerged as a finding from qualitative and quantitative aspects of the study.
- **Project-oriented apprenticeship/ internship programs** – Qualitative consultations revealed that employers prefer that students are exposed to problems/ challenges in the industry. An internship program which focuses on problem-solving to address challenges would allow students to gain practical exposure and employers to successfully harness the abilities of students.
- **Promotion of service sector** – tourism and domestic appliance services can absorb large numbers of workers.
- **Promotion of traditional village and household industries** – traditional and home-based businesses such as flower tiles, brass-lamp-making and handloom saris can be supported to ensure their sustainability. This will encourage entrepreneurship as well. Youth also show a preference for textiles (especially women).

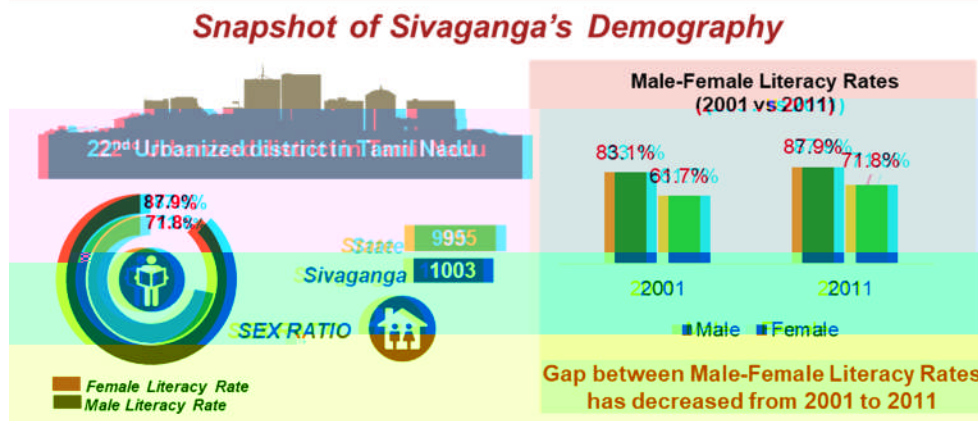
1. District Profile

Sivaganga was carved out of Ramanathapuram district in March 1984 and was part of the Kingdom of Ramanad. The Kingdom comprised the districts of Ramanathapuram, Sivagangai and Pudukottai, and was made into a 'zamindari' estate in 1806. After independence, the three territories became three separate districts. The district is known for the Chettinad culture and architecture. The population is predominantly agrarian¹.

1.1. Demographic Profile

Table 1: Key Demographic Indicators– Sivaganga vs Tamil Nadu²

SN	Indicator	Sivaganga	Tamil Nadu
1	Total population	13,39,101	7,21,47,030
2	Female Population	6,70,429	36,009,055
3	Population Density per sq.km (2011)	316	555
4	Urbanization	30.8%	48.4%
5	SC population (as % of total population)	17%	20.0%
6	ST population (as % of total population)	0.06%	1.1%
7	Differently abled population (as % of total population)	1.8%	1.6%
8	Population in age group 15-34 years (as % of total population)	33.8%	34.8%
9	SC population aged 15-34 years (as % of SC population)	35.1%	36.6%
10	ST population aged 15-34 years (as % of ST population)	33.7%	35.0%
11	Literacy rate	79.9%	80.3%



Key Highlights from the analysis of Census Data:

- **Population Growth:** The Decadal growth rate of the population in the district was **16.1%** between 2001 & 2011, compared to **15.6%** at state level. The urban population grew by 27.5% and the rural, 11.6%.
- **Literacy:** The district had a female literacy rate of 71.8% while the male literacy rate of 87.9%. The male literacy rate at the district level is higher than that of the state. The reducing gap between the male and female literacy rates indicates a higher level of education attainment among females in the district.
- **Youth Demography:** 33.8% of the population was between 15-34 years, in 2011, and the median age, 29 years. This is at par with 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 34.6.

Figure 1: Age-wise Population Pyramid of Sivaganga (2011 vs 2026)³

¹ DES- GoTN

² Census 2011 & 2011

³ Age wise Population projected for 2026 based on age group wise life expectancy, birth and death rates

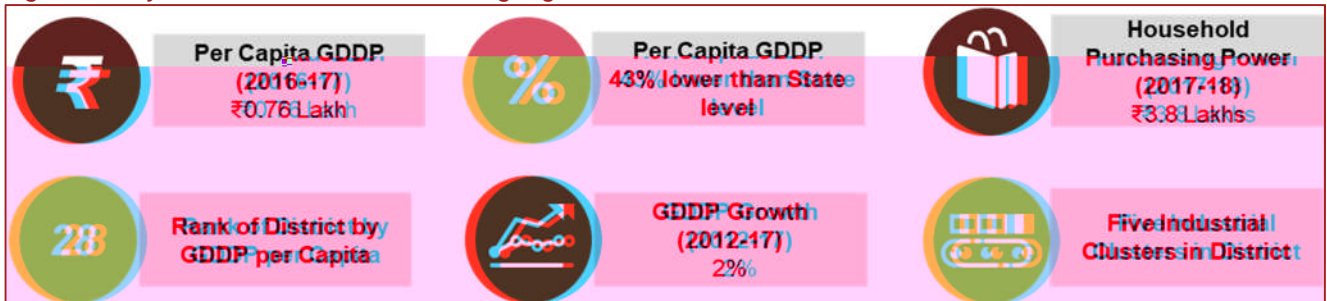


Sivaganga's population has a similar median age as the state. Less than one-third of the district is urban. It is a hub for religious and heritage tourism. Sivaganga enjoys proximity to Madurai and Tiruchirappalli, both of which are industrial, trade and tourist hubs.

1.2. Economic Profile

Sivaganga is one of the less industrialized districts of the state and contributes to 1.06% of the states GDP⁴. The district has graphite deposits, which are being mined by Tamil Nadu Minerals Limited⁵. The Sugar industries and solar power plants are present as well. The district has a per-capita GDP which is slightly lower than the state level⁶.

Figure 2: Key Economic Indicators of Sivaganga District



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

⁴ D0ES, GoTN

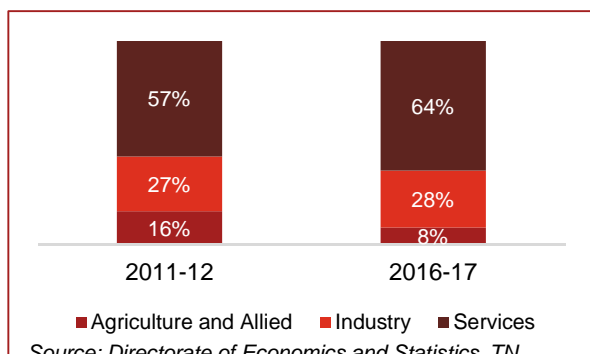
⁵ District Industries Profile, DC-MSME, 2015-16

⁶ PwC Analysis

⁷ Household Purchasing Power is calculated from the total purchasing power (disposable income after savings/ investments) of the district, divided by the projected number of households (savings/ investment data calculated from RBI database on savings). Data downloaded from districtmetrics.in, and calculated based on data from Reserve Bank of India, NSSO and Census of India, 2011. A strong correlation exists between the Per Capita GDP, the Banking Sector indicators (adjusted to population) and the consumption expenditure (disposable income) reported under NSSO at the national and state level. This relationship was further verified with data over several years. The state level purchasing power is then further broken down to the district level based on the district level banking data (savings and deposits) and the district level consumption estimates of the NSSO.

1.2.1. Sector wise Analysis

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



Sivaganga's GVA⁸ in the year 2016-17 shows that the service sector contributes the most (around two-third) to the district economy, followed by the industrial sector (which contributes slightly less than one-third). This is like the break-up of the state-level GVA. In both cases, the agriculture sector only contributes less than one-tenth of the total economy. In 2016-17, the district's share in the state GSDP was around 1.06%⁹. The economy has grown at a Compounded Annual Growth Rate (CAGR) of 2% between 2012-13 and 2016-17. The below table presents the annual growth rates and CAGR for each sector.

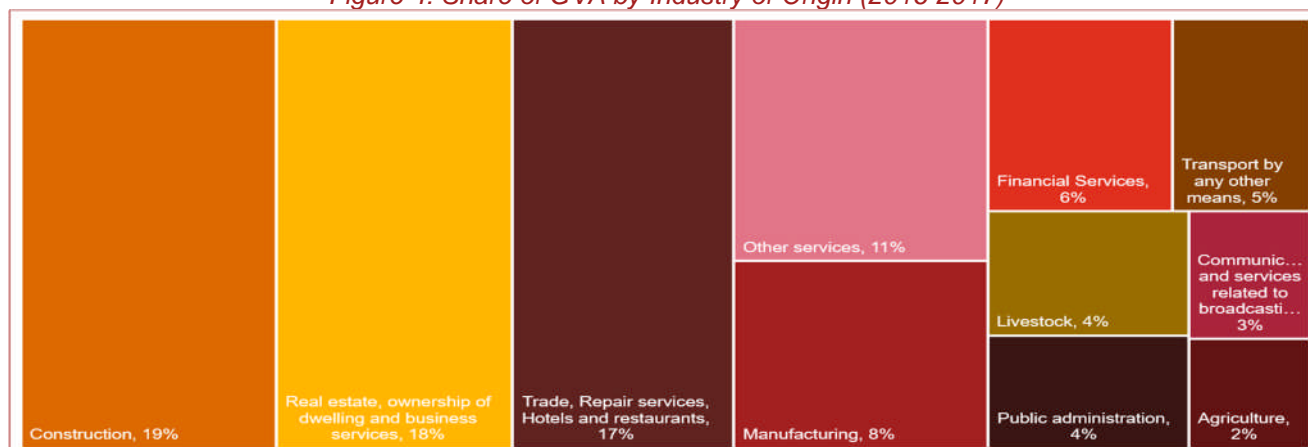
Table 2: Sector wise- Annual Growth Rate in Sivaganga

Sector	2012-13	2013-14	2014-15	2015-16	2016-17	CAGR between 2011-12 and 2016-17
Agri & Allied	-29%	-16%	39%	-7%	-25%	-9%
Industry	58%	-31%	-1%	9%	1%	3%
Services	6%	9%	4%	3%	4%	4%

Source: Directorate of Economics and Statistics, TN

Thirteen sub-sectors (out of twenty covered in the Annual Industry Survey) contribute to around 99% of the GVA. Construction and real estate are major contributors, followed by trade and repair, other services, manufacturing and financial services.

Figure 4: Share of GVA by Industry of Origin (2016-2017)

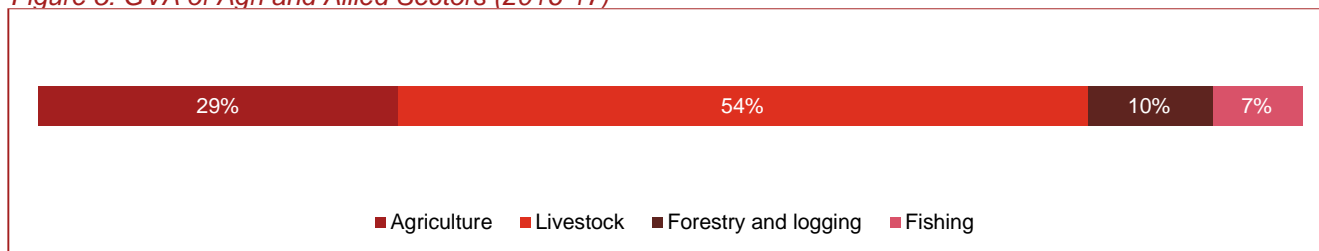


Source: Directorate of Economics and Statistics, TN

Agriculture and Allied Sector

The agriculture and allied sector contributes around 8% to the district's GVA. Agriculture in the district is dominated by livestock, cultivation and forestry. Major crops include: paddy, pulses, sugarcane, chilli, groundnut, millets and cotton.

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



⁸ Directorate of Statistics and Economics, Department of Planning, Government of Tamil Nadu

⁹ State Income, Directorate of Statistics and Economics, Department of Planning, Government of Tamil Nadu [http://www.tn.gov.in/dear/State%20Income.pdf]

Industrial Sector

Recent growth in the manufacturing sector (5% between 2011-12 and 2016-17) has enabled a growth of the Industrial sector 3% per annum over the last 5 years. The sector is dominated by the Manufacturing and Construction sub-sectors - they account for around 99% of the output. Textiles, food processing, rubber processing, chemicals and fertilizers are some of the key industries in the district.

Figure 6: Industrial Sector GVA (2016-17)

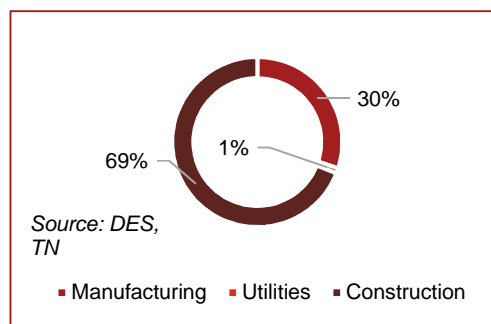


Table 3: Key Clusters and Traditional Industries

Engineering Fabrication Sivaganga	Electro-plating Pottapalayam	Coir processing Singampunari
Rice Milling Puduvayal and Pallathur	Jewellery Karaikudi	Flower Tiles Athangudi

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 GVA
Other chemical products	18	49	873	7%	46%
Grain mill products, starch products	56	22	1,226	10%	11%
Beverages	7	41	287	2%	10%
Spinning, weaving and finishing of textiles	33	107	3,516	30%	9%
Non-metallic mineral products n.e.c.	78	29	2,234	19%	7%
Transport equipment n.e.c.	12	54	644	6%	4%
Furniture	5	155	773	7%	3%
Plastics products	12	21	255	2%	2%
Other textiles	5	41	205	2%	2%
Other food products	4	186	745	6%	2%
Dairy products	7	49	345	3%	2%
Paper and paper products	6	41	243	2%	2%
Total (all sectors)	259	45	11,691	100%	100%

Source: Annual Survey of Industries 2014-15

An analysis of data from Annual Survey of Industries (2014-15)¹⁰ shows that twelve sub-sectors contribute 98% of the Gross Value Addition (GVA) in the industrial activity of the district. Chemical products, grain mill products, beverages and textiles are dominant industries.

Existing Industrial Estates

- SIDCO Estate, Karaikudi
- SIDCO Estate, Sivaganga
- SIDCO Estate, Kirungakottai
- SIPCOT Estate, Manamadurai

¹⁰ Government of TN

Services Sector

Real Estate contributes around 28% of the Service sector GVA, followed by trade and repair services. Other sectors of note include Other financial services, transport and public administration.

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



Source: Directorate of Economics and Statistics, TN

Traditional Sector

Athangudi Tiles – Athangudi and surrounding villages

The Athangudi Tile, also known as Chettinadu Flower Tile, is made from the soil in the Chettinadu region (spanning several villages and towns in Sivagangai and Pudukottai districts). The tiles are made with floral designs by hand. Currently the tiles find markets across the country. Qualitative consultations reveal that there is potential for export to foreign countries – but logistics require the tiles to be lighter, which may compromise the structure.

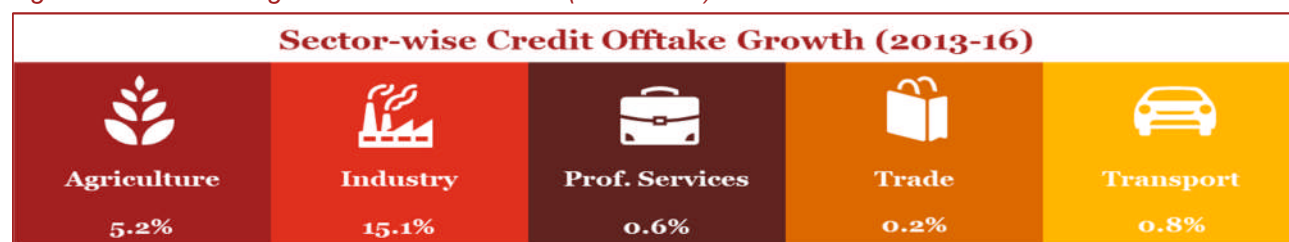
Tile production in the region is undertaken by around 24 companies employing 300 families. The labour force is above the age of 40, and as with other village industries, the younger generation is moving away from the sector due to low wages. However, there is potential for entrepreneurship, provided bigger markets are identified.

Figure 8: Finished Flower Tile



1.2.2. Investments and Key Economic Drivers

Figure 9: Sector-wise growth of Credit off Take (2013-2016) - RBI



According to the data collected from the RBI, the District has seen recent growth in credit especially industry, agriculture, transport, and trade¹¹. The National Highways Authority has announced the Thanjavur-Karaikudi via Pudukottai Four Lane Road Project as part of Thanjavur-Madurai Greenfield Project. Alagappa University, Karaikudi has announced several projects, including the Tamil Nadu Rural Informatics Centre (RICE) Project, and construction of hostels¹². MM Forgings, an auto components manufacturer, has plans to set up a unit in the district at an investment of ₹ 511 Crore¹³.

Construction and manufacturing sectors have investment potential.

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. Data collected from districtmetrics.in

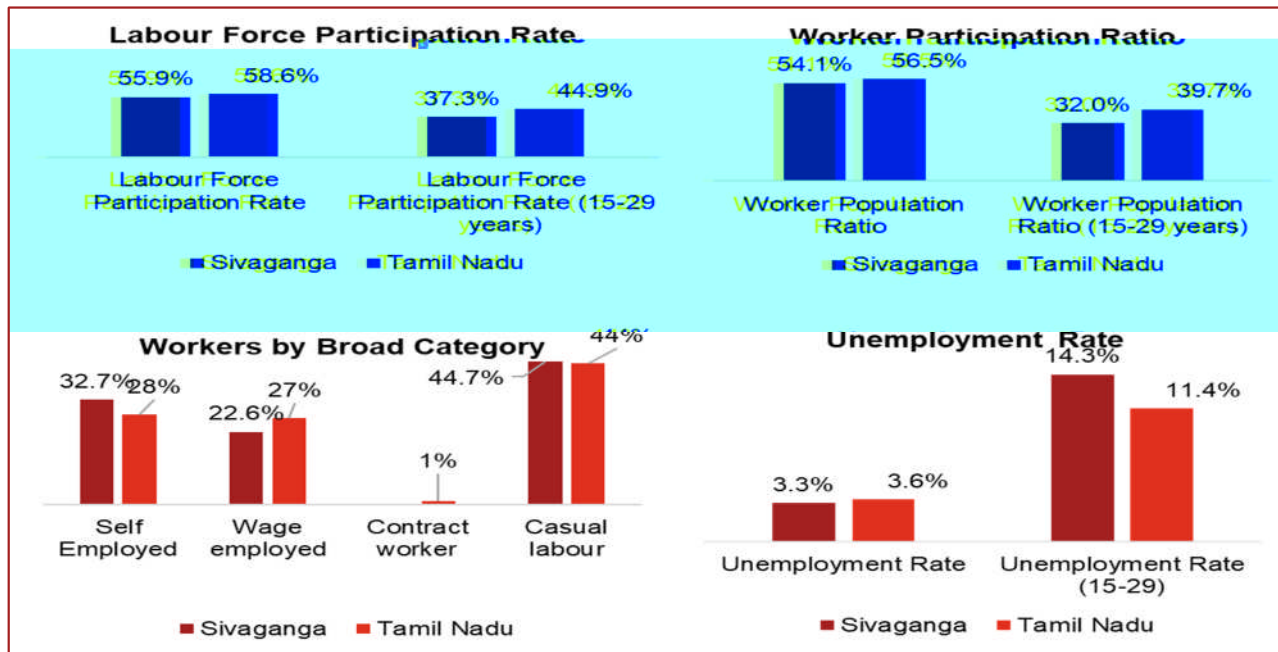
¹² Data downloaded from CMIE's CapEx database

¹³ <https://timesofindia.indiatimes.com/city/chennai/tn-cabinet-okays-rs-1352cr-investment-proposals/articleshow/69934335.cms>

1.3. Labor Market Profile

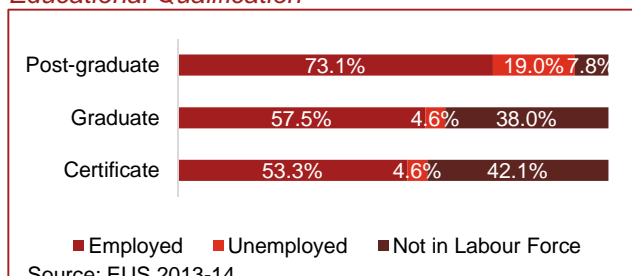
The district's overall labour force participation rate and worker population ratio are lower than the state figures, and for the youth population (15-29 years). This could however be connected to the fact that youth may be in the education system. Almost half of the workers in the district seem to be in casual labour, marginally higher in proportion than at state level. Youth unemployment is at par with the state level, at 14.3%.

Figure 10: Key Labour Market Indicators¹⁴



Source: Employment and Unemployment Survey District Estimates, 2013-14

Figure 11: Distribution of Working Status by Educational Qualification



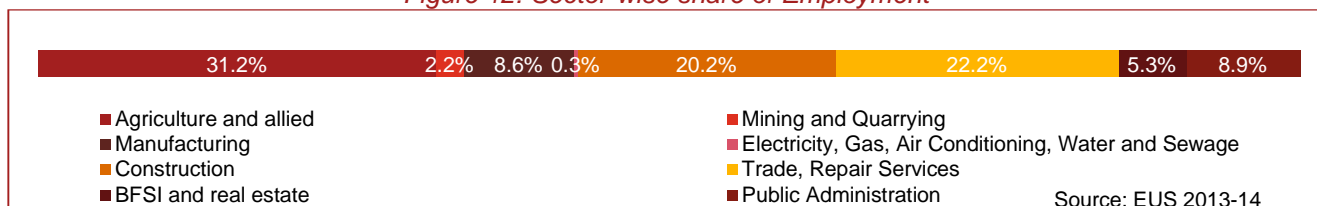
The education-level classification of labour market indicators suggests that among post-graduates, the unemployment share is almost 20%, while certificate-holders and graduates have a significantly lower share of unemployed (4.6% each). Possible reasons could be a lack of high skilled jobs, high salary expectations, and lack of employable skills among post-graduates.

Table 5: LFPR and Unemployment Rate by Sex & Location

Sex	LFPR		Unemployment Rate	
	Rural	Urban	Rural	Urban
Male	76.8%	83.6%	2.3%	3.9%
Female	36.6%	29.7%	3.6%	7.6%
Total	57%	53.1%	2.7%	5.1%

Disaggregation by area and sex, it is found that females have a rural labour force participation rate about 7 percentage points higher than the urban counterpart. The urban unemployment rate for females is almost twice as high as the rural counterpart.

Figure 12: Sector-wise share of Employment



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

Around 31% of the labour force is in the agriculture and allied sector, followed by 22% in trade and repair services. Around 20% are engaged in construction, and 9% in public administration.

A large share of the population is employed in agriculture, and trade. A significant share is employed in construction. Unemployment among those with post-graduate education is a concern.

1.4. Education and Skill Development Profile

1.4.1. Education Profile

Sivaganga is known for the Alagappa University in Karaikudi, a major state university. In addition, the degree and engineering colleges in the district get an influx of students from other districts and states. Indicators related to education are presented below:

Table 6: Elementary Education Profile - DISE

Particulars	Number
Schools in 2017	1,597
Pub. Schools	1,123
Pvt. Schools	474
Enrolment in 2017	1,70,452
Enrolment in Public Schools	72,672
Enrolment in Private Schools	97,780

Source: DISE 2016-17

The Gross Enrolment Ratio¹⁵ at both Primary and Upper Primary are much higher than the state averages. The ratio indicates that the number of students in the district outstrip the expected population in the age cohort by a significant margin. The dropout rate is zero at the primary level and 1.2% at the upper primary level.

Engineering and teacher training colleges are dominant in the district. The below table presents the number, enrolment and pupil teacher ratio for higher education institutions in the state.

Table 7: Institutions of Higher Education in Karur District¹⁶

Type of Institution	No. of Institutions	Students			Pupil- Teacher Ratio
		Male	Female	Total	
University	2	7556	9501	17057	51
General Arts and Sciences College	18	5402	17050	22449	919
Engineering College	9	6794	3608	10402	1078
Medical College	1	256	293	549	173
Agricultural College	1	42	79	121	18
Hotel Management Institute	1	98	1	99	17
College of Nursing	3	2	346	348	38
Industrial Training Institute	13	1096	120	1216	100

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

1.4.2. Vocational Education and Skill Development Profile

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

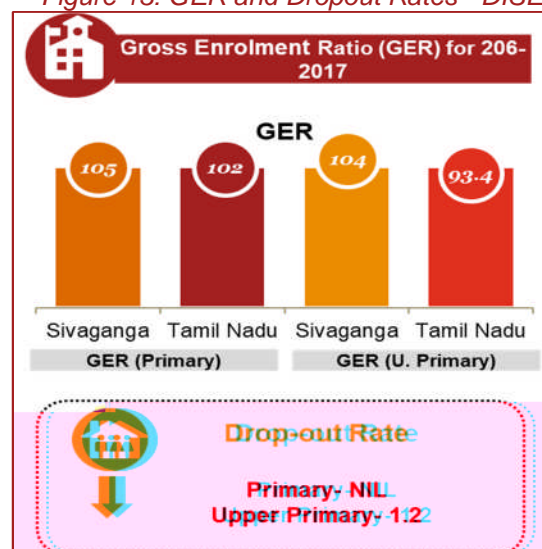
Table 8: Vocational Training under Short Term Skill Development Programs

Scheme	Sector	Job Role	No. of Training Centres	Capacity/ Trained
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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 District Statistical Handbook, Govt. of Tamil Nadu

Figure 13: GER and Dropout Rates - DISE



Pradhan Mantri Kaushal Vikas Yojana	Electronics and Hardware	CCTV Installation Technician	1	96
		Field Technician - Computing and Peripherals	1	80
Tamil Nadu Skill Development Corporation	Garment Making	Tailor (Basic Sewing Operator)	3	300
		Sewing Machine Operator	1	80
		Surface Ornamentation Techniques	1	20
	Medical And Nursing	Basic of Anatomy & Physiology	1	40
		Nursing Aides	1	40
		Bedside Assistant	1	40
		Health Care Multipurpose Worker	1	20
		General Duty Attendant	3	130
		Medical Laboratory Technician	1	20
		Operating Theatre Technician	1	20
		Refrigeration and Air Conditioning	Repair and maintenance of Window and Split A.C	3
	Repair and Maintenance of Central Air Conditioning Plant		1	40
	Repair and Maintenance of Refrigerator		1	20
	Fabrication	Arc and Gas Welder	1	40
	Electrical	Electrician Domestic	2	60
	Hospitality	Cook (General)	2	70
		Hospitality Assistant	1	90
	Construction	Plumber	2	40
Beauty Culture & Hair Dressing	Beauty Therapy and Hair Styling level One	1	180	
Automotive	Basic Automotive Servicing 4 wheeler	1	40	
	Taxi Driver	1	20	
Deen Dayal Upadhyay Grameen Kaushal Yojana	IT/ ITeS	-	1	100

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

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

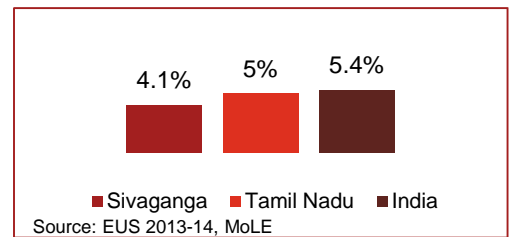
Table 9: Vocational Training under Long Term Skill Development Programs (ITI)

Sector	Trade	Number of institutions	Intake
Automobiles and Auto Components	Mechanic (Motor Vehicle)	7	92
	Mechanic Motor Cycle	1	40
Capital Goods	Draughtsman (Civil)	1	0
	Sheet Metal Worker	1	18
	Welder	2	81
	Welder (Fabrication & Fitting)	1	21
	Welder (GMAW & GTAW)	1	34
	Welder (Structural)	1	0
	Turner	1	48
Construction	Electrician	8	245
	Industrial Painter	1	0
Electronics & Hardware	Wireman	4	179
	Mechanic (Refrigeration and Air-Conditioning)	1	29
	Mechanic Consumer Electronics	1	0
Infrastructure Equipment	Electronics Mechanic	1	28
	Mechanic Diesel	5	0
Iron and Steel	Machinist	1	47
	Machinist (Grinder)	1	0
IT/ ITeS	Computer Operator and Programming Assistant	3	74
Mining	Fitter	5	274
Plumbing	Plumber	2	0
Textile and Apparel	Sewing Technology	2	13

Source: National Council for Vocational Training – MIS

With respect to population aged 15 and above who have undergone vocational training, around 4.1% in Sivaganga had undergone the same, while around 5% had undergone vocational training in the state. The All-India level is higher than both district and state level figures¹⁷.

Figure 14: Population Undergone Vocational Training



The district has an expansive education system. The vocational training infrastructure is supported by institutions such as the Central Electro Chemical Research Institute (CECRI) and Alagappa University.

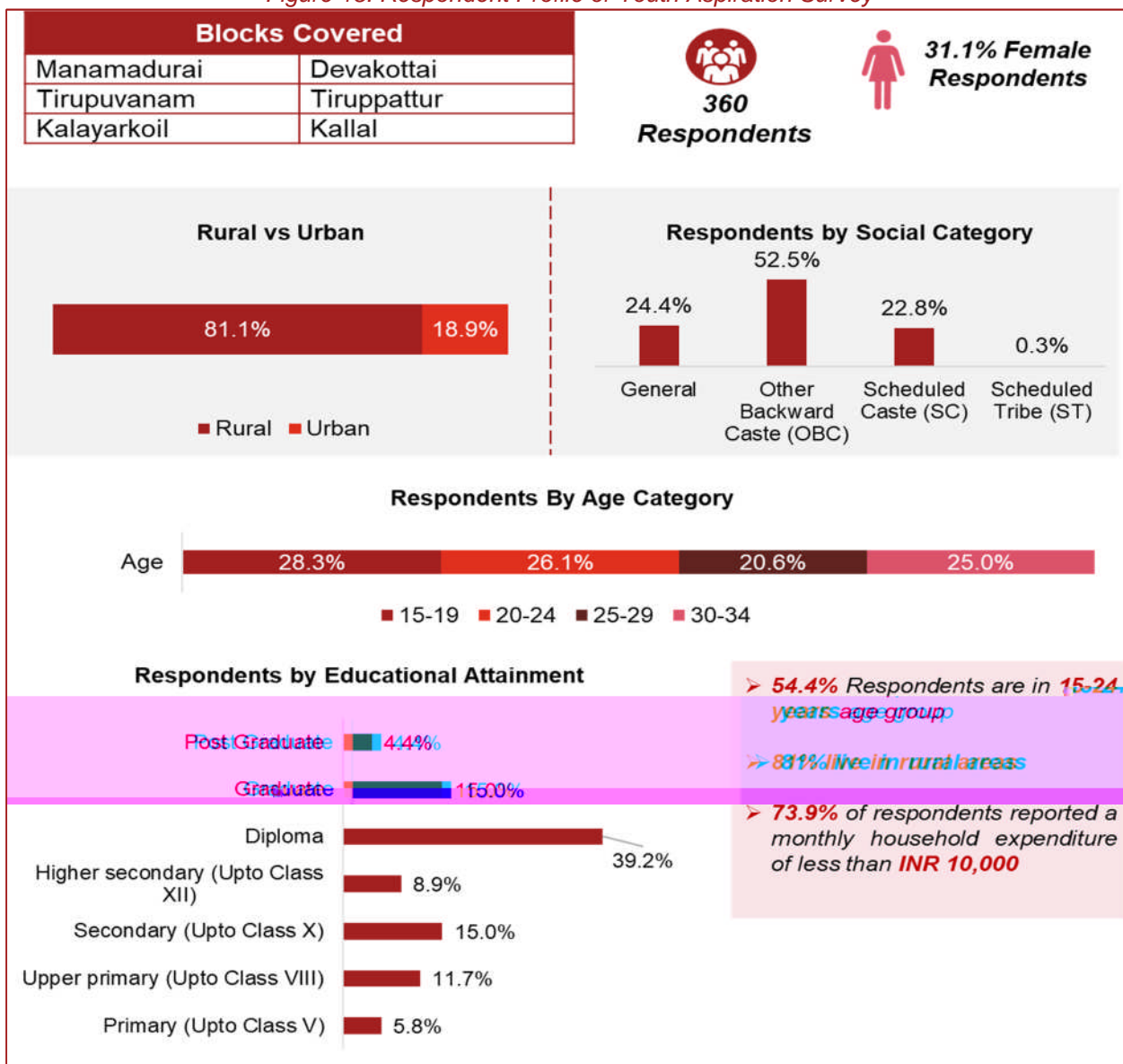
¹⁷ Employment and Unemployment Survey, 2013-14, Ministry of Labour and Employment

2. Youth Perspective

2.1. Profile of Respondent Youth

The structured household survey tool was administered to 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 15: Respondent Profile of Youth Aspiration Survey

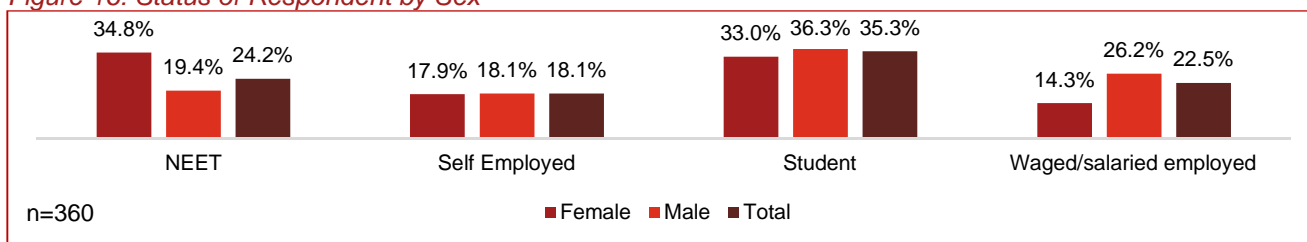


2.2. Youths' Educational and Economic Engagement Status

The figure below illustrates the gender wise classification (current status) of the respondents interviewed during the household survey. One-third of female respondents were falling in the NEET (34.8%) category, and the rest predominantly in self¹⁸ employment and education. Around 35% of male respondents were students, and the rest in NEET category and wage employment. Overall, 32% of female respondents and 41% of male respondents were engaged in economic activity.

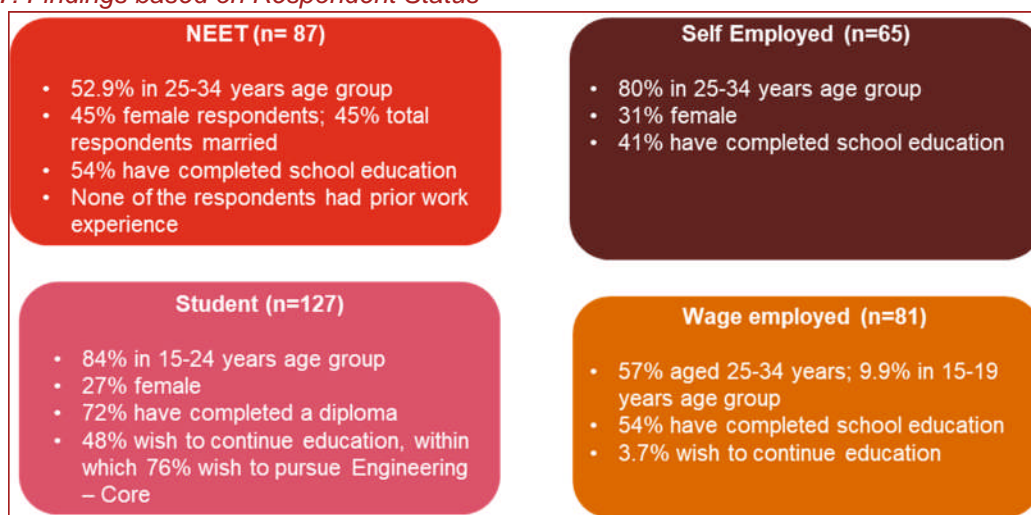
¹⁸ Traditionally self-employment includes both enterprises and engaging in a profession/ trade on own account (as defined in the National Sample Surveys on Employment and Unemployment http://mospi.nic.in/sites/default/files/publication_reports/nss_report_554_31jan14.pdf). However, in this study, it has emerged that youth prefer to be engaged independently in a trade/ profession on their own account more than setting up an enterprise.

Figure 16: Status of Respondent by Sex



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

Figure 17: Findings based on Respondent Status



2.3. Economic Engagement of Youth

Around 40.6% of respondents were currently engaged in work, and 12% had previously worked and were currently not working. Around 85% of the respondents who had ever worked stated that their work was related to their training. 83% of female respondents earned a monthly income of ₹10,000 or lesser, and 50% of male respondents earned in the same range. The below figure presents the distribution of respondents by monthly income category:

Figure 18: Distribution of Respondents across Monthly Income Category across Sex

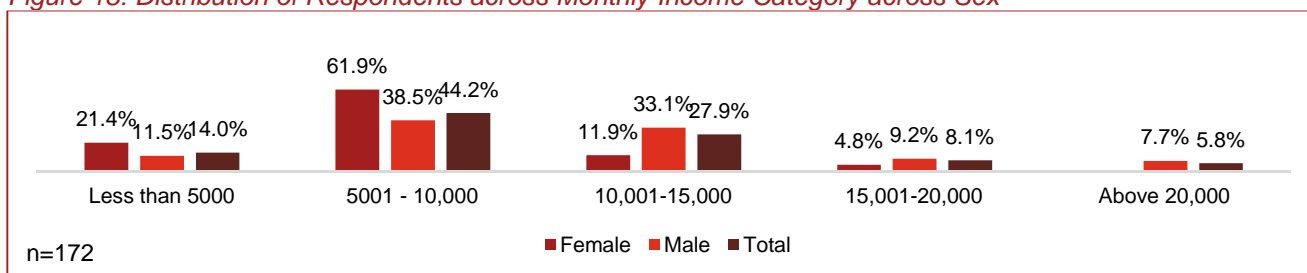


Table 10: Education Qualification of Respondents and Employment Type

	Primary (Upto Class V)	Upper primary (Upto Class VIII)	Secondary (Upto Class X)	Higher secondary (Upto Class XII)	Diploma	Graduate and above	Total
Farm Activities	20%	14.3%	4.3%	5.3%	2.9%	3%	11
Unskilled worker	20%	39.3%	45.7%	21.1%	31.4%	33.3%	58
Salaried Employment (teacher, government official, etc.)	0%	0%	0%	5.3%	14.3%	42%	18

Skilled worker (tailor, mason, electrician, plumber etc.)	40%	32.1%	41.3%	63.2%	48.6%	25%	68
Petty Business/Trade/ Manufacturing	10%	14.3%	15.2%	0%	8.6%	14%	19
Major Business/Trade/ Manufacturing	10%	0%	0%	5.3%	5.7%	3%	5
Total	10	28	46	19	35	34	172

The majority of working respondents were in skilled worker and unskilled worker categories, followed by petty business and salaried employment. The majority of college-educated respondents were engaged in salaried employment, skilled work, and petty business. However, around one-third of college-educated respondents were in unskilled work.

2.4. Youth under NEET Category

Around 24% of the respondents were in NEET category. Within this category, 53% were in 25-34 age group and 45% were female. Around 54% had finished school education. Around 16% of the respondents had been in the NEET category for more than four years, and 21% for 2-4 years. Almost 54% the respondents stated that they wished to work, and out of these, 75% stated that they had been searching for a job. The below table presents the frequency of respondents by duration in NEET category.

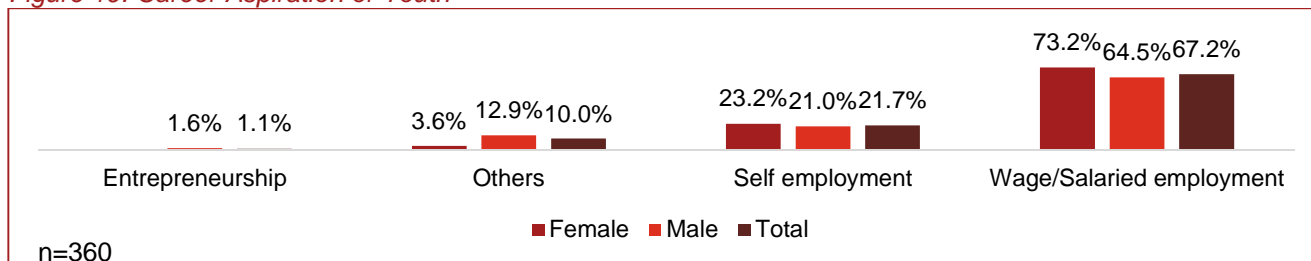
Table 11: NEET Category Respondents

Duration in NEET Category (n=87)			
	Female	Male	Total
Less than 6 months	2.6%	18.8%	11.5%
6 months- 1 year	7.7%	35.4%	23.0%
1- 2 years	7.7%	18.8%	13.8%
2- 3 years	17.9%	12.5%	14.9%
3- 4 years	38.5%	6.3%	20.7%
4-5 years	7.7%	2.1%	4.6%
More than 5 years	17.9%	6.3%	11.5%

2.5. Youth Career Aspirations

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

Figure 19: Career Aspiration of Youth



The main factors determining the aspiration of the youth are salary (wages)/ income (89.2%), job security (82.5%) and social status (20.3%). About 59.6% of the youth (those not in NEET or student category) feel they are moderately prepared for requirements for a job, and only 10.9% of the respondents felt they are unprepared for jobs. The reason commonly cited for feeling prepared is "adequate work experience in area of job" (57.7%). Around 27.3% felt that they were "Adequately skilled in area of job". However, with respect to the perception of the actual availability of jobs, around 39% of respondents stated that they perceived jobs to be **very inadequately** available. Findings related to factors, preparedness for ideal job and perception of availability of jobs are presented below.

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

Factor Determining Aspiration (n=360)*	Responses	Perception of Preparedness for Job (172)	Responses
Salary (wages) / Income	82.8%	Moderately Prepared	59.6%
Social Status	49.4%	Somewhat prepared	29.5%
Job Security	47.2%	Not Prepared	10.9%
Flexible work arrangements	28.1%		
Safety / Security	16.9%		
Opportunities for promotion and career development	12.8%		
Employer provided benefits and perks	11.9%		
Closeness to Residence	8.3%		
		Availability of Jobs (n=360)	Responses
		Very Adequate	3.1%
		Somewhat adequate	37.8%
		Neither adequate nor inadequate	12.2%
		Somewhat inadequate	7.5%
		Very inadequate	39.4%

*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 “lack of sufficient qualification”, “low financial strength”, and “pressure related to getting married”. The responses are presented below:

Table 13: Career Aspiration – Challenges in pursuing desired career

Challenges (n=360)	Responses*	Challenges (n=360)	Responses*
Lack of jobs locally	42.2%	Lack of work experience	6.1%
Lack of sufficient education qualification	26.1%	Lack of technical / vocational skills	5.0%
Low financial strength	26.1%	Lack of family support / social acceptance of girls being engaged in economic activity	2.8%
Pressure related to getting married	20.0%	Lack of Soft Skills	1.7%
Unsafe working environment	18.1%	Inadequate infrastructure to access work-place	1.7%
Lack of guidance / information on appropriate job available for skill levels	8.9%		

*For multiple-choice questions, the responses may 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 14: Key Requirements to enhance employability and steps to achieve aspirations (n=360)

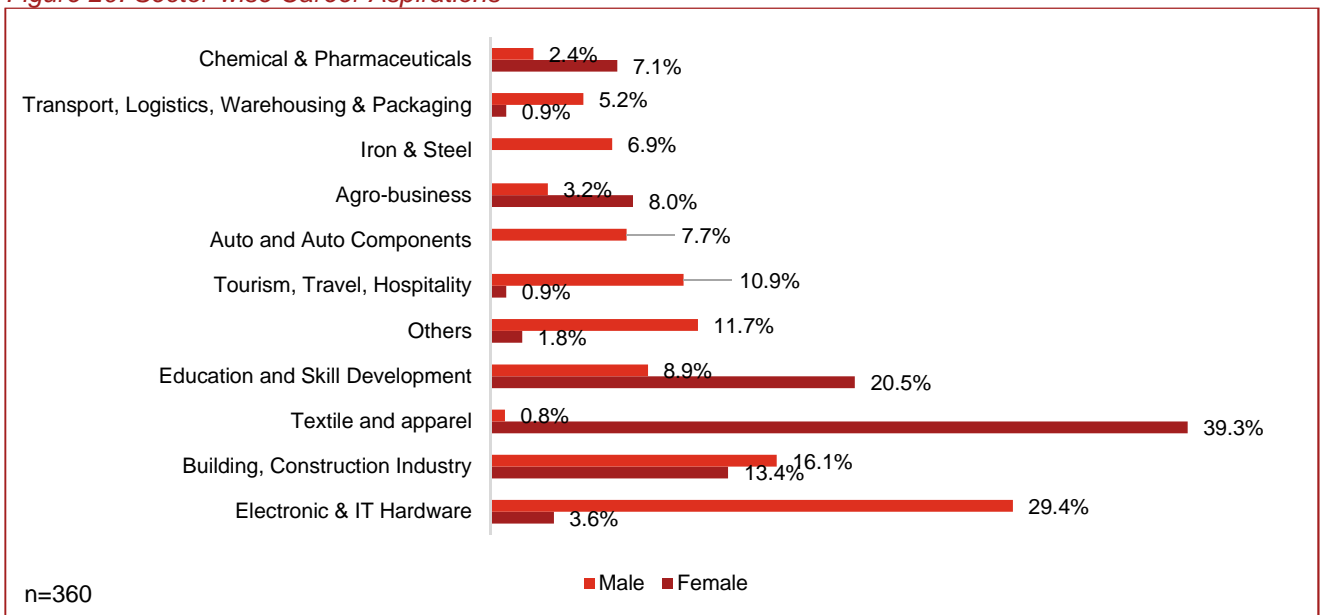
Key Requirements to enhance employability (n=360)			
Requirements	Responses	Requirements	Responses
Years of Work Experience	55.3%	Relevant work experience in similar position or field	2.2%
Basics and soft skills	19.7%	References	1.4%
Education attainment (level of education)	16.9%	Performance in Interviews	1.1%
Certifications of Technical Skill	3.3%		
Key Skills Required for desired job (n=360)*			
Clear communication	82.5%	Others	7.8%
Analytical thinking	23.3%	Coordination Skills	7.5%
Team work	11.4%	Active listening	7.2%
Leadership	11.4%	Attention to detail	4.2%

Complex problem-solving	9.2%	Creativity, originality and initiative	3.6%
Time management	7.8%	Critical thinking and analysis	2.5%
New Steps to achieve aspirations (n=360)*			
Vocational/ Skill Training	46.7%	Already Achieved	13.6%
Continuing Education	25.0%	Apprenticeship / Gathering Work Experience	61.4%

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

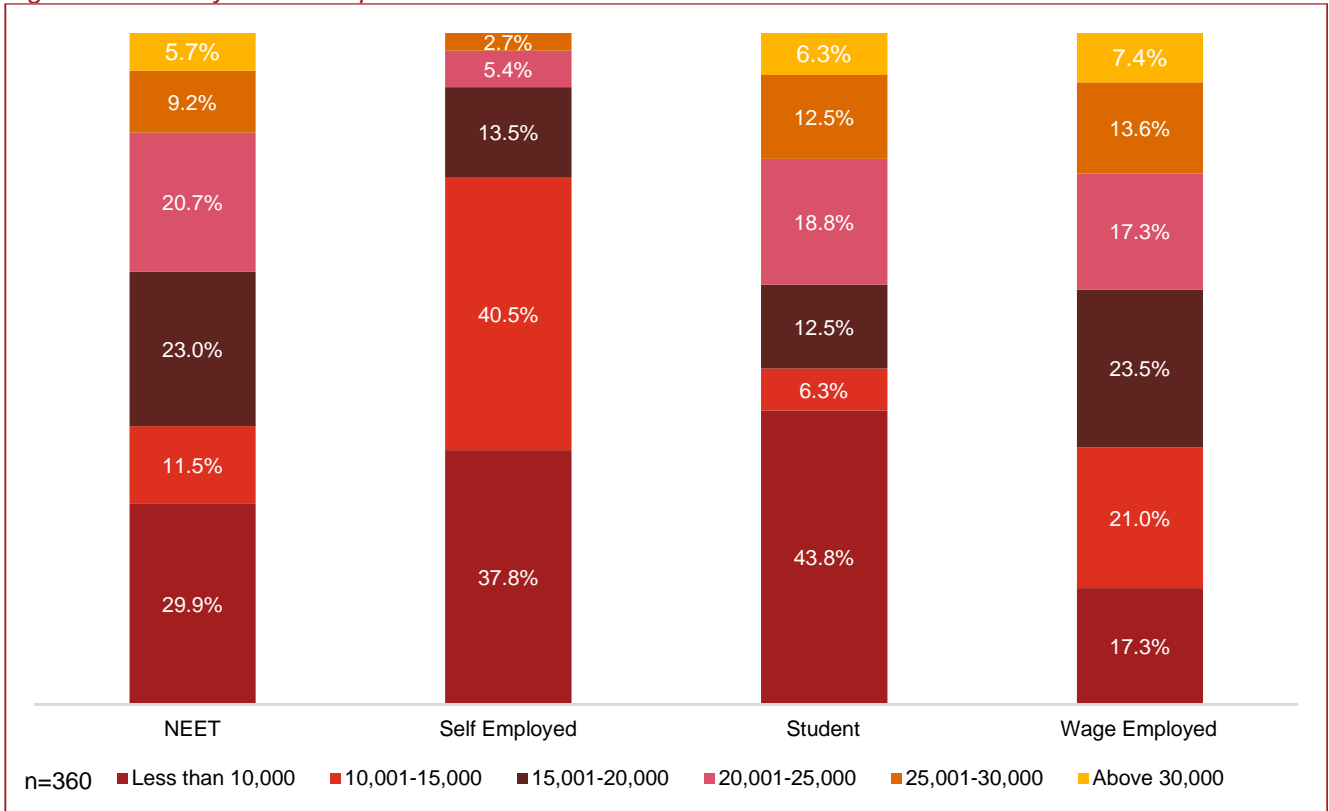
The electronics and IT hardware sector is the most popular and aspired sector among the respondents with 21% youth preferring it, followed by building and construction (15%), and textile and apparel (13%). Other Sectors include education and skill development, and tourism and hospitality. The gender-wise responses reveal the following: female respondents cited textile and apparel, education and skill development, building and construction, and agro-business. Male respondents cited electronic and IT hardware, building and construction, other sectors, tourism and hospitality and auto and auto components.

Figure 20: Sector-wise Career Aspirations



Around 63% of the respondents have expectations of monthly income less than ₹ 20,000. It can be seen from the below figure that for 60% of the respondents in NEET, student and wage employed categories, income expectations are below ₹ 20,000. However, 91% of respondents in self-employed category have an income expectation less than ₹ 20,000.

Figure 21: Monthly Income Expectations



More than 90% of the respondents preferred a job within their district. Less than 18% were willing to migrate outside the district for work.

Figure 22: Location Preference for Work*

The most common source of job-related information cited by the respondents is 'friends and peers' (78%), followed by 'newspaper/ other media' (80%). Around 24% stated that they get job-related information from the District Employment Office/ National Career Services. The gender-disaggregated findings are presented below:

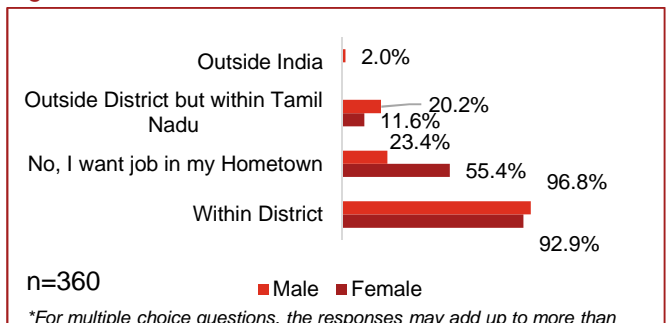
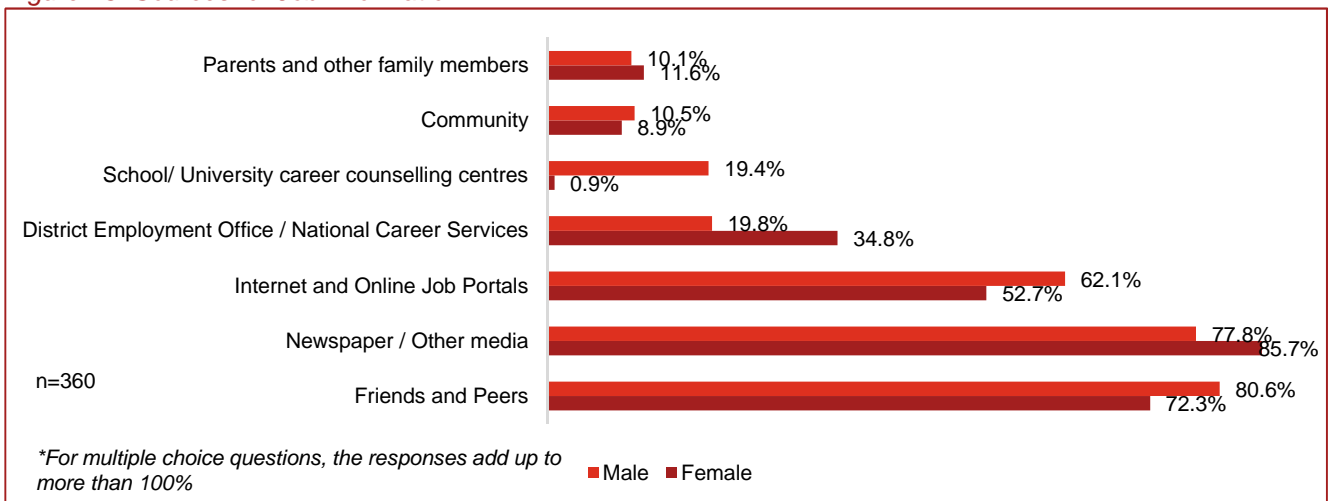


Figure 23: Sources for Job Information*



Around half the respondents stated that counselling services were somewhat adequate. In terms of their expectations from counselling services, more than half wanted information on relevant vacancies, placement services and placement in educational programs.

Figure 25: Accessibility to Counselling Services

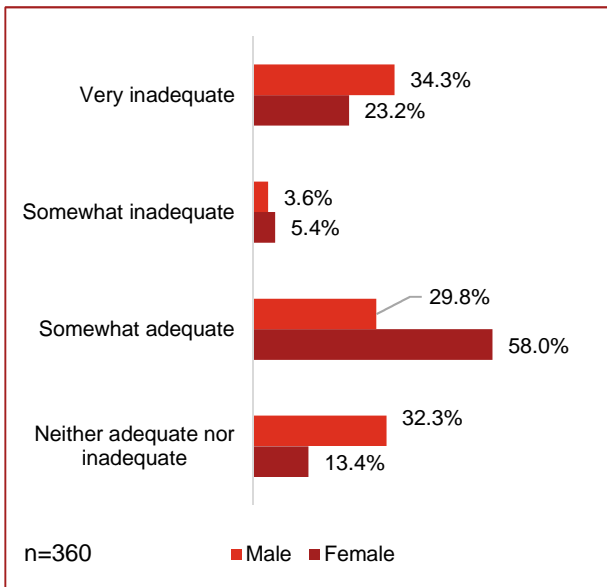
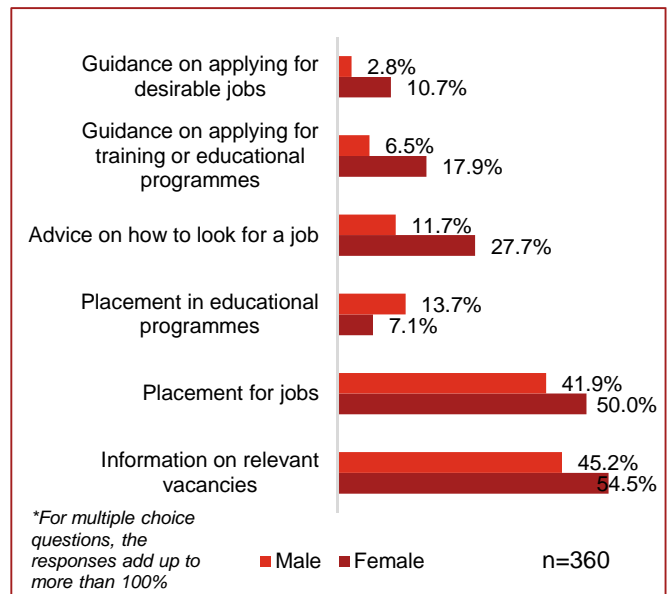


Figure 24: Preferences for Counselling Services



2.6. Skill Training Preferences of Youth

Around 2.2% of the respondents (eight in total) stated that they were aware of government-run training programs, and only three had undergone skill training in the past. Around 22% of respondents (79 respondents in total) had stated they would be willing to undergo training for their ideal job. Within these, around 76% of respondents indicated a preference for part-time training, and 92% in short-term courses (duration less than 6 months). With respect to ranking training content, quality of instructor, reputation of training provider, practical exposure and quality of internship/ apprenticeships, more than 80% of respondents stated that all these factors were 'Very Important'.

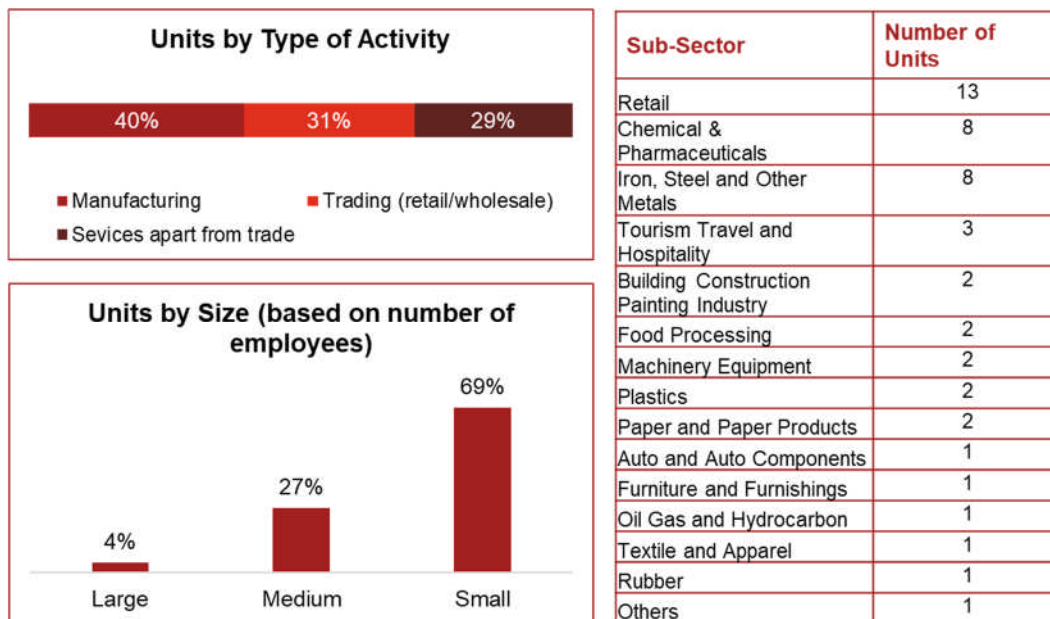
Responses indicate that electronics and IT hardware, building and construction, textile and apparel, and education and skill development are sectors in which youth aspire to work in. Youth have reported preferences for information on relevant vacancies and placement for jobs.

3. Employers' and Other Stakeholders' Perspective

3.1. Quantitative Employer Survey

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 40% of the employers were in manufacturing, and 31% were in trade. Slightly less than half of the employers were medium enterprises, 40% small enterprises and 11% micro-enterprises. The profile of respondents is presented below:

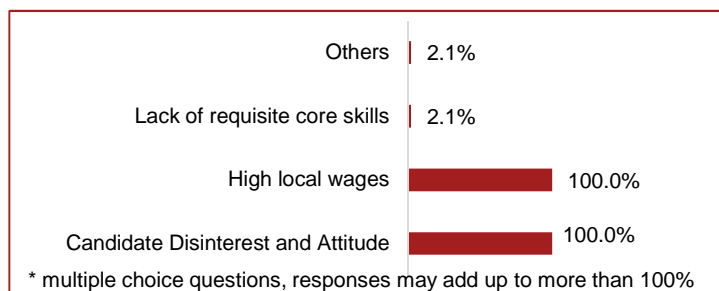
Figure 26: Profile of Respondents - Employer Survey



On average, the units had 26% of female employees in their workforce. Common methods of recruitment were found to be employee referrals (97.9%), and advertisements in newspapers (6.3%).

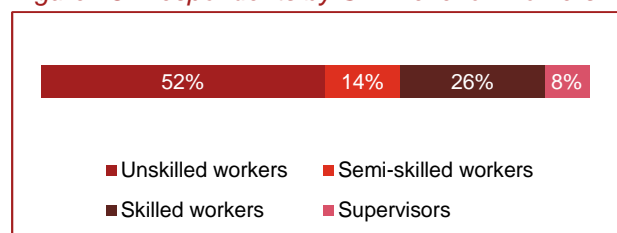
Challenges with respect to recruitment include candidate disinterest and attitude (100%), high local wages (100%), and lack of requisite core skills (2.1%).

Figure 27: Respondents by Challenges in Recruitment*



With respect to organization of the workforce by skill level, 52% of workers on average in the units were unskilled, 14% semi-skilled and 26% supervisory. On average, 95% of workers were daily wage workers. Around 97% of workers were from within the district, and the remaining from other states in the country. Questions on attrition yielded the following findings: annual attrition rates for male and female workers were 3.7% and 1.5% respectively. Causes for attrition included lower wages (95%), better job opportunities (91%), candidate disinterest (86%), and inability to adjust to work environment (16%).

Figure 28: Respondents by Skill Level of Workers



With respect to growth prospects and adoption of technology, the following findings emerged: all respondents felt that growth prospects were medium to high, and 66.7% indicated interest in medium-level technology adoption. However, only 2.1% stated that they had plans for automation.

Table 15: Growth Prospects and prospective adoption of technology

Growth Prospects of Industry	%	Level of Technology adoption	%
High	8.3%	Medium	66.7%
Medium	91.7%	Low	22.9%
		Can't Say	10.4%

3.2. Focus Group Discussion with Industry Representatives

A focus group discussion was conducted with stakeholders from various organizations in sectors such as plastic processing, chemicals, food processing, agro-processing, rubber processing and textiles. The following were the major points of discussion:

Table 16: Focus Group Discussion - Key Points

S No	Topic	Findings
1.	Awareness of Government-run skill development programs	<ul style="list-style-type: none"> Programs have to be structured based on local industries to understand new innovations Chettinad architectural traditions (mansions), cuisine, and wood carving have the capacity to generate employment and business opportunities.
2.	Demand for labour	<ul style="list-style-type: none"> People are currently employed in textiles, wood and wood-based furniture, mineral-based industries, metal-based industries, paper and paper products, soda water, chemicals and chemical-based industries, rubber, plastic and petro-based industries, and these are expected to have future demand as well Migrant labourers form a small population, and are employed as unskilled helpers

Interventions for the promotion of industrial growth are required. Vocational programs would need to match with innovations and technological progress in industries. A revival of traditional industries would create potential for entrepreneurship and skilled employment (tourism and hospitality, and construction).

3.3. Other Stakeholders' Perspectives

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

Representatives from Industry Associations and Major Employers: Consultations with members from Tamil Nadu Small and Tiny Industries Association (TANSTIA), Sivaganga Chapter revealed that across sectors, power shortages affect production and hence man-days are lost. In such a situation, most businesses cannot afford fresh hires. In case of hiring, school dropouts are hired and trained, as they have lower salary expectations and better retention rates. Women can work in semi-skilled job roles, and have better retention rates (after accounting for attrition due to marriage). ITI/ Polytechnic students wish to go into retail and sales instead of technical trades.

Consultations with small handloom unit representatives revealed that around 200 families are involved in Kandangi cotton saris, though they are shifting from handlooms to power looms. Saris are exported to other states, but not abroad. The business has low retention of loom workers, and can hire young women in retail – 12th pass. In Ariyakudi, around 20 families are involved in brass lamp making. However, businesses in the area tend to be small and involve close family members alone. In woodworking units, around 20 families are involved, but only a few sculptors sculpt for temples and religious festivals. Retention of workers is low, and hence only family members are involved.

Government Officials: Consultations revealed that Food Processing, Chemicals, Plastics and Rubber Processing and Textiles are major industries. All sectors have skilled labour shortage, and low retention. This is managed through hiring dropouts and training them. Consultations at the District Employment Office revealed that ITI, Polytechnic and college graduates attend the weekly job fair. Employers want data entry operators, tailors, administrative support staff, accountants and salespersons. Agro-processing, pharmaceuticals, textiles, and employers looking for tally operators attended the job fair. Employers are willing to give training, with a basic

salary of ₹ 8,000 per month on average. Youth are unwilling to migrate within country for work. Men are interested in going abroad for service sector jobs like drivers, catering, etc.

Consultations with estate managers in SIDCO and SIPCOT estates revealed that major companies in the estate include a zip manufacturer (subsidiary of Madura Coats) and pharmaceutical company. However, there has been a downturn in production, and the strength of the labour force has shrunk. Most of the firms recruit people without training, and train them as per their needs. Newer companies hire from within their own circle, and are unlikely to put out recruitment ads. Small units are more likely to employ relatives than outsiders.

College/ ITI/ Training Institute representatives and Government Officials: In the Government ITI, around half of trainees are unable to finish program without failing papers. They also have attendance issues due to family responsibilities. Fitter, Wireman and Electrician trades are in demand, but retention after placements is low. In the Government ITI, Karaikudi, the trades of fitter, wireman, and welder are in demand. However, retention in program, apprenticeships and jobs is low. Apprenticeships are available in CECRI, TNSTC, BHEL, TN Chemical Products. Students lack basic reading and writing skills in both Tamil and English, and do not do well in classroom training. Most students want to go abroad for work, and some prefer retail to shop floor jobs.

The Skill Development Group in CECRI revealed in consultations that short term training in painting, electroplating and battery repair and maintenance has potential outside the state and in Chennai. However, trainees lack English and Hindi proficiency and do not want to go. SSC certification has been taken for standardizing, even though employers do not insist on the same. School dropouts lack motivation and work ethic. Mobilization of trainees is hard, as the courses are not free (even though quality and industry connect are better).

The district has a small industrial base, and training institutions responsive to industry demands (mostly that comes from outside district). Among ITI students, male students migrate abroad to earn higher salaries. In the industrial sector, major challenges include: attrition, low wages, and preference for white-collar jobs.

4. Skill Gap Analysis

4.1. Skill Gap Assessment - Incremental Demand¹⁹ for Skilled & Semi-skilled Manpower

The district is witnessing a growing industrial sector. The following sectors show high levels of demand: **manufacturing, repair of household goods, construction, education and healthcare, and trade and repair services** show high levels of demand for both skilled and semi-skilled workers. The detailed methodology is presented in the Appendix (7.2).

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

Sector	Incremental Demand for Skilled Workers			Incremental Demand for Semi-skilled Workers			Total Demand
	2019-21	2022-25	Total	2019-21	2022-25	Total	
Allied Activities	35	47	82	243	332	575	657
Mining and quarrying	33	52	84	55	86	141	225
Manufacturing	1,310	1,958	3,268	2,621	3,916	6,536	9,805
Construction	692	1,037	1,729	1,730	2,592	4,322	6,051
Trade & Repair Services	249	350	599	862	1,210	2,072	2,671
Hotels and restaurants	230	322	552	445	624	1,069	1,621
Transportation and storage;	57	78	135	138	186	324	459
Communication and services related to broadcasting	364	563	927	182	281	464	1,391
Financial and insurance activities	701	1,081	1,782	351	540	891	2,673
Real estate, ownership of dwelling and business services	126	188	314	315	471	786	1,101
Education; Human health & Social Work Activities	1,277	1,896	3,173	1,022	1,516	2,538	5,711
Arts, entertainment and recreation	415	604	1,019	332	483	815	1,834
Activities of membership organizations; Repair of computers and personal and household goods & Other personal service activities	1,390	2,025	3,415	1,112	1,620	2,732	6,148
Other Services	658	959	1,618	527	768	1,294	2,912
Total Demand	7,537	11,160	18,697	9,932	14,628	24,560	43,256
Total Supply	3,912	5,215	9,127	8,073	10,764	18,837	27,964
Skill Gap	3,625	5,945	9,570	1,859	3,864	5,722	15,292

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.

5. District Skilling Action Plan and Recommendations

5.1. District Skilling Action Plan–Key Training Projects

Table 18: Summary of Training Projects

S No	Sector	Trades	Target (Persons)	Budget (₹)
1.	Plastics	<ul style="list-style-type: none"> Plastics Mould Manufacturing Assistant Plastics Product & Mould Designer Testing & Quality Control for Plastics Materials & Products – Technician 	5,000	₹12.21 Crores
2.	Tourism and Hospitality	<ul style="list-style-type: none"> Billing Executive Chef-de-partie Assistant Catering Manager Assistant Facility Manager Front Office Associate Guest House Caretaker Guest Relations Manager Kitchen Helper Laundry Machine Operator Meeting, Conference and Event Planner 	4,000	₹7.37 Crores
3.	Healthcare	<ul style="list-style-type: none"> General Duty Assistant Blood Bank Technician Cardiac Care Technician Diabetes Educator Emergency Medical Technician - Basic Medical Records & health Information Technician 	4,000	₹11.24 Crores
4.	Domestic Appliance Services	<ul style="list-style-type: none"> Helper Electrician Plumber (General) Solar Domestic Water Heater Technician Field Technician – AC Field Technician – Refrigerator Field Technician - Washing Machine Field Technician - Other Home Appliances 	1,000	₹1.8 Crores
5.	Food Processing	<ul style="list-style-type: none"> Dairy Processing Equipment Operator Cold Storage Technician Food Products Packaging Technician Grain Mill Operator Multi Skill Technician (Food Processing) 	3,300	₹5.04 Crores
6.	Logistics	<ul style="list-style-type: none"> 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 Cold Storage Technician 	2,000	₹3.28 Crores

7.	Construction	<ul style="list-style-type: none"> • 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 	3,500	₹12.16 Crores
Total Training Target and Training Cost			22,800	₹53.05 Crores

Note:

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

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

Where:

Number of days of training = training hours / 8

Transportation costs per trainee per day = INR 100

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

Table 19: Training Project 1

Name of the Project: Training in Plastics Sector							
Key Economic Drivers:							
<ul style="list-style-type: none"> Plastic processing an important industry in the district 							
Key Partners: TANSTIA, ITI, Polytechnic colleges							
Job Roles	NSQF Level	NSQF Code	Duration of Training (hours)	Cost Category	Target Group	Training Target	Cost of Training
Plastics Mould Manufacturing Assistant	3	CPC/Q5703	300	1	8 th Pass	1,500	₹2.48 Crores
Plastics Product & Mould Designer	3	CPC/Q3103	480	1	8 th Pass	1,500	₹3.95 Crores
Testing & Quality Control for Plastics Materials & Products – Technician	3	CPC/Q8103	480	1	10 th Pass	2,000	₹5.27 Crores
Total Training Cost						5,000	₹11.7 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							₹0.5 Crores
Total Cost							₹12.21 Crores
Key Considerations:							
<ul style="list-style-type: none"> Adequate facilities must be provided if women are being trained – bathrooms, changing rooms Industry partners must be made part of the process Training providers must be vetted based on instructor quality and infrastructure 							

Table 20: Training Project 2

Name of the Project: Training in Tourism and Hospitality Sector							
Key Economic Drivers:							
<ul style="list-style-type: none"> The district has a growing hospitality sector due to economic growth and tourism and Chettinad architecture 							
Key Partners:							
Job Roles:	NSQF Level	NSQF Code	Duration of Training (hours)	Cost Category	Target Group	Training Target	Cost of Training
Billing Executive	4	THC/Q5801	390	2	Graduate	400	₹0.76 Crores
Chef-de-partie	6	THC/Q0404	285	1	8 th Pass	400	₹0.63 Crores
Assistant Catering Manager	6	THC/Q5901	475	2	10 th Pass	400	₹0.93 Crores
Assistant Facility Manager	7	THC/Q5707	435	2	Diploma	40	

Table 21: Training Project 3

Name of the Project: Training in Healthcare Sector							
Key Economic Drivers:							
<ul style="list-style-type: none"> Sivaganga 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	HSS/Q5101	240	2	8 th Pass, 10 th Pass	500	₹0.66 Crores
Blood Bank Technician	4	HSS/Q2801	1,000	1	12 th Pass	500	₹2.75 Crores
Cardiac Care Technician	4	HSS/Q0101	840	1	12 th Pass	500	₹2.31 Crores
Diabetes Educator	4	HSS/Q8701	240	2	12 th Pass	500	₹0.66 Crores
Emergency Medical Technician - Basic	4	HSS/Q2301	240	1	12 th Pass	1000	₹1.17 Crores
Medical Records & health Information Technician	4	HSS/Q5501	600	1	12 th Pass	1000	₹3.29 Crores
Total Training Cost						4,000	₹10.83 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							₹0.4 Crores
Total Cost							₹11.24 Crores
Key Considerations:							
<ul style="list-style-type: none"> Residential training and part-time training modes should be explored to allow women of all backgrounds to attend 							

Table 22: Training Project 4

Name of the Project: Training in Domestic Appliance Services Sector							
Key Economic Drivers:							
<ul style="list-style-type: none"> Services sector plays a major role in the district economy The city is growing and urbanizing, and hence would require servicepersons who can work in domestic appliance repair and maintenance (household incomes are also bound to increase with growth) 							
Key Partners: ITI, Polytechnic							
Job Roles:	NSQF Level	NSQF Code	Duration of Training (hours)	Cost Category	Target Group	Training Target	Cost of Training
Helper Electrician	3	CON/Q0601	350	1	10 th pass	100	₹0.19 Crores
Plumber (General)	3	PSC/Q0104	410	1	10 th pass	200	₹0.45 Crores
Solar Domestic Water Heater Technician	4	SGJ/Q0601	200	1	8 th pass	100	₹0.11 Crores
Field Technician – AC	4	ELE/Q3102	300	2	8 th pass	100	₹0.15 Crores
Field Technician – Refrigerator	4	ELE/Q3103	300	2	8 th pass	100	₹0.15 Crores
Field Technician - Washing Machine	4	ELE/Q3106	300	2	8 th pass	200	₹0.29 Crores
Field Technician - Other Home Appliances	4	ELE/Q3104	360	2	8 th pass	200	₹0.35 Crores
Total Training Cost						1,000	₹1.69 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							₹0.1 Crores
Total Cost							₹1.8 Crores
Key Considerations:							
<ul style="list-style-type: none"> Adequate facilities must be provided if women are being trained – bathrooms, changing rooms Industry partners must be made part of the process Training providers must be vetted based on instructor quality and infrastructure 							

Table 23: Training Project 5

Name of the Project: Training in Food Processing Sector							
Key Economic Drivers:							
<ul style="list-style-type: none"> Beverage production is a key sector in the district 							
Key Partners: ITI/ Polytechnic colleges, engineering and degree colleges, local industry players							
Job Roles:	NSQF Level	NSQF Code	Duration of Training (hours)	Cost Category	Target Group	Training Target	Cost of Training
Dairy Processing Equipment Operator	4	FIC/Q2002	240	1	10 th Pass	500	₹0.66 Crores
Cold Storage Technician	4	FIC/Q7004	250	3	12 th Pass/ Diploma	1,000	₹1.08 Crores
Food Products Packaging Technician	5	FIC/Q7001	240	1	12 th Pass	500	₹0.66 Crores
Grain Mill Operator	4	FIC/Q1003	240	1	8 th Pass	1,000	₹1.32 Crores
Multi Skill Technician (Food Processing)	4	FIC/Q9007	600	1	8 th Pass	300	₹0.99 Crores
Total Training Cost						3,300	₹4.7 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							₹0.33 Crores
Total Cost							₹5.03 Crores
Key Considerations:							
<ul style="list-style-type: none"> Women and college graduates can be targeted Organic and sustainable products can be promoted 							

Table 24: Training Project 6

Name of the Project: Training in Logistics Sector							
Key Economic Drivers:							
<ul style="list-style-type: none"> Due to growing trade and manufacturing, logistics (transportation and warehousing) will grow as well 							
Key Partners: ITI, Polytechnic colleges, engineering and degree colleges							
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	8 th Pass	200	₹0.3 Crores
Inventory Clerk	3	LSC/Q2108	250	1	12 th Pass	200	₹0.28 Crores
Warehouse Supervisor	5	LSC/Q2307	240	1	Diploma	200	₹0.26 Crores
Reach Truck Operator	4	LSC/Q2111	300	1	8 th Pass	200	₹0.33 Crores
Receiving Assistant	3	LSC/Q2112	290	2	10 th Pass	200	₹0.28 Crores
Warehouse Quality Checker	3	LSC/Q2313	300	3	10 th Pass	200	₹0.26 Crores
Loading Supervisor	3	LSC/Q2314	270	2	10 th Pass	200	₹0.26 Crores
Material Handling Equipment (MHE) Maintenance Technician	4	LSC/Q2315	280	1	10 th Pass	200	₹0.31 Crores
Goods Packaging Machine Operator	4	LSC/Q2216	360	1	10 th Pass	400	₹0.79 Crores
Total Training Cost						2,000	₹3.07 Crores

Total Assessment and Certification

Table 25: Training Project 7

Name of the Project: Training in Construction Sector							
Key Economic Drivers:							
<ul style="list-style-type: none"> Due to urbanization, economics growth and trade, construction sector will also grow 							
Key Partners: ITI, Polytechnic colleges, 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	10 th pass	500	₹2.47 Crores
Metal Inert Gas/Metal Active Gas/Gas Metal Arc Welder (MIG/MAG/GMAW)	4	I/CSC/Q0209	600	1	10 th pass	500	₹1.65 Crores
Mason Marble, Granite and Stone	4	CON/Q0106	600	1	8 th pass	1,000	₹3.29 Crores
Foreman Wet Finishing and Flooring	5	CON/Q0109	800	1	10 th pass	500	₹2.2 Crores
Bar Bender and Steel Fixer	4	CON/Q0203	400	1	10 th pass	500	₹1.1 Crores
Assistant Electrician	3	CON/Q0602	400	1	10 th pass	500	₹1.1 Crores
Total Training Cost						3,500	₹11.81 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							₹0.35 Crores
Total Cost							₹12.16 Crores
Key Considerations:							
<ul style="list-style-type: none"> Dropout and rural youth can be targeted Sustainability can be a focus in training 							

5.2. Key Recommendations

- **A unified job portal for job postings at all levels of skill across sectors:** qualitative consultations with industry representatives revealed that there is a mismatch between placement practices in vocational training institutions and recruitment practices among employers. A portal for jobs/ apprenticeships open to both employers and jobseekers would enable both sides to minimize time and effort in finding suitable vacancies and profiles. Youth aspiration findings also indicate that youth prefer placement services and information on relevant vacancies. The portal would act as a platform to enable active connect between the employers and prospective employees, as well as prospective apprentices or internees.
- **Project-oriented apprenticeship/ internship programs:** Based on qualitative consultations, ITI and Polytechnics can develop internship programs which are organized around projects – problem statements can be developed in consultation with industry players, and incentives given to students to solve them. The programs can end in competitions, or presentation of theses. Such a program would allow students to develop their practical skills within an organized environment supervised by the training institutions and the industry.
- **Promotion of service sector:** Private activity in the hospitality, tourism and retail sectors can be fostered to provide local employment to youth at a livable wage. Hospitality, retail and logistics can absorb local youth in significant numbers, and provide jobs suited to the needs of young women. Qualitative consultations and secondary data analysis reveal that service sectors have great demand for both skilled and semi-skilled labour in the district. Tourism may also grow, given the right stimulus.
- **Promotion of traditional village and household industries:** Consultations revealed that traditional artisans and home-based businesses face marketing challenges, which need to be overcome to ensure sustainability. Interventions can identify local partners for providing marketing and technical support to such beneficiaries, to ensure that traditional sectors such as athangudi tiles, brass lamps, and modern home-based businesses such as cloth bags, garment-making and food processing are sustained. This would also encourage youth to take up entrepreneurship. Youth also show a preference for textiles (especially women).

Appendix

A.1 Methodology for Block Selection in Youth Aspiration Survey

Sampling Design for Youth Survey

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

1. Students from educational and training institutions:

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

2. Household Level Survey:

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

3. Self – Employed Youth:

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

4. Employed in the informal sector:

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

Selection of Block

We conducted the survey in six blocks in Sivaganga 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 block 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 states 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.

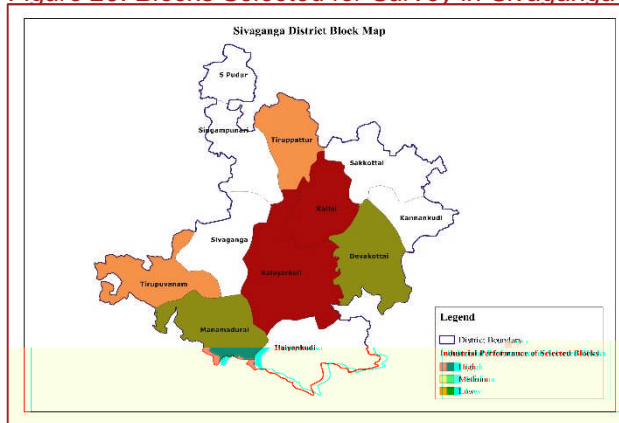
For 'credit data' variable, to accommodate regional differences, percentile calculation was employed at the district-level grouping. The final score of each block was arrived at by considering individual score weights. 25% weights was assigned to MSME and TANSIDCO clusters, 5% weights was assigned to 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 Sivaganga.

- **Low – Kalayarkoil, Kallal**
- **Medium – Tirupuvanam, Tiruppattur**
- **High – Manamadurai, Devakottai**

Figure 29: Blocks Selected for Survey in Sivaganga

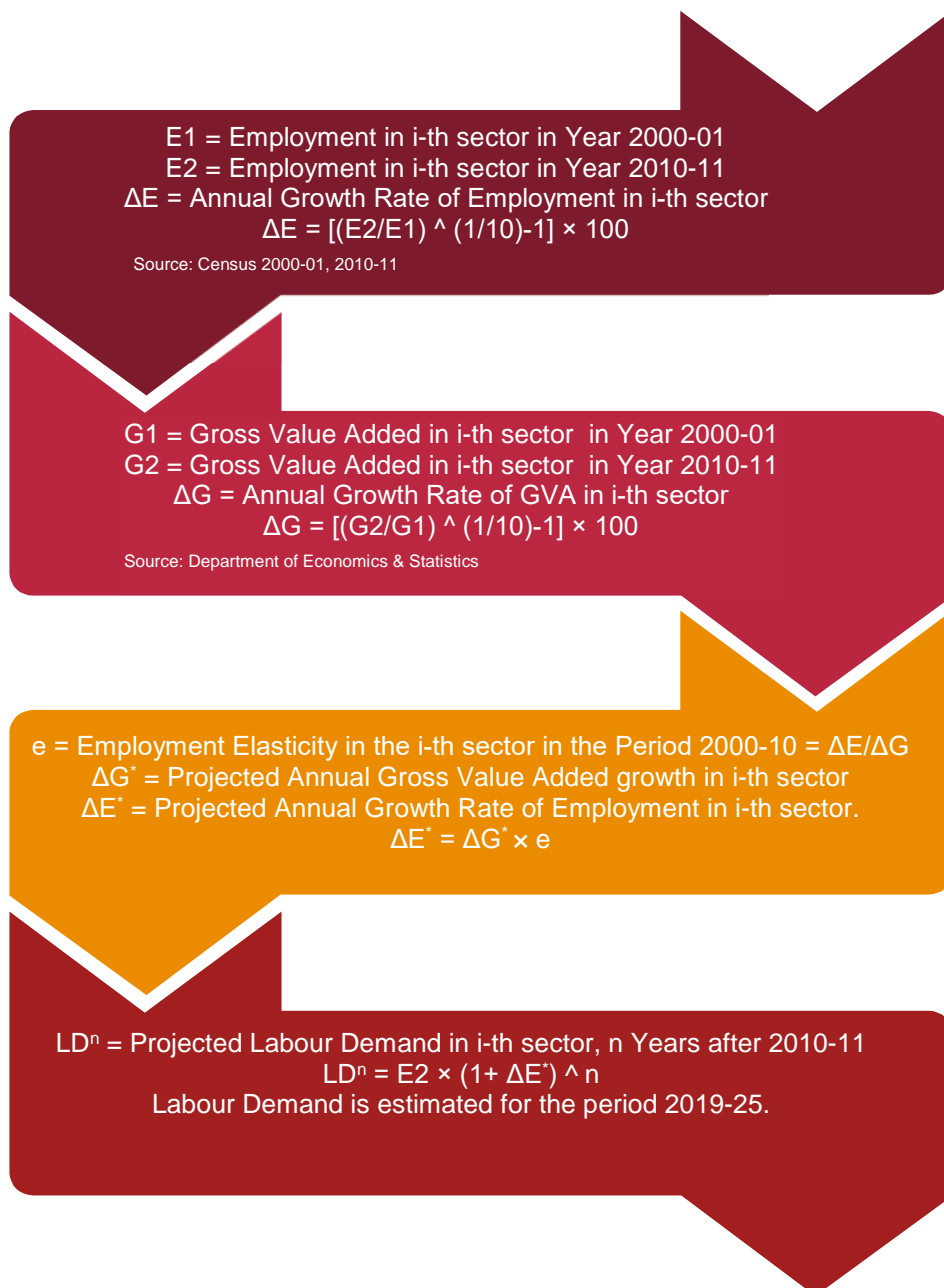


A.2 Methodology for Present and Future Labour Demand – Supply and Gap Estimation

Demand Estimation

We adopted employment elasticity approach to forecast the labour demand. Employment elasticity is the measure of percentage change in employment associated with one percentage change in economic growth. The employment elasticity approach indicates the ability of an economy to generate employment opportunities. We estimated sector specific employment elasticity using historical data and assumed it to remain constant in the near future. If the estimated sector specific elasticities at district level varied significantly with national and state level estimates, we rationalized the estimated elasticities based on national and state level trends. Automation and sector-specific investments are other factors that are 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:

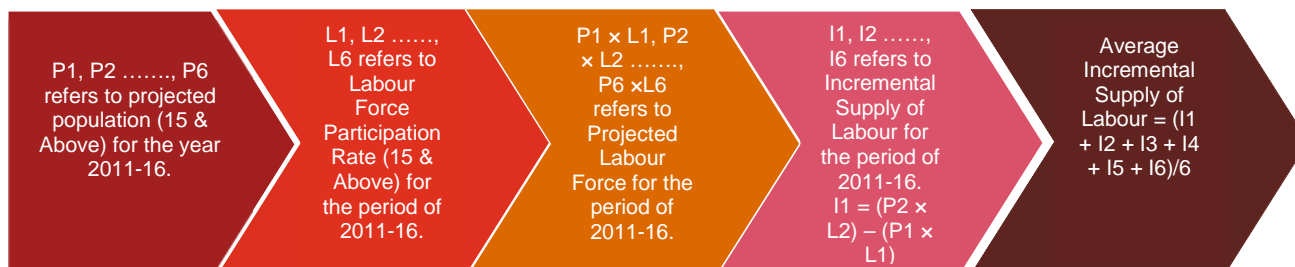
Figure 30: Steps in Demand Estimation



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 state²⁰. The labour force participation rate may continue to follow the decreasing trend, especially for the age category 15-29 years, primarily because of increasing economic well-being, high educational aspiration and higher salary expectations. The flowchart below explains the step involved in supply estimation:

Figure 31: Steps in Supply Estimation



A.3 List of Stakeholders

Table 26: List of Stakeholders

S No	Stakeholder	Category
1.	District Assistant Director, Directorate of Employment and Training	Govt. Official
2.	Assistant Director, MSME Industries, District Industries Centre	Govt. Official
3.	District Employment Officer	Govt. Official
4.	Administrative Officer, SIPCOT Manamadurai	Govt. Official
5.	Estate Manager, SIDCO Sivaganga	Govt. Official
6.	Principal, Government ITI Karaikudi	Training Service Provider
7.	In-Charge, Silk Reeling Centre under Department of Textiles	Govt. Official
8.	Secretary, Tamil Nadu Small and Tiny Industries Association (TANSTIA), Sivagangai Chapter	Industry Association
9.	Placement Officer, Alagappa Government Polytechnic College Karaikudi	Training Service Provider
10.	Principal Researcher, Skill Development Group, CSIR-CECRI	Training Service Provider
11.	Principal, Alagappa Institute of Skill Development	Training Service Provider
12.	Lakshmi Tiles	Industry
13.	Sri Karpaga Vinayagar Handlooms	Industry
14.	Ariyakudi Metalworks	Industry
15.	Sri Murugan Wood Sculpting Workshop	Industry
16.	K.P.S Tyres	Industry
17.	V.M. Hallow Block	Industry
18.	New Bright	Industry
19.	Sri Periyanchi Plastic	Industry
20.	Evion Pet Bottle	Industry
21.	Madha Aqua	Industry

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

22.	Sirus Zip Fastner--unit-2	Industry
23.	Muthiah Motors	Industry
24.	Sri Kanna Industries	Industry
25.	Sri Jothiminerals & Chemicals	Industry
26.	Santhosh Packs	Industry
27.	Venkateshwara Enterprises	Industry
28.	Sundaravalli Honda Motors Private Limited	Industry
29.	Sri Moogambigai Agency	Industry
30.	Meenu Honda	Industry
31.	Annai Motors	Industry
32.	Runish Motors	Industry
33.	Sri Kaveri Motors	Industry
34.	Ravivarman Welding Works	Industry
35.	Sri Ganapathy Motors	Industry
36.	Amirtha Motors	Industry
37.	N.M.H Industrial Center	Industry
38.	Noor Industries	Industry
39.	British Backery	Industry
40.	Geetha Engineering Works	Industry
41.	Yogiram Metal Fabs	Industry
42.	Kalinga Furniture	Industry
43.	Kallaerated Water Works	Industry
44.	Castro Industries	Industry
45.	Tusker Rubber Products	Industry
46.	Kani Iron Works Private Limited	Industry
47.	Indu Industries	Industry
48.	VVL Motors	Industry
49.	Akshyaa Suzuki Unit-1 &2	Industry
50.	Sri Vijayalakshmi Sllks	Industry
51.	Karaikudi Pet	Industry
52.	R.S.K Metak Roofing	Industry
53.	Protech	Industry
54.	Surya Plastic	Industry
55.	Auro Poly Sacks	Industry
56.	Rani Kungumam	Industry
57.	Jahir Ussain Welding Works	Industry
58.	Nithya Motors	Industry

59.	Rasi TVS	Industry
60.	The Hotel Malar	Industry
61.	Sri Annapoorna Hotel	Industry
62.	Plazaa Tower Lodging	Industry
63.	Subbulakshmi Auto Mobiles	Industry