Skilling for the Future

Skill Gap Assessment & Action Plan for Tamil Nadu

District Skill Development Plan for Tiruvannamalai

November 2019

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Disclaimer

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List of Abbreviations

S.No	Abbreviation	Expanded Form
1.	BFSI	Banking, Financial Services and Insurance Sector
2.	DDU-GKY	Deen Dhayal Upadhyaya Grameen Kaushalya Yojana
3.	DISE	District Information System for Education
4.	GDDP	Gross District Domestic Product
5.	GoTN	Government of Tamil Nadu
6.	GSDP	Gross State Domestic Product
7.	GVA / GSVA	Gross Value Added / Gross State Value Added
8.	ITI	Industrial Training Institute
9.	IT-ITES	Information Technology and Information Technology Enabled Services
10.	LFPR	Labour Force Participation Rate
11.	Manuf.	Manufacturing
12.	NEET	Not in Education, Employment, or Training
13.	NSDC	National Skill Development Corporation
14.	NSQF	National Skills Qualification Framework
15.	NULM	National Urban Livelihood Mission
16.	PMKVY	Pradhan Mantri Kaushal Vikas Yojana
17.	PSU	Public Sector Undertaking
18.	QP-NOS	Qualification Pack – National Occupational Standards
19.	SIDCO	Small Industries Development Corporations
20.	SIPCOT	State Industries Promotion Corporation of Tamil Nadu
21.	SSC	Sector Skill Council
22.	TNSDC	Tamil Nadu Skill Development Corporation
23.	TNSRLM	Tamil Nadu State Rural Livelihood Mission
24.	Tr. & Tou.	Trade and Tourism Sectors

Executive Summary

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

Tamil Nadu currently has the highest Gross Enrolment Ratio in Higher Education (48.6)[2], among all the states in India. The state faces a mandate of developing and maintaining high quality human resources to deal with the evolving economy and ensuring social justice in the form of decent employment for its educated populace. Thus, it is essential to carefully analyse the industry demand, investment patterns, and 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 360 youth across the following groups – engaged in economic activity (self-employed, wage-employed, entrepreneurs), students in formal education, vocational and skill training institutions (Polytechnics, ITI), and those who fall under the Not in Education, Employment or Training (NEET) category. Six blocks in the district were covered, which include: Chetput, Polur, Pudupalayam, Thurinjapuram, Tiruvannamalai and Vandavasi.
2. **Quantitative employer survey**: covering 46 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),

[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

district-level Industry Associations across priority sectors, officials from various government departments, representatives from various higher education institutions, and training service providers. Focus group discussions have been conducted in the district.

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:

Demographic Analysis	• At 27 years, the median age of Tiruvannamalai is lower than the State average. The mean age is estimated to increase further to 33 years by 2026 indicating a much older population. Thus, the district needs to invest in skill development immediately to reap benefits of its demographic dividend.
Economic Analysis	• Tiruvannamalai is primarily an agriculture dependent district and contributes 1.8% to the State's GDP. • The economy of Tiruvannamalai grew at a CAGR of 3% between 2011-12 and 2016-17. • Crop cultivation has not been profitable due to erratic weather conditions in the last decade. However, agriculture need to be revived, as 56% of the workforce in the District are dependent on agriculture. • Industrial sector grew at 3% between 2011-12 and 2016-17. Manufacturing and Construction account for 99% of the industrial output. • The key industries include footwear, spinning, dairy and ceramic products as per the output and employment of Annual survey of Industries. • Services sector contributes to 50% of the GDDP. The sector grew at a CAGR of 6% between 2011-12 and 2016-17.
Labour Market Analysis	• The District has a labour force participation and worker population ratio higher than the respective State averages, owing to the larger share of working age population. Similar pattern is noticed among youth also. • Half of the workforce is engaged in the primary sector (Agriculture & allied) followed by transportation, trade and repair services
Education & Skill Development	• 8.7% of the District population have undergone some kind of vocational training. • Apprenticeship scheme generally favours public sector institutions, mainly due to their need in large numbers; however, such apprenticeships do not transition in to employment prospects for the youth, as the recruitment process at the public sector institutions constrain regularisation of the apprentices.
Findings from Primary Survey	
Youth Profile and Aspirations	• Over 17% of the respondents who had completed a Diploma and 35% of the respondents who are graduates and above were engaged in unskilled work. • Only 6% of the Not in Education Employment or Training (NEET) category respondents wished to work in the future. • Over 39% of the youth aspire for employment in the Public Sector. • Salary (wages) / Income, Social status and Job Security were the key determinants of selection of work. • Relevant work experience and basic soft skills were reported to be the key factors that determine employability and employment. • Female respondents aspired for handloom and handicraft and leather sectors, while Males aspired for transport, tele communication and iron and steel sectors. •

Employer & Other Key Stake holder Perspective	**Quantitative Survey** • 83% of the employers used references from existing employees or known sources as the principal mode of recruitment. • Lack of prior experience and high wages and attitude are the major challenges faced by the employers in the recruitment and retention of workforce. • On an average, 56% of the workers were skilled while the rest were largely divided into semi-skilled (14%) and unskilled (31%). • Only 42% of the respondents (employers) were considering adoption of low levels of technology. The industries see a greater role for upskilled / re-skilled labour who can adopt to newer and efficient techniques. • Very few respondents had awareness about Govt. run vocational programs. **Qualitative Inputs** • Small Industries perceive that the youth prefer jobs in IT/ITES, BFSI, and Logistics. • Youth expectation on work is largely for an enabling work environment with better amenities, sanitation and transport facilities. • Communication skills, soft skills, interpersonal skills and attitude need to build among workers in the services sector. • Small scale Industries are willing to partner with the Govt. to develop apprenticeship for short term skill development programs.
Incremental Demand	• Nearly 58 thousand incremental skilled and semi-skilled workforce are expected to be in demand over the next 6 years • Key sub-sectors driving the demand are Manufacturing, Education & Healthcare, Repair of Computers and other household goods, Construction, Communication, Financial and Insurance Services and Transportation.

Recommendations:

1) **Strengthen Industry engagement in skill development:** to deliver market-relevant courses and real-time work experience for the trainees. Develop trainers/ master trainers by enabling industry attachments and launch industry-led specialised courses.

2) **Youth Counselling Programmes for knowledge, Attitude and Behaviour change need to be prioritised:** Awareness creation among the Youth on career opportunities and nature of work and guide them on their education and training choices that can been made prior to employment;

3) **Develop technical knowledge and skills in agriculture and allied sectors through value addition:** Provide appropriate and relevant technical knowledge on agriculture practices such as SRI method of rice cultivation, precision farming, etc. will motivate youth to choose careers in agriculture and allied. Modern digital platform can be used for training by developing audio visuals on different region specific, crop specific content.

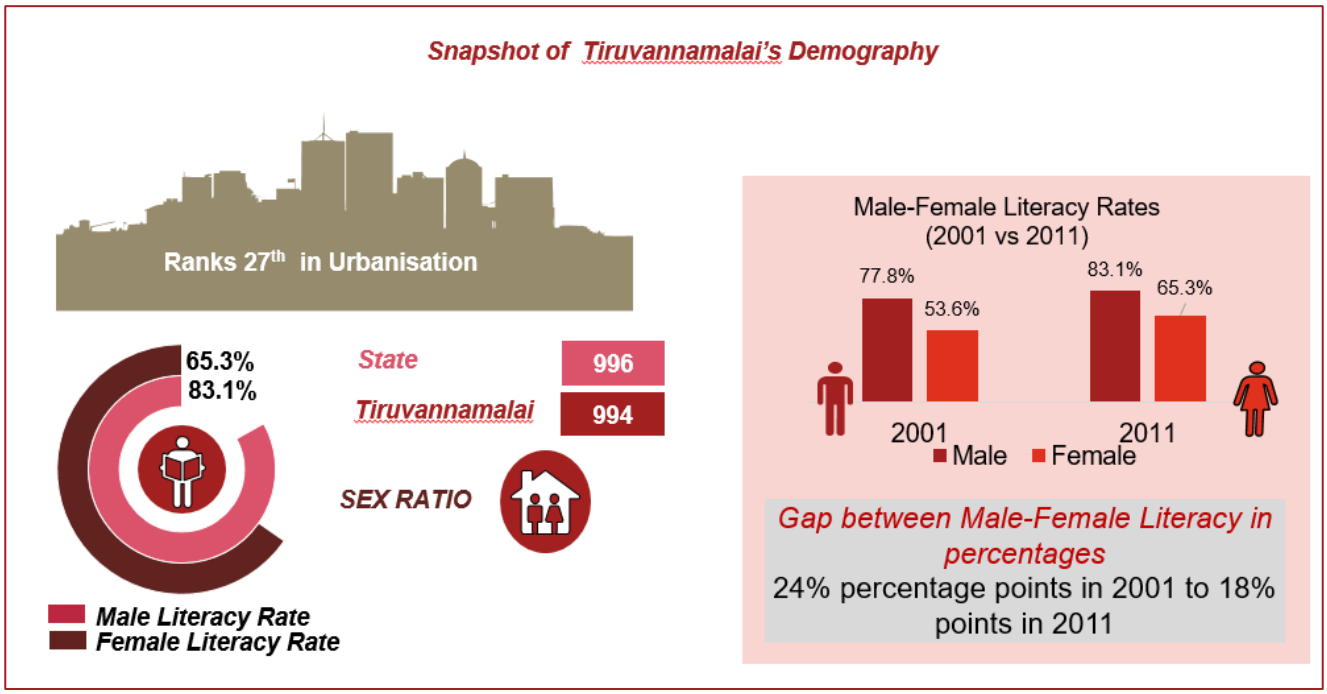
1. District Profile

1.1. Demographic Profile

Tiruvannamalai is located in the northern part of Tami Nadu and was formed in 1989 after bifurcation from North Arcot District. Tiruvannamali District comprises 12 taluks, 18 Blocks, 4 Municipalities, 10 Town Panchayats and 860 villages. Tiruvannamalai district is one of the industrially backward districts of Tamil Nadu that invites more industries in the recent years.al[3].

Table 1: Key Demographic Indicators– Tiruvannamalai vs Tamil Nadu[4]

SN	Indicator	Tiruvannamalai	Tamil Nadu
1	Total population	24,64,875	7,21,47,030
2	Female population	12,28,986	3,60,09,055
3	Population Density per sq.km (2011)	398	555
4	Urban Population	20.1%	48.4%
5	SC population (as % of total population)	22.9%	20.0%
6	ST population (as % of total population)	3.7%	1.1%
7	Differently abled population (as % of total population)	1.5%	1.6%
8	Population in age group 15-34 years (as % of total population)	36.0%	34.8%
9	SC population aged 15-34 years (as % of SC population)	37.6%	36.6%
10	ST population aged 15-34 years (as % of ST population)	35.5%	35.0%
11	Literacy rate	74.2%	80.3%



Key Highlights from the analysis of Census Data:

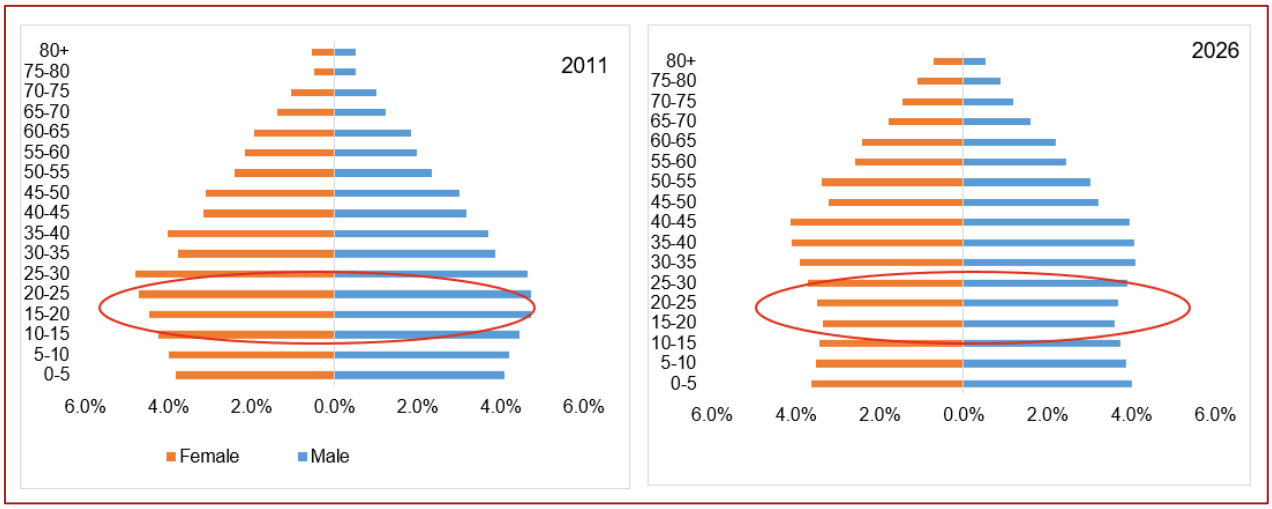
- **Population Growth and Urbanization:** The decadal growth rate **of the population in the district** was **12.8%** between 2001 and 2011, compared to **15.6%** at the State level. The growth in rural population was 10% while in urban it was 24% due to many villages reclassified as urban blocks in 2011.
- **Literacy:** The District had a female literacy rate of 65.3%% while the male literacy rate of 83.1%; lower than the corresponding literacy rates at the State level. The literacy rates among males increased by only 7% while

[3] District Statistic Handbook, Tiruvannamalai, Census 2011
[4] Census 2011 & 2011

among females it increased by 22%, reducing the gap between them from a 24% in 2001 to 18% in 2011. The reducing gap between the male and female literacy rates indicates increase in participation of females in education and also higher level of education attainment among them.

- **Youth Demography:** More than **one-third** of the population was between 15-34 years in 2011. The median age during this period was **27 years**, which is lower than the median age of the State (29 years in 2011) indicating a relatively younger population in the District. The population is set to get older with median age in 2026 expected to be around 33 years, and it is high-time/ right time for investing on skills – so that the fast changing demographic dividend can be securedas illustrated in the age-specific population pyramid of the district as seen below.

Figure 1 Age-wise Population Pyramid of Tiruvannamalai (2011 vs 2026)[5]

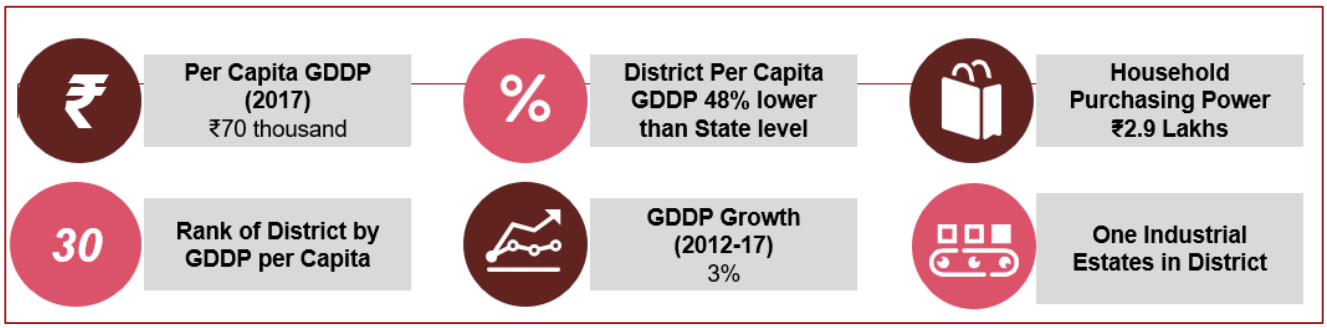


Tiruvannamalai has younger population currently and has more potential of skilling its youth immediately. The gap in literacy rates amongst females and males have decreased over the year.

1.2. Economic Profile

Tiruvannamalai is famous for silk weaving and small-scale industries on food and non-food. It contributes to 1.8% of the State's GSDP.[6][7] The establishment of a grain mills and weaving industries contribute to the economic growth of the district. The District ranks **30th in terms of Per Capita Income and 31st in terms of Purchasing Power**.[8]

Figure 2 Key Economic Indicators of Tiruvannamalai District



[5] Age wise Population projected for 2026 based on age group wise life expectancy, birth and death rates
[6] D0ES, GoTN
[7] District Industries Profile, DC-MSME, 2015-16
[8] Household disposable income as computed under districtmetrics.com.
Household Purchasing Power is calculated from the total purchasing power (disposable income after savings/ investments) of the district, divided by the projected number of households (savings/ investment data calculated from RBI database on savings).

1.2.1. Sector wise Analysis[9]

Figure 3 Sectoral Snapshot of GVA 2016-17

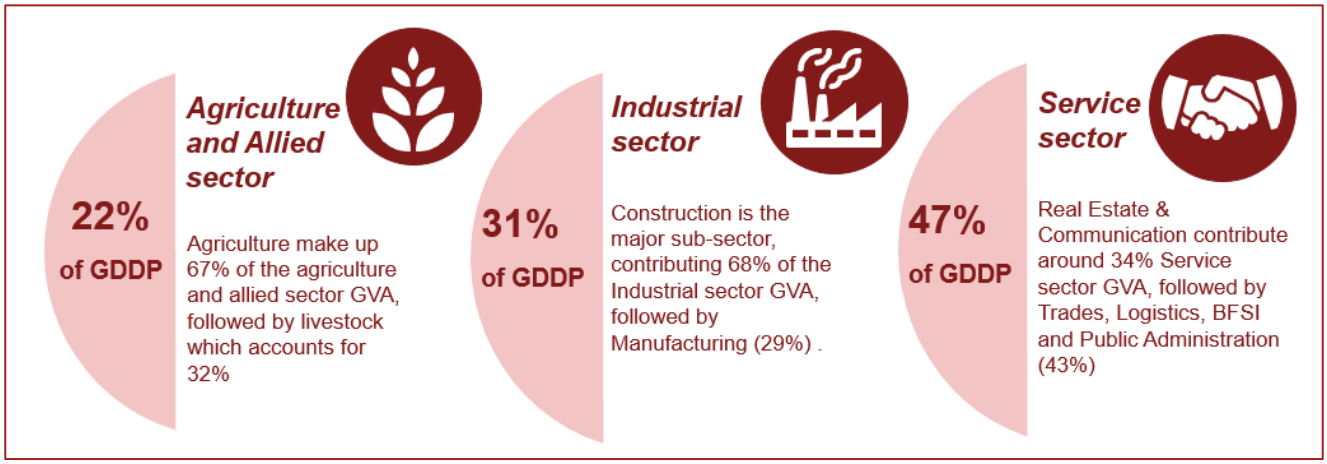
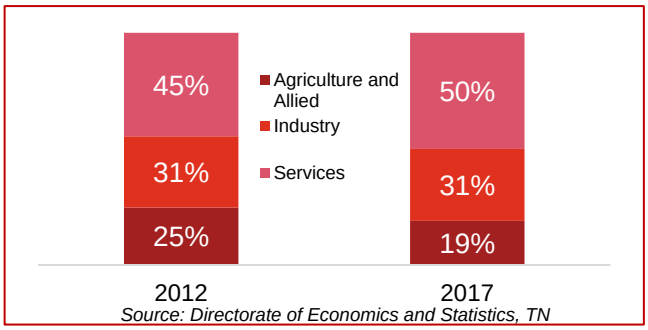


Figure 4 Sectoral Share of GVA (2011-12 & 2016-17)



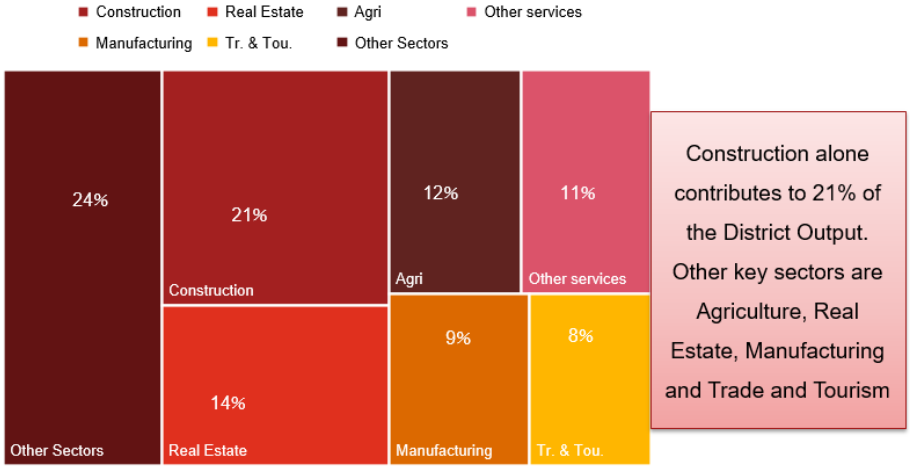
Source: Directorate of Economics and Statistics, TN

The Economy of the District is dominated by the service sector, accounting for about 50% of the District output in 2016-17. Tiruvannamalai is one of the less prosperous districts with a Per Capita GDDP lower than the State average. This District has recorded a decline in share of agriculture and allied sector since 2012-13. The share of industry has remained the same at 31% between, 2012-13 and 2016-17. The Services sector contribution to the District's economy has increased by 5 percentage points from 2011-12 to 2016-17. At sub-sector level manufacturing, real estate, trade & tourism, construction and BFSI are the major contributors to the District's economy.

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

Sector	2012-13	2013-14	2014-15	2015-16	2016-17	CAGR
Agriculture & Allied	7%	-3%	2%	-1%	-13%	-2%
Industry	17%	-6%	-2%	9%	1%	3%
Services	6%	8%	8%	2%	5%	6%

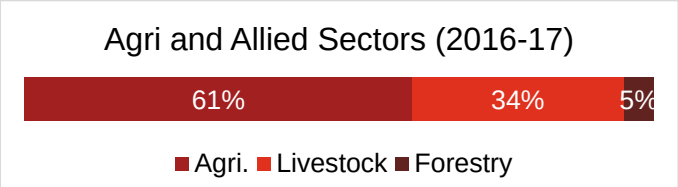
Figure 5 Share of GVA by Industry of Origin (2016-17)



[9] Directorate of Economics and Statistics, Tamil Nadu

Agriculture and Allied Sector

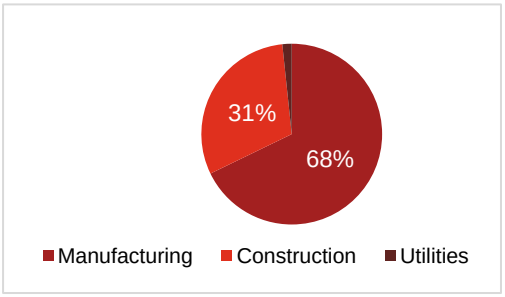
Figure 6 GVA of Agriculture and Allied Sectors (2016-17)



Agriculture's contribution to the District economy was one-fifth in 2016-17, though around 56% of the population is engaged in Agriculture and allied activities for their livelihood in the District. Agriculture is the major contributor (61%) to the share of GVA of agriculture and allied sectors. Major agricultural crops cultivated in the District are Paddy, Groundnut, Blackgram and Sugarcane followed by other minor crops such as Cumbu, Samai, Ragi, Maize, Varagu, Redgram, Greengram Gingelly, Cotton, Banana and Chillies. Nearly 95% of the farmers belong to small and marginal category holding 76% of the total area in the District. The growth of agriculture sector was very low in 2016-17 which was a **drought year in Tamil Nadu** and was a disaster among the farmers of the State as well as the District. The drought occurred due to the worst rainfall of last 140 years in Tamil Nadu.

Industrial Sector

Figure 7 Industrial Sector GVA (2016-17)



Tiruvannamalai District is a backward District in terms of Industrial production. Recent growth in the manufacturing sector (3% between 2011- 12 and 2016-17) has enabled growth in the industrial sector. The growth was high at 17% in 2012-13 due to large scale investments proposed for shoe manufacturing, food processing and auto ancillary SEZ in the district. The sector is dominated by the Manufacturing and Construction sectors - they account for almost 99% of the output.

Major emerging sectors: Fruit processing, pharmaceuticals and ceramic products and dairy development.

Key Clusters and Traditional Industries	
Korai Mat Cluster **Avoor, Vandavasi**	Silk Weaving **Arani, Devikapuram**
Rice Mill **Cheyyar**	Herbal products **Javadhu Hill**
Mushroom processing Herbal extraction And Honey processing **Janmamaruthur, Tribal region**	Handloom **Kilkodungalur, Vazoor, Ponnur, Kannagampoondipudur, Cittaragavurpudur, Vedal, Ammaiyappattu, Koviloor, Cheyyar, Vadamanapakkam and Hasanamapettai**
Stone Carving & Wood Carving **Thiruvannamalai**	

Table 3 Profile of Manufacturing Sector from ASI

Industry	No. of Units	No. of Employee	Gross Value Added (share in total GVA)	Share of Employment	Average workers per unit
Manufacture of footwear	5	872	84.8%	4%	174
Manufacture of other fabricated metal products; metalworking service activities	12	828	8.6%	4%	69
Manufacture of dairy products	18	4,825	6.9%	25%	268
Spinning, weaving and finishing of textiles	43	39	4.7%	0	1
Manufacture of non-metallic mineral products n.e.c.	11	314	2.3%	2%	29
Manufacture of grain mill products, starches and starch products	101	4,145	2.3%	21%	41
Manufacture of plastics products	4	351	2.1%	2%	88
Manufacture of other chemical products	4	1,492	0.1%	8%	373
Manufacture of wearing apparel, except fur apparel	7	160	0.1%	1%	23
Manufacture of vegetable and animal oils and fats	3	644	0	3%	215
Manufacture of other food products	4	42	-10.9%	0	11
Others	14	279	-1.0%	1%	20
Total	**226**	**19,473**	**100.0%**	**100%**	**86**

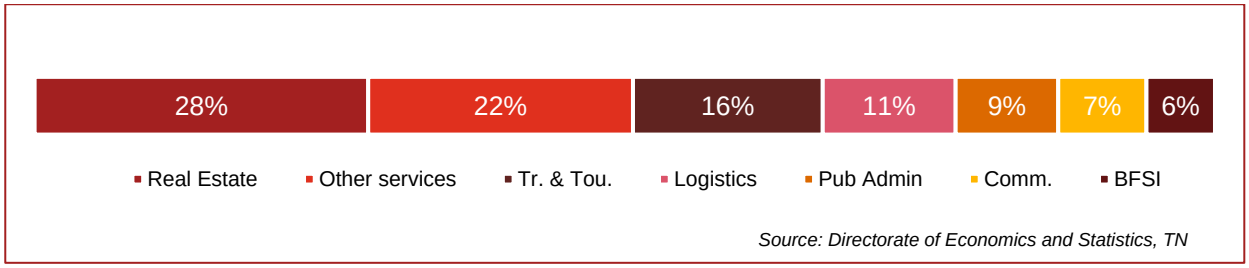
Source: Annual Survey of Industries 2014-15

According to the ASI 2014-15, only 226 Industrial units were present in the District, directly employing around 19,000 workers. **Footwear, fabricated metal products, dairy products were the key Industries as per output and employment.** Average workers per unit are maximum in manufacturing of chemical products and manufacture of dairy products.

Services Sector

The service sector has witnessed an average growth of 6% between 2011-12 and 2016-17. Real estate contributed to nearly one-third of the service sector GVA. **Trade and tourism, other services, logistics are other areas that drive the services sector economy of the district**.

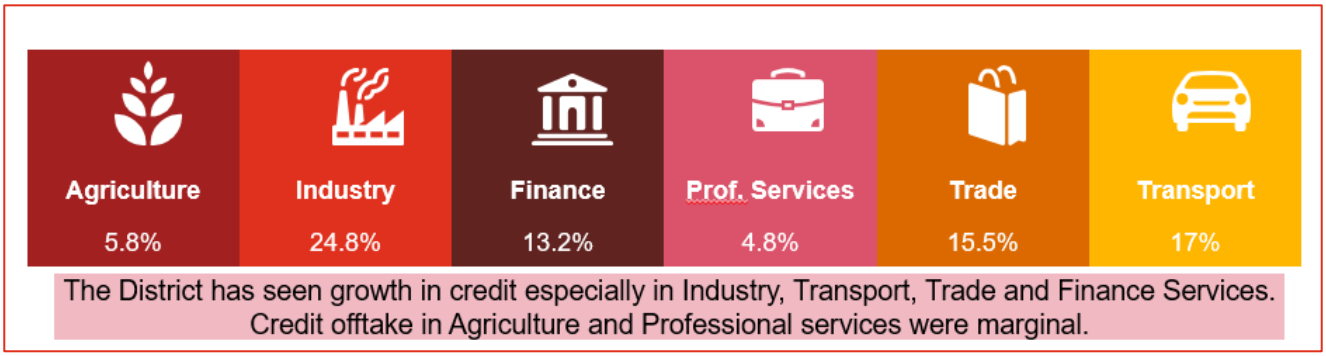
Figure 8 GVA of Services Sector (2016-17)



Source: Directorate of Economics and Statistics, TN

1.2.2. Investments and key economic drivers

Figure 9 Sector-specific growth of Credit off Take (2013-16) - RBI



In Tiruvannamalai District, key investment is expected in the areas of food processing, engineering, and infrastructure[10]. Tiruvannamalai Dairy Farm Processing unit has been proposed by the Tamil Nadu Co-operative Milk Producers' Federation. Ltd with an investment of ₹ 750 million for processing the dairy produce from within the District. Government of Tamil Nadu has also proposed a Mega Food Park for production of processed foods. A Concrete Equipment Manufacturing Plant has also been proposed by a foreign investor (Schwing Stetter [India] Pvt. Ltd.) under Mining and Construction equipment industry with an investment of ₹ 3,500 million. Another key investment is the proposed new bus stand at Cheyyar (SIPCOT industrial area) by the Road Transport Services Department, with an investment of ₹ 300 million.

[10] Capital Expenditure Database, Centre for Monitoring Indian Economy

Labour Market Profile[11]

The overall labour force participation and worker population ratio are slightly higher at the district level than at the State. Nearly half of the workers in the District are casual labour, higher in proportion than at State level. Youth Unemployment Rate is almost in alignment with the State average even in the case of 15-29 years category.

Figure 10 Key Labour Market Indicators[12]

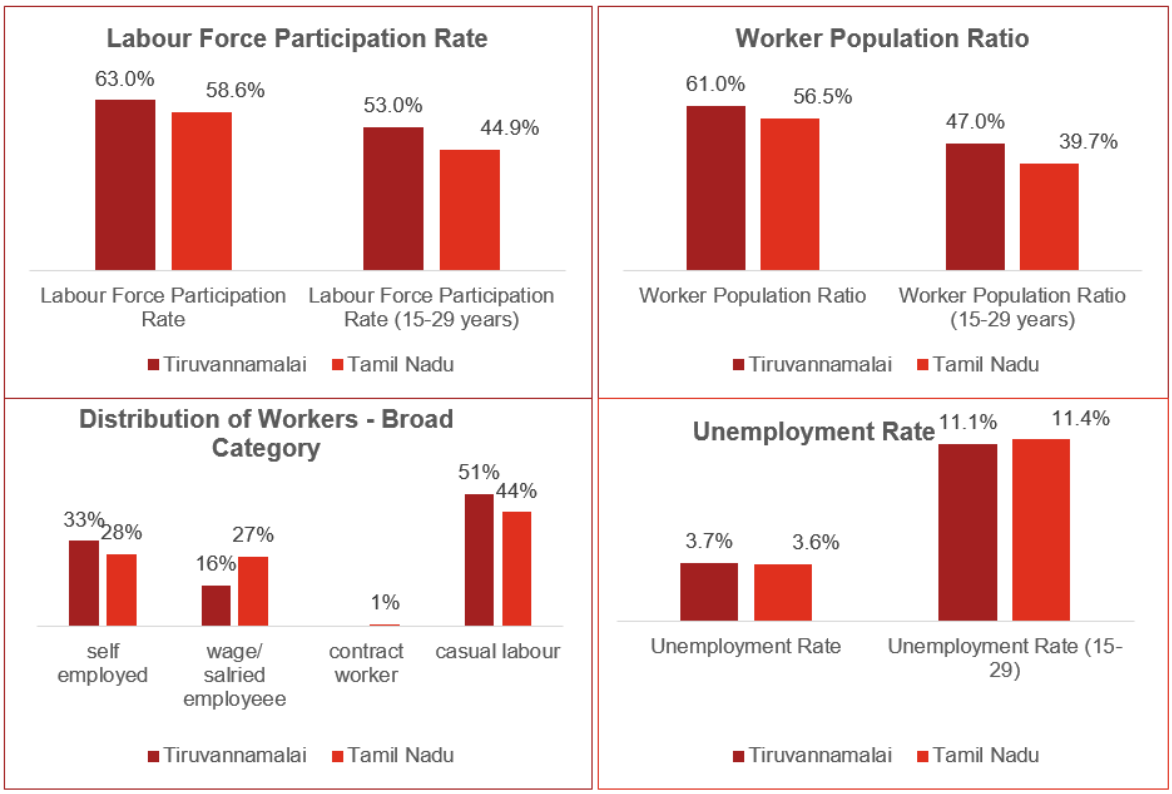
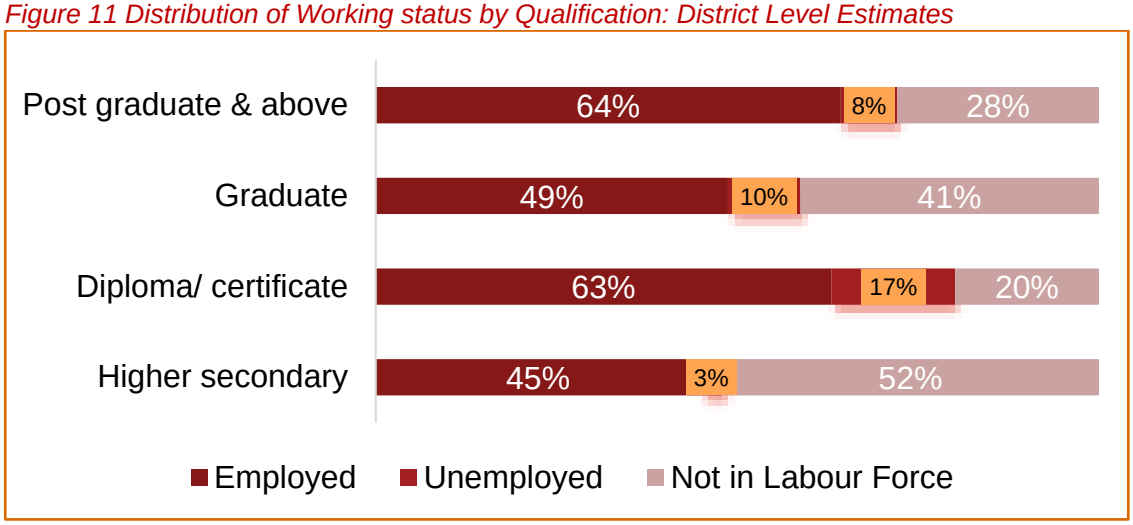


Figure 11 Distribution of Working status by Qualification: District Level Estimates



The education-level classification of the District population reveals that the unemployment rate among youth with diploma and certificate holders are high in the District. 10% of the population are unemployed among graduates and 8% of post graduates and above are unemployed. It is noted that large proportion of graduates, post-graduates and diploma holders are not in labour force, which might be due to their expectation of better wages, or work profile or working environment. The overall trend suggests positive correlation between unemployment level and level of education, pointing towards mismatch between industry demand and supply from the

[11] Analysis in this section are based on the District Level Estimates, EUS, 2013-14, Labour Bureau
[12] District Level Estimates, EUS, 2013-14, Labour Bureau

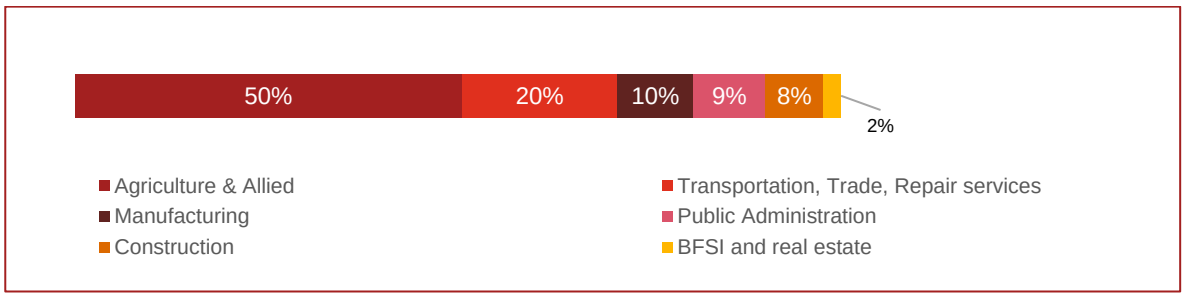
educational institutions in the District. Appropriate skill training may address the gap between industry expectation and supply.

Table 4: LFPR and Unemployment Rate by gender & Location

Sex	LFPR		Unemployment Rate	
	Rural	Urban	Rural	Urban
Male	84%	76%	4%	4%
Female	49%	21%	3%	11%

On disaggregation by area and sex, it is found that females have rural labour force participation rate 28 percentage points higher than their urban counterpart. The urban unemployment rate for females is 11% while unemployment rate among rural females is only 3%. Such a gap is not seen in the figures for males, indicating that urban women face a lack of employment opportunities and there is a scope for training woman in the District, specific to industry demand. Higher unemployment rate among urban female has increased the overall urban unemployment rate of the District to 4%.

Figure 12 Sector-wise share of Employment



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

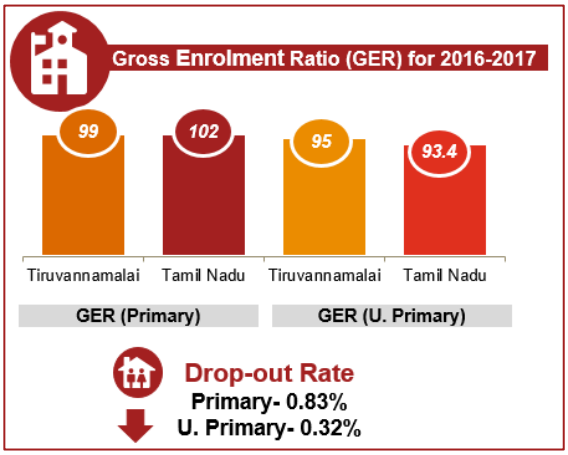
Half of the workforce in the District is employed in the agriculture sector and 20% employment in trade and communication but the overall contribution from Industry sector is 31% of the GDDP. This reflects an improvement of productivity in the industrial sector. Trade and Communication is the second most important sector in terms of employment followed by agriculture. The ratio between agriculture employment and output is relatively high and indicates high productivity of the workforce in the District.

A large share of the population is employed in agriculture. The productivity of Industry sector contributes to 31% of the GDDP which is a sign of improvement. In addition, unemployment among youth with diploma/certificate holder education is a concern.

1.3. Education Profile

According to the District Statistical Handbook 2016-17, there were 2,510 schools functioning in the District; of which 2,001 are elementary/middle schools, 273 high schools and 236 higher secondary schools.

The Gross Enrolment Ratio[13] at both Primary and Upper Primary levels are lower than the respective State averages. The ratio indicates that the number of students in the district surpass the expected population in the age cohort by a significant margin. One of the reasons is the access to schools with low connectivity of roads and vehicles. The drop-out rates are marginal at 0.83% at the primary level and 0.32% at the upper primary level.



Tiruvannamalai has 14 Polytechnic colleges in the District with a total enrolment of 4,363 students. There are 11 General Arts & Sciences Colleges with an enrolment of 14,698 students. There are four women's Arts and

[13] 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.

Science colleges in the district. Apart from this, the District has two nursing colleges, one medical college, one horticulture college and seven college of education.

Table 5 Institutions of Higher Education in Tiruvannamalai District[14]

S.No	Institution Type	No of Institutions	Students		
			Males	Females	Total
1.	Engineering Colleges	12	7,276	3,433	105,65
2.	General Arts & Science Colleges	19	12,652	19,882	32,894
3.	Polytechnics	14	9,252	746	9,943
4.	Agriculture College of TNAU, AC&RI	1	117	144	261
5.	Pharmacy Colleges	2	362	290	652
6.	Nursing Colleges	3	51	476	527
7.	ITI	21	2,180	153	2,333
8.	Teacher Training Institutions	15			261

1.4. Vocational Education and Skill Development Profile

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, four training institutes offered courses on sewing machine operator and self-employed tailor. Apparel is the most prominent sector under PMKVY.

Table 6 Vocational Training under Short Term Skill Development Programs[15]

Scheme	Sector	Job Role	No. of Training Centres	Capacity/ Intake
Pradhan Mantri Kaushal Vikas Yojana	Apparel	Sewing Machine Operator	2	299
		Self Employed Tailor	1	240
		Dairy Farmer/ Entrepreneur	1	60
	Agriculture	Gardener	2	150
		Micro Irrigation Technician	1	60
		Organic grower	2	117
		Small poultry farmer	1	60
	Automotive	Machining and Quality Technician	1	60
	Beauty and Wellness	Beauty Therapist	1	119
	Construction	Assistant Electrician	3	372
	Electronics and Hardware	Field Technician - Computing and Peripherals	2	120
		Field Technician - Other Home Appliances	1	60
		Mobile Phone Hardware Repair Technician	1	60
	Food Processing	Baking Technician/Operative	1	60
	Handicrafts and Carpet	Agarbatti Packer	1	60
	Leather	Stitcher (Goods & Garments)	1	60
	Logistics	Consignment Tracking Executive	1	30
	Retail	Retail Sales Associate	1	30
Tamil Nadu Skill Development Programs	Apparel	Self Employed Tailoring	1	30
		Sewing Machine Operator	1	20
	Construction	Assistant Electrician	1	30
		Plumber	1	20
	Life Science	Medical Sales Representative	1	20
	Garment Making	Tailor (Basic Sewing Operator)	1	20
	IT/ ITeS	Domestic Data entry Operator	1	20
		Hardware Engineer		20
Deen-Dayal Upadhyay	Construction			
	Healthcare			

[14] District Statistical Handbook, Govt. of Tamil Nadu

[15] 2017-2018 training year report.

Scheme	Sector	Job Role	No. of Training Centres	Capacity/ Intake
Grameen Kaushal Yojana	Tourism and Hospitality	-	11	3,465
	Iron and Steels			
	Logistics and Supply Change Management			
	Retail			
	Electronics			
	Apparel			
	IT/ITES			
	Security			
	Food Processing & Preservation			
	Agriculture			

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

The long-term skill development programs are predominantly offered through the Industrial Training Institutes (ITIs), which offer one and two year programs across various sectors and trades. The **13 ITIs** in the district offer 10 trades, with 2,729 seats, occupied by 1,723 trainees indicating just 63% utilization of its capacity.

The below table presents the courses offered through ITI, and the number of such institutes offering each trade/ training for job role.

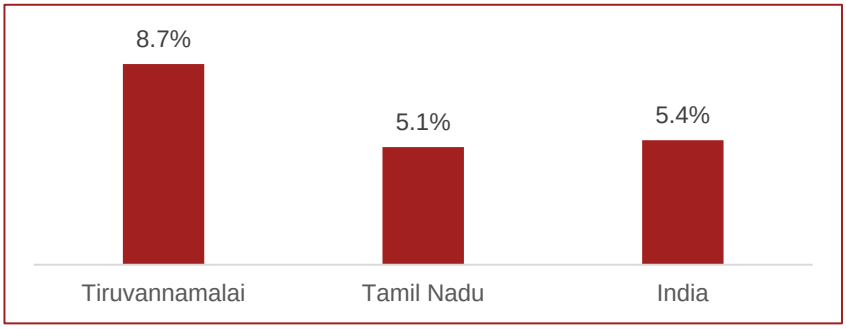
Table 7 Vocational Training under Long Term Skill Development Programs (ITI)

Scheme	Sector	Job role	Number of Training Centers	Total Capacity	Intake
Industrial Training Institutes (Craftsmen Training Scheme)	Capital Goods	Draughtsman (Civil)	1	0	0
		Draughtsman (Mechanical)	1	0	0
		Welder	6	210	148
	IT/ ITeS	Computer Operator and Programming Assistant	1	0	0
	Mining	Fitter	17	483	400
	Iron and Steel	Machinist	1	32	32
	Automobiles and Auto Components	Mechanic (Motor Vehicle)	15	357	349
	Plumbing	Plumber	1	0	0
	Textile and Apparel	Sewing Technology	1	0	0
	Handicrafts & Carpets	Turner	1	32	29
	Electronics & Hardware	Wireman	8	210	210
	Construction	Electrician	15	399	1,561
		Mason (Building Constructor)	1	0	0

Sources: NCVT MIS (2016-17), Data collected from TNSDC (2017-18), TNSRLM (2017-18)

Figure 14 Proportion Undergone Vocational training 2015-16, MoLE[16]

With respect to vocational training in the District, 87 persons per 1,000 had received training in the District, when compared to 51 per 1,000 persons in the State as per the Employment and unemployment survey 2015-16. This is higher than the State and Country; which indicates better scope for promotion of skill training.



[16] Employment and Unemployment Survey 2015-16, Ministry of Labour and Employment

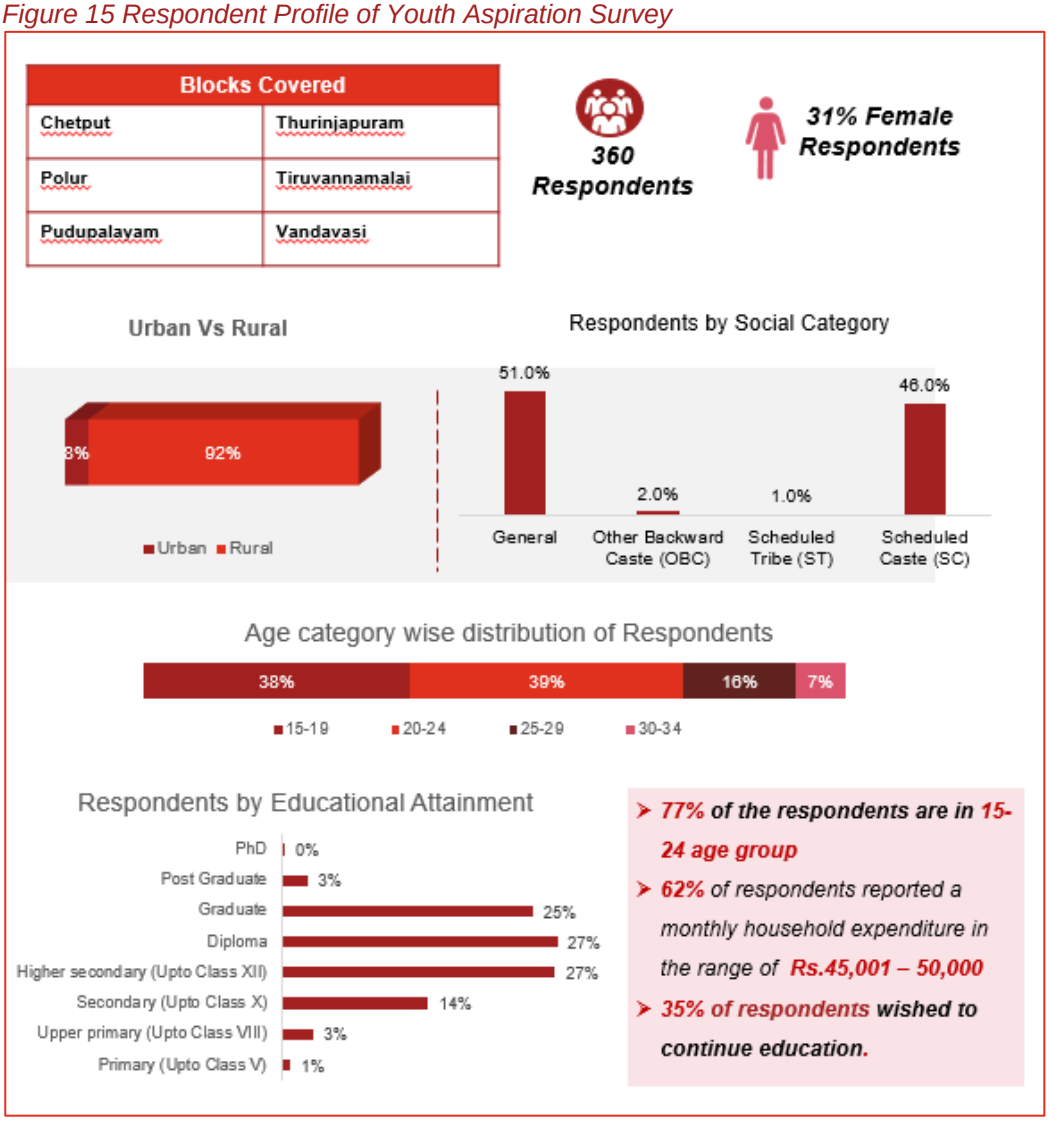
2. Youth Perspective

The study covered youth, employers, industrial associations and other key stakeholders to understand the demand and supply side perspectives of skills. The information was collected through both quantitative survey and qualitative approaches including In-Depth interviews and focus group discussions.

2.1. Profile of Respondent Youth

The structured household survey tool was administered with the 360 youth (young men and women in the age group of 15-34 years) sampled from six blocks **Chetput, Polur, Pudupalayam, Thurinjapuram, Tiruvannamalai and Vandavasi.** Of the total respondents, **31%** were **females**. **Almost 90% of the respondents** were from the rural areas. The sample has balanced representation of various socioeconomic and demographic characteristics of the population.

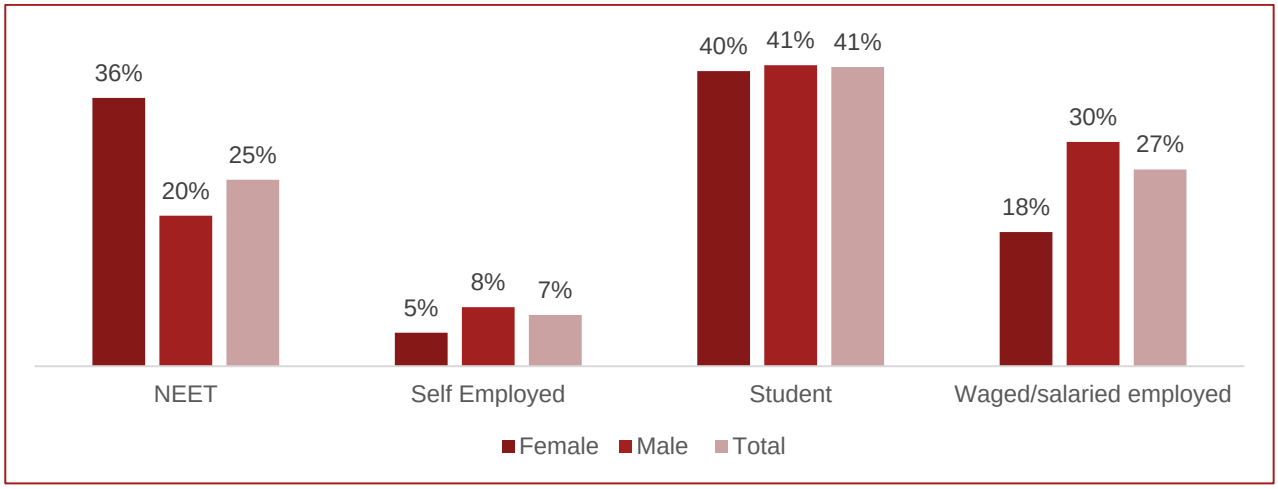
Figure 15 Respondent Profile of Youth Aspiration Survey



2.2. Youths' Educational and Economic Engagement Status

The figure below illustrates the gender wise classification (current status) of the respondents interviwed during the household survey. Two-fifth of the female respondents were students; 36% were in NEET category followed by 18% in wage/salaried employment. Among male respondents 41% were student; 30%were wage/salaried employed and 20% in NEET.

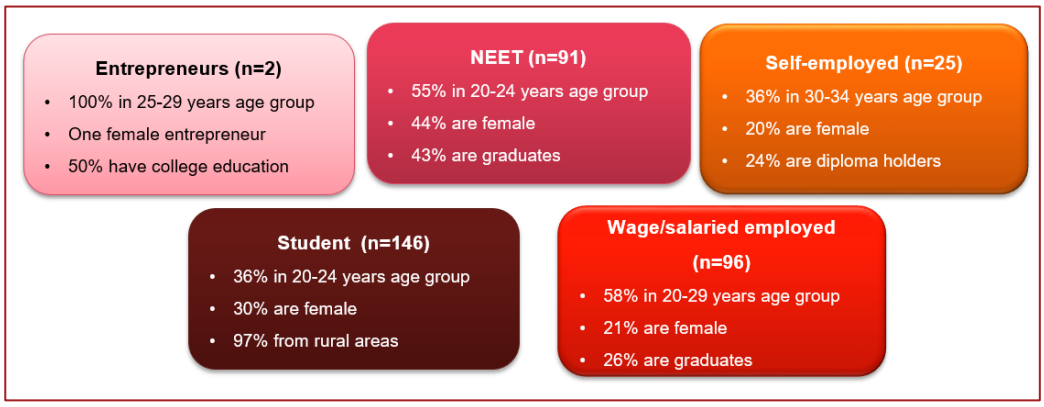
Figure 16 Current Status of Respondent by Sex



2.3. Economic Activity of Respondents

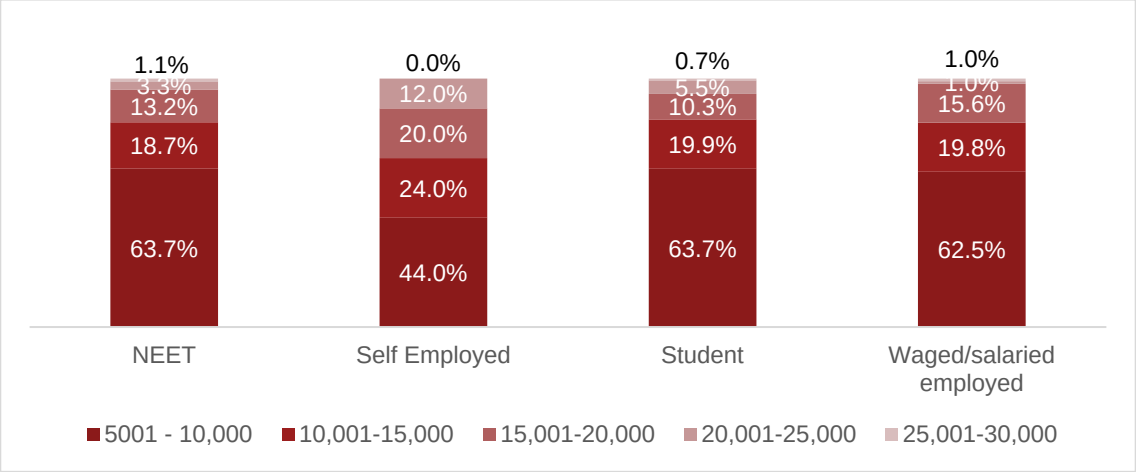
Slightly less than half of the respondents (46%) were currently engaged in work, and 68% had previously worked and were currently not working. Around 36% of the respondents who have ever worked stated that their work was related to their training. Around 62% of the respondents had a monthly income between ₹5,001-₹10,000. 59% of female respondents had earned a monthly income of ₹5,001-₹10,000 while it was 62% among male respondents. Across categories only a small proportion of the respondents (6%) only aspire for higher monthly salary range of ₹ 15,000 to 20,000.

Table 8 Status of employment of Respondents



Note: Figures in parentheses are percentages to total respondents in each category.

Figure 17 Aspired monthly salary of respondents by category



Note: Number of respondents (N) = 360

A large proportion of the respondents ever engaged in economic activity were engaged as unskilled worker. Around half of the respondents who are qualified as diploma (41%) and graduates and above (33%) are into skilled employment. It is important to note that, respondents above higher secondary education were in the salaried sector.

Table 9 Education Qualification of Respondents and Employment Type

Employment Type	Primary (Upto Class V)	Upper primary (Upto Class VIII)	Secondary (Upto Class X)	Higher secondary (Upto Class XII)	Diploma	Graduate & above
Farm Activities	0	11%	3%	9%	7%	11%
Livestock	0	0	0	0	0	4%
Unskilled worker (MNREGA, construction, etc.)	50%	89%	70%	35%	17%	30%
Skilled worker (tailor, mason, electrician, plumber etc.)	0	0	28%	43%	41%	33%
Salaried Employment (teacher, government official, etc.)	50%	0	0	9%	10%	19%
Petty Business/Trade/ Manufacturing	0	0	0	0	3%	0
Major Business/Trade/ Manufacturing	0	0	0	4%	10%	4%
Others	0	0	0	0	10%	0
N	**2**	**9**	**40**	**23**	**29**	**27**

2.4. Youth under NEET Category

Around one-fourth of the total respondents were from the NEET category (37% female and 20% male). 55% of the respondents are between the ages 20-24 years. 71% of the male respondents in NEET category have been in it for a period of 6 months to 2 years, while 60% of the female respondents have been in NEET category for the same duration.

Only 5% of the respondents from the NEET category wish to work in the future, largely due to not being able to find suitable jobs in their District. However only male respondents have been actively seeking work.

Table 10 NEET Category Respondents

Duration in NEET Category	Female	Male	Total
Less than 6 months	0	10%	5%
6 months- 1 year	25%	31%	29%
1- 2 years	35%	39%	37%
2- 3 years	10%	14%	12%
3-4 years	13%	4%	8%
4 -5 years	15%	2%	8%
More than 5 years	3%	0	1%
Total	40	51	91

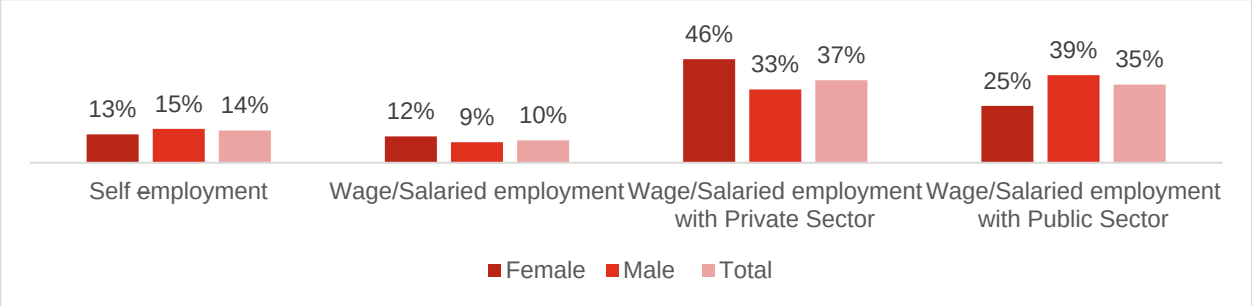
Wish to Work	Female	Male	Total
Yes	3%	8%	6%
Total	40	51	91

Actively Seeking Work	Female	Male	Total
Yes	0	3%	3%
Total	1	4	5

2.5. Youth Career Aspirations

The youth in the District have shown preference for wage/ salaried employment (60%) followed by self-employment. Males have a substantially higher interest for wage employment in public sector while it was for private sector among females. Both females and males have shown similar interest for self-employment.

Figure 18 Career Aspiration of Youth



The main factors influencing the aspiration of the youth are Salary (wages) / Income (61%), social status (58%) and Job Security (48%). Nearly 64% of the respondents claimed that they were largely prepared for jobs. 26% of the youth feel they are moderately or somewhat prepared for requirements for a job while only 3% feel they are not prepared. Nearly 64% of female respondents reported salary/wages as a determining factor while it was 60% among male respondents. 90% of the youth (employed and ever employed together) reported adequately skilled with understanding of Job as main reasons for feeling prepared for ideal work. 70% of the youth felt employment opportunities available in the District were somewhat inadequate.

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

Factors Determining Aspiration*	Responses
Salary (wages) / Income	61%
Social Status	58%
Job Security	48%
Gender suitable role	13%
Emigration Prospects	8%

Perception of Preparedness for Jobs	Responses
Largely Prepared	64%
Moderately Prepared	16%
Somewhat prepared	10%
Completely Prepared	6%
Not Prepared	3%

Flexible work arrangements (location, schedule)	5%	No Answer/ Don't Know	2%
Closeness to Residence	5%	**Availability of Job Opportunities**	**Responses**
Retirement Plans	5%	Somewhat inadequate	70%
Safety / Security	3%	Neither adequate nor inadequate	16%
Employer provided benefits and perks	3%	Somewhat adequate	7%
		Very inadequate	4%
Opportunities for promotion and career development	2%	Don't Know	2%
		Very adequate	1%

Note: Number of respondents (N) = 360
**For multiple-choice questions, the responses add up to more than 100%*

66% of the respondents recorded that they had no challenges in pursuing their aspired career. Among the challenges highlighted, the key factor was lack of guidance or information on appropriate job available for skill levels. All other factors like lack of work experience, lack of family support, low financial strength, pressure related to getting married, lack of technical skills, lack of jobs locally, lack of sufficient education qualification, unsafe environment at work were reported by less than 10% of the respondents.

Table 12 Career Aspiration – Challenges in pursuing sired career

Challenges	Responses	Challenges	Responses
No Challenge	66%	Pressure related to getting married	4%
Lack of guidance / information on appropriate job available for skill levels	19%	Lack of technical / vocational skills	3%
Lack of work experience	9%	Unsafe working environment	3%
Low financial strength	8%	Lack of sufficient education qualification	3%
Lack of family support / social acceptance of girls being engaged in economic activity	7%	Inadequate infrastructure to access work-place	1%
Lack of jobs locally	6%		

Note: Number of respondents (N) = 360
**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 relevant experience (55%) and basics and soft skills (10%). Team work (74%), analytical thinking (40%), leadership (30%) and Clear Communication Skills (17%) were identified as key skills specific to achieve their aspired jobs. A**pprenticeship and gathering work experience (55%) and vocational training (46%) were the major steps reported by respondents to meet these requirements.** 16% respondents were looking to continue education while 8% were looking for apprenticeships.

*Table 13 Key Requirements for desired job and steps to achieve aspirations**

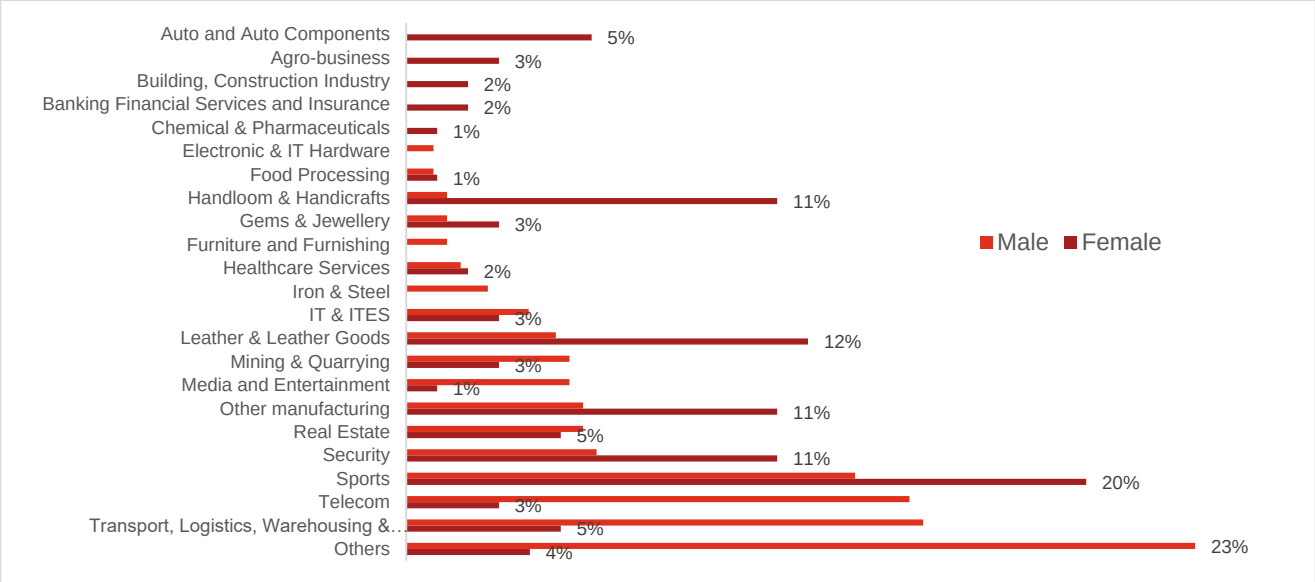
Key Skills Required for desired job			
Team work	74%	Coordination Skills	10%
Analytical thinking	40%	Time management	6%
Leadership	30%	Attention to detail	4%
Clear communication	17%	Complex problem-solving	2%
Creativity, originality and initiative	11%	Critical thinking and analysis	2%
Active listening	11%		
New Steps to achieve aspirations			

Steps	Responses	Steps	Responses
Apprenticeship / Gathering Work Experience	55%	Continuing Education	20%
Vocational/ Skill Training	46%	Already Achieved	4%

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

Handlooms and handicrafts (16%), Auto and auto components (14%) and iron and steel (11%) and others (10%) are the most popular and aspired sectors among youth preference for work. Other Sectors include agro-business, construction, Retail, Tourism, and Banking, Financial Services and Insurance. Female respondents aspired for leather and leather goods and handloom and handicrafts while male aspired for transport and telecom sectors.

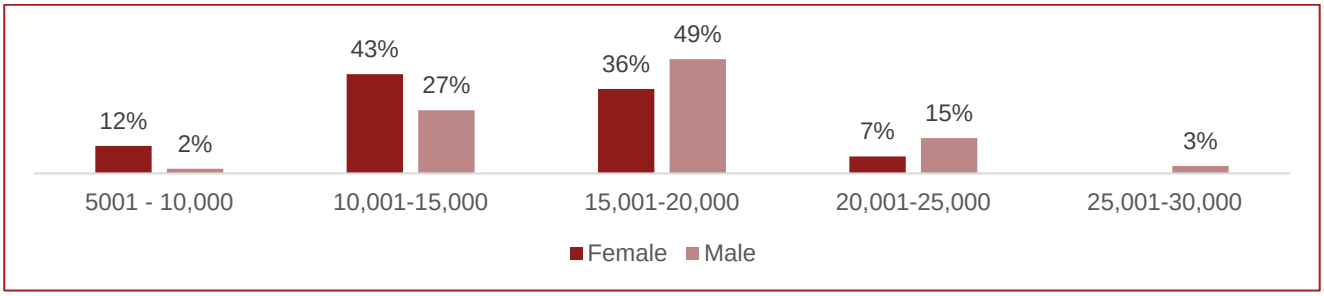
Figure 19 Sectors aspired by respondents



Note: Number of respondents (N) = 360

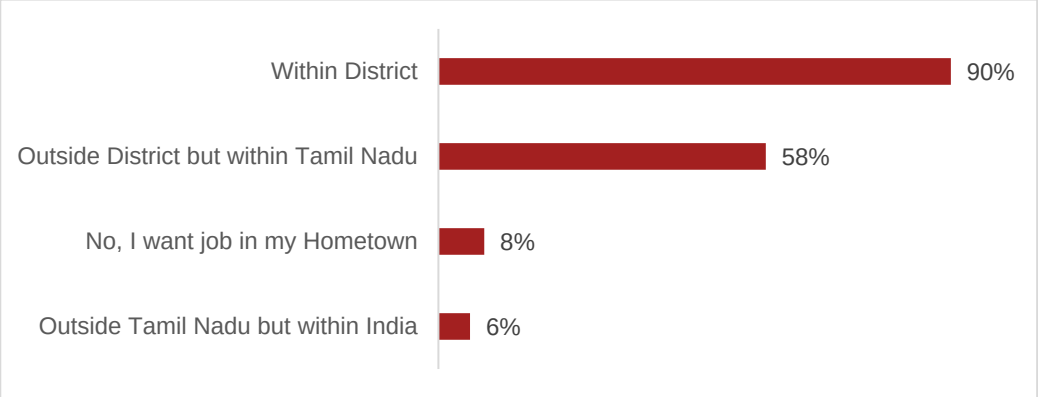
Nearly 79% of female respondents and 76% of male respondents have expectations of monthly income in the range of ₹ 10,000-₹ 20,000 and another 18% of male have an expectation of ₹ 20,001 and above while it was only 7% of female who aspired higher higher salary.

Figure 20 Aspired monthly salary of respondents



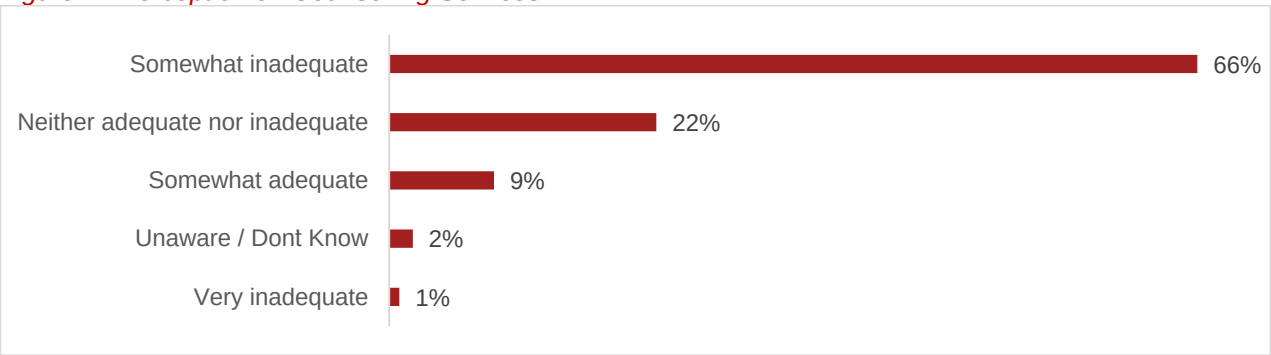
Note: Number of respondents (N) = 360

Figure 21 Preference for Work Location[17]



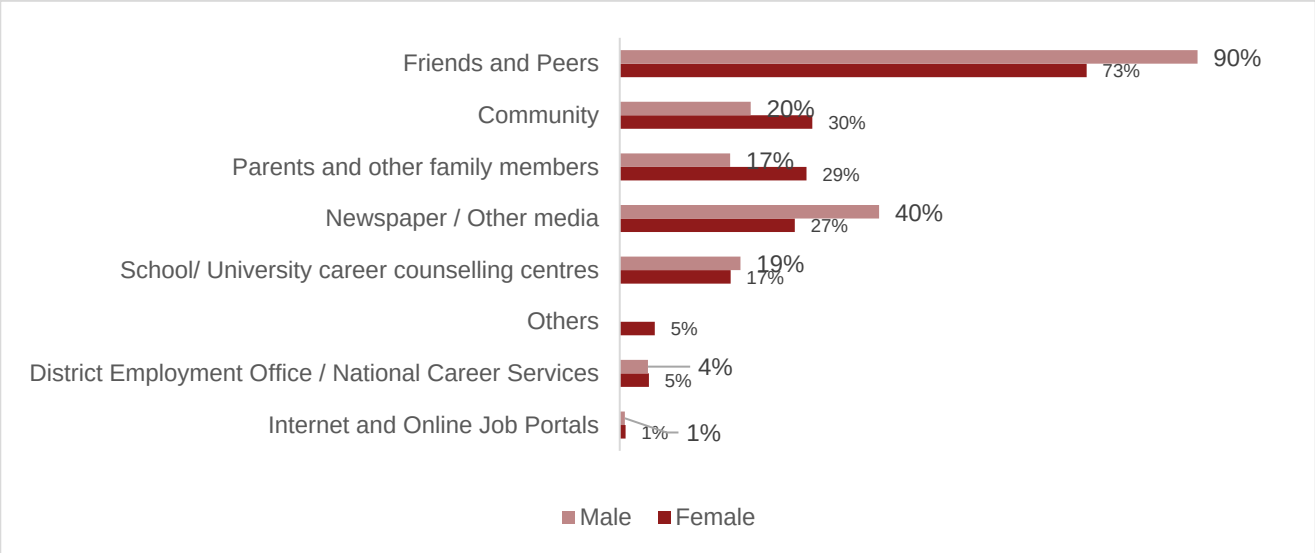
90% of the respondents were interested to work within their District and 58% preferred to consider employment prospects outside the District but within the State. More than two-third of the respondents felt that the counselling services available for job opportunities were somewhat inadequate.

Figure 22 Perception on Counselling Services



Note: Number of respondents (N) = 360

Figure 23 Sources for Job Information[10]

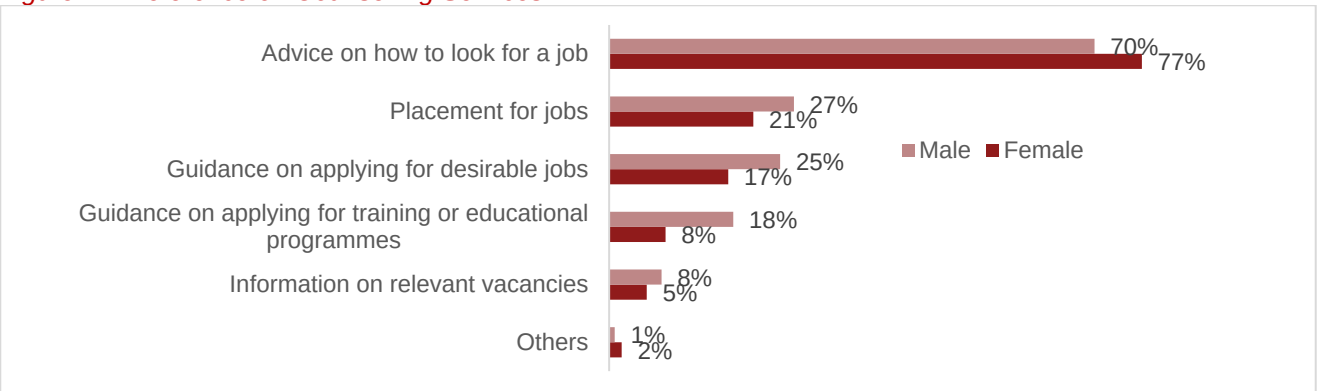


Note: Number of respondents (N) = 360

[17] Multiple Response, Sum may exceed 100%

In general the most important source for Job related information reported by respondents were Friends and peers (84%) and Newspaper/other media (36%), followed by internet and community (23%), parents and family (21%) and school/university counselling centres (18%). The District employment office (4%) play a secondary role. 22% of respondents felt that the counselling services were neither adequate nor inadequate. The gender wise preference for source of job information can be seen in the figure 24. The key inputs requested by the respondents from career counselling services include Information on advice on how to look for a job (73%), placement of jobs (25%), guidance on applying for desirable job (23%) and guidance on applying for training (15%).

*Figure 24 Preference on Counselling Services**

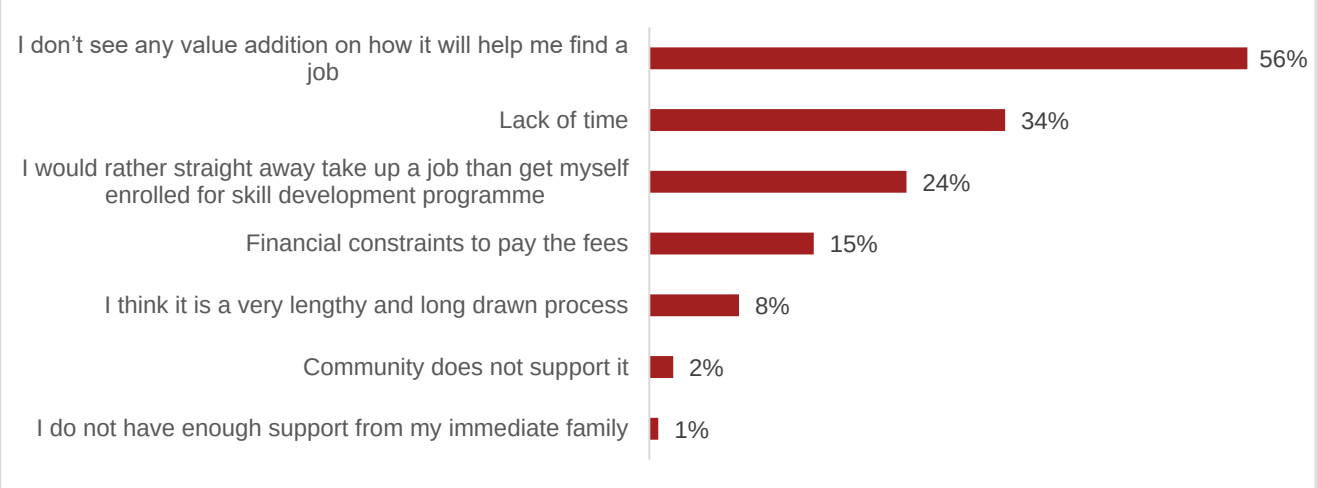


**Multiple response question*

2.6. Skill Training Preferences of Youth

Most of the respondents had no awareness of Govt. run vocational programs and none had undergone any vocational training previously. The major reasons stated by respondents for not interested in taking up training include the perception on the training that it is of no value addition for job opportunities, lack of time and financial constraints.

Figure 25 Reasons for not interested in Skill Training



Awareness on government programmes/schemes among the youth is very limited in Tiruvannamalai District and it is important to have focussed awareness building among the youth on demand-based skill training. Strong student counselling should be in place to create awareness of the existing training needs and also to understand their interests and aspirations for employment.

Transport, telecommunication and iron and steel were the most popular and aspired sector amongst male respondents and handloom and handicrafts and leather and leather products sector were preferred amongst female respondents.

3. Employers' and Other Stakeholders' Perspectives

3.1. Employers' Perspective

The study covered employers, industrial associations and other key stakeholders to understand the demand side perspectives related to skills. The information was collected through both quantitative survey and qualitative approaches including In-Depth interviews and focus group discussions.

The survey covered 46 Industries from 3 sectors and 8 sub sectors, with highest representations from the iron, steel and other metals, auto and auto components, building construction and painting and machinery equipment which are some of the highest contributors to the local economy. 44% of the enterprises were in operations for 11 to 15 years. 2% of the industries surveyed reported to be in the Small Industries category while 98% were from the Micro enterprises category. The selection of the Industries was also based on the labour intensity of the sector.

Table 14 Sub sector wise coverage of Industries in Employer Survey

S. No	Sub sector	Number of Industries Surveyed	S. No	Sub sector	Number of Industries Surveyed
1	Iron, Steel and Other Metals	16	5	Chemical & Pharmaceuticals	2
2	Auto and Auto Components	9	6	Furniture and Furnishings	2
3	Building Construction Painting Industry	7	7	Others	2
4	Machinery Equipment	7	8	Food Processing	1

Majority of the units are micro enterprises and hence reference or other referrals (83%) and local community (50%) were the two modes of recruitment.

Table 15 Challenges in Recruitment Process

	Key Challenges faced in Recruitment		
	S.No	Particulars	%
	1.	Lack of Prior Experience	62%
	2.	High local wages	36%
	3.	Nature of work requires strenuous physical labour	16%
	4.	Lack of basic education requirement	13%
	5.	Candidate Disinterest and Attitude	11%
	6.	Lack of requisite core skills	4%
	7.	Lack of requisite soft skills	2%
	8.	Attrition/Uncertainty due to marriage and children	2%

Figure 26 Average distribution of workers by Sex

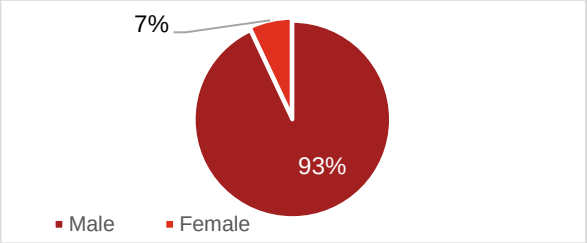
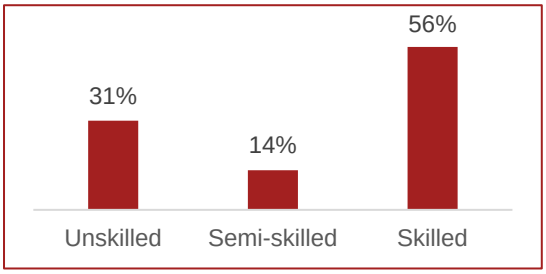
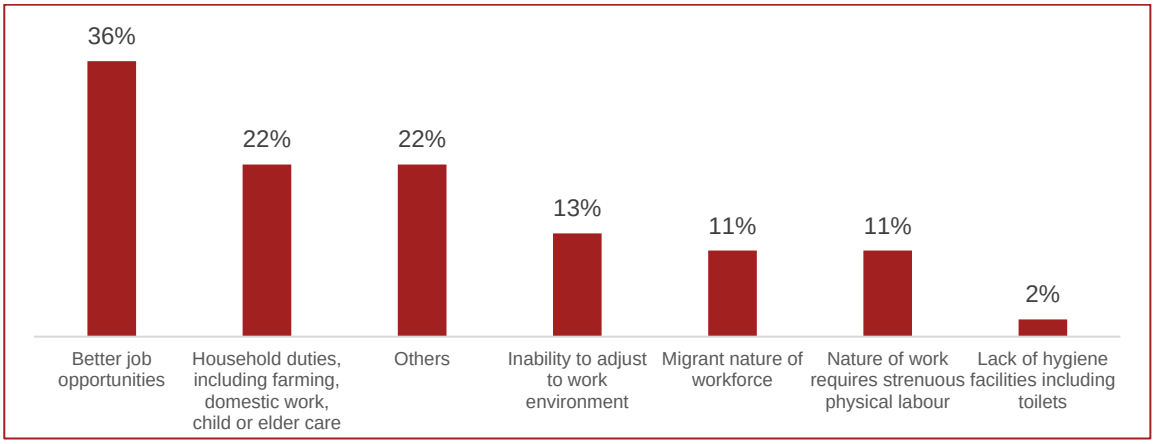


Figure 27 Distribution of workers by Skill Levels



Most of the micro enterprise units were largely dominated by the male workers. Iron and steel units usually employ a higher proportion of males than females. More than half of the workers were skilled followed by 23% of unskilled workers and 14% were semi-skilled workers.

Figure 28 Key causes of Attrition[10]



Better job opportunities (36%), household duties (22%), others (health issues, etc.) (22%) were stated as the major causes for attrition. Out of 46 units only 21 responded on the growth prospects of their enterprises of which 10% of the respondents feel there is medium growth prospects. 42% of the respondents see low level adoption of technology.

Key Insights on Skill Development / Training

- Nearly two-fifth of the respondents had Wage/Salaried employment as their career aspiration.
- Nearly half of the respondents are not aware/don't know that they can access counselling services.

3.2. Focus Group Discussion with Industry Representatives

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

Table 16: Focus Group Discussion - Key Points

S No	Topic	Findings
1.	Awareness of government skill training programs	• Low awareness among youth was recorded with regard skill development programs – both long-term (ITI and Polytechnic) as well as short-term skill development programs
2.	Quality of ITI/ Polytechnics/ Engineering colleges in the district	• Private ITI and Polytechnic colleges have generic courses and are also commercial with inadequate infrastructure. • There is scope for providing training that are industry and market-driven and in collaboration with local industries.
3.	Candidate Attitudes/ Abilities	• Attitude of youth towards employment were not satisfactory and also their soft-skills needs further improvement. • Fresh recruits in iron and steel had the requisite skills, but it is not the same with respect to other sectors like spinning and leather industry.
4.	Womens' employment	• Women have more scope for employment in cottage industries and dairy units • Self Help Groups promotion also enable women to have additional income by initiating smaller units like pickle preparation, agarbatti making, candle making, etc.

3.3. Other Stakeholders' Perspectives

The study also included in-depth interviews with important stakeholders including other line departments involved in the Skill Development, Livelihood and Employment and Industrial development related activities, Industrial Associations, Vocational Education and Skill Development institutions among others. A focus group discussion was held in March, 2019 and the key highlights of the discussions are listed below:

Industrial Growth

The industrial sector have recovered from the external shocks of demonetization and GST. Investments and expansions are on the anvil, especially in textile industry, cotton mills, oil mill and food processing sectors. Given, the geographical position of the District, there is better scope for diversification of industries. Tiruvannamalai is one of the important paddy growing region and hence has rice mills and also sugar mills. Leather products also has potential growth in this District. There are spinning mills in this District as handloom and handicraft are also a major sector.

Labour Supply

- The District has very few large-scale industries. There are micro enterprises and small-scale industries in the District. Labour supply was not a major challenge in this District. The availability of unskilled labour is not an issue but skilled labour are on demand to some extent. Farm mechanisation is prevalent. Semi-skilled and Unskilled labours are very much required. Dairy industry is providing lot of employment opportunities. As Tiruvannamalai has lot of tourism attractions, the hospitality sector is in huge demand for labours.

Women Employment

Female employment is largely focussed in the handloom and cottage industries like agarbatti making and also in retail sector in the services. However, most of the industries prefer female for semi-skilled jobs where they undergo on-the job training as they are regular and responsible at work.

Youth Aspirations

The aspirations of the educated youth are largely oriented towards high paid jobs, in any industry. The aspired income at entry level of ₹ 5,000 to ₹ 10,000 which is slightly at a higher level for semi-skilled jobs. Large spinning mills also face the supply constraints due to reluctance of the youth to take up jobs in the factory due to the hostile work environment (time, can't roam around, etc.). The industries perceive that youth prefer jobs in the services sector, especially in retail, food delivery and cab services over a fixed employment in manufacturing sector due to the flexi nature of job.

Awareness and Training Needs

The awareness about Skill Development programs was not satisfactory. There is lower awareness about other short term skilling programs. Training infrastructure has been identified as an important lacunae in the District. While long term courses in ITIs meet the requirements for the job roles in demand, the students would require greater exposure to work like environment, upgraded equipment and curriculum. The short-term vocational programs are largely focused on select sectors like BFSI and computer skills and do not cater to the requirements of the local economy such as dairy and leather sectors. Though Industries have expressed willingness to tie up with the Skill Development programs, they are severely constrained (especially small-scale industries) by some of the program guidelines and operational issues. It was felt that trainer's capacity need to be strengthened.

Technology

Though technological upgradation is seen across sectors, labour saving automation is slowly entering the major industries like textiles, leather, dairy, etc. Being dominated by small-scale industries, the scope for automation is lesser in the next 3-5 years. The labour intensity will continue to remain. In food processing industry reach of technology is still limited.

Skill Gaps

Soft Skills especially communication skills, professionalism, flexibility and interpersonal skills were found to be wanting by most of the stakeholders. Skills to handle GST and taxes is very much felt requirement by all industries.

Specific Skill Requirements include

- Packing roles in the cotton mills, dairy, food processing units to manage entry level skilled workers.
- Front office executives, Cab Drivers among others in the Hospitality sector. There is a requirement to strengthen their communication skills.
- GST Accountants are needed across sectors owing to the recent tax reforms.
- Focussed measures to be taken to ensure that awareness about the schemes on skill development should reaches the last mile.
- Internship programs should be in line with the current industry requirement and technology through appropriate knowledge and skill enhancement.

4. Skill Gap Analysis

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

The District of Thiruvannamalai has witnessed steady growth in the industry and service sector. However, the rate of growth is not uniform across the sector. The incremental demand[18] for skilled workforce in the district, as per the study methodology, presents, manufacturing, other services, trade and repair services and construction as the leading sub sectors for employment, especially semi-skilled. Hotels and restaurants, financial and insurance activities, real estate sectors have comparatively lower demand within the district.

Table 18 Sector wise Incremental Demand for Skilled and Semi Semi-Skilled Workers between 2019 and 2025

Sectors	Short Term Incremental Skilled Workforce Demand	Long Term Incremental Skilled Workforce Demand	Total Skilled Workforce demand	Short Term Incremental Semi-Skilled Workforce Demand	Long Term Incremental Semi-Skilled Workforce Demand	Total Semi-Skilled labour demand	Total incremental demand for Workforce
	2019-21	2022-25	2019-25	2019-21	2022-25	2019-2025	2019-2025
Allied Activities of agriculture sector	46	63	109	322	443	765	874
Mining and quarrying	149	240	389	249	400	649	1,038
Manufacturing	1,657	2,348	4,004	3,313	4,695	8,008	12,012
Construction	811	1,209	2,021	2,028	3,024	5,052	7,072
Trade & Repair Services	251	347	598	868	1,203	2,071	2,669
Hotels and restaurants	133	184	316	257	356	613	929
Transportation and storage;	298	412	710	715	990	1,705	2,415
Communication and services related to broadcasting	789	1,259	2,048	394	629	1,024	3,072
Financial and insurance activities	751	1,148	1,899	376	574	950	2,849
Real estate, ownership of dwelling and business services	220	330	551	551	825	1,377	1,927
Public Administration	417	600	1,017	334	480	814	1,831
Education; Human health & Social Work Activities	2,269	3,397	5,666	1,815	2,718	4,533	10,198
Arts, entertainment and recreation	454	665	1,119	364	532	896	2,015
Activities of membership organizations; Repair of computers and personal and household goods & Other personal service activities	1,524	2,230	3,753	1,219	1,784	3,003	6,756
Other Services	722	1,056	1,778	577	845	1,422	3,200
Total Demand	10,491	15,488	25,979	13,382	19,497	32,879	58,858
Total supply	5,377	7,169	12,546	14,729	19,638	34,367	46,913
Skill Gap	5,114	8,319	13,433	(1,347)	(142)	(1,488)	11,945

[18] Incremental Demand estimates the additional stock of workforce that are to be developed given the expected Economic prospects for the referenced period. 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

The district level skilling projects detailed hereunder portrays the potential job-roles and sectors for skill development interventions aligned to job opportunities in the immediate future. It identifies the potential job roles mapped with NSQF linked QPs and the potential employment prospects over the next three years with a focus on youth. The job roles have been shortlisted based on the analysis of findings from the skill gap analysis, secondary research, youth aspiration survey, enterprise survey, district level consultations and discussions with industry associations. The below table presents the summary of training projects for Theni:

Table 17 Summary of Trainings

S. No.	Sector	Trades	Target (Persons)	Budget (in Crores)
1	Food processing	• Packaging Technician • Quality Assurance Manager • Traditional Snack and Savoury Maker • Cold Storage Technician	2,200	₹2.5 Crores
2	Domestic Appliance Services	• Helper Electrician • Plumber (General) • Field Technician – AC • Field Technician – Refrigerator • Field Technician - Washing Machine • Field Technician - Other Home Appliances	2,700	₹5.05 Crores
3	Iron and Steel	• Gas Tungsten Arc Welding • Process Operator • Supervisor - Refractory Brick Laying	2,000	₹0.83 Crores
4	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 • Foreman – Electrical Works (Construction)	2,800	₹6.35 Crores
5	Banking and Insurance	• GST Accounts Assistant • Life Insurance Agent • Accounts Executive (Recording, Reporting) • Export Assistant • Mutual Fund Agent	1,000	₹9.73 Crores
6	Healthcare	• Blood Bank Technician • Ambulance Driver • Medical Records & health Information • Technician • Emergency Medical Technician • General Duty Assistant • Medical Equipment Technician (Basic Clinical Equipment) • Pharmacy Assistant • Medical Laboratory Technician • Nursing+H2:H9	4,000	₹9.7 Crores
7	Retail	• Cashier • Retail Sales Associate • Store Ops Assistant • Seller Activation Executive	2,000	₹2.63 Crores

8	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	2,000	₹2.64 Crores
	Total		**18,000**	₹ **39.39** 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 to reflect the market requirements.
3. An attempt was made to map each proposed job role with a QP NOS reference number. **In the cases where accurate mapping has not been possible, we have mapped the job role with the nearest QP NOS reference number.** In cases where we have proposed new job roles, we have indicated that a QP NOS reference is to be designed for the same.
4. The Cost of Training has been calculated using the following method: Each job role has training hours, training target (persons), and a cost category. The cost category has been determined by the National Skills Qualification Framework (NSQF) with respect to the level of capital expenditure and operational expenditure for imparting the course aligned to that specific job role. Therefore, each cost category corresponds to a particular cost norm calculated per trainee per hour. The calculations have been done as per the Government order (H-22011/2/2014-SDE-III) issued by MSDE on 4th January 2019. The categories are defined as follows:
   - INR 42.40 for Category-I
   - INR 36.30 for Category -II
   - INR 30.30 for Category-III

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

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

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

The training projects are described below:

Table 18 Training Project 1 Food Processing

Name of the Project: Training in Food Processing							
Key Economic Drivers: • In Tiruvannamalai district, key investment is expected in Food processing by setting up Tiruvannamalai Mega Food Park • The decline of agriculture over recent years can lead to an exodus of labour which can be absorbed into the food processing units							
Key Partners: Rice mills Association, Food processing Sector council							
Job Roles:	**NSQF Level**	**NSQF Code**	**Cost Category**	**Duration of Training**	**Target Group**	**Training Target (People)**	**Cost of Training (₹)**
Packaging Technician	5	FIC/Q7001	3	240 hours	12th Class Pass	1000	₹1.03 Crores
Quality Assurance Manager	6	FIC/Q7602	3	240 hours[19]	M.Sc.	300	₹0.31 Crores
Traditional Snack and Savoury Maker	4	FIC/Q8501	3	240 hours	8th Class Pass	600	₹0.62 Crores
Cold Storage Technician	4	FIC/Q7004	3	250 hours	12th Class Pass	300	₹1.03 Crores
Total training cost						**2,200**	**₹ 2.27 Crores**
Total Assessment and Certification cost (₹1,000 per candidate)							**₹ 0.22 crores**
Total cost							**₹ 2.50 crores**
Key Considerations: The recent decline in the agriculture sector has been twinned with the rise of the allied industries, especially livestock. This sector is most suited to absorb workers shifting out of agriculture. It is also a favorable Industry for the employment of women.							

[19] Average of Sector average taken

Table 19 Training Project 2 Iron and Steel

Name of the Project: Training in Iron and Steel							
Key Economic Drivers:							
• The large number of MSME units and have consistent demand for iron and steel units.							
• Formal training would help them in getting better wages and increase their efficiency.							
• Youth within the district have interest in these trades and hence Integrating skill training with the school curriculum is necessary.							
Key Partners: ITI and Engineering Colleges							
Job Roles:	**NSQF Level**	**NSQF Code**	**Cost Category**	**Duration of Training**	**Target Group**	**Training Target (People)**	**Cost of Training (₹)**
Gas Tungsten Arc Welding	4	ISC/Q0911	1	380 hours	Class 10th pass	1,000	₹2.09 Crores
Process Operator	5	ISC/Q0701	1	500 hours	ITI	500	₹1.38 Crores
Supervisor - Refractory Brick Laying	5	ISC/Q1203	1	390 hours	B.Sc /Diploma Pass B.Tech/B.E Pass and 18 years of age	500	₹1.38 Crores
Total training cost						**2,000**	₹ 4.84 Crores
Total Assessment and Certification cost (₹1,000 per candidate)							₹ 0.20 Crores
Total cost							₹ 5.04 Crores
Key Considerations:							
Emerging sector and the trainees can be trained in the units owned by the members.							

Table 20 Training Project 3 Finance and Insurance

Name of the Project: Training in Finance and Insurance							
Key Economic Drivers:							
• Tiruvannamalai district has the potential for better marketing and financial management of their enterprises • High credit offtake in BFSI sector • These skill training programs would also benefit the traditional sector artisans in the district							
Key Partners: **BFSI SSC**							
Job Roles:	**NSQF Level**	**NSQF Code**	**Cost Category**	**Duration of Training (Hours)**	**Target Group**	**Training Target (People)**	**Cost of Training (₹)**
GST Accounts Assistant	4	BSC/Q0910	3	100	Diploma/ Graduation	200	₹0.09 Crores
Export Assistant	4	Can be in line with AMH/Q1601	2	270	Diploma/ Graduation	100	₹0.12 Crores
Mutual Fund Agent	4	BSC/Q3802	3	225[20]	Class 12th pass	100	₹0.1 Crores
Life Insurance Agent	4	BSC/Q0101	3	225	Class 12th pass	300	₹0.29 Crores
Accounts Executive (Recording, Reporting)	4	BSC/Q1001	3	100	Graduate in Commerce	300	₹0.13 Crores
Total training cost						**1,000**	**₹ 0.83 Crores**
Total Assessment and Certification cost (₹1,000 per candidate)							**₹ 0.10 crores**
Total cost							**₹ 0.93 crores**
Key Considerations:							
With the growth in BFSI sector and introduction of GSTs, there is a need to skilled workforce to work in the sector. Youth, especially woman can be trained and provided meaningful employment in this sector.							

[20] In line with similar job roles like Life Insurance Agent

Table 21 Training Project 4 - Domestic appliances repair and services Sector

Name of the Project: Training in Domestic appliances repair and services							
Key Economic Drivers: •Service sector contributes to 45% of the GDDP in the district •Repair and service of domestic appliances and personal goods has an incremental demand of around 2,700 in the district in next three years							
Key Partners: ITI							
Job Roles:	**NSQF Level**	**NSQF Code**	**Cost Category**	**Duration of Training**	**Target Group**	**Training Target (People)**	**Cost of Training (₹)**
Helper Electrician	2	CON/Q0601	1	350 hours	10th pass	500	₹0.96 Crores
Plumber (General)	3	PSC/Q0104	1	410 hours	10th pass	500	₹1.13 Crores
Field Technician – AC	4	ELE/Q3102	2	300 hours	10th pass	500	₹0.73 Crores
Field Technician – Refrigerator	4	ELE/Q3103	2	480 hours	10th pass	500	₹1.17 Crores
Field Technician - Washing Machine	4	ELE/Q3106	2	360 hours	10th pass	500	₹0.88 Crores
Field Technician - Other Home Appliances	4	ELE/Q3104	2	480 hours	8th pass	500	₹1.17 Crores
Total training cost						**3,000**	**₹6.04 Crores**
Total Assessment and Certification cost (₹1,000 per candidate)							**₹0.30 Crores**
Total cost							**₹6.34 Crores**
Key Considerations: **Youth can be trained to provide services for repair of domestic appliances. ITI and Diploma graduates can also be given in this sector.**							

Table 22 Training Project 5 Construction

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**	**Cost Category**	**Duration of Training (hours)**	**Target Group**	**Training Target**	**Cost of Training**
Foreman – Electrical Works (Construction)	5	I/CON/Q0604	1	900	Young men and women	800	₹3.96 Crores
Metal Inert Gas/Metal Active Gas/Gas Metal Arc Welder (MIG/MAG/GMAW)	4	I/CSC/Q0209	1	600		500	₹1.65 Crores
Mason Marble, Granite and Stone	4	CON/Q0106	1	600		300	₹0.99 Crores
Foreman Wet Finishing and Flooring	5	CON/Q0109	1	800		200	₹0.66 Crores
Bar Bender and Steel Fixer	4	CON/Q0203	1	400		500	₹1.1 Crores
Assistant Electrician	3	CON/Q0602	1	400		500	₹1.1 Crores
Total training cost						2800	₹ 9.45 Crores
Total Assessment and Certification cost (₹1,000 per candidate)							₹ 0.28 Crores
Total cost							₹ 9.73 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 23 Training Project 6 Healthcare

Name of the Project: Training for Healthcare sector							
Key Economic Drivers: •Healthcare is a booming sector in the district. •Incremental demand of around 4000+ skilled and semi-skilled workers in next three years in this sector							
Key Partners: Hospitals, Medical colleges, Nursing colleges							
Job Roles	**NSQF Level**	**NSQF Code**	**Cost Category**	**Duration of Training**	**Target Group**	**Training Target (People)**	**Cost of Training**
Emergency Medical Technician	4	HSS/Q 2301	1	240 hours	12th Pass with Science	400	₹1.32 Crores
Medical Records & health Information Technician	4	HSS/ Q 5501	1	600 hours	12th Pass with Science	400	₹1.65 Crores
Blood Bank Technician	4	HSS/Q2801	2	1000 hours	12th Pass with Science	300	₹0.59 Crores
General Duty Assistant	4	HSS/ Q 5101	1	240 hours	10th Pass	500	₹1.32 Crores
Medical Equipment Technician (Basic Clinical Equipment)	3	HSS/Q5601	2	600 hours	12th Pass	400	₹0.49 Crores
Pharmacy Assistant	4	HSS/Q5401	1	200 hours	12th Pass	500	₹3.3 Crores
Medical Laboratory Technician	4	HSS/ Q 0301	1	1500 hours	12th Pass with Science	400	₹0.22 Crores
Ambulance Driver	4	ASC/Q9706	1	400 hours	10th class pass	100	₹1.32 Crores
Total training cost						3,000	~ ₹ 9.4 Crores
Total Assessment and Certification cost (₹1,000 per candidate)							₹ 0.3 Crores
Total cost							~₹ 9.7 Crores
Key Considerations: The Healthcare sector has completely moved into using high-end technological medical equipment and methods for treating patients. The industry is rapidly developing, fueled by large investments from existing corporate hospital chains and new entrants backed by private equity investors. Woman can be employed in the sector easily. Nursing courses could be promoted further through the Dept. of Health.							

Table 24 Training Project 7 Retail

Name of the Project: Training in Retail Sector							
Key Economic Drivers:							
•Urbanizing population will spur the growth of large retailers							
Key Partners: Retailer's Association, Tiruvannamalai							
Job Roles:	**NSQF Level**	**NSQF Code**	**Cost Category**	**Duration of Training (hours)**	**Target Group**	**Training Target**	**Cost of Training (₹)**
Cashier	2	RAS/Q0102	2	200	Young men and women, school and college dropouts	200	₹0.2 Crores
Retail Sales Associate	4	RAS/Q0104	2	280		200	₹0.27 Crores
Store Ops Assistant	1	RAS/Q0101	2	200		600	₹0.59 Crores
Seller Activation Executive	4	RAS/Q0301	2	280		400	₹0.55 Crores
Digital Cataloguer	4	RAS/Q0302	2	280		400	₹0.55 Crores
Retail Trainee Associate	3	RAS/Q0103	2	280		200	₹0.27 Crores
					Total training cost	**2,000**	₹ 2.4 Crores
					Total Assessment and Certification cost (₹1,000 per candidate)		₹ 0.2 Crores
					Total cost		₹ 2.6 Crores
Key Considerations: •Women can be targeted – but adequate facilities must be provided •On the job training can be provided by local retailers							

Table 25 Training Project 8 Logistics

Name of the Project: Training in Logistics Sector							
Key Economic Drivers:							
• 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**	**Cost Category**	**Duration of Training (hours)**	**Target Group**	**Training Target**	**Cost of Training**
Warehouse Packer	3	LSC/Q2303	3	270	Young men and women	200	₹0.23 Crores
Inventory Clerk	3	LSC/Q2108	3	250		200	₹0.22 Crores
Warehouse Supervisor	5	LSC/Q2307	3	240		200	₹0.21 Crores
Reach Truck Operator	4	LSC/Q2111	3	300		200	₹0.26 Crores
Receiving Assistant	3	LSC/Q2112	3	250		200	₹0.22 Crores
Warehouse Quality Checker	3	LSC/Q2313	3	300		200	₹0.26 Crores
Loading Supervisor	3	LSC/Q2314	3	270		200	₹0.23 Crores
Material Handling Equipment (MHE) Maintenance Technician	4	LSC/Q2315	3	280		300	₹0.36 Crores
Goods Packaging Machine Operator	4	LSC/Q2216	3	360		300	₹0.46 Crores
Total training cost						2,000	₹ 2.44 Crores
Total Assessment and Certification cost (₹1,000 per candidate)							₹ 0.20 Crores
Total cost							₹ 2.64 Crores
Key Considerations:							
• Rural youth can be targeted							

5.2. Key Recommendations

1. **Strengthen Industry engagement in skill development:** to focus on the following aspects (a) delivering market-relevant courses; (b) provision of real-time work experience for the trainees through industry visits, internships and apprenticeships; (c) capacity building of trainers/ master trainers by enabling industry attachments; (d) enabling industry practitioners to train/ deliver lectures at the institutions; and (e) to launch industry-led specialised courses.

2. **Youth Counselling Programmes for knowledge, Attitude and Behaviour change need to be prioritised:** a) building awareness among the Youth about the career opportunities and nature of work; (b) managing the mismatch between the 'aspirations' of the Youth and the work, with respect to the work culture, nature of work, salary/wage offered, career prospects, etc.; and (c) guiding the Youth on their education and training choices being made prior to employment;

3. **Develop technical knowledge and skills in agriculture and allied sectors through value addition:** Given the scope for agriculture and allied sector strengthening, skill development to focus skills for value addition and technology update in the entire value chain. Appropriate technologies such as SRI method for rice cultivation, precision farming will motivate youth to choose careers in agriculture and allied. Modern digital platform can be used for training by developing audio visuals on different region specific, crop specific content.

Appendix

A.1 Block Selection Methodology for Youth Aspiration survey

Sampling Design for Youth Survey

A total of 360 youth were 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.

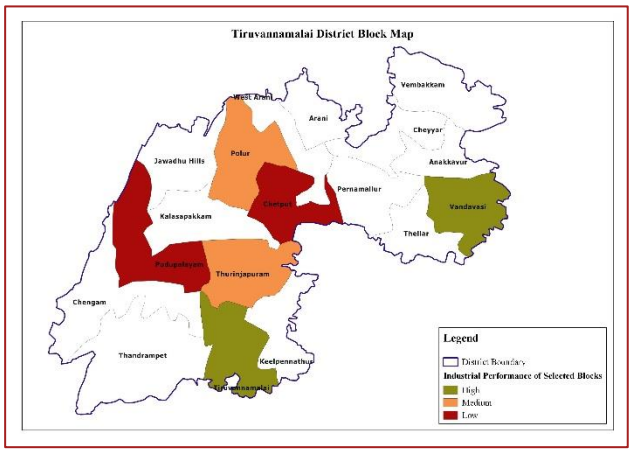
3. Self – Employed Youth:
To cover Self – Employed Youth in the sample, a roster of beneficiaries from the Pradhan Mantri Employment Generation Programme (PMEGP) shall be randomly selected from the list which will be obtained from the concerned authority at the District level.

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 Blocks

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

Figure 29 Blocks Selected for Survey in Tiruvannamalai



To categorize blocks, the following data points were used.

1. Count of MSME Clusters (based on DC-MSME Report)
2. Number of SIDCO Industrial Estates
3. Number of SIPCOT Industrial Estates
4. Credit Outstanding, 2017-18 at Centre-level (Annual Data published by the Reserve Bank of India)

The following weights were assigned post award of marks:

1. MSME Cluster – 25%
2. SIDCO Cluster – 25%
3. SIPCOT Industrial Estate – 5%
4. Annual Centre-level Credit Data – 45%

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

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

After deriving the above values for the blocks, **t**wo blocks are randomly selected from each category. Blocks selected were-

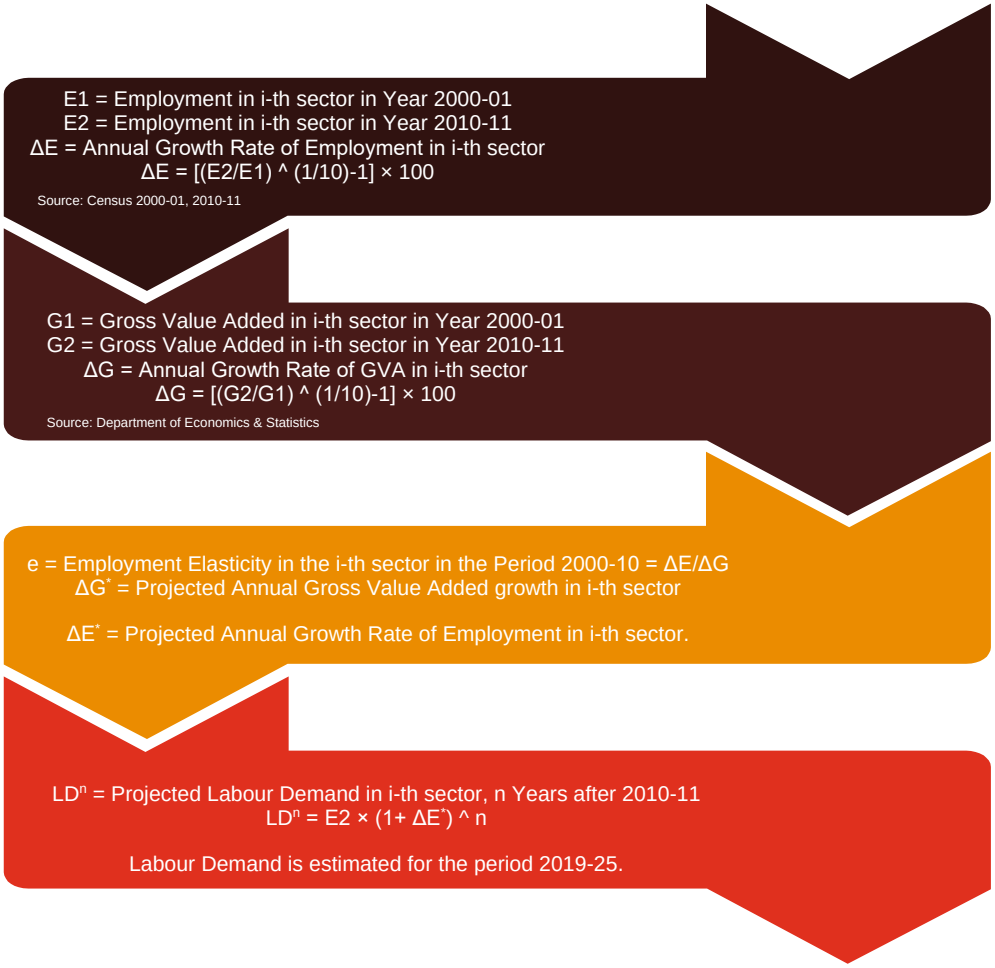
Low- Chetput, Polur,
Medium- Pudupalayam, Thurinjapuram,
High- Tiruvannamalai and Vandavasi

A.2 Methodology for labour demand and supply estimation

Demand Estimation:

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

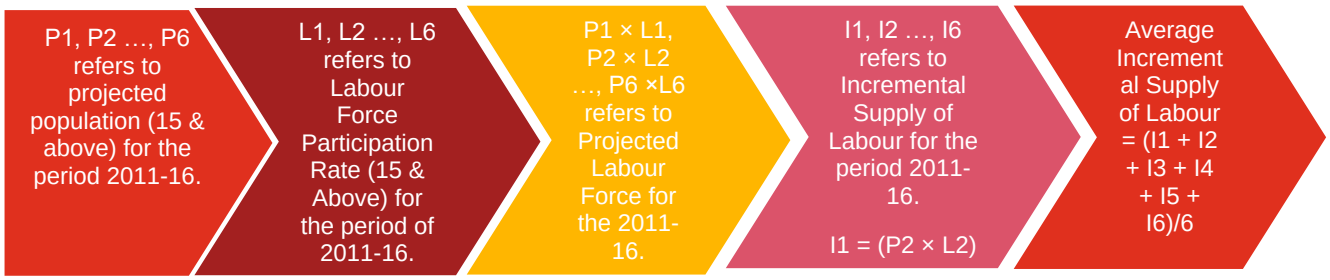
Figure 30 Steps for Demand Estimation



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[21]. 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 for Supply Estimation



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

A.3 List of Stakeholders Consulted

S.No	Stakeholder	Category
1.	Joint Director Training	Govt. official
2.	Joint Director Employment	Govt. official
3.	District Skill Development Officer	Govt. official
4.	District Employment Officer	Govt. official
5.	District Industries Center General Manager	Govt. official
6.	DDU-GKY Program Officer	Govt. official
7.	Annamalai Grill Works	Industry
8.	Ram Grill Works	Industry
9.	Mani Engineering Works	Industry
10.	S.M. Fabrication	Industry
11.	Palani Engineering Body Labour Works	Industry
12.	Perfect Gates	Industry
13.	Sethu Lathe Works	Industry
14.	Kishore Grill Works	Industry
15.	Sri Gokulam Grill Works	Industry
16.	Sri Swami Iyappa Labour Works	Industry
17.	Sri Maniyammal Grill Works	Industry
18.	Jyoti Meenakshi Steel Works	Industry
19.	A K M Engineering works	Industry
20.	KGN Engineering Works	Industry
21.	Velan Agarpathi	Industry
22.	Sri Amman Plastics	Industry
23.	Thamizhan furniture and wood carving	Industry
24.	ARR Grill Labour Works	Industry
25.	Sri lakshmi Agalvilakku	Industry
26.	Buvana Grill Works	Industry
27.	Hema Grill Works	Industry
28.	Ammu Engineering Works	Industry
29.	Ohm Sakthi	Industry
30.	Surya steel and welding works	Industry
31.	A K N Fly ash Bricks	Industry
32.	C. H. Lathe Works	Industry
33.	Jai prakash Engineering works	Industry
34.	Rajavanni Grill Works	Industry
35.	Sri meenakshi grill works	Industry
36.	Sri Pachaiammal Grill Works	Industry
37.	Sri Madurai Meenakshi Welding Works	Industry
38.	Vetrivel Engineering works	Industry
39.	Subam Engineering works	Industry
40.	Ohm Muruga Oil Mill	Industry
41.	Bombay Welding Works	Industry
42.	Star Grill Fabrication Works	Industry
43.	Sri Andal Steel Works	Industry
44.	Sri Loganathan and Grill Works	Industry
45.	Annamalaiyar Engineering works	Industry
46.	Deva Welding Works	Industry
47.	D K Grill Works	Industry
48.	Babu All Car Service	Industry
49.	Backiyalakshmi Engineering Work	Industry
50.	Arokiya Grill Works	Industry
51.	Sri Lakshmi Hollowblocks and Cement Work	Industry
52.	Suba Sankar Wood Carving and Furniture	Industry