Skilling for the Future

Skill Gap Assessment & Action Plan for Tamil Nadu

District Skill Development Plan for Virudhunagar

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Disclaimer

Acknowledgement

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List of Abbreviations

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

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: Aruppukottai, Sattur, Sivakasi, Srivilliputtur, Vembakottai, and Watrap.

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.

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

3. **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. 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 28 years, the median age of Virudhunagar is lower than the State average. The mean age is estimated to increase further to 35 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	• Virudhunagar is an industrial district and contributes 3.8% to the State's GDP. • The economy of Virudhunagar grew at a CAGR of 7% between 2011-12 and 2016-17. • Crop cultivation has not been cost-effective due to erratic weather conditions in the last decade. However, agriculture must be revived, as 52% of the workforce in the District are dependent on agriculture. • Industrial sector grew at 8% between 2011-12 and 2016-17. Manufacturing and Construction account for 97% of the industrial output. • The key industries include weaving and finishing of textiles, chemical and plastic products as per the output and employment of Annual survey of Industries. • Services sector contributes to 45% of the GDDP. The sector grew at a CAGR of 7% between 2011-12 and 2016-17.
Labour Market Analysis	• The labour force participation and worker population ratio of the district is higher than the respective State averages, owing to the larger share of working age population. Similar pattern is noticed among youth also. • 40% of the workforce is engaged in manufacturing and another one third of the workforce in Agriculture & allied followed by trade, construction and financial services.
Education & Skill Development	• 2.6% of the District population have undergone some kind of vocational training. • Apprenticeship scheme has to be more focussed towards youth and the recruitment process at the public sector institutions shall be involved in regularisation of the apprentices.
Findings from Primary Survey	
Youth Profile and Aspirations	• Over 17% of the respondents who had completed a Diploma and 20% of the respondents who are graduates were engaged in farm activities. • 14% of the Not in Education Employment or Training (NEET) category respondents wished to work in the future. • More than one-third of the youth aspire for salary/wage employment. • Salary (wages) / Income and Job Security were the key determinants of selection of work. • Clear communication and relevant work experience were reported to be the key factors that determine employability and employment. • Female respondents aspired for Food Processing, Agro-business, Banking Financial Services and Insurance, Textile and Apparel, while Males aspired for Banking Financial Services and Insurance, Auto and auto components, agro-business

Employer & Other Key Stake holder Perspective	**Quantitative Survey** • 97% of the employers used references from existing employees or known sources as the principal mode of recruitment. • High wages and candidate disinterest and attitude are the major challenges faced by the employers in the recruitment and retention of workforce. • On an average, 55% of the workers were semi-skilled while the rest were largely divided into unskilled (21%) and skilled (19%). • 40% 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. **Qualitative Inputs** • Small Industries perceive that the youth prefer jobs that provides more freedom to travel and also pays well. • Basic skills - Communication, soft, interpersonal and attitude had to be strengthened to accommodate more workers in the services sector. • Small scale Industries shall partner with the Govt. to strengthen/create apprenticeship for short term skill development programs.
Incremental Demand	• Nearly 1.56 lakh 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, Transportation and Trade, Education & Healthcare, Repair of Computers and other household goods, Construction, Communication and Financial and Insurance Services.

Recommendations:

Industry engagements to address the skill gap: Provide market driven courses and trainings suitable to industries for the youth. Build the capacity of youth by developing trainers/ master trainers by assisting industry to launch industry-led specialised courses

Creating Awareness and conducting counselling sessions to address their knowledge, Attitude and Behaviour: Appropriate counselling to youth on the available job opportunities, its scope for development and necessary skills to excel in the jobs. Attitude of youth can be addressed through appropriate knowledge generation.

Strengthen the technical knowledge on agriculture and allied sector to attract youth: Technical and timely inputs on new practices to be adopted for the cropping system to be enhanced for better productivity and profit from agriculture. These advisories can be shared digitally for better reach and attract youth. The entire value chain from produce to product should be addressed. Dairy development can be strengthened with better market linkages and financial support.

1. District Profile

The district of Virudhunagar is located in the southern part of Tamil Nadu. It was bifurcated from Ramanathapuram district in the year 1985. It neighbours Madurai and Sivagangai districts (north), Tirunelveli and Tuticorin (South), Ramanathapuram (East), Theni (northwest) and Kerala State (west). Virudhunagar is a marketing and service town for the surrounding areas. The geographical location of the district also makes it an important logistical hub for Industrial and Agricultural sectors. Virudhunagar is one of the aspirational districts[3] identified by Government of India.

1.1. Demographic Profile

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

SN	Indicator	Virudhunagar	Tamil Nadu
1	Total population	19,42,288	7,21,47,030
2	Female population	9,74,579	3,60,09,055
3	Population Density per sq.km (2011)	458	555
4	Urban Population	50.47%	48.4%
5	SC population (as % of total population)	20.6%	20.0%
6	ST population (as % of total population)	0.1%	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)	34.8%	34.8%
9	SC population aged 15-34 years (as % of SC population)	37.0%	36.6%
10	ST population aged 15-34 years (as % of ST population)	35.9%	35.0%
11	Literacy rate	80.2%	80.3%
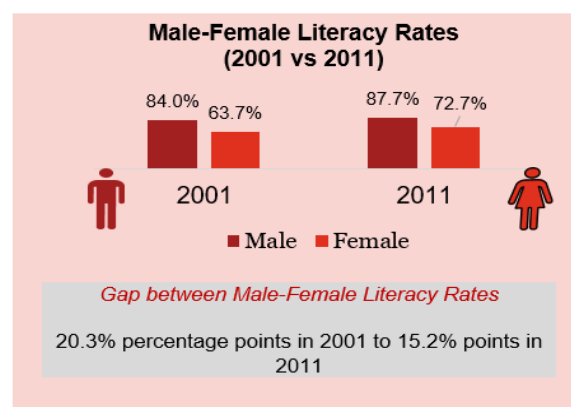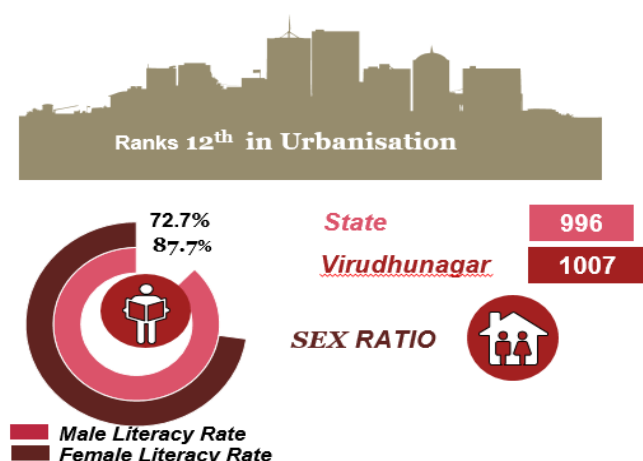
Key Highlights from the analysis of Census Data:

- **Population Growth and Urbanization:** The Decadal growth rate **of the population in the district** was **11%** between 2001 & 2011, compared to **15.6%** at the state level. The share of urban population has grown by **26%** while the share of rural population **has decreased by 1.2%**. The population growth has been driven by the increase in the urban fold due to change in urban definition[5].

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[3] The Aspirational Districts were identified on the basis of a composite index comprising of health, nutrition, education, basic infrastructure and poverty that emerge as a relatively less progress district across different sectors which requires focused policy attention
[4] Census 2011 & 2011
[5] Census PCA 2011 – Virudhunagar
(http://censusindia.gov.in/2011census/dchb/DCHB_A/33/3324_PART_A_DCHB_VIRUDHUNAGAR.pdf)

- **Literacy:** The district had a female literacy rate of 72.7% while the male literacy rate of 87.7%. The male literacy rate is higher than the state average while the female literacy is lower. The literacy rates among males increased by 3.7% while among females it increased by 9%, reducing the gap between them from a 20.3% in 2001 to 15% in 2011. The reducing gap between the male and female literacy rates indicates a higher level of education attainment among females in the district.

- **Youth Demography:** 34.8% of the population was between 15-34 years in 2011. The median age of the district was 28 years in 2011. However, this is slightly lower than the median age of the state, which was 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 35 years, increasing the share of dependent population as illustrated in the age-wise population pyramid of the district as seen below.

Figure 1 Age-wise Population Pyramid of Virudhunagar (2011 vs 2026)[6]
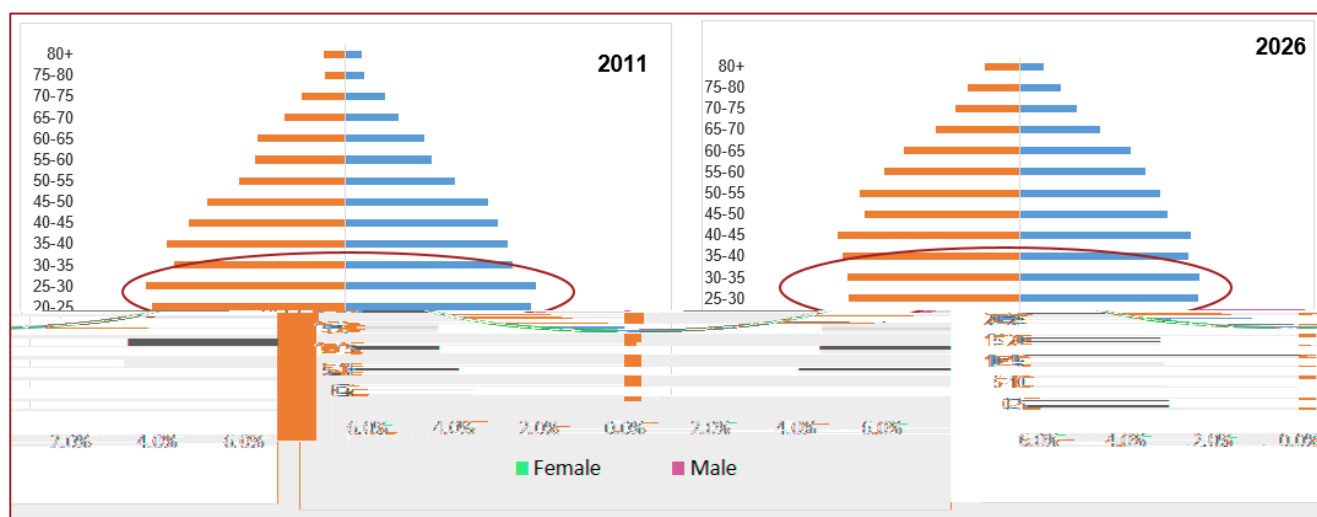
Virudhunagar has a marginally younger population than the State average and thus has more scope of skilling its youth. The gap in literacy rates amongst females and males have decreased over the years and has potential for enhancing female participation in skill development and skilled employment.

1.2. Economic Profile

Virudhunagar is one of the important Industrial districts in the state, followed by Coimbatore and Salem. This district is a traders' town and involved in the marketing and distribution of commodities since British times. It has a strong network for purchase of goods and commodities. This district is leading in matchbox industry in the country. **Matchboxes, crackers,** cement and textiles are traded both within and outside the State[2]. The district ranks 19th in terms of Per Capita Income and 11th in terms of Purchasing Power[7].

Figure 2 Key Economic Indicators of Virudhunagar District

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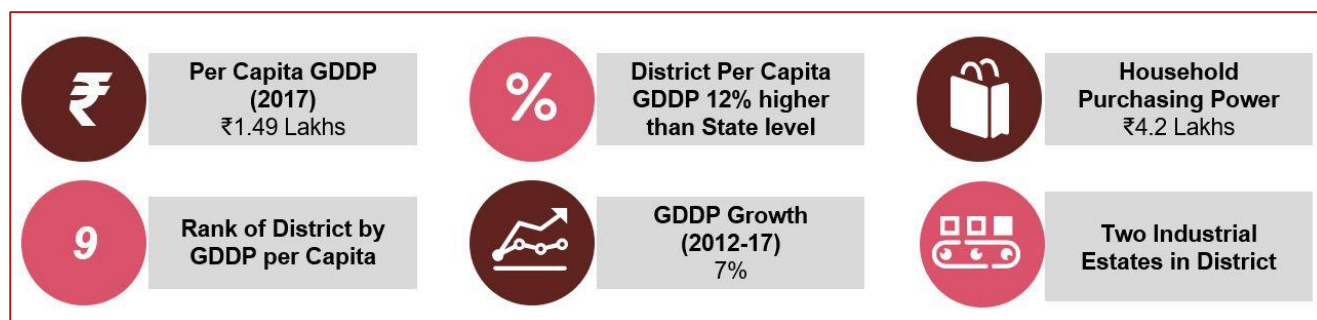
[6] Age wise Population projected for 2026 based on age group wise life expectancy, birth and death rates
[7] Household disposable income as computed under districtmetrics.com.
Household Purchasing Power is calculated from the total purchasing power (disposable income after savings/ investments) of the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

1.2.1. Sector wise Analysis

Figure 3 Sectoral Share of GVA (2011-12 & 2016-17)
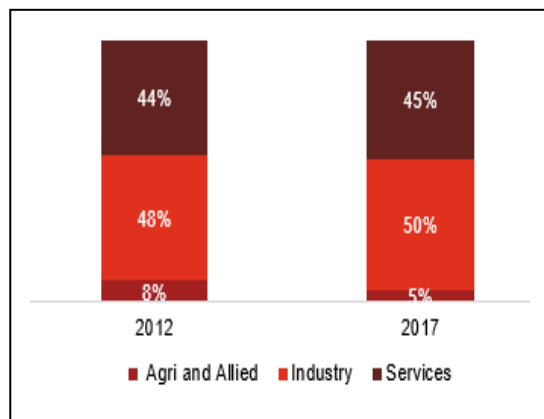
The Economy of the District is largely dependent on the service and Industrial sector, which accounted for about 95% of the district output in 2017. The district has grown at a compounded annual growth rate of 7% between 2011-12 to 2016-17, largely driven by the growth in the Industrial and service sector. The share of the agriculture sector in the district output fell by 3 percentage points due to low productivity and erratic climatic conditions. The major challenge faced in the changing structure of the economy and employment is creating the capacity to engage the people moving out of agriculture into industry and services by providing proper training and skill development. It is also equally important to address the low productivity issues in agriculture by providing appropriate technology and training to handle the climatic changes as half of the population are still dependent on agriculture for livelihood.

Table 2 Sector wise- Annual Growth Rate in Virudhunagar

Sector	2013	2014	2015	2016	2017	Average
Agriculture & Allied	-18%	16%	16%	-6%	-24%	-5%
Industry	15%	5%	-2%	17%	5%	8%
Services	7%	9%	9%	3%	9%	7%

Figure 4 Share of GVA by Industry of Origin (2016-17)
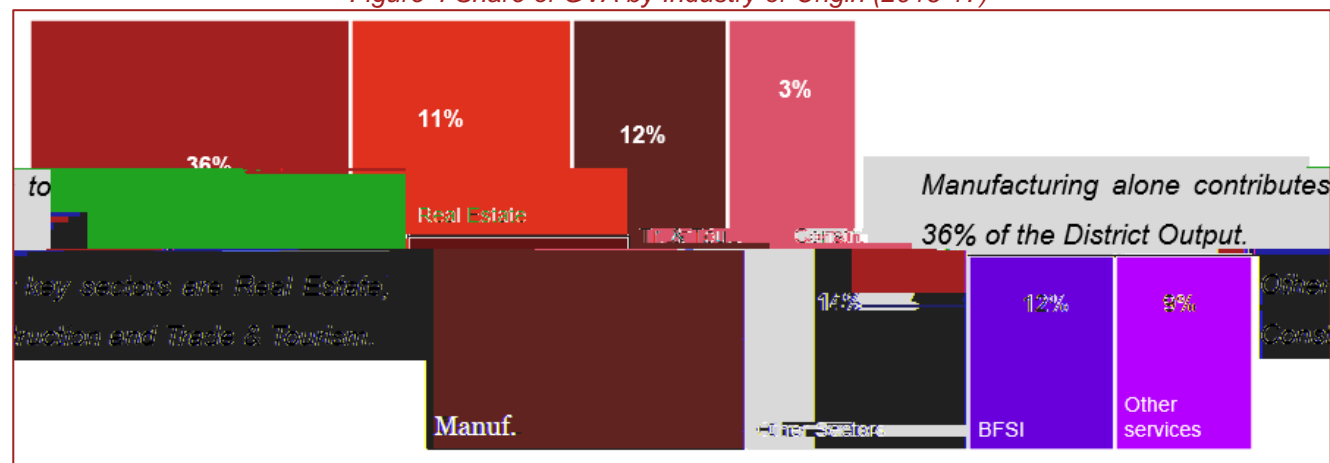
Agriculture and Allied Sector

The agriculture and allied sector is a major contributor to the economy of the district. Agriculture sector has seen fluctuations and negative growth which has seen the share of the sector fall in the economy too. The fluctuations are due to erratic rainfall and climatic changes. The area under cultivation accounts for 27% of the total geographical area. Agriculture provides sustenance to 52% of the working population. Paddy is the most predominant crop cultivated followed by cotton. The other important crops grown in the district are cumbu, cholam, ragi, varagu, chillies, blackgram, horse gram, groundnut and gingelly.

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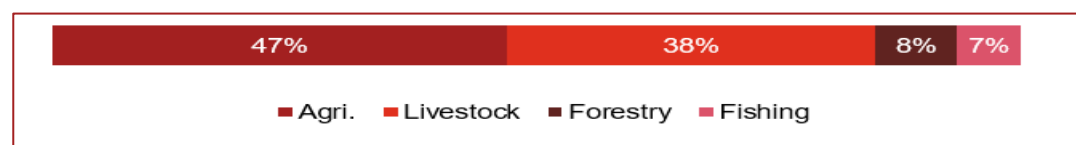
Industrial Sector

Manufacturing sector is the major contributor to GVA in 2016-17. Establishment of textile and cement factories accelerated the growth in industry sector. Given the labour intensive nature of the manufacturing sector, the
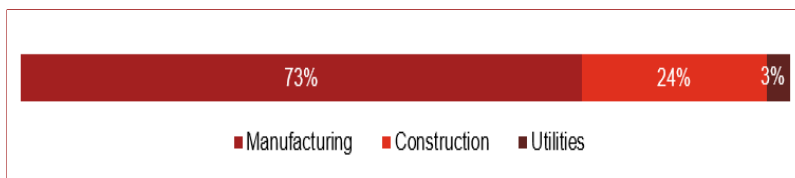
dominant presence of manufacturing in the district, provides scope for absorption of semi-skilled and unskilled working population in the district. Construction Sector growth is also significant which again has wider scope for unskilled employment. Crackers and fireworks Matches, printing, surgical cotton gaze, readymade garments, food processing and packing are some of the key Industries in the district.

Key Clusters and Traditional Industries					

Table 3 Profile of Manufacturing Sector from ASI (2014-15)

Industry	No. of Units	No. of Employee	Gross Value Added (share in total GVA)	Share of Employment	Average Workers per unit
Spinning, weaving and finishing of textiles	262	14,936	37.5%	26.2	57.0
Manufacture of other chemical products	1,089	26,351	18.4%	46.3	24.2
Manufacture of plastics products	117	3,941	16.0%	6.9	33.7
Printing and service activities related to printing	408	8,063	9.3%	14.2	19.8
Manufacture of paper and paper products	208	3,651	4.5%	6.4	17.6
Total	2,084	56,942	85.6%	100.0	27.3

According to the ASI 2014-15, more than 2,500 Industrial units were present in the district, directly employing around 70,000 workers, of which around 2084 units contribute 85.6% of the GVA. **Spinning, weaving and textiles, chemical products, plastic products were the key Industries as per output and employment.**

Services Sector

The service sector has witnessed a steady growth since 2011-12 at an average of about 7% per annum. Virudhunagar is a marketing and service town for the surrounding districts. The district is a famous business centre without markets. However, there is no identified cluster for service sector in the district. **Trade, tourism and real estate are important areas that drive the services sector economy**.

Figure 7 GVA of Services Sector (2016-17)

1.2.2. Investments and key economic drivers

Fireworks industry with about eight lakh workers with a turnover of Rs.6000 crores is under threat due to the ban laid down by Supreme Court of India on bursting firecrackers during Diwali 2018 and should go for green crackers which are less polluted. Thus the workers employed in this industry have uncertainty of losing their jobs if there is a non-availability of any approved chemical composition of the green crackers to replace the existing conventional firecrackers to take up production for next year's Diwali. This will have cascading effect on the

economy of the district by affecting a large number of workers who are not only dependent on the fireworks but also its allied sectors including printing, packing and logistics.

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

Agriculture	Industry	Finance	Prof. Services	Trade	Transport
6%	-1.1%	-15.4%	0.5%	13.4%	5.8%
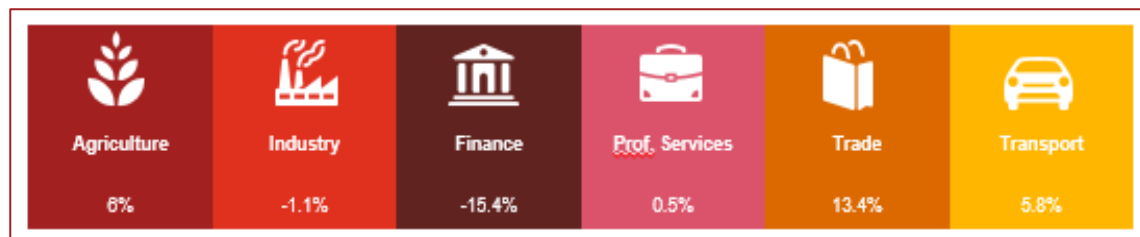
According to the RBI data, the District has seen growth in credit especially in Trade, Transport and Agriculture Services. Credit offtake in Professional services has been low while Industry and finance saw a decline.

Scope for investments for expansion[8]:

- Cotton being a major commercial crop of the district, cotton industry, plays an important place in the economy. Spinning mills and ginning factories have scope for expansion. Surgical cotton and bandage cloth are also manufactured in this district. Textile mills produce a variety of cotton yarn providing larger opportunities for textile industry.
- The cement industry has grown strongly in this district due to the presence of two major cement factories, namely, the Tamil Nadu Cements (a public sector) and the Madras Cements Ltd., (a private sector) who are the largest cement producing units that attracts more investment.
- Sundaram Fasteners manufactures high density bolts and nuts and Brakes India Ltd., the two private sector enterprises of the TVS group - manufacture automobile breaks which also invites huge investments.

The key investments and upcoming projects have been identified in the food processing sector with two major projects[9]:
1) Virudhunagar Mega Food Park Project will be set up by the Government of Tamil Nadu
2) Virudhunagar Dairy Plant Project will be set up by Tamil Nadu Co-operative Milk Producers' Federation at an estimated cost of 100 million.

Labour Market Profile[10]

The district's major labour market indicators are far better than the state. Around 69% of the working age population are available for work while around 68% are in the workforce. However, a major contrast in the district is with regard to the nature of employment of the workforce. The most populous category is that of the wage / salaried employees at 40% against a state average of 27%. The district has low level of unemployment of 2.1% compared to the state. However, the unemployment rate of youth aged 15-29 years is 9% which may be due the mismatch between the industry demands and supply emanating from the educational institutions or lesser aptitude of youth to engage in economic activity.

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[8] District Human Development Report 2017, Virudhunagar District, State Planning Commission.
[9] Capex database
[10] Analysis in this section are based on the District Level Estimates, EUS, 2013-14, Labour Bureau

Figure 9 Key Labour Market Indicators[11]
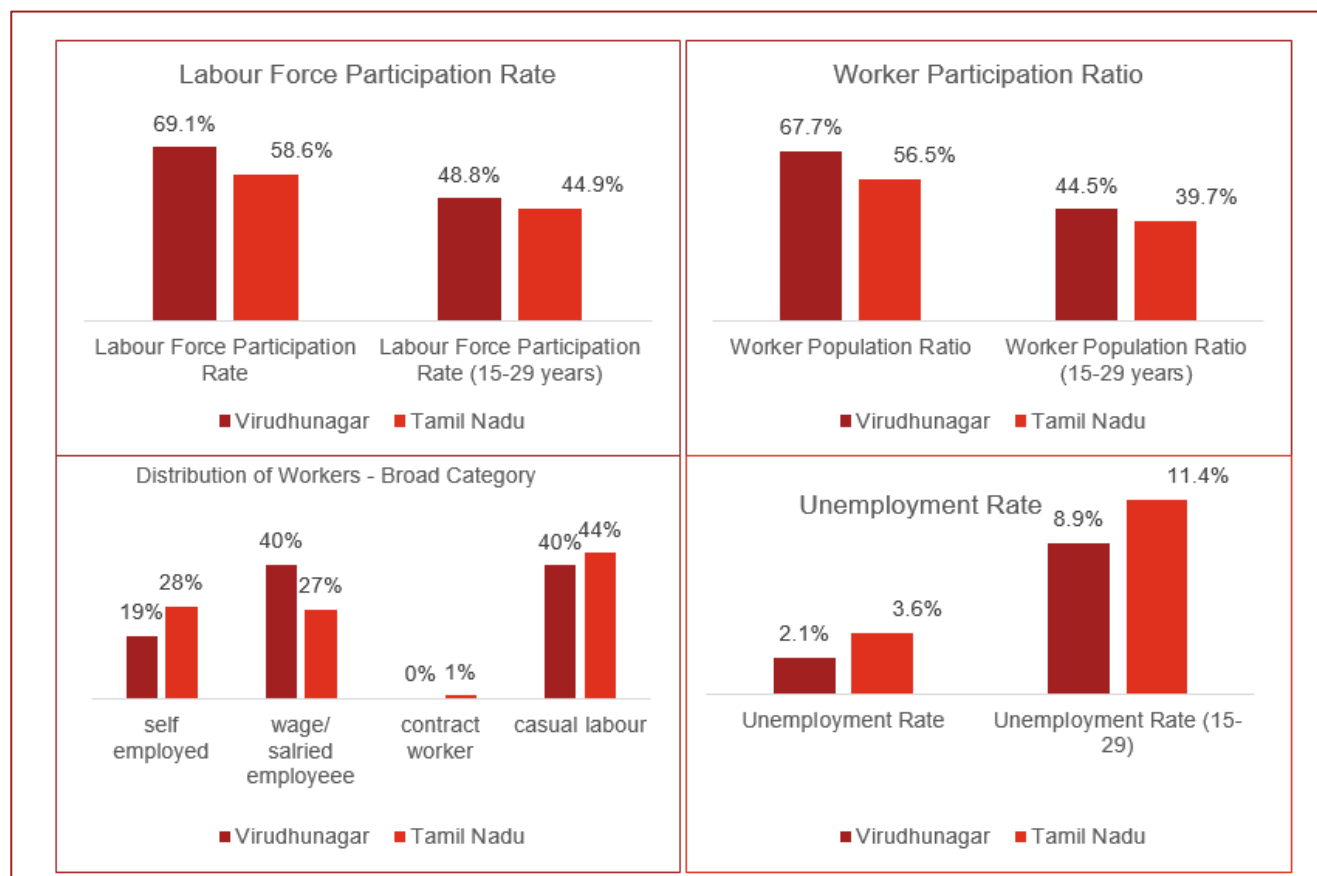
Figure 10 Distribution of Working status by Qualification
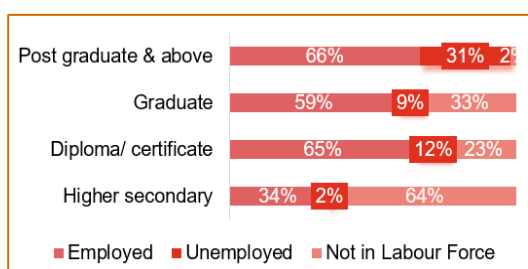
Classifying the population according to the education qualification revealed that the respondents with qualifications of Post-Graduation (31%) have around two-third of their population in unemployment which is highest among the other levels of education. Unemployment rates of 9% and 12% were recorded among Graduates and Diploma holders respectively. This may be due to mismatch between level of employability of the educated youth and industry expectation or wage expectation of educated youth.

Table 4 LFPR and Unemployment Rate by Sex & Location

Sex	LFPR		Unemployment Rate	
	Rural	Urban	Rural	Urban
Male	79.6%	79.5%	1.1%	1.4%
Female	67.1%	48.7%	0.7%	7.7%

On disaggregating LFPR by sex and location, it is seen that the participation rate of urban females (**48.7%)** is lower compared to the rural female (67.1%) in the working age population, while the difference is marginal among males. The urban unemployment rate for females is 7.7% while unemployment rate among rural females remains less than one percent. Such a gap is not seen in the figures for males, indicating that urban women face a lack of employment opportunities and there is scope for training woman in the district.

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

More than one-third of the workforce in the district is employed in the manufacturing sector reflecting the dominating influence of the sector in the district. Trade, Tourism 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.

Figure 11 Sector-wise share of Employment
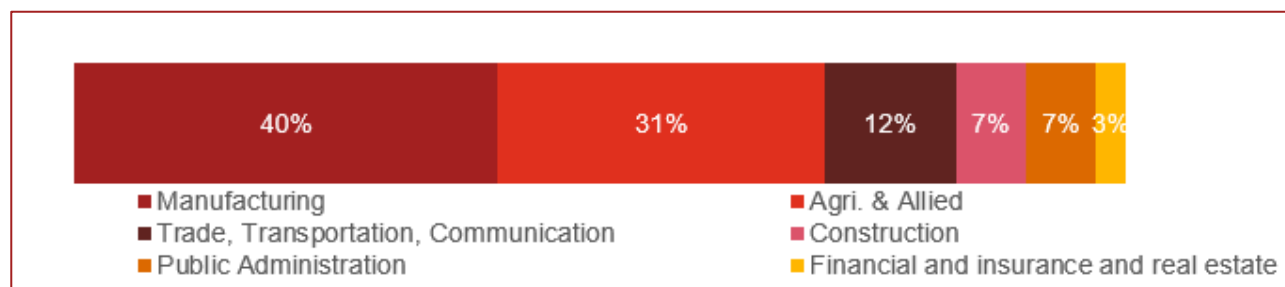
1.3. Education Profile

According to DISE data, the Gross Enrolment Ratio 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. One of the reasons the skew is attributed to is the presence of several schools which cater to students from the neighbouring districts. The drop-out rates are marginal at 0.2% at the primary level and 0.9% at the upper primary level.

Total number of Arts and Science Colleges in the district is 12 and the number of engineering and other technical educational institutions was low in the district. Though the number of schools in the district seem to be adequate to have better quality education, number of institutes for higher education shall be promoted.

Figure 12 GER and Drop-out Rates - DISE
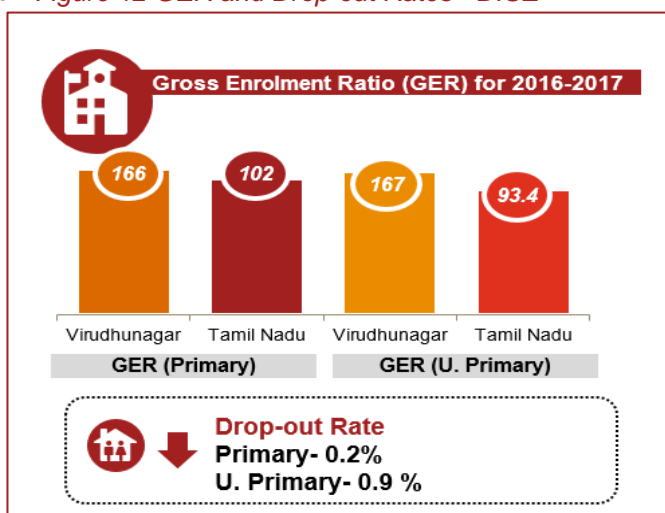
Table 5 Institutions of Higher Education in Virudhunagar District[12]

S.No	Institution Type	No of Institutions	Students
1.	Engineering Colleges	10	18,039
2.	General Arts & Science Colleges	26	26,416
3.	Polytechnics	14	1,408
4.	Others	36	2,305

Source: District Human Development Report, 2017

1.4. Vocational Education and Skill Development Profile

Virudhunagar, being an aspirational district, skill development has been identified as an important component with 5% weightage in obtaining the composite index. Five indicators has been included in order to monitor the progress made with respect to skill development. Some key strategies for skill development of aspirational districts are as follows[13]:

1) Creating district action plan to map the skill gaps and provide skilling facilities.

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[12] District Statistical Handbook, Govt. of Tamil Nadu
[13] Master Plan for Aspirational Districts, Skill India, Government of India

2) Improving employment rates to rationalise PMKVY job roles to focus the industrial demands and their aspirations.

3) PMKVY centres to act as counselling/aptitude testing centres

4) Reallocation of funds under state component – state to allocate 25% more funds out of the funds received from central for PMKVY

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). The district has 17 training centres under PMKVY. There are 18 ITI's of which only one is government institute with a total seating capacity of 3,879 of which 432 is in Government institute. List of Jan Sikshan Sansthan (JSS) in Virudhunagar district are:

State	District	Name of JSS	Training Capacity
Tamil Nadu	Virudhunagar	JSS, Sivakasi Virudhunagar	Fashion Designing
			Cutting and Tailoring
			Beauty culture and Healthcare
			Welding and Fabrication
			Electrical Technician
			Two Wheeler mechanic
			Handicrafts - Applique and patchwork
			Bee keeping
			Radio and TV Mechanism
			Flower Arrangements
			Food Processing and Preservation
			Leaf making

Table 6 Vocational Training under Short Term Skill Development Programs

S.No	Scheme.	Sector	Job Role	Number of Training Centres	Intake
1	Pradhan Mantri Kaushal Vikas Yojana	Agriculture	Gardener	1	
		Apparel	Sewing Machine Operator	1	
			Self Employed Tailor	3	
		Capital Goods	Draughtsman - Mechanical	2	
		Electronics and Hardware	Field Technician - Computing and Peripherals	2	
		Retail	Retail Sales Associate	2	
			Retail Team Leader	1	
		Tourism & Hospitality	Front Office Executive	1	
			Street Food Vendor	1	
2	Deen Dayal Upadhyay Grameen Kaushal Yojana	IT/ITES		9	
		Apparel/ Home Furnishing			
		Beauty & Wellness			
		Retail			
		Textile & Handlooms			
		Banking Financial Services and Insurance (BFSI)			
		Food Processing & Preservation			
		Tourism & Hospitality			
		Security			

S.No	Scheme.	Sector	Job Role	Number of Training Centres	Intake
		Electronic			
		Automotive			
		Electrical			
		Logistics & Supply Change Management			
3	Tamil Nadu Skill Development Programs	Electronics	Electrical Technician	1	40
		Plumbing	Plumber (General)	1	20
		Automotive	Machining Assistant	1	40
		Hospitality	Cook (General)	1	140
		Electrical	Electrician Domestic	1	20
		Telecom	Telecom DTH Installation Technician	1	40
		Renewable energy	Solar electric System Installer & Service Provider	1	20
		Paint	Painter Assistant/helper	1	160
		Garment making	Tailor (Basic Sewing Operator)	2	80
		Food Processing	Jam, Jelly and Ketchup Processing Technician	1	20
		Apparel	Finisher	1	20
		Tourism & Hospitality	Front Office Associate	1	70
		Garment making	Tailor (Basic Sewing Operator)	1	40
		Toy making	Cutter & Fixer of Toys Parts (Soft Toy)	1	40
		Retail	Sales Associate	1	50
		Beauty culture & hair dressing	Beauty Advisor	1	80
		Medical and nursing	Nursing Aides	1	20
		Medical and nursing	Basic of Anatomy & Physiology	1	20
		Gems & Jewellery	Cast and diamonds set Jewellery Hand Sketch	1	20
		Tourism & Hospitality	Multi cuisine Cook	1	180

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

Sector	Job Role	Training Centres	Intake
Automobiles and Auto Components	Mechanic (Motor Vehicle)	11	168
Capital Goods	Plastic Processing Operator	1	21
	Instrument Mechanic	2	52
	Welder	2	63
	Sheet Metal Worker	1	21
	Draughtsman (Civil)	3	52
	Draughtsman (Mechanical)	3	52
Construction	Electrician	11	126
Electronics & Hardware	Wireman	8	126
	Mechanic (Refrigeration and Air-Conditioning)	1	26
Handicrafts & Carpets	Turner	6	80
Infrastructure Equipment	Mechanic Diesel	3	63
	Electronics Mechanic	5	78

Sector	Job Role	Training Centres	Intake
	Mechanic Machine Tool Maintenance	1	21
Instrumentation, Automation, Surveillance and Communication	Mechanic Mechatronics	1	21
Iron and Steel	Machinist	4	64
	Machinist (Grinder)	1	16
IT/ ITeS	ICT System Maintenance	2	52
	Computer Operator and Programming Assistant	6	156
	Desk Top Publishing Operator	1	52
	Computer Hardware & Network Maintenance	1	78
	Information Technology	1	26
Mining	Fitter	11	105
Textile and Apparel	Tool & Die Maker (Dies & Moulds)	1	42
	Fashion Design & Technology	1	21
	Sewing Technology	2	42
Tourism and Hospitality	Food Production (General)	2	52

Figure 13 Proportion Undergone Vocational training 2015-16, MoLE[14]

With respect to vocational training in the District, 26 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 lower than the State and Country; which indicates more efforts are required in promotion of skill training.

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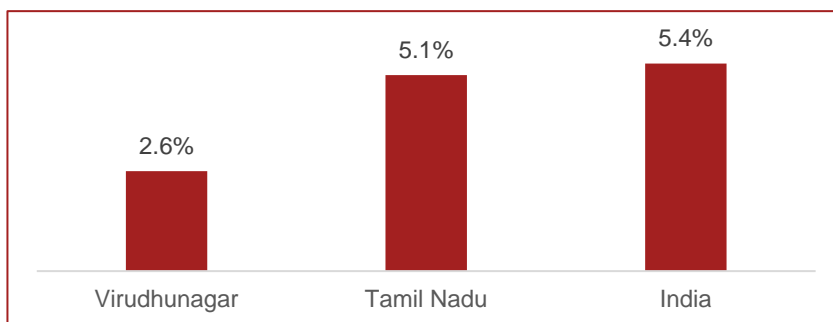
[14] Employment and Unemployment Survey 2015-16, Ministry of Labour and Employment

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 Aruppukottai, Sattur, Sivakasi, Srivilliputtur, Vembakottai, and Watrap. Of the total respondents, **66%** were **female**. Also, **84% of the respondents** were from the rural category. The sample has balanced representation of various socioeconomic and demographic characteristics of the population.

Figure 14 Respondent Profile of Youth Aspiration Survey
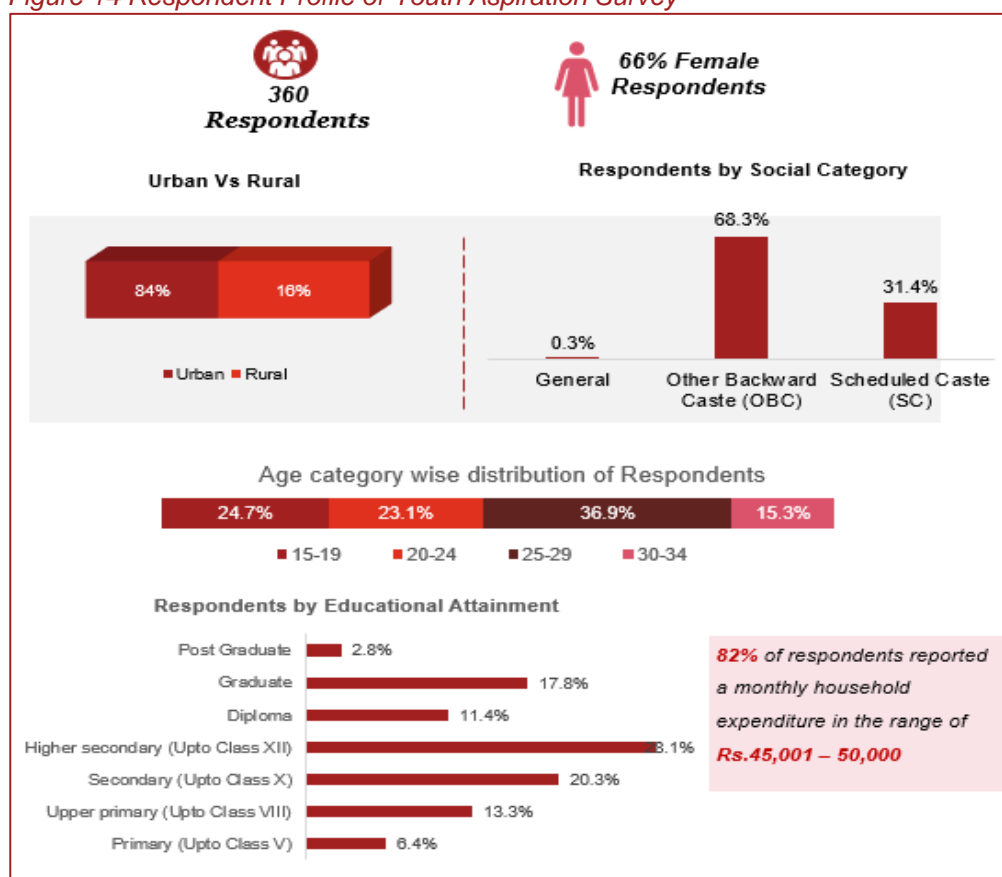
2.2. Youths' Educational and Economic Engagement Status

The figure below illustrates the gender wise classification (current status) of the respondents interviwed during the household survey. While the female respondents were predominantly falling in the NEET (39%) category, the male respondents were largely students followed by Wage / Salaried Employment and Self Employment. Nearly half of the female respondents were engaged in economic activity while only one-third of the male respondents fell under the same category.

Figure 15 Current Status of Respondent by Sex

Figure 15 Current Status of Respondent by Sex
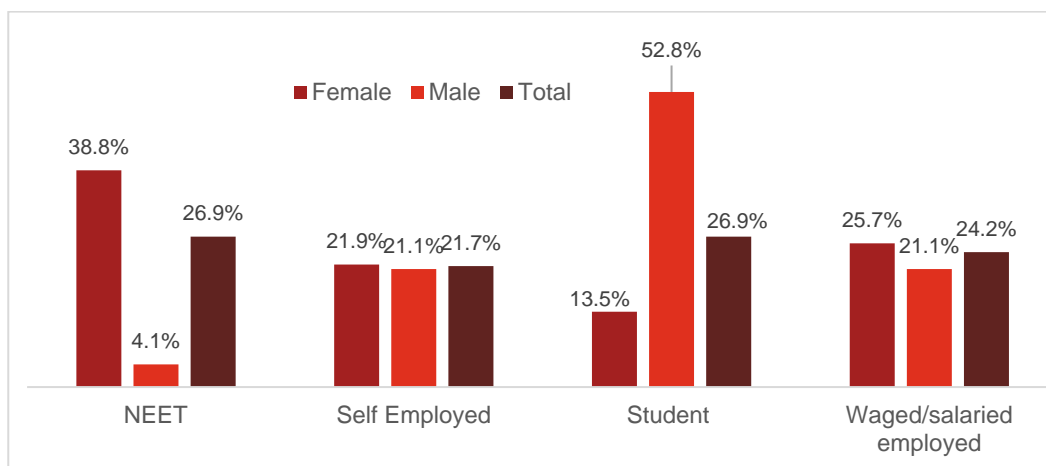
2.3. Economic Activity of Respondents

Only one-tenth of the respondents had been engaged in an economic activity of some kind, and 41% of the respondents were presently engaged in an activity. 89% of the respondents who had ever engaged in an economic activity reported that they were employed in a field related to their education / training. Less than half of the respondents were currently working. Among the remaining respondents only 10.4% ever worked.

Table 8 Status of employment of Respondents

Status of employment/training	Number of Respondents
Currently working (N = 360)	167 (46.5%)
Ever worked (N= 193)	20 (10.4%)
Attended work related training (N = 187)	166 (88.8%)

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

Figure 16 Aspired monthly salary of respondents by category
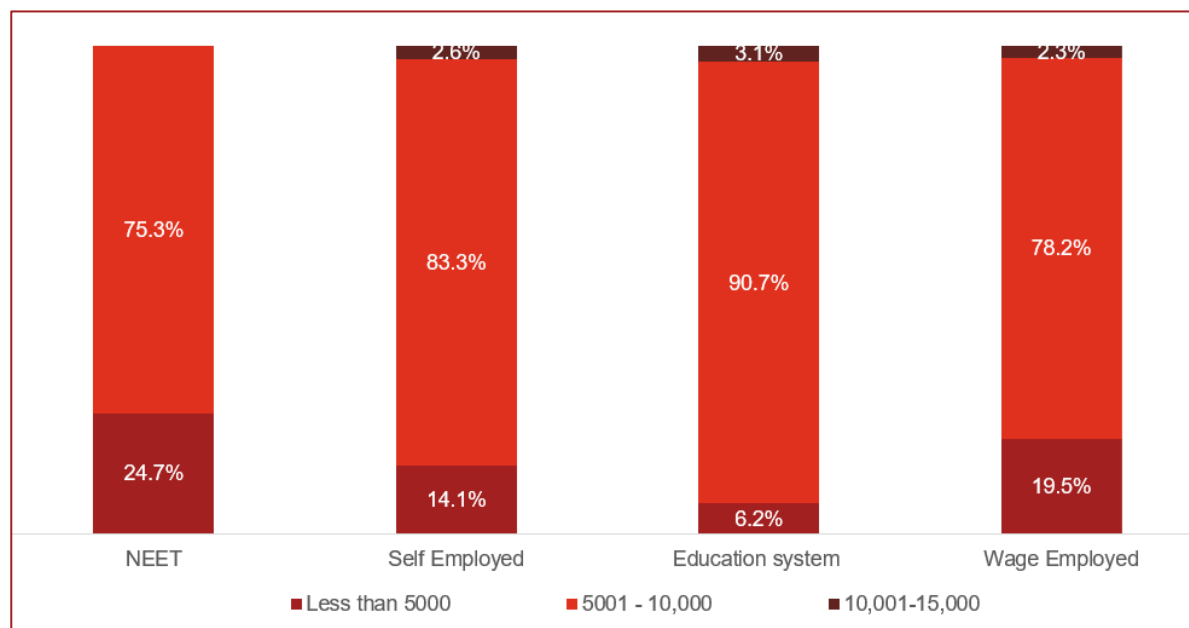
Note: Number of respondents (N) = 360

59.8% of the female respondents reported that they receive less than INR 5,000 monthly. More than four-fifth of the male respondents (85.5%) reported that their monthly income is less than INR 10,000. Lower wages have been a major reason for high level of unemployment and out migration among youth in the district. In addition, lower wages demotivates females to take up any form of economic activity.

Note: Number of respondents (N) = 360

A large proportion of the respondents ever engaged in economic activity were engaged as a skilled worker. Among those with education of Secondary and below, livestock was the most common form of economic activity. It is important to note that, 13% of the respondents who had completed a Diploma had been engaged in unskilled work, the highest among all categories.

Table 9 Education Qualification of Respondents and Employment Type

Employment Type	Upper Primary and below	Secondary	Higher Secondary	Diploma	Graduate	Post Graduate

Table 10 NEET Category Respondents

Duration in NEET Category					Wish to Work		
	Female	Male	Total		Female	Male	Total
Less than 6 months	4.3%	50.0%	7.1%	Yes	14.0%	16.7%	14.1%
6 months- 1 year	7.5%	33.3%	9.1%	Total	93	6	99
1- 2 years	21.5%	0.0%	20.2%	Actively Seeking Work		
2- 3 years	16.1%	16.7%	16.2%				
3-4 years	15.1%	0.0%	14.1%		Female	Male	Total
4 -5 years	5.4%	0.0%	5.1%				
More than 5 years	30.1%	0.0%	28.3%	Yes	7.7%	100.0%	14.3%
Total	93	6	99	Total	13	1	14

2.5. Youth Career Aspirations

The youth in the district have shown preference for self-employment (58%) followed by wage/ salaried employment. Both females and males have shown similar interest in the pursuit of self-employment, while males have a substantially higher interest in pursuit of wage employment. **Contrary to the State level, the aspiration of the youth for a Govt. Job is low at 4%.**

Figure 18 Career Aspiration of Youth
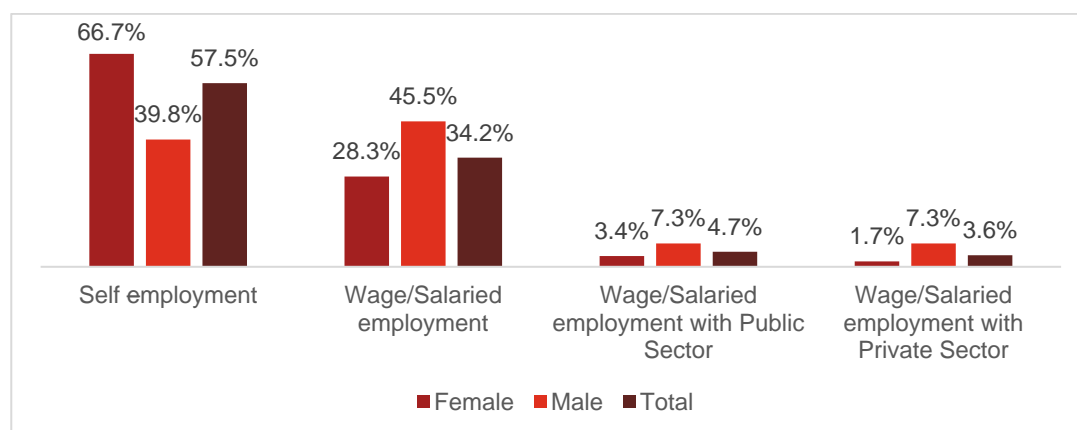
The main factors influencing the aspiration of the youth are closeness to residence (38%), Salary (wages) / Income (36%) and Job Security (21%). 86% of the youth feel they are moderately or largely prepared for requirements for a job while only one percent feel they are unprepared. Closeness to residence was largely preferred by female respondents than by males. The main reason for the youth (employed and ever employed together) feeling prepared is their academic qualification and available work experience in the relevant field (34% and 66% respectively). 88% of the youth feel there is a lack of adequate employment opportunities available in the district.

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

Factors Determining Aspiration	Responses	Perception of Preparedness for Jobs	Responses
Closeness to Residence	38%	Largely Prepared	40%
Salary (wages) / Income	36%	Moderately Prepared	38%
Job Security	21%	Completely prepared	21%
Social Status	3%	Not Prepared	0.6%

Traditionally Acquired Skills / Family Business	1%	**Availability of Job Opportunities**	**Responses**
Flexible work arrangements (location, schedule)	1%	Neither adequate nor inadequate	52%
		Very inadequate	35%
		Somewhat inadequate	10%
		Don't know	1%

Note: Number of respondents (N) = 360

Only one-fourth of the respondents had challenges in pursuing the careers. Among the challenges the key ones are lack of guidance or information on appropriate job available for skill levels, low financial strength, lack of sufficient qualification, etc. Surprisingly a similar share of males and females highlighted this as an issue. Other factors of less importance include lack of work experience, unsafe environment at work and pressure related to getting married.

Table 12 Career Aspiration – Challenges in pursuing desired career

Challenges	Responses	Challenges	Responses
Lack of guidance / information on appropriate job available for skill levels	30%	Lack of technical / vocational skills	4%
Low financial strength	14%	Lack of work experience	1%
Lack of sufficient education qualification	13%	Unsafe working environment	1%
Lack of jobs locally	5%	Pressure related to getting married	1%
Lack of family support / social acceptance of girls being engaged in economic activity	5%	No Challenge	76%

Note: Number of respondents (N) = 360

The key factors determining their employability, according to the respondents, were years of relevant experience (36%), basics and soft skills (32%) and certifications in technical skills (25%). Clear Communication Skills (67%) and Coordination Skills (62%) were identified as key skills specific to their aspired jobs. Team work (20%) and time management (15%) were other identified areas of skill development. **While 43% respondents had already taken steps to meet these requirements, 39% were intending to take up a vocational / skill training program**. 13% respondents were looking to continue education while 7% were looking for apprenticeships.

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

Key Skills Required for desired job			
Clear communication	97%	Leadership	4%
Team work	33%	Coordination Skills	2%
Time management	17%	Critical thinking and analysis	1%
Creativity, originality and initiative	7%	Active listening	0
Analytical thinking	6%	Attention to detail	0
New Steps to achieve aspirations			
Steps	Responses	Steps	Responses
Already in Pursuit	43%	Apprenticeship / Gathering Work Experience	8%
Vocational/ Skill Training	2.6%	Others	0

Continuing Education	46%		

The food processing sector is the most popular and aspired sector among the respondents with 29% youth preferring it. Other Sectors include Banking, Financial Services and Insurance, Agro-business, IT&ITES and Textile and apparel.

Figure 19 Sectors aspired by respondents
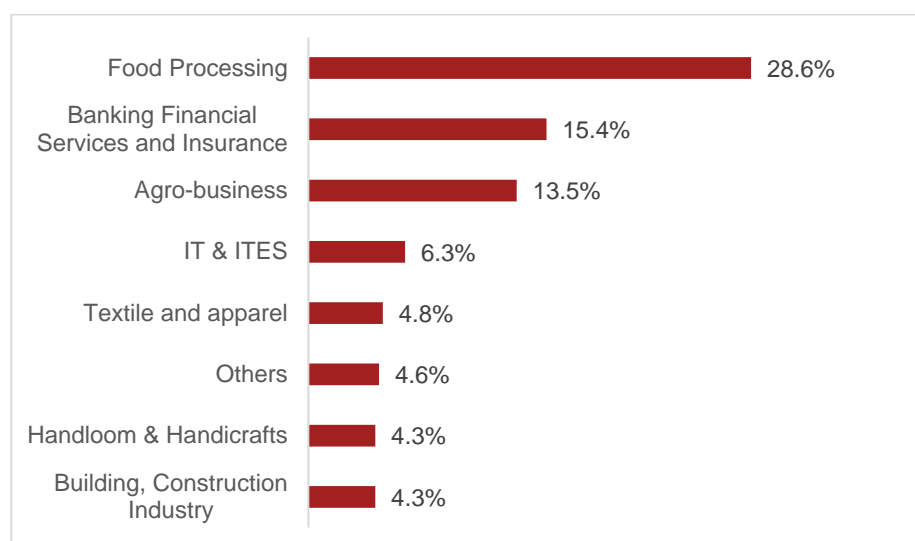
Note: Number of respondents (N) = 360

Around 82% of the respondents have expectations of monthly income in the range of ₹5001-10,000.

Figure 20 Aspired monthly salary of respondents
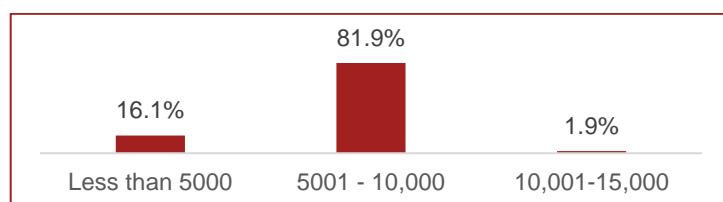
Note: Number of respondents (N) = 360

Figure 21 Preference for Work Location[15]
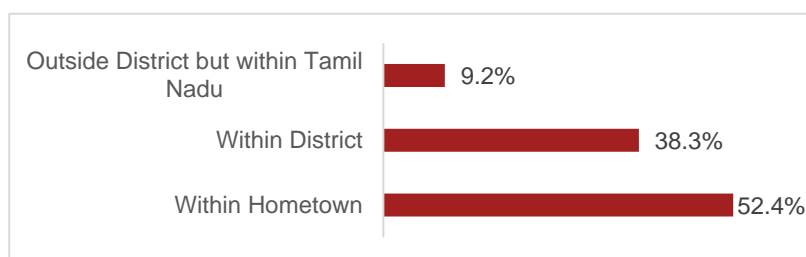
Nearly half of the respondents were interested to work within their hometown and more than one-third preferred to migrate outside of their hometown but within the district for the purpose of employment.

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[15] Multiple Response, Sum may exceed 100%

Figure 22 Sources for Job Information[10]

Chart: Sources for Job Information
- Unaware / Dont Know: 52.8%
- Very inadequate: 40.0%
- Neither adequate nor inadequate: 4.7%
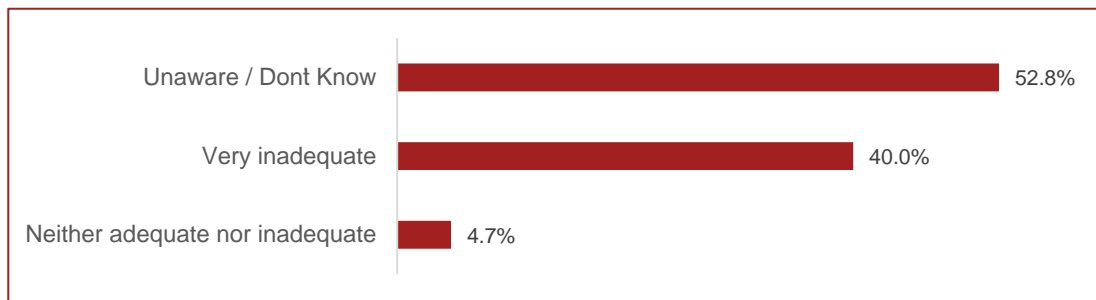
Note: Number of respondents (N) = 360

Figure 23 Perception on Counselling Services

Chart: Perception on Counselling Services
- School/ University career counselling centres: 64.8%
- Community: 61.5%
- Newspaper / Other media: 41.7%
- District Employment Office / National Career Services: 15.8%
- Parents and other family members: 12.8%
- Friends and Peers: 11.2%
- Internet and Online Job Portals: 7.9%
- Others: 2.6%
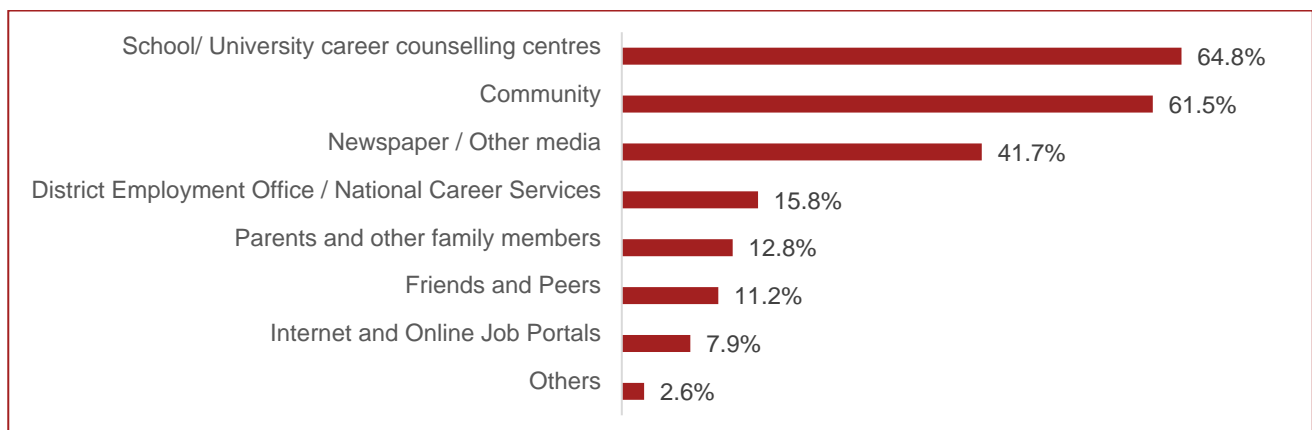
Note: Number of respondents (N) = 360

The most important source for Job related information were school/university career counselling centres (65%) followed by community (62%) and Newspaper and other media (42%). The District employment office, parents and family and Friends and Peers play a secondary role. The District employment office was identified as a source by only 16% of the respondents. 45% of the respondents felt that the counselling services were not adequate in meeting their requirements and more than half of the respondents were unaware of the counselling services. The key inputs requested by the respondents from career counselling services include Information on Relevant vacancies (34%), Advice on seeking jobs (31%) and placement support (29%).

Figure 24 Preference on Counselling Services*

Chart: Preference on Counselling Services
- Information on relevant vacancies: 34%
- Advice on how to look for a job: 31%
- Placement for jobs: 29%
- Others: 3%
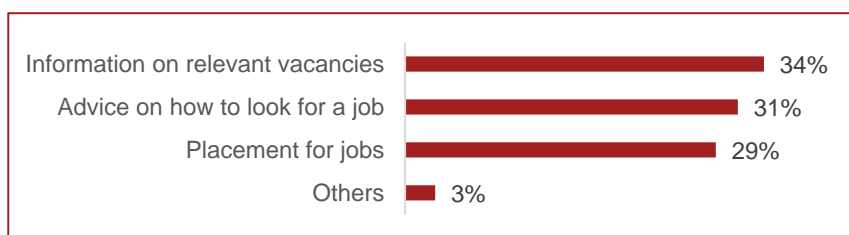
*Multiple response question

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 are lack of time, don't see any value addition for job opportunities, financial constraints and no support from family.

Figure 25 Reasons for not interested in Skill Training
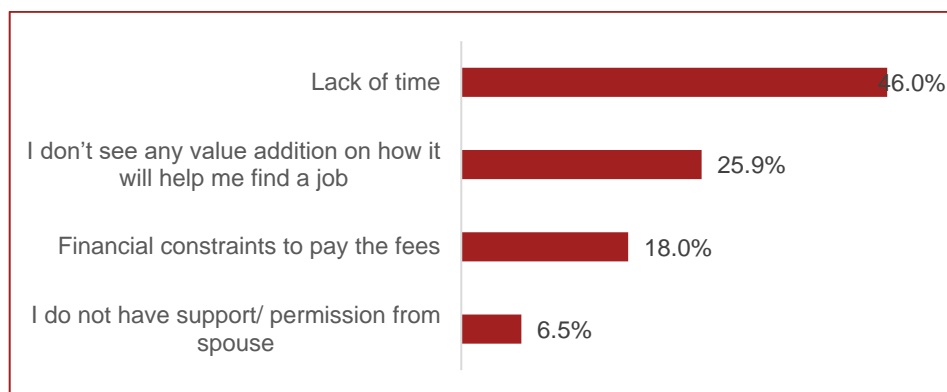
Virudhunagar being one of the aspirational district it is important to have focussed skill training to the youth. Strong student counselling should be in place to create awareness of the existing training needs and also to understand their interests and aspirations for employment.

Banking Financial Services and Insurance, Auto and auto components, agro-business were the most popular and aspired sector amongst male respondents and food processing, agro-business, Banking Financial Services and Insurance and Textile and Apparel 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 of skills. The information was collected through both quantitative survey and qualitative approaches including In-Depth interviews and focus group discussions.

The survey covered 45 Industries from 8 sectors, with highest representations from the other manufacturing, and Chemical & Pharmaceuticals, which are one of the highest contributors to the local economy. 30% of the industries were in operations for more than 15 years. 51% of the industries surveyed reported to be in the Small Industries category while 31% were from the Medium Industries category. The selection of the Industries was also based on the labour intensity of the sectors.

Figure 26 Distribution of Industries by Size
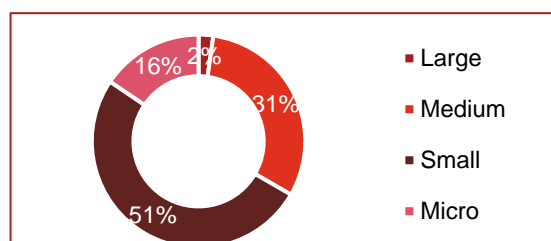
Table 14 Sector wise coverage of Industries in Employer Survey

S.No	Sector	Number of Industries Surveyed	S.No	Sector	Number of Industries Surveyed
1	Other Manufacturing	19	5	Agro-business	2
2	Chemical & Pharmaceuticals	13	6	Food Processing	2
3	Others	4	7	Tourism Travel and Hospitality	1
4	Textile and Apparel	3	10	Iron and Steel	1

97% employers used reference from existing employees or known sources as a mode of recruitment. Local Community (24%) was the next common source of employees, followed by other modes, social networks and advertisements in newspaper. Job *Melas* and Campus recruitment were not seen as a mode of recruitment. The most common challenge they face are the high local wages (73%), followed by candidate disinterest and attitude (71%).

Table 15 Modes and Challenges in Recruitment Process

Key Modes of Recruitment			Key Challenges faced in Recruitment		
S.No	Particulars	%	S.No	Particulars	%
1.	Employee Reference/ Other Referrals	97%	1.	High local wages	73%
2.	Local Community	24%	2.	Candidate Disinterest and Attitude	71%
3.	Others	14%	3.	None	22%
4.	Social Networks	7%	4.	Lack of requisite core skills	7%
5.	Advertisements in Newspapers	2%	5.	Nature of work requires strenuous physical labour	5%
			6.	Attrition/Uncertainty due to marriage and children	5%
			7.	Attrition/Uncertainty due to involvement in Household chores	5%
			8.	Lack of requisite soft skills	2%

Figure 27 Average distribution of workers by Sex
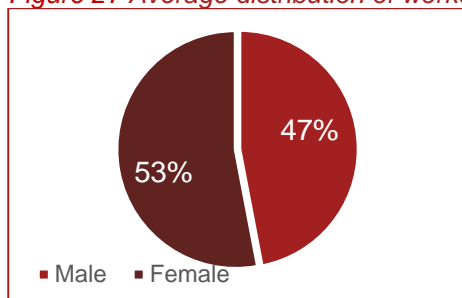
Figure 28 Distribution of workers by Skill Levels
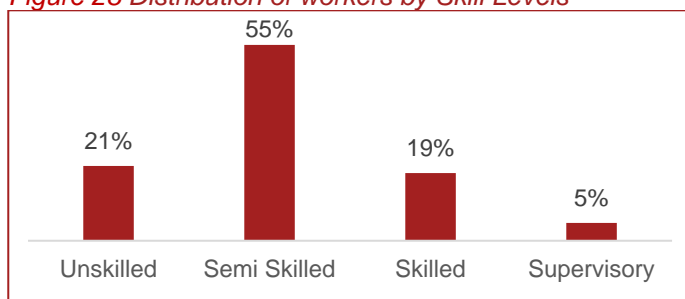
The surveyed industries were largely dominated by the female workers. Textile Industries usually employ a higher proportion of females while other manufacturing industries are almost entirely dominated by males. More than half of the workers were semi-skilled followed by unskilled workers (21%). Less than one-fifth were skilled workers and supervisory roles constitute marginal share of the workforce.

Figure 29 Key causes of Attrition[10]
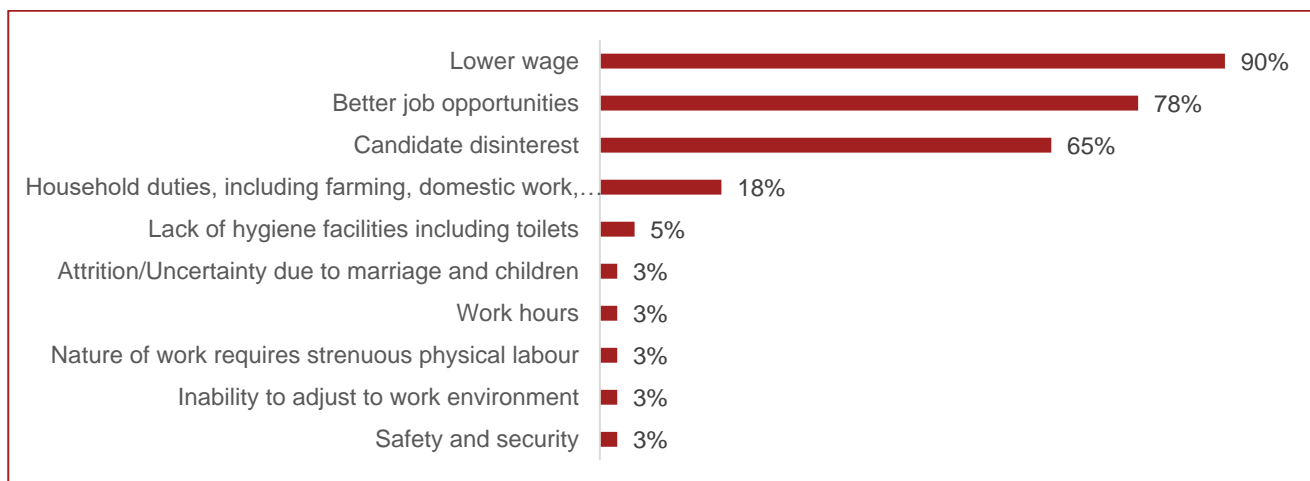
The employers estimate 24-34 % attrition annually from their workforce. Lower wage for the job was stated as the dominant (90%) cause of attrition. The availability of better job opportunities and candidates' disinterest were other reasons attributed to the high attrition rates. 66% of the respondents feel there is medium growth prospects while 54% of the respondents see medium level adoption of technology. Among these only 7% of the respondents have already initiated plans in adoption of technology.

Table 16 Growth Prospects and prospective adoption of technology

Growth Prospects of Industry (n= 38)	%	Level of Technology adoption (n= 37)	%	Plans to adopt Technology	%
High	5%	High	5%	Yes	7%
Medium	66%	Medium	54%		
Low	29%	Low	41%	No	82%

The employers see a medium demand for minimally skilled workers only. There is low demand for skilled and supervisory workers which is reflected clearly in the demand estimates also.

Table 17 Demand for workers by Skill Level and type of training provided to workers

Demand for Workforce in next 5 years			
	Minimally Skilled	**Skilled**	**Supervisory**
High Demand	2%	-	-
Medium Demand	60%	5%	-
Low Demand	12%	7%	8%
None	26%	88%	92%

Key Insights on Skill Development / Training
- Majority of the respondents (89%) were not aware of any training programmes of the Government.
- The highest awareness was about TNSDC (10%).There was low awareness about other schemes.
- Awareness on the skill training was not satisfactory as the training programs are not directly related to their industry.

Figure 30 Interest in working with the Govt. on Skill Development

38%	38%	25%

■ No Interest ■ Moderately interested ■ Very Interested
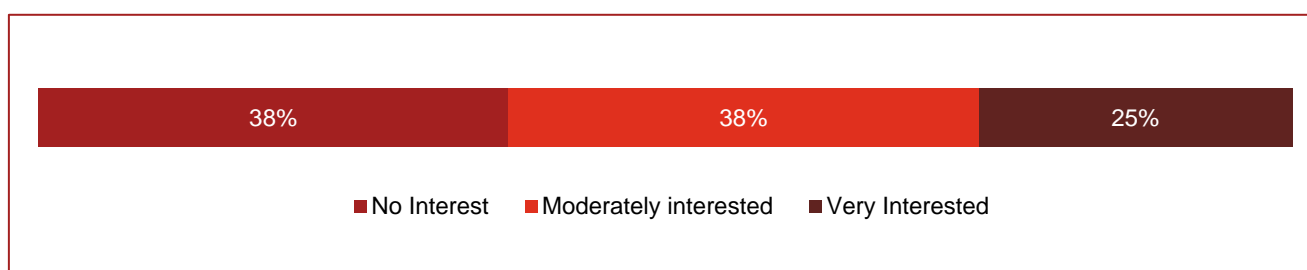
Responses indicate that there is medium demand for minimally skilled workers in the next five years. However, counselling youth for taking up employment with required skills is important in the long run which is the major constraint faced by most of the industries. Time Management skills were the requirement for workers.

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 18 Focus Group Discussion - Key Points

S No	Topic	Findings
1.	ITI/ Polytechnics/ Engineering colleges in the district	• Infrastructure of private ITI and Polytechnic colleges need to be strengthened and made affordable. • Focus on appropriate courses/ trainings that are industry and market-driven and in collaboration with local industries.
2.	Candidate Attitudes/ Abilities	• Attitude of youth in job selection and employment has to be addressed by adequate motivation and awareness. • Fresh recruits had to be equipped with the requisite skills, especially soft skills and communication skills.

S No	Topic	Findings
3.	Womens' employment	• Women have more scope for employment in cottage industries and food processing units for packaging and drying. • Self Help Groups enables women to have additional income by initiating small scale units for packing and other pickle making etc.
4.	Awareness of government skill development schemes/programs	• Low awareness among youth was observed with regard skill development programs – both long-term (ITI and Polytechnic) as well as short-term skill development programs

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 has recovered from the external shocks of demonetization and GST. Investments and expansions are on the anvil, especially in cottage industries, oil mill and food processing sectors. Given the backwardness of the district, there is very limited growth in diversification of industries. Some of the items like matches, fireworks, cotton are being exported.

The Infrastructure sector is seeing new developments with additional funds under aspirational district.

Labour Supply

All the major industries in the district are labour intensive. The seasonality nature of industries in the region and increased cost of labour in the district are major challenges for labour supply. The availability of labour is thus constrained across all sectors, (especially in the textiles where it is acute) and at all skill levels. As a result, some large industries are considering shifting investments to the southern districts.

Women Employment

Female employment is largely focussed in the textile and matches/fireworks sectors among Industries and the retail sector in the services. However, there is greater acceptance of females in dairy and food processing are still a constraint as they are considered male jobs.

Youth Aspirations

The aspirations of the youth are largely oriented towards high paid jobs, in any industry. The aspired income at entry level of Rs.5,000 to 10,000 is also at times felt unviable for small-scale industries as it is mostly semi-skilled jobs. However, even large industries face the supply constraints due to reluctance of the youth to take up blue-collared jobs, especially due to widespread notions of lack of amenities and hostile work environment. The industries 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.

Training & Skill Development

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 lacuna 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, Apparel & Made ups and do not cater to the requirements of the local economy such as matches and fireworks industry. 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.

Automation

Though technological upgradation is seen across sectors, labour saving automation is slowly entering the major industries like textiles, chemicals, 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.

Skill Gaps

Soft Skills especially communication skills, professionalism, flexibility and interpersonal skills were found to be wanting by most of the stakeholders. In the services sector, the conversation skills in English were found wanting in the IT-ITES and the Hospitality sector. There is increased investments collaborations by national and international companies in the Industrial sector which value work ethics, professionalism and timeliness among other things. This is a major challenge to inculcate during employment. The Industrial sector would also require greater tenacity, ability to innovate

Specific Skill Requirements include

- Packing roles in the textile mills, plastic product manufacturing to manage entry level skilled workers.

- Receptionists, Adventure Sports, Cab Drivers among others in the Hospitality sector. There is a requirement to learn multiple languages especially, English and Indian regional languages.

- 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 spread throughout the course duration and not limited only with last semester.

4. Skill Gap Analysis

4.1. Skill Gap Assessment - Incremental Demand[16] for Skilled & Semi Skilled Manpower

The district of Virudhunagar has witnessed significant growth due to the focussed interventions and monitoring under the aspirational districts programme. However, the industrial growth is very marginal. These are affecting the incremental demand for skilled workforce in the district, whereas per our methodology, Manufacturing, transport, healthcare and Logistics and communication are the major sub sectors for employment, especially semi-skilled. Construction, Allied sectors of agriculture, Hotels and restaurants, Trade are other sectors driving the demand in 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**
Agriculture	(519)	(675)	(1,194)	(3,633)	(4,727)	(8,361)	(9,555)
Allied Activities	476	732	1,208	3,333	5,123	8,456	9,664
Mining and quarrying	(39)	(49)	(88)	(66)	(81)	(147)	(235)
Manufacturing	10,832	16,211	27,043	21,664	32,423	54,086	81,130
Electricity, gas, water supply and other utility services	114	173	287	228	346	574	860
Construction	812	1,209	2,021	2,030	3,023	5,053	7,075
Trade & Repair Services	433	607	1,041	1,501	2,102	3,603	4,644
Hotels and restaurants	263	368	631	509	714	1,223	1,854
Transportation and storage;	1,335	2,049	3,384	3,204	4,917	8,121	11,505
Communication and services related to broadcasting	1,133	1,800	2,933	566	900	1,466	4,399
Financial and insurance activities	82	111	193	41	56	96	289
Real estate, ownership of dwelling and business services	18	24	41	44	59	103	144
Public Administration	382	552	935	306	442	748	1,682
Education;Human health & Social Work Activities	2,462	3,715	6,178	1,970	2,972	4,942	11,120
Arts, entertainment and recreation	828	1,250	2,079	663	1,000	1,663	3,741
Activities of membership organizations; Repair of computers and personal and household goods &Other personal service activities	2,778	4,192	6,969	2,222	3,353	5,575	12,545
Other Services	1,316	1,985	3,301	1,053	1,588	2,641	5,942
Total Demand	23,264	34,980	58,243	39,333	59,019	98,351	156,595
Total supply	5,149	6,866	12,015	10,230	13,640	23,869	35,884
Skill Gap	18,114	28,114	46,229	29,103	45,379	74,482	120,711

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[16] 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

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

Table 19 Summary of Trainings

S. No	Sector	Roles	Target (Persons)	Budget (₹)
1.	Textile and Apparel	• Cutting Supervisor • Knitting Machine Operator • Fabric Checker • Quality Checker	20,000	35.04 Crores
2.	Rubber	• Maintenance of Machinery – Technician • Service Engineer - Installation	8,000	42.96 Crores
3.	Logistics	• Warehouse Packer • Goods Packaging Machine Operator • Forklift Operator/Driver	6,500	12.08 Crores
4.	Agriculture	• Dairy Farm Supervisor • Dairy Farmer/Entrepreneur • Dairy Worker	1500	7.19 crores
5.	Healthcare	• Home Health Aide • General Duty Assistant	4,000	5.08 Crores
	Total		44,500	102.35 crores

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

- INR 30.30 for Category-III

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

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

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

The training projects are described below:

Table 20 Training Project 1

Name of the Project: Training in Textile and Apparel sector							
Key Economic Drivers:							
• Expected investments through GIM – of Rs. 200 Crores and 300 proposed direct employment							
• Highest contributor for GVA in 2104-15 and largest employer, with more than 14,000 direct employees							
• IDENTIFIED MSE CLUSTERS at Thalaivaipuram, Readymade garments), Chathrappatti (Surgical Cotton Guaze and Bandage Cloth), Aruppukottai (Textiles)							
Key Partners: SIMA, SITRA, TEF, Textile SSC							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training**	**Cost Category**	**Target Group**	**Training Target (People)**	**Cost of Training (₹) in Crores**
Cutting Supervisor	5	AMH/Q0610	300 hours	1	10th Class Pass outs	4,000	6.61 Crores
Knitting Machine Operator – Circular Knitting	4	TSC/Q4101	300 hours	1	5th Pass with 1 2 years work experience	2,500	4.13 Crores
Fabric Checker	4	TSC/Q 2301	300 hours	1	Preferably Class 10th	7,500	12.39 Crores
Packing Checker	4	TSC/ Q 0501	300 hours	1	10th Pass with 1 or 2 years' experience in a Textile processing.	6,000	9.91 Crores
Total						20,000	33.04 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							2.0 Crores
Total cost							35.04 Crores
Key Considerations: The locally available labour are hired as migrants to other parts of the state and country. However, a vast majority of these workers are minimally skilled and would require considerable mentorship, monitoring and management. There is a huge demand for supervisory roles in the mills in the district and the neighbouring were Thoothukidi District, the allied apparel sector is largely catered from. It is necessary to ensure the curriculum is upgraded as per industry requirements orientation with an institute like SITRA in Coimbatore, with close implementation partnership with local industrial associations. A key requirement would be to provide adequate on the job training in the various textile units around the district. These job roles are particularly open to women and a supervisory role may cater to their aspiration.							

Table 21 Training Project 2

Name of the Project: Rubber Sector							
Key Economic Drivers:							
• Estimated 7,000 units, many micro / small industries with around 10 employees each on an average in the district • Investments more than Rs 1,000 Crores awaited in the Southern Districts in Chemical &.Petro-chemicals in the District. • Though workforce of many companies has considerable share (50%) of immigrant workers, there is shortage in the skilled worker / supervisor category with understanding of machines							
Key Partners: CIPET, Chennai, Local Industrial Association							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training**	**Cost Category**	**Target Group**	**Training Target (People)**	**Cost of Training (₹) in Crores**
Maintenance of Machinery - Technician	4	RSC/Q4805 (CPC/Q3004)	960 hours	1	10th Class	5,000	26.35 Crores
Machine Operator- Tool Room	4	RSC/Q4303 (CPC/Q5104)	960 hours	1	8th Class	3,000	15.81 Crores
Total						8,000	42.16 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							0.80 Crores
Total cost							42.96 Crores
Key Considerations:							
The sector faces severe challenge in finding the sufficient skilled workers on advanced machinery required by international clients in the manufacturing sector, especially as CNC operators. There is an urgent requirement to upgrade the infrastructure as well as the curriculum of ITIs/ Polytechnics to meet the industry requirement. This can be prepared in consultation with CIPET, Chennai. The lack of experience in work environment is a major drawback in the hiring of students from such programs. The classroom training can be a general course, later customized to industry requirements during the OJT phase. Though the companies in the cluster are willing to take up OJT, it will be necessary to support the companies with a stipend pay to the student barring, which he/ she could drop out of the apprenticeship process.							

Table 22 Training Project 3

Name of the Project: Training in Logistics Sector							
Key Economic Drivers:							
• Packing Cluster for all southern districts • Logistics Investment of Rs. 300 Crores and 3,000 direct employment in the district. • Incremental demand of 6,000 people • Key contributor for district GVA in the district • Demand from Industries in Tirunelveli, Thoothukudi and even Madurai							
Key Partners: Logistics Sector Skill Council, Chennai							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training**	**Cost Category**	**Target Group**	**Training Target (People)**	**Cost of Training (₹) in Crores**
Warehouse Supervisor	5	LSC/Q2307	240 hours	1	Diploma (Any, Engineering, Arts, Commerce)	2,500	3.29 Crores
Goods Packaging Machine Operator	4	LSC/Q2216	380 hours	1	10th Class	3,000	6.27 Crores
Transport Consolidator*	4	LSC/Q1119	380 hours	2	10th Class	1,000	1.86 Crores
Total						6,500	11.43 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							0.65 Crores
Total cost							12.08 Crores
Key Considerations:							
The sector faces severe challenge in finding the sufficient skilled workers on advanced machinery required by international clients in the allied sectors especially from Manufacturing.							

Table 23 Training Project 4

Name of the Project: Training in Agriculture Sector
Key Economic Drivers:

- Virudhunagar is one of the contributors of milk to the state's and also has value addition products.
- Government of Tamil Nadu has sanctioned the Virudhunagar Dairy Plant Project with an estimated allocation of Rs.100 million
- The decline of agriculture over recent years can lead to an exodus of labour which can be absorbed into the dairy units.

Table 24 Training Project 5

Name of the Project: Training for Healthcare							
Key Economic Drivers:							
• Ageing Population with 17.1% of the population expected to be over 60 years in 2025 compared to 11% in 2011. • Aspirational for youth • Tamil Nadu Govt. has announced plans to extend provide palliative care to all 385 blocks of the district • Universal Healthcare schemes at the central and state level are being rolled out. • Key recommendation of the 2018, IIT Madras study on Universal Health Care was the training of Village Health Nurses (VHNs).							
Key Partners: Healthcare Sector Skill Council, Dept. of Health –Govt. of TN.							
Job Roles:	**NSQF Level**	**NSQF Code**	**Duration of Training**	**Cost Category**	**Target Group**	**Training Target (People)**	**Cost of Training (₹) in Crores**
Home Health Aide	4	HSS/Q5102	240 hours	2	Graduates who have completed courses from Degree Colleges,	2,000	2.34 Crores
General Duty Assistant	4	HSS/Q5101	240 hours	2		2,000	2.34 Crores
Total						4,000	4.68 Crores
Total Assessment and Certification cost (₹ 1,000 per candidate)							0.40 Crores
Total cost							5.08 Crores
Key Considerations:							
Coimbatore has 17 nursing institutions, with an annual capacity of more than 1,000. They could be partnered with in providing additional training.							

5.2. Key Recommendations

Study findings reveal that there is an emerging demand for semi-skilled workforce in the district with several investments lined up within the district. However, access to skills, livelihoods and gainful employment varies across the district due to other factors of development like infrastructure, education, economic scenario, level of awareness, etc. Inadequate skills on latest technology, low wage rates, low levels of soft skills, high aspirations, high in-migration and lack of access to credit are the key barriers for youth to seek suitable employment. However, it also emerges that there are opportunities for the youth, especially in sectors like manufacturing, food processing, and textiles.

Recommendation on key interventions that needs to be taken up in order to foster the participation of youth in the economy are as follows:

Industry engagements to address the skill gap:

Industries should attempt to understand the aspirations of local youth to plan the trainings to balance the requirement and expectations of the youth. The training centres and institutions need to work together with local industries, understand the requirement in the sectors, and accordingly develop the curriculum taking into account the youth aspirations also. Practical training by means of industrial visits will provide better exposure to the students and understand the nuances of the industry which will help to refine their aspirations. Government interventions play a crucial role in bridging the gap between the industry requirements, youth aspiration and training institutes capacity. The training institutes and trainers should have the necessary capacity to provide quality training.

The educational institutions can colloborate with the big industries in the district and organise regular seminars and industrial visit for students to get better understand of the employment opportunities. They can also work together with industries and jointly design intership programmes for the students, to enable hands-on training. Training on soft skills enhances the chances for employment for the youth.

Industries should be gender senstive and provide enabling work environment (transport facilities, medical leave, creche system for women workers of all levels, and appropriate benefits and pay to retain workers) for women to encourage them take up technical job roles.

Creating Awareness and conducting counselling sessions to address their knowledge, Attitude and Behaviour:

Special camps to be organised by Government for youth to create awareness on the various opportunities available for employment through Central and State Government schemes. The awareness can be done through street plays, wall paintings, etc. in the common places for wider reach.

Career Counselling and awareness campaigns need to be organised across the district, especially in educational institutions. Students of Schools, colleges, polytechnics and training institutions should be exposed to the requirement for skills, options for career progress in a systematic manner through the Dept. of Labour Employment and Training.

Youth should be trained on life skills for a holistic development. This should be given alongside the skill trainings as part of the curriculum. Youth should also be given awareness to aspire to become an entreprenuer through career counselling and various subsidy provided for the same. Credit support should be facilitated to the youth who are interested and have an aptitude to become entreprenuers.

Strengthen the technical knowledge on agriculture and allied sector to attract youth: Technical and timely inputs on new practices to be adopted for the cropping system to be enhanced for better productivity and profit from agriculture. These advisories can be shared digitally for better reach and attract youth. The entire value chain from produce to product should be addressed. Dairy development can be strengthened with better market linkages and financial support.

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 was interviewed.

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

3. **Self – Employed Youth:** To cover Self – Employed Youth in the sample, a roster of beneficiaries from the Pradhan Mantri Employment Generation Programme (PMEGP) shall be randomly selected from the list which 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 Virudhunagar selected for the survey. The methodology is explained below:

Figure 31 Blocks Selected for Survey in Virudhunagar

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. The blocks selected were:
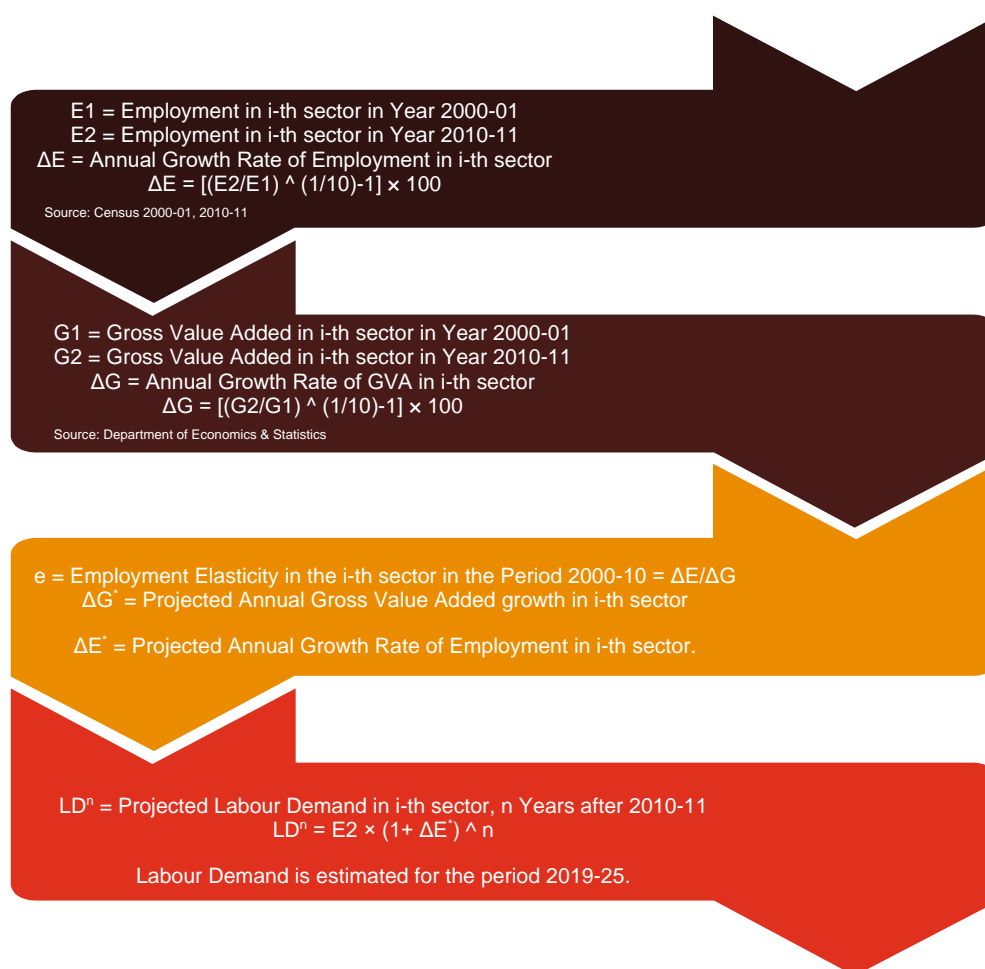Low- Aruppukottai, Sattur,

Medium- Sivakasi, Srivilliputtur,
High- Vembakottai, and Watrap

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 32 Steps for Demand Estimation

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

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

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

ΔE^* = Projected Annual Growth Rate of Employment in i-th sector.

LD^n = Projected Labour Demand in i-th sector, n Years after 2010-11
$$LD^n = E2 \times (1+ \Delta E^*) \wedge n$$

Labour Demand is estimated for the period 2019-25.

Supply Estimation

We estimated the average incremental supply of labour for the period 2011-16 and assume it to remain constant for the period of 2019-25. Although the population (15 & above) is increasing, the labour force participation is decreasing in the state[17]. 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:

P1, P2 …, P6 refers to projected

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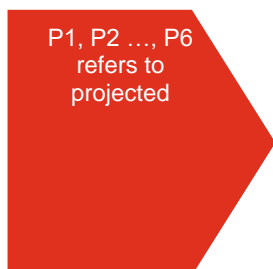
[17] Report on Employment-Unemployment Survey, 2011-12, 2012-13, 2013-14, 2015-16 & 2017-18.

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.	Vpa Cottage Industries	Industry
8.	Oil Mill	Industry
9.	Ganesh Agencies	Industry
10.	S Puvaneswari & Co.	Industry
11.	Anandhram & Company	Industry
12.	Sri Balagi Surgicals	Industry
13.	Sree Sanjeevi Natchiyar Surgicals	Industry
14.	Sri Kannan Surgicals	Industry
15.	Sri Ramkumar Surgicals	Industry
16.	Sri Vinayaka Surgicals	Industry
17.	Sundaram Surgicals	Industry
18.	Sri Padma Lakshmi Surgicals	Industry
19.	Bharath Surgical Dressing Company	Industry
20.	Balu Surgicals	Industry
21.	Varad Surgico Fabrics	Industry
22.	Sri Sakthi Vinayagar Surgicals	Industry
23.	The Nadar Press Limited Unit--2	Industry
24.	Standard Fire Works Private Limited Engineering Division	Industry
25.	Standard Fire Works Private Limited [Tube Division 1]	Industry
26.	Standard Fire Works Private Limited [Tube Division--4]	Industry
27.	Mess Japan Restrant	Industry
28.	The Nadar Press Limited Unit--1	Industry
29.	The Safire Industries	Industry
30.	Ramji Match Works	Industry
31.	Kariapatti Millets Farmers Producer Company Ltd	Industry
32.	Modern Match Works	Industry
33.	Super Fine Match Industries	Industry
34.	Jambo Films And Packs India	Industry
35.	Standard Paper Container	Industry
36.	Bilal Lath Work	Industry
37.	Sri Krishna Cottons	Industry
38.	Sri Krishna Print & Pack	Industry
39.	Sri Krishna Color Pack	Industry
40.	Band W Taps	Industry
41.	Sri Krishna Corrugating Industries	Industry
42.	Pepco Offset Printing Works	Industry
43.	Sona Fine Products	Industry
44.	Sri Hari Indu Pack	Industry
45.	Madhan Plastic	Industry
46.	Winner Mills	Industry
47.	Winner Weaving Mills Private Limited	Industry
48.	Hi-Pack Blowcans	Industry
49.	R R Dominant Textiles	Industry
50.	Star Poly Products	Industry
51.	Sega Plascan Exports	Industry