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# ***Human Resource and Skill Requirement Study for 21 Coastal Districts of India***

Prepared for:

Sagarmala, Ministry of Shipping and  
National Skill Development  
Corporation

## **Final Report**

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# ***Acknowledgement***

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In addition, we convey our gratitude to all those who have, in some way or other, contributed towards the successful completion of this study.



# Glossary

S. No	Abbreviation/ Acronym/ Word	Full Form/ Definition
1.	ACCI	Andaman Chambers of Commerce and Industries
2.	AIEMA	Ambattur Industrial Estate Manufacturers Association
3.	APSSDC	Andhra Pradesh State Skill Development Corporation
4.	ASCI	Agriculture Skill Council of India
5.	ASI	Annual Survey of Industries
6.	BFSI	Banking Financial Services and Insurance
7.	BPCL	Bharat Petroleum Corporation Limited
8.	CBIC	Chennai Bangalore Industrial Corridor
9.	CFS	Container Freight Stations
10.	CIFNET	Central Institute of Fisheries Nautical & Engineering Training
11.	CII	Confederation of Indian Industries
12.	CMFRI	Central Marine Fisheries Research Institute
13.	CONCOR	Container Corporation of India Ltd.
14.	CPT	Cochin Port Trust
15.	CSMCRI	Central Salt & Marine Chemicals Research Institute
16.	D-BRAIT	Dr. B.R. Ambedkar Institute of Technology, Port Blair
17.	DC-MSME	Development Commissioner, Micro, Small, Medium Enterprises
18.	DDU-GKY	Deen Dayal Upadhyaya Grameen Kaushalya Yojana
19.	Dept.	Department
20.	DES	District Economic Survey
21.	DG-Shipping	Directorate General of Shipping
22.	DGT	Directorate General of Training
23.	DIC	District Industries Centre
24.	DMIC	Delhi Mumbai Industrial Corridor
25.	DSS	Directorate of Shipping Services, Andaman and Nicobar
26.	FICSI	Food Industry Capacity & Skill Initiative (SSC)
27.	GDP	Gross Domestic Product
28.	GMB	Gujarat Maritime Board
29.	GTICT	Gateway Terminal International Container Terminal
30.	HKC	Hong Kong Convention for Ship Recycling
31.	HPCL	Hindustan Petroleum Corporation Limited
32.	ICT	Information Communication Technology
33.	ITI	Industrial Training Institute
34.	ITIR	Information Technology Investment Region
35.	IT-ITES	Information Technology and Information Technology Enabled Services
36.	IWAI	Inland Waterways Authority of India
37.	JICA	Japan International Cooperation Agency
38.	JNPT	Jawaharlal Nehru Port Trust
39.	KASE	Kerala Academy for Skill Excellence
40.	KoPT	Kolkata Port Trust
41.	KPL	Kamarajar Port Limited
42.	KPT	Kandla Port Trust
43.	LSSC	Logistics Sector Skill Council
44.	MbPT	Mumbai Port Trust
45.	MMB	Maharashtra Maritime Board
46.	MoS	Ministry of Shipping
47.	MPT	Mormugao Port Trust
48.	MSSDS	Maharashtra State Skill Development Society
49.	MTPA	Million Tonnes per Annum

S. No	Abbreviation/ Acronym/ Word	Full Form/ Definition
50.	NFDB	National Fisheries Development Board
51.	NHAI	National Highway Authority of India
52.	NMPT	New Mangalore Port Trust
53.	NOS	National Occupation Standards
54.	NSICT	Nhava Shewa International Container Terminal
55.	NSDC	National Skill Development Corporation
56.	OSDA	Odisha Skill Development Authority
57.	PAP	Project Affected Persons
58.	PBSSD	Paschim Banga Society for Skill Development
59.	PCPIR	Petroleum, Chemicals and Petrochemicals Investment Region
60.	PMB	Port Management Board, Andaman & Nicobar
61.	PMKSY	Pradhan Mantri Krishi Sinchalan Yojana
62.	PMKVY	Pradhan Mantri Kaushal Vikas Yojana
63.	PPP	Public Private Partnership
64.	PPT	Paradip Port Trust
65.	PSA	Port of Singapore Authority
66.	QP	Qualification Pack
67.	RDAT	Regional Directorate of Apprenticeship Training
68.	Ro-Ro	Roll On Roll Off
69.	RPL	Recognition of Prior Learning
70.	RUDSETI	Rural Development and Self Employment Training Institute
71.	SAMEER	Society for Applied Microwave Electronics Engineering and Research
72.	SC	Scheduled Caste
73.	SEZ	Special Economic Zone
74.	SHG	Self Help Group
75.	SIPCOT	State Industrial Promotion Corporation of Tamil Nadu
76.	SRAI	Ship Recyclers Association of India
77.	SSC	Sector Skill Council
78.	ST	Scheduled Tribe
79.	TEU	Twenty-foot Equivalent Unit
80.	THSSC	Tourism and Hospitality Sector Skill Council
81.	TIDCO	Tamil Nadu Industrial Development Corporation Ltd.
82.	TNFU	Tamil Nadu Fisheries University
83.	TNSDC	Tamil Nadu Skill Development Corporation
84.	TSP	Training Service Provider
85.	VCIC	Vizag Chennai Industrial Corridor
86.	VIPM	Visakha Institute of Port Management
87.	VOCPT	V.O.Chidambaranar Port Trust, Tuticorin
88.	WBPMB	West Bengal Maritime Board

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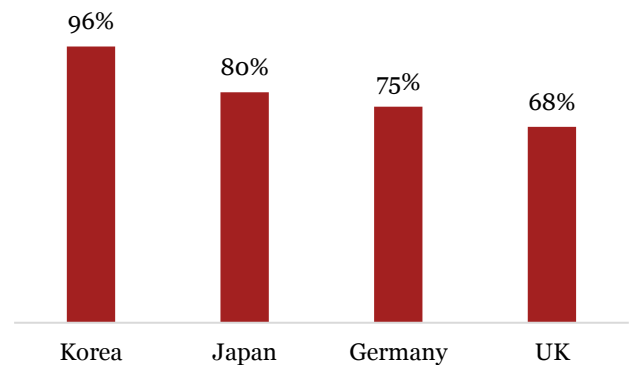
# *Section 1: Introduction*

# 1. Introduction

India is one of the youngest nations in the world with more than 62% of its population in the working age group (15-59 years), and more than 54% of the population below 25 years of age. It is estimated that at least for the next three decades, India will continue to enjoy this demographic advantage. This advantage is further accentuated by the fact that the labor force in the developed countries of the world will decline by 4% in next 20 years, while in India it will increase by 32%<sup>1</sup>. Australia, Japan, Canada and other countries from Europe are already experiencing ageing of their population.

While a number of countries are experiencing ageing of their population, India is among the very few countries that enjoys a faster rate of growth of working age group population than the rate of growth of its population as a whole. This demographic phenomena gives India a distinct advantage of becoming a source of skilled work force, especially for those countries that are witnessing ageing and hence have an increasingly lower proportion of their population to support the economic activities being undertaken locally. However, **India's formally skilled workforce (4.69%)**<sup>2</sup> is dismally low compared to countries such as China (47%), Japan (80%), South Korea (96%), Germany (75%), and United Kingdom (68%). Thus, our ability to take benefit of this demographic advantage is limited by our ability to skill our existing and the new entrants to our workforce. Further, India also faces the challenge of supplying its own industries with skilled manpower to fuel the economic growth as planned. As per the National Skill Development Policy 2015, it is expected that an additional skilled workforce of 109.93 million will be required in the country by 2022 in about 24 sectors analysed by the National Skill Development Corporation.

**Figure 1: Percentage of workforce receiving skill training**



It is estimated that **12 million people enter the workforce in India every year** who not only need to gain employment, but who also need to have the required skills for different job roles.<sup>3</sup> While this is a large number in itself, added to this, is the complexity that **about 93% of workers are in the informal sector** which is transient in nature.

Further, on the supply side, India has over 12,000 Industrial Training Institutes (ITIs), around 3200 polytechnics, and numerous other education and training institutes/bodies to supply trained manpower<sup>4</sup>. Apart from this, the **National Skill Development Corporation (NSDC) has been instrumental in catalyzing the private sector initiatives in skill development space**. Since, its inception in 2009, NSDC has been operating through partnerships with multiple stakeholders in facilitating and evolving the skilling ecosystem of the country to enable it to skill or upskill 400 million people by 2022. As of now, NSDC has trained more than 5 million people through its 249 training partners and more than 3000 training centers.

Apart from the challenge of training a large pool of untrained workforce and preparing the new entrants for jobs, India also faces the challenge of creating adequate additional jobs for its young workforce. It is estimated that between 2004-05 and 2009-10, only 2.7 million net additional jobs were created in the country. With this in mind, the Government of India has developed a number of strategic interventions. Sagarmala is one such initiative undertaken by the Ministry of Shipping to promote port led development and job creation in the country by developing Coastal Economic Zones (CEZs).

<sup>1</sup> (National Policy for Skill Development and Entrepreneurship , 2015)

<sup>2</sup> Ibid.

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

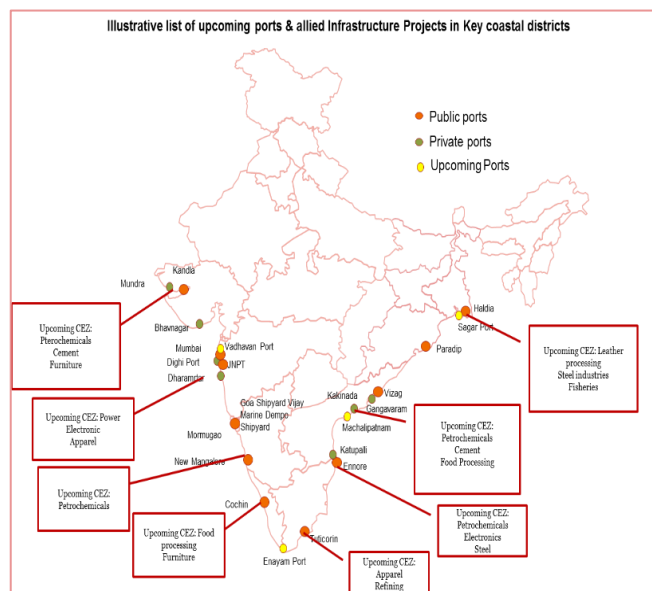
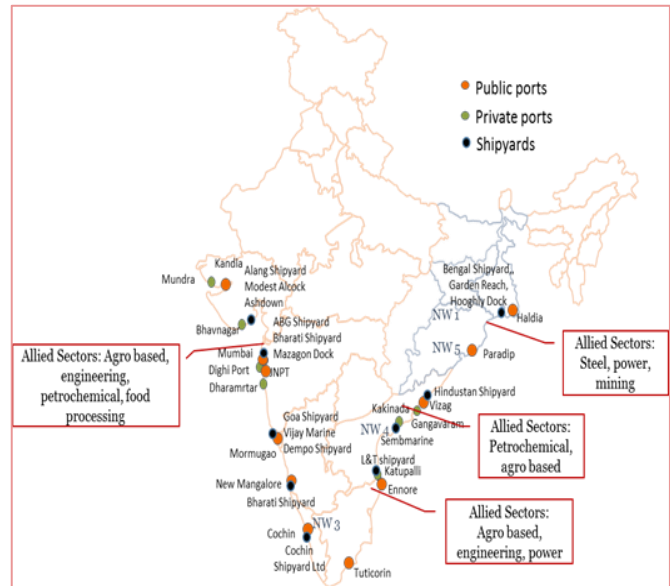
This study aims at carrying out a demand and supply side analysis in 21 select coastal districts. Further, the study will also assess the potential of job creation, especially in the context of port led development and identify the existing and emerging job roles.

## 1.1. India's Ports and Maritime Sector

India's maritime sector primarily consists of the Ports, Shipping, Ship building and Ship repair, and Inland Water Transport (IWT). **With around 7500 kms of coastline, India is endowed with natural maritime advantages and has 12 major ports and 200 non-major ports.** These ports are strategically located on the world's shipping routes. Out of the 12 major ports, six (*viz. Kolkata-Haldia, Paradip, Visakhapatnam, Ennore, Chennai, and Tuticorin*) are located on east coast while remaining (*viz. Kandla, Mumbai, JNPTC, Marmugao, New Mangalore, and Cochin*) are on west coast<sup>5</sup>. The 200 non-major ports are located in Gujarat (41), Maharashtra (48), Goa (5), Daman & Diu (2), Karnataka (11), Kerala (17), Lakshadweep (10), Tamil Nadu (15), Puducherry (2), Andhra Pradesh (12), Odisha (13), West Bengal (1) and Andaman & Nicobar Islands (23)<sup>6</sup>.

The Indian shipping industry has the potential to play a key role in the economic transition of the country. **Approximately 95 % of the country's trade by volume and 68% by value is moved through maritime transport.** Further, with a well-established naval and merchant shipping fleet, **ship building and ship repairing sector has emerged as an important industry.** The demand for ships, semi-submersibles, and port auxiliary as well as growth in ship-repair volumes are expected to increase due to rising cargo traffic from/to India in coming years.

Similarly, with a good network of rivers and a large coastline, the potential for utilization of Inland Waterways Transport (IWT) is significant in India. Not only is the cost of moving cargo through inland waterways is lower but it is also considered to be environment friendly as compared to road, rail and air transport. However, **only 0.5% of the domestic trade movement is carried out through this mode of transport.** Recognizing its importance, government has announced implementation of "Jal Marg Vikas" project for capacity enhancement of National Waterway-1 (NW-1) for Haldia to Allahabad to be completed by 2020<sup>7</sup>. The study team has mapped the existing public and private ports, and the key sectors for development associated with them.



<sup>5</sup> (Manual on Port Statistics , 2015)

<sup>6</sup> (Update on Indian Port Sector , 2015)

<sup>7</sup> (Annual Report, 2014-15)

Further, it is also proposed to develop economic clusters in proximity of the coastal districts. Six sectors, have been identified under the Sagarmala initiative to be promoted near coastal areas. The identified sectors are electronics, furniture, automotive, apparel, leather, footwear and food processing. In the illustration, the study team has tried to map the existing major public and private ports, and the upcoming ports in the 21 coastal districts. Further, the sectors which have been identified and will be developed into economic clusters near these ports have also been mapped. These sectors will be studied with an objective of assessing their need for skilled work force and the potential of creating new jobs for the coastal communities in the identified districts.

## 1.2. Sagarmala Initiative

Realizing the potential of Port Led Development in the country, the Sagarmala initiative was conceived by the then Prime Minister of India in August 2003 with the **objective of rapidly expanding port capacity, modernizing ports along India's coastline, and developing inland and coastal navigation with the aim of evolving and promoting port-led economic development and creation of Coastal Economic Zones**. The implementation of the programme was announced in 2014 by Honorable Prime Minister Shri Narendra Modi and approved by the union cabinet in the year 2015. The programme has been given the status of a National Programme and is aimed at addressing the challenges that restrict opportunities offered by port led development in the country.

The Sagarmala initiative is aimed at addressing the above challenges by focusing on the following **three aspects for development**.

- **Policy formulation:** Supporting and enabling Port-led Development through appropriate policy and institutional interventions and providing an institutional framework for ensuring inter-agency and ministries/departments/states' collaboration for integrated development,
- **Infrastructure development:** Port Infrastructure enhancement, including modernization and setting up of new ports, and
- **Mobility:** Efficient evacuation to and from hinterland

Development of port based industrial parks, promoting industries and ancillary facilities is an important area of intervention of the Sagarmala project. It is expected that systematic development of the existing land resources around ports shall trigger economic growth in the region. It is proposed that a detailed master plan shall be prepared for each of the Coastal Economic Zone after studying the industrial strength of the hinterland, business potential of the region, infrastructural gaps inhibiting growth and barriers to trade and other related factors, linking it to the various initiatives of the Central and State Governments. Some of the relevant initiatives under the Sagarmala initiative are discussed below.

**Costal Economic Zones (CEZ):** Government is planning to create coastal economic zones along the country's 7,500-km long coastline covering many states, ports and special economic zones having uniform policy to further boost manufacturing. For instance, in China, these zones would attract investment as well as workforce to create facilities to manufacture not only for domestic production but also for exports in large quantities. In the same way, large export-oriented firms are expected to bring technology, capital, good management and links to the world markets. This would lead to creation of new job roles to support the highly service-oriented nature of CEZs which is different from traditional manufacturing setups.

**Coastal shipping:** The modal mix for transportation within India is skewed towards railways and roads, which account for ~87% of total freight. Shipping ministry has introduced monetary incentives to encourage players to shift to coastal routes. Supply side infrastructure would also be augmented with development of dedicated coastal berths and acquisition of coastal vessels. For transportation of coal alone, capacity of fleet needs to be quadrupled by Financial Year 2025. Coastal shipping is expected to have a direct & indirect job generation potential as supporting inland infrastructure & innovative solutions need to be developed to provide end-to-end services to the customers.

**Inland waterways:** Inland waterways, although, the cheapest mode of transportation, is underdeveloped in India with less than 1% share of cargo movement. Development of National waterways is envisaged to improve the situation. Projects worth more than USD 1100 million have already been announced across capacity augmentation of waterways, development of IWT terminals, multi-modal terminals, upgradation of navigation facilities and acquisition of new fleet. It is expected to generate a huge job potential for villages along the

waterways and terminals to support the movement of cargo. New job roles would emerge from the use of technology at the terminals to maintain night navigability.

**Coastal community development:** Implementation of Sagarmala is expected to result in effective steps to ensure sustainable development of the population living in the coastal regions. This would involve synergizing and coordinating with State Governments and line Ministries of Central Government through their existing schemes and developing new programs related to community and rural development, tribal development and employment generation, fisheries, skill development, tourism promotion etc. New job opportunities & entrepreneurship avenues would emerge which were non-existent due to lack of skills & training among the coastal population. It is envisaged that both implementation of the Sagarmala programme and the resultant industrial development will create employment opportunities for the coastal communities in the country. Thus, one of the priorities of the Ministry of Shipping is to identify the employment (both wage and self-employment) opportunities that are expected to be created and skilling the coastal communities to participate in the economic development process.

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## ***2. Objective and scope of work***

The following are the objectives of the study:

- Estimate the district-wise skilling requirements of workforce, with a special focus on Ports and Maritime Sector, in a non-constrained supply scenario across the districts over a period of five years (2016-2017 till 2021-2022).
- Estimate the current skill training capacity of government and private training partners and institutions across the districts to project the training capacity to be augmented to address the demand.
- Identify the skill gaps in the currently available and entering labour pool for priority sectors with a specific focus on Ports and Maritime sector.
- Provide recommendations to address the skill gaps.
- Provide a holistic implementation plan for development of coastal communities across 21 districts through skill development and livelihood generation programmes with a specific focus on Ports and Maritime Sector.

## 2.1. Scope of work

The matrix below captures the scope of work in the context of demand and supply analysis for the study, detailing the activities and deliverables:

SN	Scope of work	Coverage	Approach and data sources	Milestone
<b>DEMAND SIDE</b>				
1	Identification of the priority sectors and related industries for each coastal district, including industries related to Port and Maritime sector- <b>(Demand side Scope item 1)</b>	<ul style="list-style-type: none"> <li>District-wise key priority sectors: <ul style="list-style-type: none"> <li>Marine &amp; Allied Sectors</li> <li>Other complementing High-Growth Sectors with higher employment prospects</li> </ul> </li> <li>Cross-tabulation of comparable (socio-economic characteristics) outputs of the process adopted for screening and selection of priority sectors</li> </ul>	<ul style="list-style-type: none"> <li>District-wise economic trend (GDP) and sectoral contribution between 2004-05 and 2014-15.</li> <li>Mapping of key contributing sub-sectors within the economic structure and trend between 2004-05 and 2014-15.</li> <li>Identifying key National, State and Institutional interventions/initiatives and investments that may have impact on the priority sectors and/or the economy during the period 2016 and 2022.</li> </ul> <p><i>Data sources: ASI, CMIE CapEx, MSME reports, Labour Statistics, IEM reports, existing NSDC skill gap reports, Sagarmala National Perspective Plan</i></p>	<ul style="list-style-type: none"> <li>List of key priority sectors for three states-last week of June – [Andhra Pradesh, Maharashtra, and Gujarat; 6 districts across the three states]</li> <li>List of key priority sectors for all remaining states-[15 districts]-last week of August</li> </ul>
2	Identification of key industries / units, for the priority sectors, in each coastal district, including industries related to Ports and Maritime sector - <b>(Demand side Scope item 2)</b>	<ul style="list-style-type: none"> <li>District-wise key industries (large-scale, medium scale, and small scale) within priority sectors: <ul style="list-style-type: none"> <li>Marine &amp; Allied Sectors</li> <li>Other Complementing High-Growth Sectors with High Employment prospects</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Value chain analysis of priority sectors and sub-sectors;</li> <li>Identifying key industrial units [large, medium and small-scale] within priority sectors/ sub-sectors, and mapping of their respective economic and employment characteristics—existing and upcoming units within each of the 21 districts.</li> <li>Primary interactions/ consultations with representatives of key industries within the priority sectors and related government</li> </ul>	<ul style="list-style-type: none"> <li>List of industries/ industrial units under the priority sectors/ sub-sectors and within the 6 Districts under Andhra Pradesh, Maharashtra and Gujarat—29<sup>th</sup> July</li> <li>List of industries/ industrial units under the priority sectors/ sub-sectors and within the 15 remaining</li> </ul>



SN	Scope of work	Coverage	Approach and data sources	Milestone
			departments (central, state and district level bodies).  <i>Data sources: ASI, CMIE Prowess and CapEx, MSME reports, Labour Statistics, IEM reports, existing NSDC skill gap reports, and consultations</i>	Districts—first week of October
3	Identification of skills / functions relevant to each of the priority sectors and the related industries in each coastal district, including industries related to Ports and Maritime sector - <b>(Demand side Scope item 3)</b>	<ul style="list-style-type: none"> <li>Job Roles (say, between NSQF Level 2 and Level 5) under the priority sectors/ sub-sectors and with specific relevance to the industries/ industrial units established within the Coastal Districts, and have already been identified by the respective Sector Skill Councils.</li> <li>Job Roles (say, between NSQF Level 2 and Level 5) under the priority sectors/ sub-sectors and with specific relevance to the industries/ industrial units established (or being established) within the Coastal Districts, and have not been identified by the respective Sector Skill Councils or are emerging in nature.</li> </ul>	<ul style="list-style-type: none"> <li>Listing of existing entry level and supervisory level (say between NSQF Level 2 and Level 5) Job roles within key industries in the priority sectors/ sub-sectors, through consultations with the key representatives within the target industries.</li> <li>Listing of entry level and supervisory level (say between NSQF Level 2 and Level 5) emerging job roles within key industries in the priority sectors/ sub-sectors, through consultations with the key representatives within the target industries.</li> <li>Validation and final listing of existing and emerging job roles in consultation with the respective Sector Skill Councils (SSCs), and mapping to the existing NOS-QPs as established by the SSCs.</li> </ul> <i>Data Sources: Various sector reports, Occupational Maps and QPs-NOS developed by the various SSCs, etc.</i>	<ul style="list-style-type: none"> <li>List of job roles (entry and supervisory levels; say between NSQF levels 2 &amp; 5) relevant to each of the priority sectors/sub-sectors in the three States (Andhra Pradesh, Maharashtra, and Gujarat)-second week of August</li> <li>List of job roles (entry and supervisory levels; say between NSQF levels 2 &amp; 5) relevant to each of the priority sectors/sub-sectors in the remaining 15 States - 15<sup>th</sup> October</li> </ul>
4.	Estimation of current and future state of priority sector-wise / industry-wise demand for trained manpower in each of the coastal districts, for the	<ul style="list-style-type: none"> <li>Estimate of incremental labour demand within the priority sectors and sub-sectors across the 21 districts between the period 2017 and 2022</li> </ul>	<ul style="list-style-type: none"> <li>Historical Trend Analysis of GDP, GSDP and GDDP of the 21 Coastal Districts.</li> <li>Analysis of historical data on demographic profiles of the 21 Coastal Districts and Census of India Projections up to 2022.</li> </ul>	<ul style="list-style-type: none"> <li>Sector/sub-sector wise incremental manpower demand at the district level for the three states (Andhra Pradesh, Maharashtra and</li> </ul>

SN	Scope of work	Coverage	Approach and data sources	Milestone
	skills/functions identified; any specific requirements for the up-skilling, entry-level and migrant skilling requirements will also need to be determined <b>-(Demand side Scope item 4)</b>		<ul style="list-style-type: none"> <li>Estimation of sector and sub-sector level incremental demand for skilled manpower at district level between the periods 2017 and 2022, based on historically evidenced elasticity between economy and employment (with due corrections for emerging innovations, automations and disruptive technologies, as well as migratory and retirement trends).</li> <li>Segmentation of projected demand of skilled manpower for entry-level and supervisory level; and identification of prospects for up-skilling.</li> <li>Validation of findings through consultations with key stakeholders</li> </ul> <p><i>Data Sources: State economic surveys (difference years), district-level economic and employment data, NSSO Data, and Consultations with sector representatives.</i></p>	<p>Gujarat) during the period 2017 and 2022 – 15<sup>th</sup> August</p> <ul style="list-style-type: none"> <li>Sector/sub-sector wise incremental manpower demand at the district level for the remaining 15 Districts during the period 2017 and 2022 – 25<sup>th</sup> October</li> </ul>
5	Identification of collective action models like cooperatives in fishery, salt making and other such traditional livelihood opportunities, economic viability in terms of self-employment and need for further training to make them market oriented - <b>(Demand side Scope item 5)</b>	<ul style="list-style-type: none"> <li>Key collective action models such as cooperatives in fishery, salt making, etc. operating within the target 21 coastal districts</li> <li>Traditional livelihood opportunities with prospects for self-employment and group-employment</li> </ul>	<ul style="list-style-type: none"> <li>Listing of collective action models such as cooperatives in fishery, salt making and other such traditional livelihood opportunities operational within the 21 coastal districts.</li> </ul> <p>Documentation of community-level experiences establishing the prospects for self-employment and group-employment, and skilling requirement thereto, through community-level (district authorities, CSOs, NGOs, etc.) consultations and Focus Group Discussions.</p>	<ul style="list-style-type: none"> <li>Identification of collective actions models in the three states -second week of August</li> <li>Remaining States: 3 months by last week of October</li> </ul>

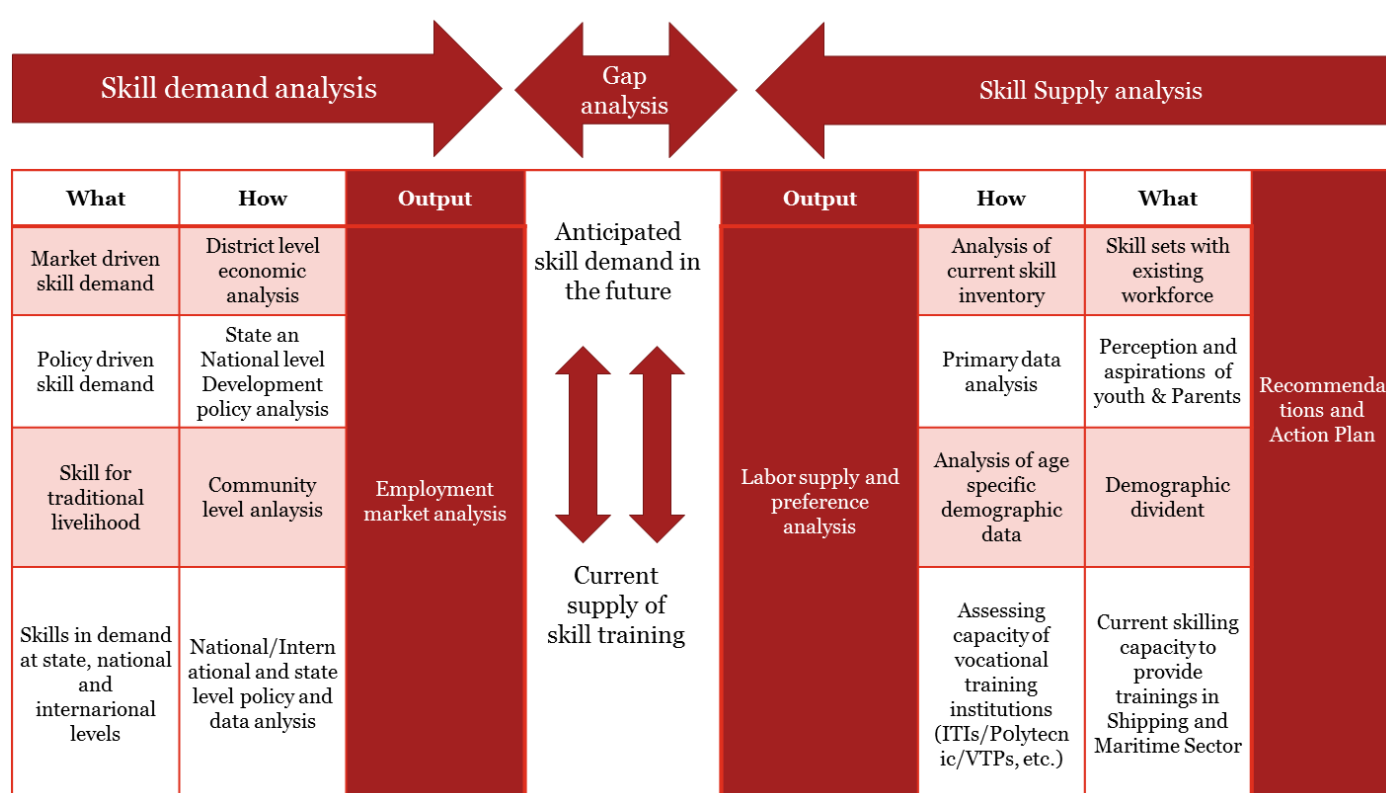
SN	Scope of work	Coverage	Approach and data sources	Milestone
<b>SUPPLY SIDE</b>				
1	Demographic profiles of the 21 Coastal Districts with projections until 2022 <b>(Supply side Scope item 1)</b>	<ul style="list-style-type: none"> <li>Population distribution (gender/age[working population]/social class/vulnerable communities)</li> <li>Socio-economic characteristics—education and employment</li> </ul>	<ul style="list-style-type: none"> <li>Analysis of secondary information from various sources <i>Data Sources: Census-2001 and 2011, Economic Survey-most recent year(s), NSSO, State Statistical handbook (most recent year), and independent/ sponsored researches.</i></li> </ul>	<ul style="list-style-type: none"> <li>Demographic profiles of 6 districts under three States (Andhra Pradesh, Maharashtra, and Gujarat)- 21<sup>st</sup> June</li> <li>Demographic profiles of the remaining 15 districts – second week of July</li> </ul>
2	Identification of current skills training provision by various State / Central Government and private training organizations / institutions across different districts in the State for the identified priority sectors and capacity gaps if any in the same; identification of training facilities available in the Ports and Maritime sector; skill development courses mapping to the priority sectors will need to be done <b>(Supply side Scope item 2)</b>	<ul style="list-style-type: none"> <li>Key skill training institutions (public and private), and skill development schemes operating within the 21 coastal districts, including mainstream technical and vocational institutions (polytechnics, industrial training institutions/centres, etc.), industry led-managed training facilities/ interventions (training facilities in various ports, logistic companies, etc.) as well as programmatic institutions (including Vocational Training Providers) and interventions (incl. NSDC, DDU-GKY, SDIS, etc.).</li> </ul>	<ul style="list-style-type: none"> <li>Mapping of TSPs using secondary information from MoSD&amp;E, Ministry of Shipping/ DG Shipping, NSDC, DDU-GKY, various SSCs, Industry and Employers, Department of Technical Education, other departments offering training, etc.</li> <li>Consultations with a select/sample of TSPs to understand the trades being offered and their capacities in terms of availability of trainers and infrastructure to offer courses in maritime and allied sector.</li> </ul> <p><i>Data Sources: Various publications, Data from leading skill development schemes/ programmes sourced through NSDC, DDU-GKY, SDIS (DGT), SSCs, State Skill Development Missions, etc.</i></p>	<ul style="list-style-type: none"> <li>List of existing skills training institutions and interventions within the three states (Andhra Pradesh, Maharashtra, and Gujarat)-First week of August. List of existing skills training institutions and interventions within the remaining 15 districts: 10<sup>th</sup> October</li> </ul>
3	Estimation of incremental human resource requirement for the period of 2016-22 <b>(Supply side Scope item 3, 3(a), 3(b) and 3(c))</b>	<ul style="list-style-type: none"> <li>Estimate of incremental skilled manpower requirement within the priority sectors and sub-sectors across the 21 districts between the period 2017 and 2022</li> <li>Youth Aspiration Survey</li> </ul>	<ul style="list-style-type: none"> <li>Estimation of sector and sub-sector level incremental demand for skilled manpower at district level between the periods 2017 and 2022, based on historically evidenced elasticity between economy and employment (with due corrections for emerging innovations, automations and disruptive technologies, as well as migratory and retirement trends).</li> </ul>	<ul style="list-style-type: none"> <li>Sector/sub-sector wise incremental manpower demand at the district level for the three states (Andhra Pradesh, Maharashtra and Gujarat) during the period 2017 and 2022 – 15<sup>th</sup> August</li> </ul>

SN	Scope of work	Coverage	Approach and data sources	Milestone
			<ul style="list-style-type: none"> <li>Segmentation of projected demand of skilled manpower for entry-level and supervisory level; and identification of prospects for up-skilling</li> <li>Primary survey of youths in the districts</li> <li>Validation of findings through consultations with key stakeholders</li> </ul> <p><i>Data Sources: State economic surveys (difference years), district-level economic and employment data, NSSO Data, and Consultations with sector representatives.</i></p>	<ul style="list-style-type: none"> <li>Sector/sub-sector wise incremental manpower demand at the district level for the remaining 15 districts during the period 2017 and 2022 – 25<sup>th</sup> October</li> </ul>
<b>Development of an Action Plan</b>				
1	Assessment of the districts level supply and demand side requirements	<ul style="list-style-type: none"> <li>21 Coastal Districts</li> </ul>	<ul style="list-style-type: none"> <li>Compilation of the demand and supply side findings</li> <li>Development of a step by step action plan for skill development in the 21 districts</li> <li>Validation with district administration, State Skill Development Missions and the Shipping Ministry</li> </ul>	<ul style="list-style-type: none"> <li>District action plans for 21 districts 30<sup>th</sup> October</li> </ul>

### 3. Study approach and methodology

The study has been divided into three legs: In the first leg six districts were covered across three states—Andhra Pradesh, Gujarat, and Maharashtra. In the second leg of the study, the districts in the State/UTs of Kerala, Karnataka, Odisha, West Bengal, Goa and Tamil Nadu were covered. Further, in the third phase the districts in Andaman and Lakshadweep were covered. The overall methodology across these legs of study has remained similar, except for the island of Lakshadweep. The framework used for carrying out the skill gap study is captured in the figure below. Our approach clearly demarcates the scope of the study both on demand and supply side.

#### Our analysis framework



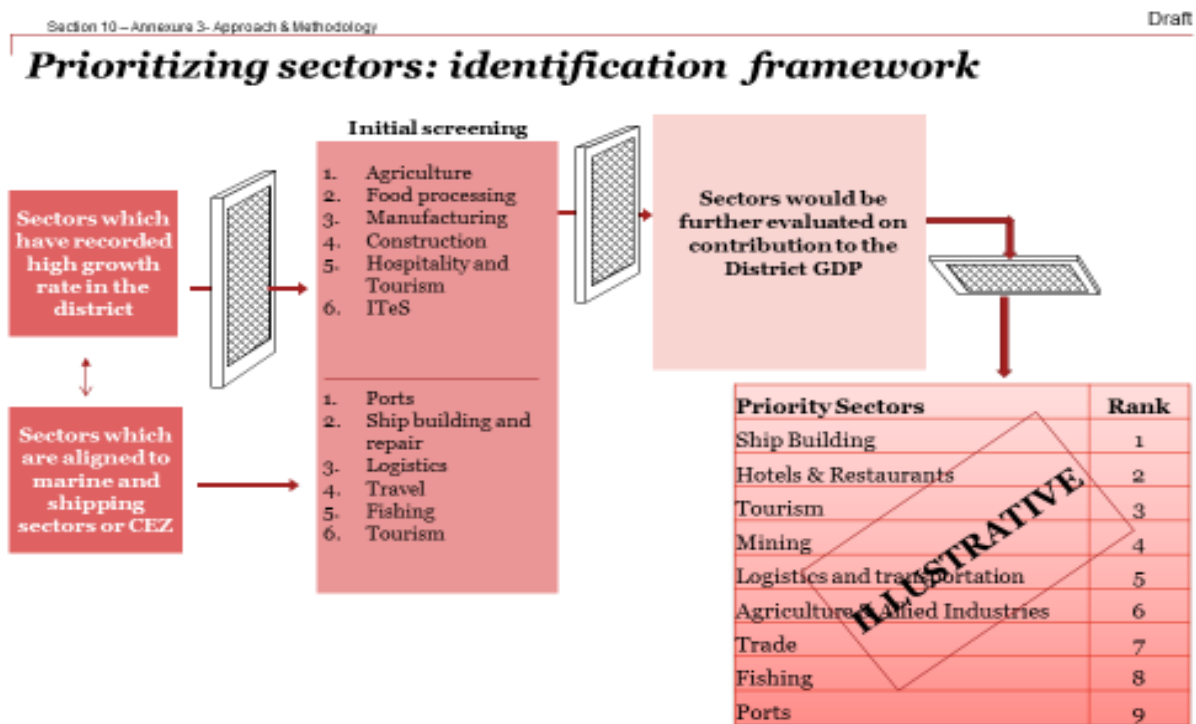
The broad activities performed by the study team included:

- Mapping of the stakeholders/respondents at national, state and district level.
- Identification of district wise priority sectors and sub sectors.
- Mapping the broad value chain in the identified sectors.
- Identifying the existing and projected skill gap across 2016-2022.
- Mapping the incremental demand for skilled workforce in the identified sectors.
- Estimating the incremental workforce in the study districts during 2016-2022.
- Mapping the existing training infrastructure and capacity of government and private training providers.
- Developing a skill development roadmap based on the study findings for the Ministry of Shipping to implement in the study districts.

### 3.1. Mapping of priority Sectors

The team in consultation with the Ministry of Shipping identified sectors that were allied to Ports and Maritime sectors. Further, other sectors were identified based on analyzing secondary economic data available for the districts. In consultation with the State level stakeholders, the study team prioritized sectors that were then studied in detail in each of the districts.

The figure below depicts the process adopted to prioritize sectors for each district.



Our approach to the study was to utilize both secondary and primary data. Secondary data was utilized for prioritizing sectors at the district level whereas primary data collection methods were utilized to validate the job roles and map the aspirations of the youth of the districts.

### 3.2. Demand estimation

**Demand of total workforce with vocational training within the sample:** The National Sample Survey (NSS) on employment and unemployment provides distribution of workforce employed in the states/UTs/district both by industry and age group. It also gives the distribution of workforce with technical education employed in the state/UTs/district by industry and age-groups. We estimated the demand of vocationally trained workforce in each industry using GDSP-employment elasticity approach. This approach includes following steps.

Step 1: Obtaining industry wise employment with technical education data from two previous rounds of NSSO surveys (2004-05 & 2011-12) and data on Gross District Domestic Products (GDDP) for the same periods. The GDDP data is available in District Economic Survey.

**Step 2:** Using the aforementioned data, employment elasticity of technical workforce for each industry was estimated by the equation given below.

$$E = R/G$$

Where E= Employment elasticity in the industry for technical workforce

R= Growth Rate of employment with technical workforce in the industry

G= Growth Rate of GSDP of the industry

**Step 3:** This estimated elasticity was used to determine growth rate of employment of the industry for the period of 2014-19 and 2019-2022. In addition to elasticity estimated, we required growth rate of GSDP in the industry, for which employment growth rate was being determined, during the period 2014-19 and 2019-2022. Other studies or sources of information could be used to estimate the Compound Annual Growth Rate (CAGR) approach. Depending on the availability of data, the study team also analysed the sector-wise GDDP. The growth rate of employment in the industry was estimated using following formulae.

$$R^T = E * G^T$$

Where E= Employment elasticity of technical workforce in the industry

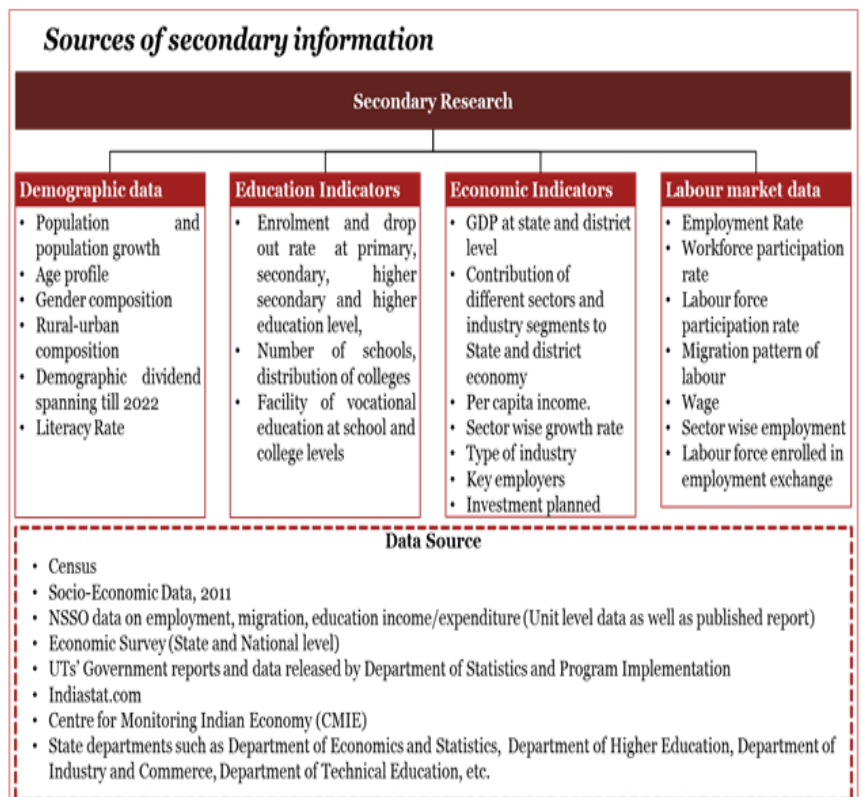
R<sup>T</sup>= Growth Rate of employment in the industry

G= Growth Rate of GSDP of the industry

T= depending on the period of projection

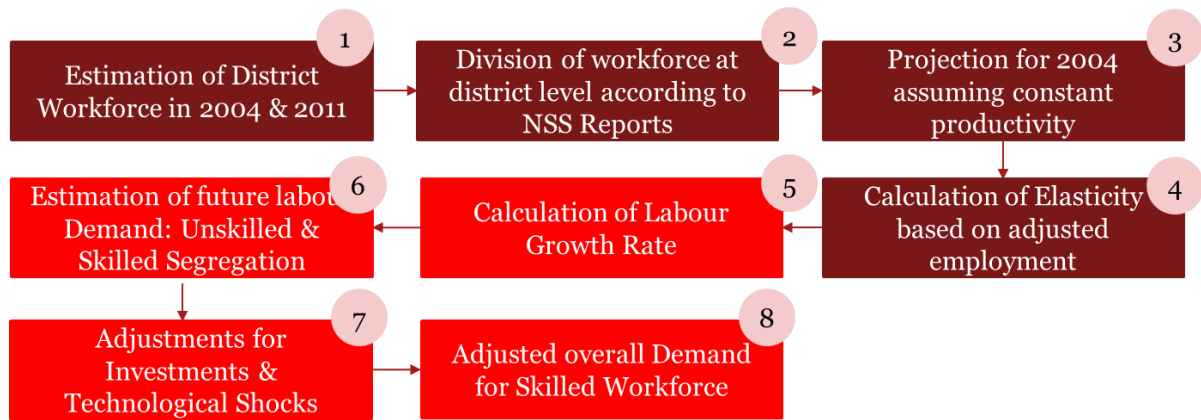
**Step 4:** With the estimated growth rate of employment for each industry for the period, CAGR method was used to make the employment projection for 2014-19, 2019-22.

**Step 5:** Employment with technical skill is further distributed by levels of technical skills viz. (1) Technical degree, (2) Diploma or Certificate holder (above graduate level) and (3) Diploma or Certificate holder (below graduate level). (1) And (2) can be considered professional and (3) as vocational. Vocationally trained persons have diploma or certificate (below

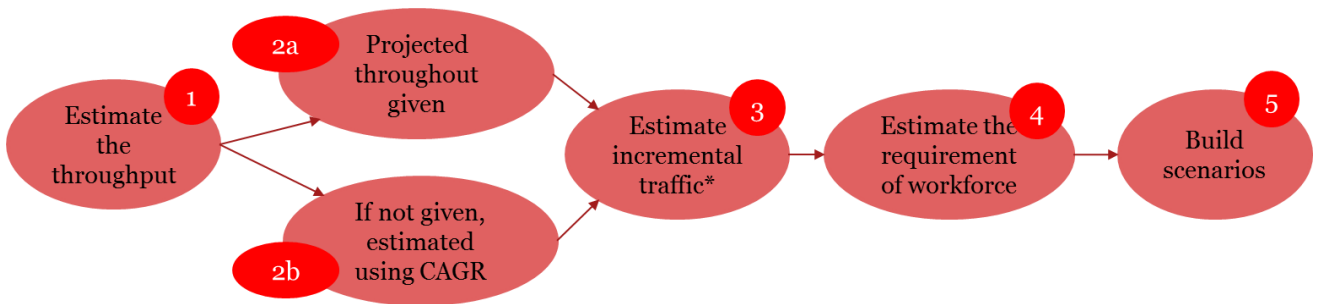




graduate level). Proportion of these levels of education were estimated and used to project the demand of labour force with technical education. This approach assumes that elasticity and distribution of technical degree, diploma holder (above graduate level) and diploma or certificate holder (below graduate level) remain constant.

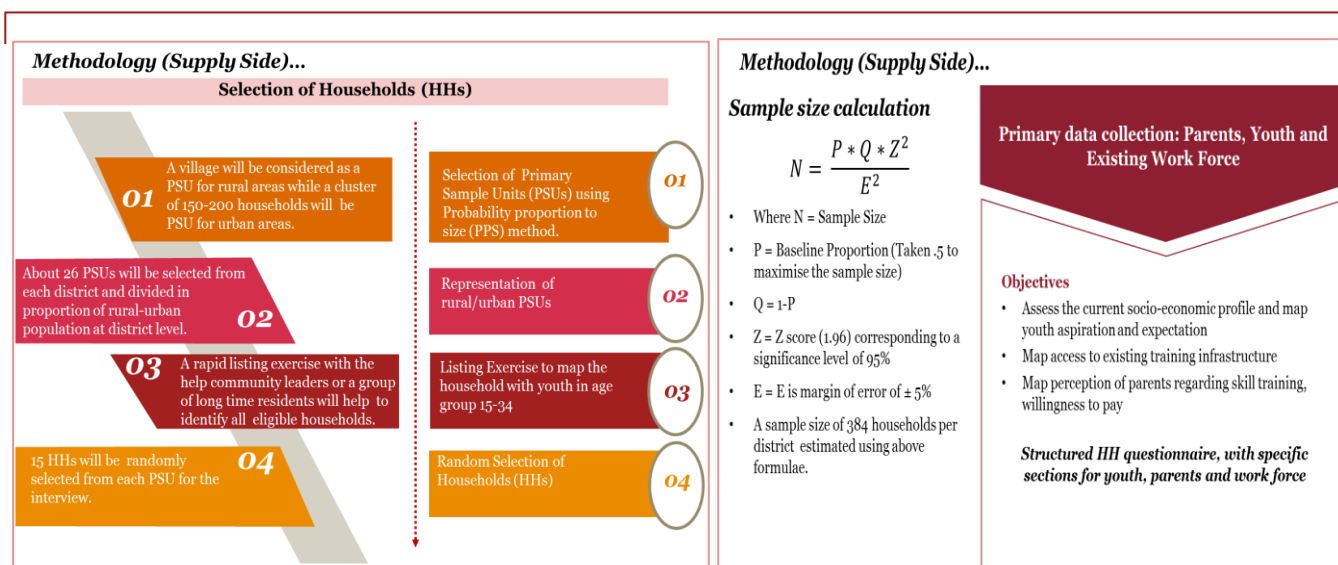


In the absence of sufficient data on employment, the estimation of incremental demand in the ports and maritime sector was done using an **OECD estimate of jobs creation based on the assumption that incremental throughput of every 1 million tonne will create 300 jobs in the short term.**



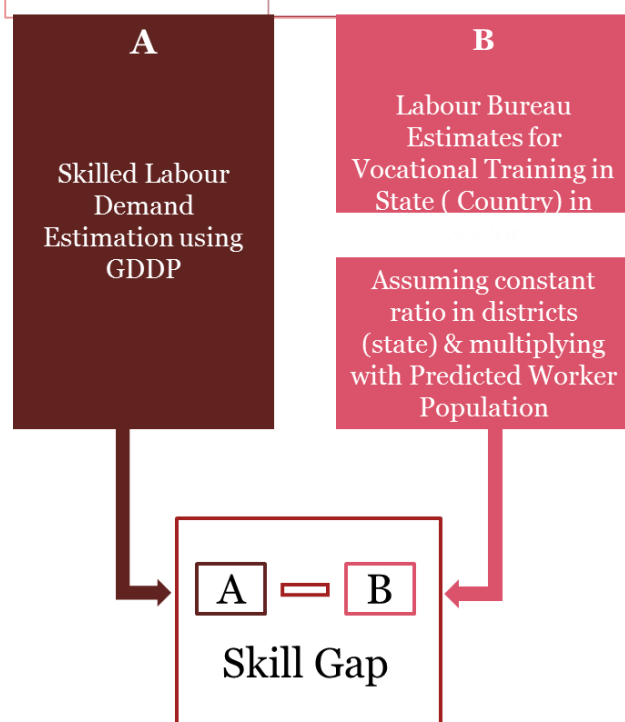
**Projection of labour skill profile at district level:** Using Labour Force Participation Rate (LFPR) and Work Force Participation Rate (WFPR) statistics, we projected the labour skill profile of the District/State. Age specific projections of LFPR and WFPR were estimated using Compound Annual Growth Rate (CAGR) and these estimates shall be multiplied by projected age specific population to gauge labour force and work force availability of the state in 2014-19 and 2019-22.





**Projection of skilled labour force:** We understand that the skill gap analysis requires understanding of growth of population and the incremental workforce that will need to be trained over a period of time. Further, specific issues such as upskilling, recognition of prior learning etc. was also studied. Moreover, it is essential to understand how population will shape in coming future in order to target population segment for skilling. We have used state /national level distribution of vocational training across trades as classified under Labour Bureau Employment and Unemployment Surveys to project trained individuals in the district's working age population. We are assuming that for Maharashtra, Andhra Pradesh and Tamil Nadu, the ratio of trainings at state level holds true for the district while for the other states, ratio at National level adjusted to the Skill Training Levels of each state holds true for the district.

**Skill Gap:** The difference between the estimated total demand and total availability of skilled labour force would give the required skill gap in each sector.



### 3.2.1. Preferences and aspiration mapping of youth

To map the aspiration and preferences of youth, the study team has conducted a primary survey in all districts. The primary survey will cover households with youth in the age group of 15-25 years. While the youth in the age group of 15-25 is the primary respondent of the survey, information on employment, education and vocational training has been collected for the entire household.

Further, the sample has been distributed in the proportion of the rural and urban population, and will have adequate representation from male and female respondents to derive inferences. The quantitative data is complemented with

in-depth interviews and structured discussions with key stakeholders. The study team has carried out content analysis for the qualitative interviews collected.

A village has been considered as a Primary Sampling Unit (PSU) for selecting the rural sample and a clusters of 100-150 households have been mapped to develop an urban PSU. 15 households have been selected randomly after a rapid listing exercise from each PSU, based on availability of a youth in the age group of 15-25 years. Further, the study team carried out in-depth-interviews and structured discussions with key stakeholders to validate the findings from secondary and primary data.

### 3.2.2. Consultations with key informants

Consultations with key informants were carried out with key informants at National, State and District level. The findings the consultations have informed the district action plans developed for the Ministry of Shipping. The sub-sections below capture details on the consultations that were held at the national, state, and district level:

#### 3.2.2.1. Consultations at the National Level

During the first leg of the study, the team carried out a preliminary interactions with various representatives of the sectors identified including Govt. Departments, Public Sector Undertakings, Industry Associations, Sector Skill Councils, Research Institutes and Universities with an objective of getting a perspective on the emerging policies, market trends and to also understand the peculiarities of each of the regions covered in the study.

#### 3.2.2.2. Consultations at the State Level

Consultations were held with State Govt. Departments and Agencies, regional headquarters of firms, regional chapters of Industry Associations and Chambers. The primary focus of these consultations was on obtaining information on the economy of the districts, facilities available at the districts for various training programs, various policy initiatives from the State Governments in sectors including Skill Development, Training, Manufacturing, Agriculture, Fisheries, Tourism etc.,. This exercise also helped the study team identify and inform key stakeholders at the district level for the impending consultations. Some of the key stakeholders include:

- Directorate. Of Economics & Statistics
- Dept. of Fisheries
- Dept. of Agriculture
- Skill Development Mission/ Training Directorates
- State Transport/ Truckers Association
- Dept. of Tourism
- Directorate of Ports
- Dept. of Rural Development
- Dept. of Urban Development
- State Hotels Association
- Builders Association

#### 3.2.2.3. Consultations at the District Level

In-depth interviews and field visits were conducted to get an understanding of the value chains, job roles, requirements of skill trainings from the perspective of employers, emerging and endangered jobs. The exercise also

Other Key informants for primary survey		
Name of the stakeholder	#respondents/respondent group to be covered	Research Tool
<b>State Officials</b> <ul style="list-style-type: none"> <li>• Port Authorities</li> <li>• Maritime Boards</li> <li>• Department of Skills &amp; Technical Education</li> <li>• State Skill Development Mission</li> <li>• Department of Urban Development</li> <li>• Department of Rural Development</li> <li>• Department of Labor</li> </ul>	10 per state/UT	In-Depth Interviews
<b>District officials</b> <ul style="list-style-type: none"> <li>• District Collector</li> <li>• CEO Janpad Panchayat</li> <li>• Joint Directors of Nodal Department for Skilling</li> </ul>	3 per district	In-Depth Interviews
Principal of existing ITIs, Government schools providing vocation training, Government run VTPs	3 per district	Structured Interview Schedule
Industry association representatives at district and state levels (CII, State industry chambers etc.)	4 per state/UT	In-Depth Interviews
NGOs	2 per district	In-Depth Interviews
Facility survey of Training Providers in context of Shipping and Maritime	At least 5 (Private + Government)	Facility Survey tools
Industries/Employers	10 per sector identified	In-Depth Interviews
SSCs	All relevant SSCs	In-Depth Interviews
Private Training Providers	5 Per State/UT	Semi Structured Interviews

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helped in the validation of our secondary analysis conducted concurrently. Stakeholders included district administrators and departments, port trust authorities and port terminal operators, organizations involved in logistics at ports including Stevedores, CFS, Clearing Agents etc. fishermen, ferry operators, shipping agents in the ports and maritime sector. Other stakeholders included representatives of hotels, restaurants, retailers, tour operators, manufacturing concerns, industry associations in the other sectors prominent in the district. The detailed list of stakeholders is provided at the end of each State section.

The following section provides an overview of tools that were used for the consultations and the survey:

### 3.3. Data collection tools

The matrix provides an overview of the consultations and interviews that were proposed under the study:

Tool	Type of Tool	Respondent	Number of consultations/interviews	Objective
Household Questionnaire <sup>8</sup>	Structured Questionnaire	Youth Members in the household already part of the workforce Parents of the youth	About 8000 households were covered across 21 districts	<ul style="list-style-type: none"> <li>Map the perceptions and aspirations of the youth</li> <li>Map the current skills with youth</li> <li>Map the awareness of youth and key decision makers about Skills Ecosystem</li> </ul>
Employers/Industry associations/ Cooperatives/ Port & Maritime Agencies	In-Depth Interview	Representatives of Employers/Industry associations/ Cooperatives/ Port & Maritime Agencies from the identified sectors	Included in Annexures at the end of each State section	<ul style="list-style-type: none"> <li>Current job roles and skills in demand</li> <li>Expected investment in the sector</li> <li>Envisaged changes in technology/rules and regulations etc. in the sector</li> <li>Envisaged new age job roles and skill sets</li> <li>Current medium and source of recruitment</li> <li>Statutory Certifications (if any) associated with the job roles</li> <li>Entry level requirements for each of the job roles</li> </ul>
Training Service Providers Information Tool/State skill development mission/DDU-GKY	In-Depth Interview	Representatives of Training Providers	Included in Annexures at the end of each State section	<ul style="list-style-type: none"> <li>Current courses offered within the relevant (identified) sectors and the course durations</li> <li>Ability to deliver training courses in Ports and Maritime domain</li> <li>Emerging areas of investment</li> <li>Skilling initiatives implemented in the district</li> <li>Facilities and infrastructure available</li> <li>Certification and assessment details</li> </ul>
District Administration and Government Functionary tools	In-Depth Interviews	District Collectors, CEO Zilla Panchayats, representative from the industries department, Skill Development Agencies etc.	Included in Annexures at the end of each State section	<ul style="list-style-type: none"> <li>Validation of the primary and data findings</li> <li>Consultation for development of action plan</li> <li>Mapping of training resources available</li> </ul>

<sup>8</sup> Household Survey for Lakshadweep was not carried out as the permits for the survey team could not be organized.

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### 3.4. Analysis plan

- **Descriptive analysis** was used to understand the demand and supply contexts, and to describe their broader trends. Descriptive analysis was used as a first step, before moving on to more interpretative approaches that included making projections for 2017-2022.
- **Content analysis** constituted the core of the qualitative analysis. Documents and interview notes were analysed to identify common trends, themes, and patterns for each of the key units of analysis. Content analysis was used to flag diverging views and opposite trends. Emerging issues and trends across the demand and supply side of skilling constituted the grounds for formulating preliminary observations that were subsequently refined to feed into the draft reports.
- **Quantitative/Statistical analysis** was used to make projections. It was principally used to capture the demographic trends and projections; labour force supply and demand across the districts and its projections.

## *Section 2: Tamil Nadu*

*Thiruvallur*

*Thoothukudi*

# 1. District Profile

## 1.1. Thiruvallur

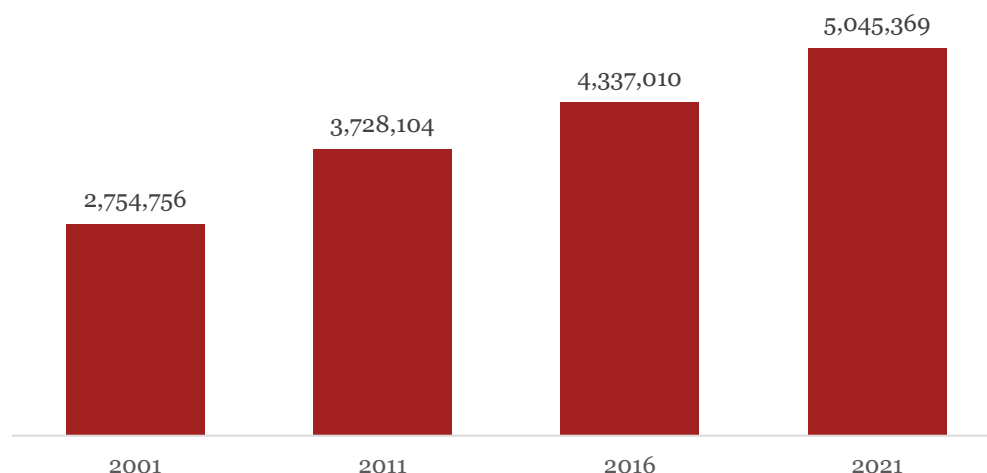
Thiruvallur is the northernmost district of the state. It neighbors Chennai (South) and Kanchipuram (Southwest) in Tamil Nadu, Chittoor (West) and Nellore (North) districts in Andhra Pradesh. The district largely lies within the borders of the Chennai Metropolitan area and is influenced by the city of Tirupati in Andhra Pradesh which results in interdependence on a daily basis. Thiruvallur houses one major port, Kamarajar Port and a private port and shipyard at Kaatupalli. The major exportable items produced in the district are Auto components, Engineering products, Leather, Garments and Rubber products<sup>1</sup>. Industry (34%) and Service sector (62%) have the largest share in the overall district economy.

### 1.1.1. Demographic Profile<sup>2</sup>

Indicator	Value
Total population	3,728,104
Decadal rate of growth of population (2001-11)	35.33%
Rural population	35%
Female	49.6%
SC population	22%
ST population	1.27%
Workforce participation	41%
Main Workers (As % of total population)	33%
Marginal (As % of total population)	8%
Non-workers (As % of total population)	59%
Number of people with vocational training in the age group of 15+ <sup>3</sup>	55 per 1,000

### Population trends<sup>4</sup>

Figure 1: Population trend in Thiruvallur (2001-2021)



<sup>1</sup> Brief Industrial Profile of Thiruvallur District, MSME

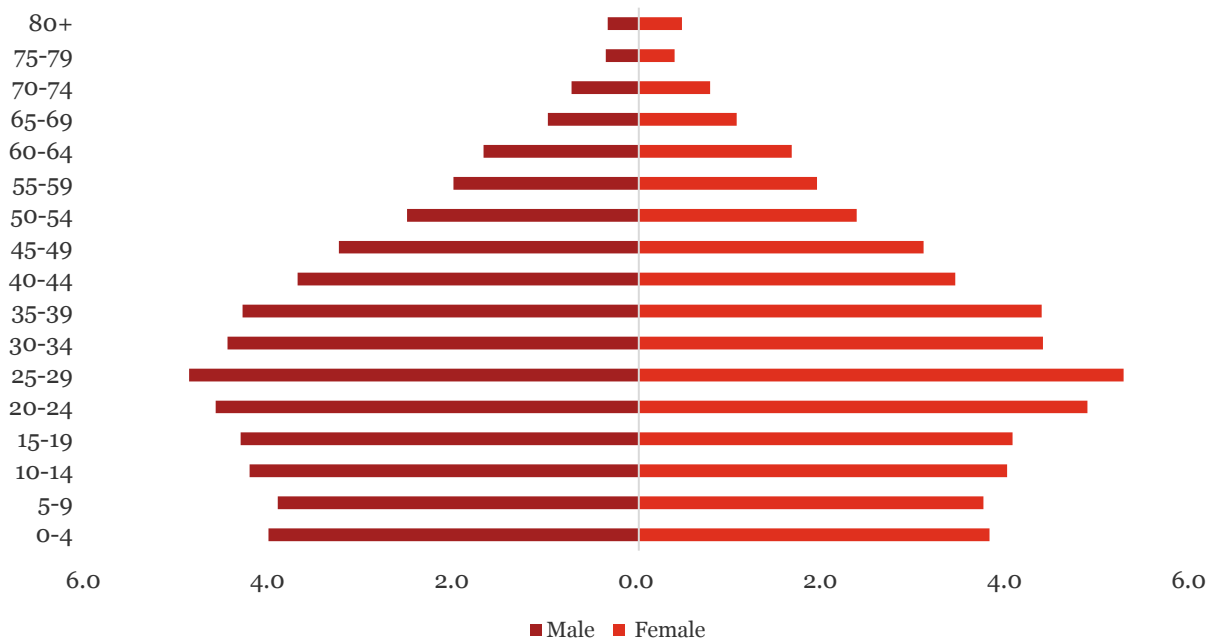
<sup>2</sup> Census, 2011

<sup>3</sup> District Level Estimates for Tamil Nadu, Employment and Unemployment Survey, Labour Bureau 2013-14

<sup>4</sup> Based on Census 2001 & 2011

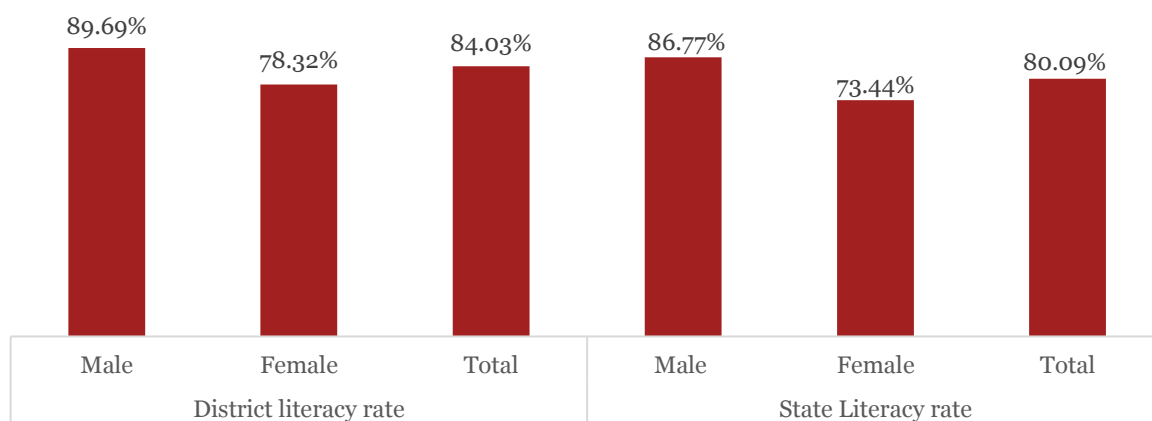
The demographic dividend bulge in Thiruvallur is fast decreasing with youth in the employable age increasing. Estimating the population for the period 2001-11 (10 years), the population is estimated to be 43,37,010 and 50,45,369 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 16.3% driven large by the urbanization in Chennai, Vellore and Chittoore Districts.

**Figure 2: Population Pyramid Thiruvallur - 2011**



## Literacy rates

**Figure 3: Thiruvallur vs Tamil Nadu literacy rates (2011)**



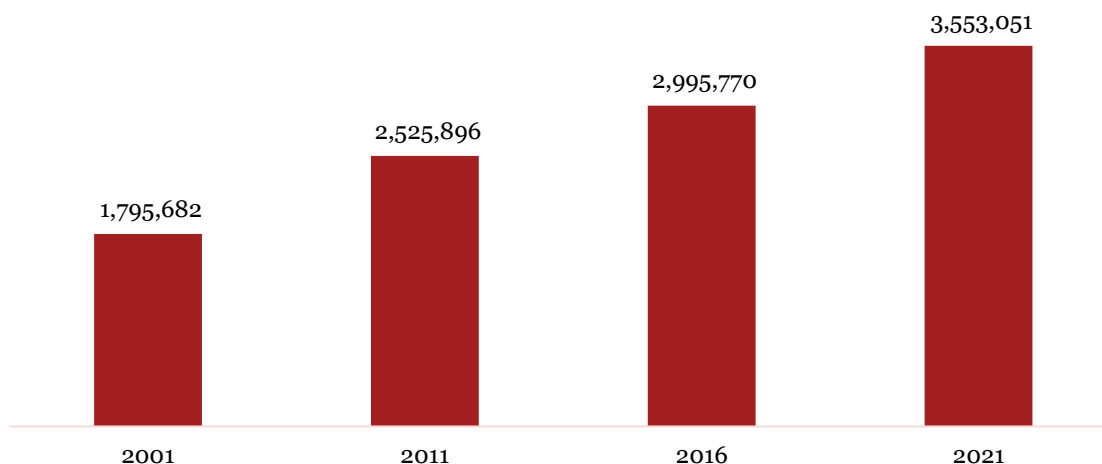
Total literacy rate of Thiruvallur, as per the Census 2011, is approximately 84%, which is higher than the State's literacy rate of around 80.09%. However, the female literacy rate of Thiruvallur is 78.32% which is substantially lower than the male literacy rate of 89.69% in 2011.



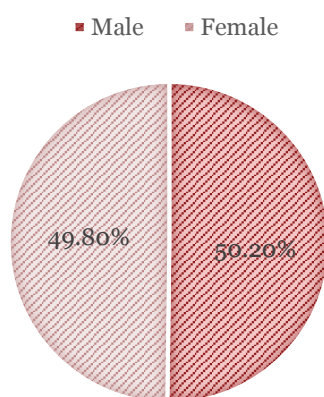
## Age specific population trends and education level for 2011<sup>5</sup>

As per the Census 2011, the population in the age-group of 15 to 24 years was 664,517 (17.8% of the overall population). The population in the age group of 15-59 years is estimated to be 2,995,770 and 3,553,051 in 2016 and 2021. The projected absolute growth in the population from 2016 to 2021 is 18.6%.

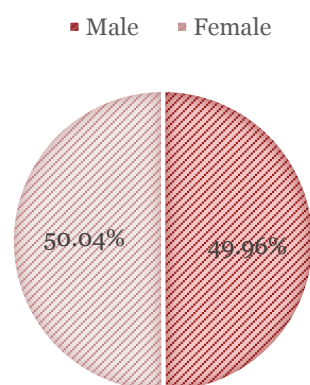
**Figure 4: Growth trend of population in the age group 15-59 yr in Thiruvallur (2001-2021)**



**Figure 5: Age Specific population (15-59 years)**



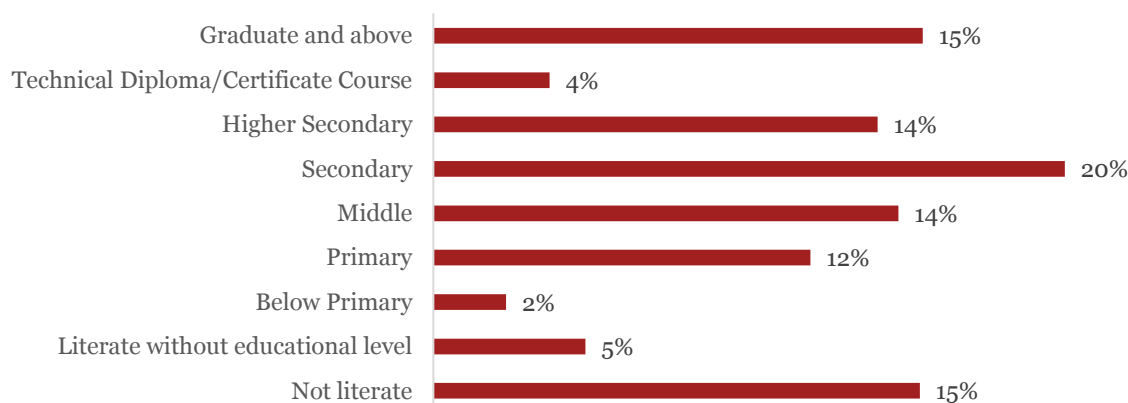
**Figure 6: Age specific population (15- 24 years)**



Both the age groups, 15-59 years and 15-24 years have almost equal representation of males and females with males accounting for 50.20% and 49.96% of the total population share in the 15-59 years and 15-24 years age group respectively. Females account for 49.80% and 50.04% of the total population share in the 15-59 years and 15-24 years age group respectively.

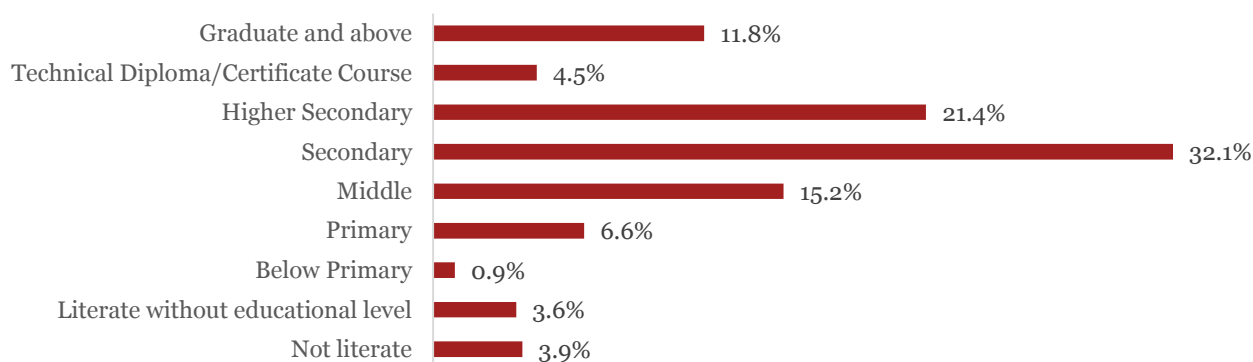
<sup>5</sup> Based on Census 2001 and 2011

**Figure 7: Age specific education level in Thiruvallur (15-59 yr)**



For the age category of 15-59 years, 15% of the population of Thiruvallur is illiterate. 5% is literate without any educational qualification, 2% have attained schooling till below primary level, 12% have done schooling till primary level and 14% have completed schooling till middle level. Roughly, 20% of the literate population has been educated till secondary level, whereas, around 14% of the literate population has been educated till higher secondary. Technical certificate/diploma course holders are in insignificant number in the district and 15% have at least completed graduation, indicating that a graduate/post-graduate degree is more sought after than a technical certificate/diploma.

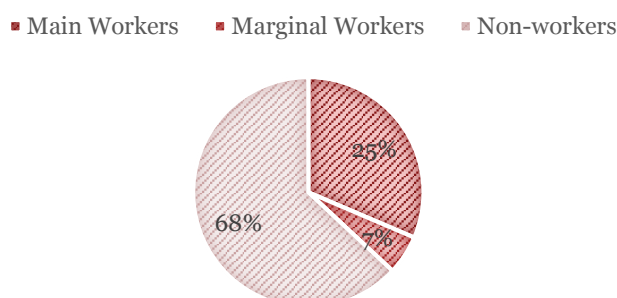
**Figure 8: Age specific education level in Thiruvallur (15-24 years)**



In the age group of 15-24 years, 3.9% of the population of Thiruvallur is not literate, 3.6% are literate without any educational qualification, ~1% have attended school till below primary level and ~7% have completed schooling only up to primary level. About 15.1% of the population in 15-24 years category has done schooling up to the middle level, whereas, around 32% of the same population segment has been educated till secondary. Only 4.5% of the population of this district has done a technical certificate/diploma course and 11.8% has at least completed graduation.

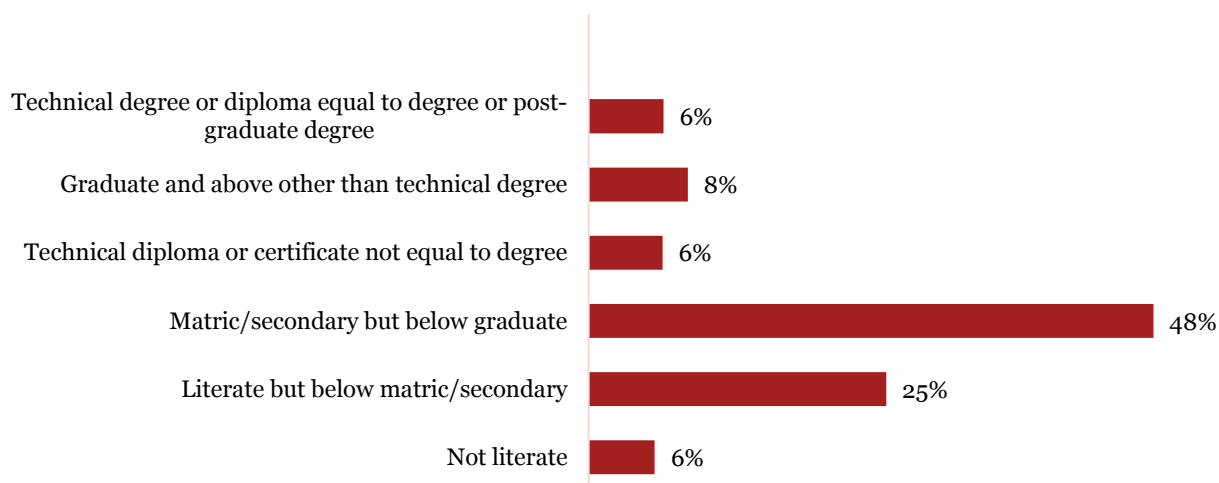
## Age specific distribution of workers and educational level

**Figure 9: Age specific distribution of workers in Thiruvallur (15-24 years)**



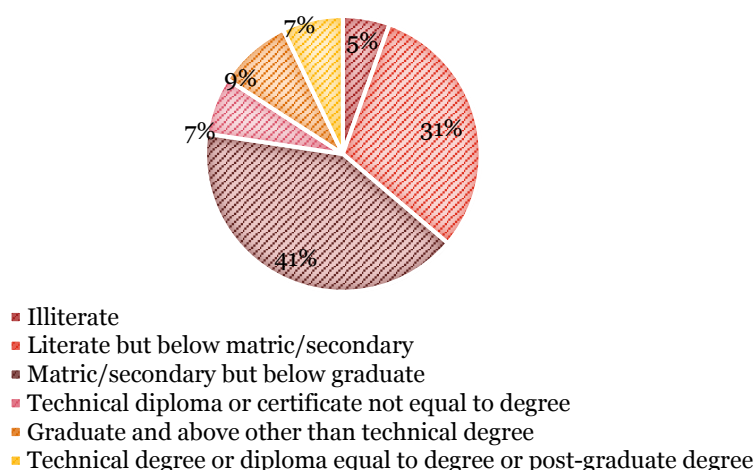
The total workforce participation rate for this district, according to census 2011, is 41.26% and 68% of the population in the age group of 15-24 years are reported as non-workers. 25% of the population are main-workers, whereas 7% are engaged in marginal work i.e. working for 3-6 months during the year.

**Figure 10: Education level of marginal workers available for work in Thiruvallur (15-24 years)**



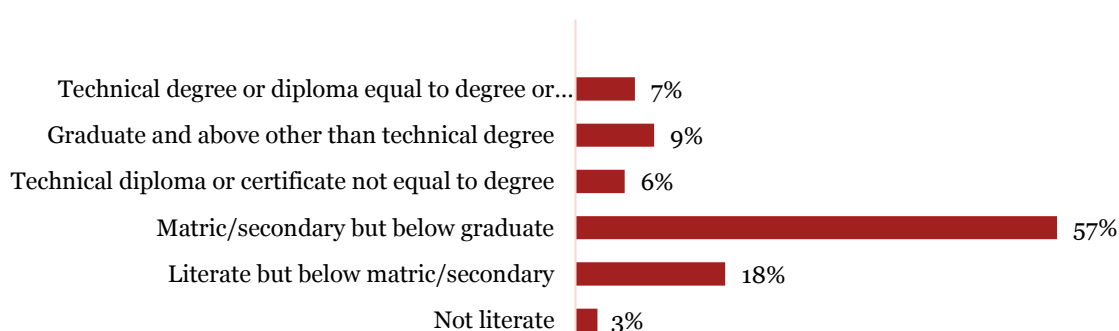
Amongst the 26,550 marginal workers in the age group of 15-24 years, 1,689 (6.36%) hold technical degree or a diploma equal to degree or post-graduate degree and 2,240 (8.44%) are graduates and above other than a technical degree. Further, 1,666 (6.27%) have a diploma or a certificate (not equal to degree), 12,750 (48.02%) are educated up to the matric/secondary level but below graduate and 6,715 (25.29%) are literate with an educational qualification of below matric/secondary level, and 1,490 (5.61%) marginal workers in this age group are not literates.

**Figure 11: Education level of main workers available for work in Thiruvallur (15-24 years)**



From Figures 10 and 11 given above, the proportion of main workers who are illiterate (in the age category 15-24 years) is slightly less than the proportion of marginal workers available for work and who are illiterate (*difference of 1% points*). We also find that the proportion of main workers who are literate but below matric/secondary (*in the age category 15-24 years*) is slightly more than (6 percentage difference point between the two) the proportion of marginal workers who are available for work and are literate but below matric/secondary. The proportion of main workers who are matric/secondary level but below graduate (*in the age category 15-24 years*) is less than (7 percentage difference point between the two) the proportion of marginal workers who are available for work and are matric/secondary level but below graduate. Also, the proportion of main workers who are graduate and above other than technical degree (*in the age category 15-24 years*) is slightly less than (1 percentage difference point between the two) the proportion of marginal workers who are available for work and are graduate and above other than technical degree. The proportion of main workers who have attained a technical degree or diploma equal to degree or post-graduate degree (*in the age category 15-24 years*) is the same.

**Figure 12: Education level of non-workers available for work in Thiruvallur (15-24 yr)**

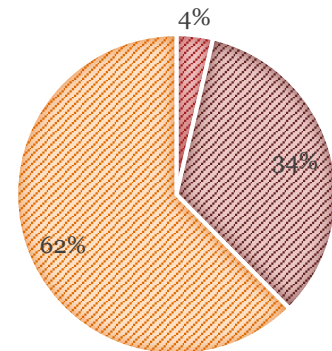


Amongst the 106,907 non-workers in the age group of 15-24 years, 7,563 (7.07%) hold a technical degree or a diploma equal to degree or post graduate degree and 10,002 (9.36%) have a graduate and above other than a technical degree. Over 6,243 (5.84%) have a diploma or a certificate (not equal to degree), 61,256 (57.30%) are educated up to the matric/secondary level but below graduate and 19,046 (17.82%) are literate but below matric/secondary level. With respect to the marginal workers, about 2,797 (2.62%) of them in the age-group of 15-24 years are illiterates.

### 1.1.2. Key Economic Drivers

According to DES Tamil Nadu, Thiruvallur, the Gross Domestic Product of the district (at constant prices- 2004-05) was INR 28,03,894 crore in 2012-13 and it has steadily grown at a CAGR of 12.6% over the period 2004-05 to 2012-13. The sectoral break up suggests that services sector contribution to district GDP is more than half (62%) followed by industry sector (34%). Further disaggregation suggests that manufacturing sector has a share of 25% and real estate sector has a share of 24% in the district GDP. Other sectors driving the district economy are trade, hotels and restaurants (13%) and construction sector (8%). The real estate sector has witnessed an impressive growth of 26% over the years 2004-12.

**Figure 13: Sectoral breakup of Thiruvallur district GDP at constant prices (2004-05)**



The key economic drivers of the district are illustrated below:

Port, Maritime and Logistics	<ul style="list-style-type: none"><li>Captive Oil-Jetty by IOCL</li><li>RO-RO cum General Cargo Berth</li><li>Development of Marine Liquid Terminal –II</li><li>Additional Coal Berth of TNEB of 9 MTPA on captive basis</li></ul>
Industrial Development	<ul style="list-style-type: none"><li>Heavy Engineering and Plastic Park</li><li>Entrepreneurship Development Centre for SMEs</li><li>Chennai –Vizag Industrial Corridor</li><li>Chennai- Bangalore Industrial Corridor</li></ul>
Infrastructure Development	<ul style="list-style-type: none"><li>Development of Greenfield Airport in Sriperumbudur</li><li>Northern port access Road from port to Thatchur, Outer Ring Road,</li><li>New Water Reservoir</li><li>50 MLD DSP at Alanthalai</li></ul>
Urbanization	<ul style="list-style-type: none"><li>Chennai Metro Rail to Thoruvottiyur</li><li>Heritage Location and Tourism Development</li></ul>

### 1.1.3. Priority Sectors

In Thiruvallur, the priority sectors that have been identified are **Port and Maritime sector: logistics, fisheries, tourism and construction**. Other sectors that have been identified as priority sectors from the point of view of their contribution to district GDP are **manufacturing and real estate and construction and Banking**.

### 1.1.4. About the Ports

Ports & Maritime			
Major Ports: 1	Minor Ports: 1		Shipyards: 1
Details			
Kamarajar Port Limited			
Operations:	Land Lord Port model (PPP)	Capacity	34 mn tonnes P.A
Key Cargo	Thermal Coal (80%), Petroleum Oil and Lubricants (12%)	No of berths:	5
		Draft	13.5M
Description and key Trend	It is the only corporatized major port in India. Initially developed with the only aim of handling thermal coal to divert coal traffic from Chennai Port Trust (ChPT), the Kamarajar Port Limited has created facilities for handling liquid bulk, iron ore, automobiles (Ro-Ro for Ford, Nissan, etc.) and general cargo.  It is working completely on the Land Lord Port model  The access roads to KPL and ChPT are common via the inner ring road which has affected the traffic and performance of the port.		
Terminal Operations			
	Ennore Tank Terminal Private Limited	Chettinad International Coal Terminal	General Cargo Terminal – Stevedores including JMB, SICAL, Hindustan Shipping, etc.
Annual Capacity	3 mn tonnes PA	8 mn tonnes PA	1 mn tonnes PA
Type of Cargo handled	Petroleum Oil and Lubricants (POL), Chemicals	Coal	Automobiles
High Demand Job Roles	Rail Engine Operator, Rail Mounted Quay Crane Operator, Rail Mounted Gantry Crane Operator, Forklift Operator, Reach Stacker Operator, Crane Mechanic, and Surveyors.	Railway Engine Operator, Rail Mounted Quay Crane Operator, Rail Mounted Gantry Crane Operator, Forklift Operator, Surveyors, Conveyor Belt Mechanic.	Car Drivers ( Ro-Ro)
Kattupalli Port and Shipyard.			
Operations:	Private (Adani)	Capacity	1.2 mn tonnes P.A
Key Cargo	Container	No of berths:	2
		Draft	14M
Description and key Trend	Kattupalli International Container Terminal (KICT) is located north of Ennore Port near Kattupalli village in Thiruvallur district near Chennai, built as a joint venture between L&T and TIDCO alongside a shipbuilding yard. Currently, the operations have been taken over by Adani Port. L&T Shipbuilding continues to operate the shipyard, largely focussed on manufacturing for the defense sector.		

### 1.1.5. Investments

The table below summarizes the investments are that are in the pipeline in next few years:

**Table 1: Proposed Key Investments for the year 2016-22 in Thiruvallur**

Sector	Proposed Investment (INR Cr)	Number of Projects	Expected Employment	Key Players
Port & Maritime	7,963	7	Over 6,500 <sup>6</sup> persons	Kamarajar Port Limited, IOCL
Infrastructure	17,280	5	-	Tamil Nadu State Highways Department, TNRDC, PWD
Manufacturing	1,425	4	-	TIDCO

In the port and maritime sector, several upgradations of the KPL port have been identified as key focus areas for future investments. Details of proposed investments in this sector are given below:

**Table 2: Details of Investments in Port and Maritime sector in Thiruvallur**

Project	Proposed Investment (INR cr)	Expected Employment	Key Players
Construction of RoRo Cum General Cargo Berth 2	320	1,400 persons	Kamarajar Port Limited
Captive Oil Jetty by IOCL	480	1,400 persons	Kamarajar Port Limited, IOCL
Development of Marine Liquid Terminal-II	392	1,400 persons	Kamarajar Port Limited
(LNG) Import Terminal of 5 MTPA on Captive basis	5,151	Information Not available	Kamarajar Port Limited
Container Terminal of 1.40million TEU on DBFOT basis.	1,270	Information Not available	Kamarajar Port Limited
Multipurpose Cargo Terminal on DBFOT basis	151	Information Not available	Kamarajar Port Limited
Additional Coal Berth for TNEB of 9 MTPA on Captive basis	199	Information Not available	Kamarajar Port Limited, TNEB

In Thiruvallur, with the MSME sectors, manufacturing, tourism, logistics, food processing are upcoming areas with proposed investments to the tune of INR 1,069 Cr and is expected to create employment for approximately 3,000 individuals. The details of proposed investments across these sectors are given below.

<sup>6</sup> Based on expected increase in capacity and historical utilization.

**Figure 14: Details of proposed investments across different sectors, DIC Thiruvallur**





### 1.1.6. Youth Aspiration

The key findings of the youth aspiration survey include extent of youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and aspiration for self-employment.

#### Respondent Profile

The table below provides an overview of the respondent profile:

Profile	Details
Total Sample Size	384
Gender Profile	Male – 65.4% Female -34.6%
Age Group	15-24 years
Education Level (top 3)	Secondary schooling(Class 9 to 10)- 24.9% Senior Secondary Schooling (Class 9 to 10)- 21.9% Higher secondary schooling with science (Class 11 to 12)- 17.3%
APL/BPL/AAY/Don't know	APL -1.8 % BPL – 97.1 % Don't know/Can't Say – 1.0 %
Occupational Profile (top 3)	Unemployed (45.6%), Student (24.7%), Salary from employment (12.8%)

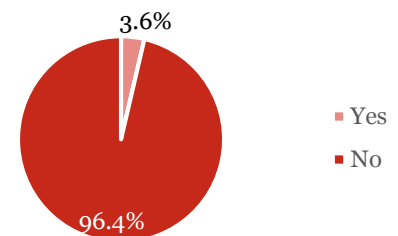
#### Exposure to Vocational Training and Educational Aspiration

Regarding the exposure to the vocational training, most students reported that they had not undergone any vocational training course. Overall, ~96% of the respondents had not enrolled in vocational training course (Figure 15).

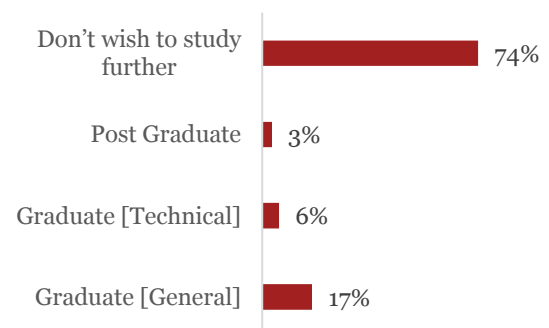
Respondents were asked about the level of education they wished to attain. More than two-thirds of the respondents (74%) didn't aspire for further education. The desire to attain technical education is relatively low with only 6% aspiring for graduation in technical field as against preference to general degrees (17%) (Figure 16).

Further, of the total respondents who underwent vocational training (which is 3%), most were from NSDC TSPs (42.9%) and ITIs (28.6%). Figure 17 exhibits the percentage of respondents who completed different types of courses as part of their vocational training.

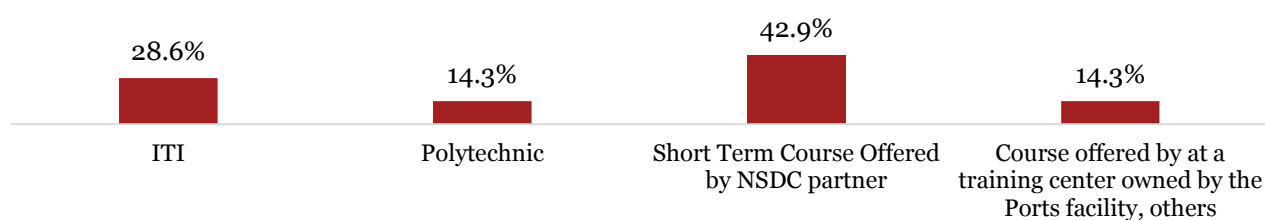
**Figure 15: Respondents who completed vocational training course - Thiruvallur**



**Figure 16: Desired level of education - Thiruvallur**



**Figure 17: Respondents who completed courses in vocational training - Thiruvallur**

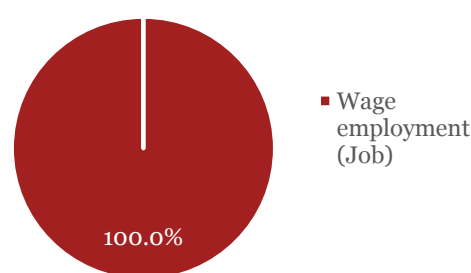


## Job Aspiration

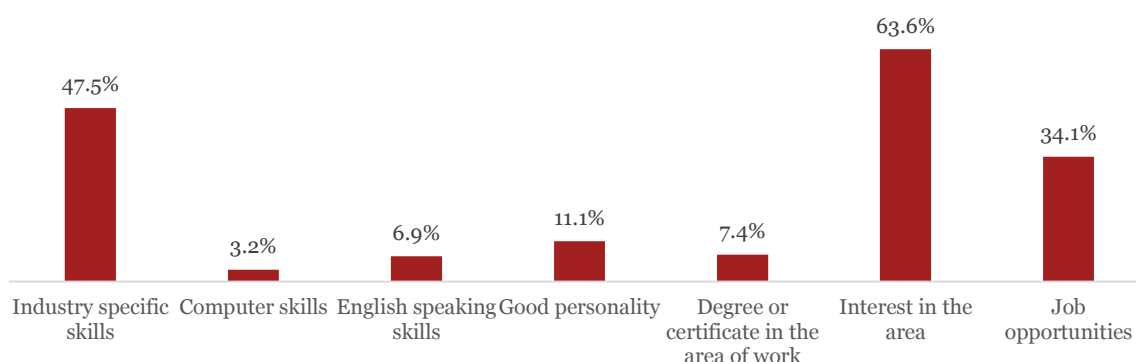
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. All of the respondents reported to have preference for wage employment over self-employment (Figure 18: Respondents aspiring for wage and self-employment).

The respondents were further asked to identify the factors important for securing employment in the area of their interest for which 63.6% of the respondents identified interest in the area as the most important factor for securing employment followed by industry specific skills (47.5%) and job opportunities (34.1%) (Figure 19)

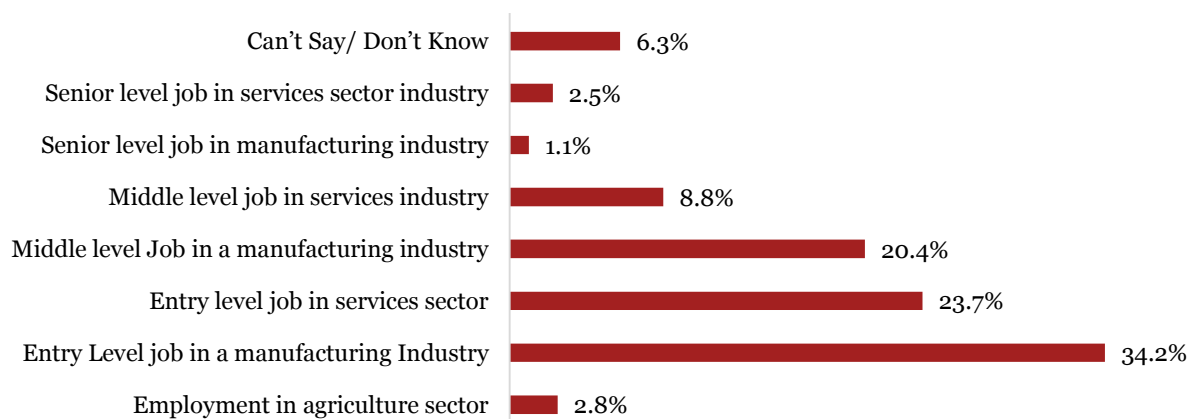
**Figure 18: Respondents aspiring for wage and self-employment - Thiruvallur**



**Figure 19: Factors important for securing employment in area of interest - Thiruvallur**

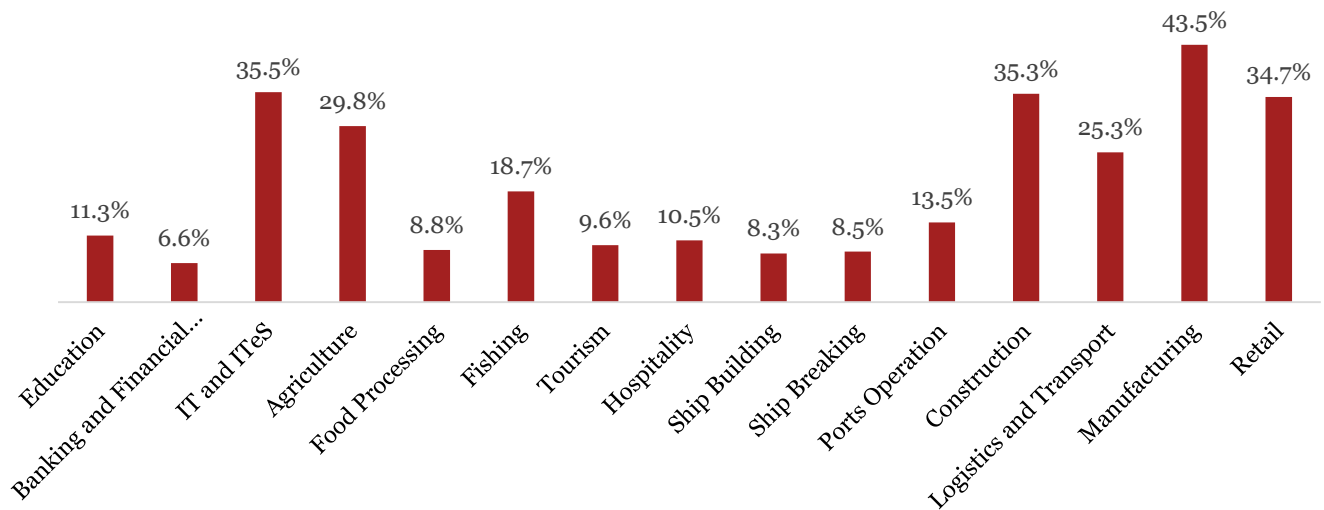


**Figure 20: Desired job profile after completion of education/training- Thiruvallur**



Regarding job aspiration of the respondents after completion of current education or training, it can be observed that there is a demand for manufacturing sector with 34% aspiring for entry level jobs and 20% aspiring for middle level jobs. This is followed by services industry (24%) and middle level jobs in services sector (9%). Only about 3% want to enter the Agriculture sector (Figure 20).

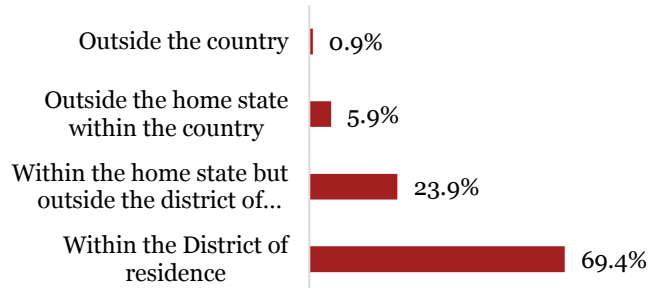
**Figure 21: Sectors in which respondents' foresee getting a desired job - Thiruvallur**



Further, Manufacturing (43.5%), IT/ITES (35.5%), Construction (35%), Retail (34.7%) and Agriculture (30%) have been identified as sectors in which the respondents feel that they are mostly likely to get a job which is in alignment with their aspiration for a job in the manufacturing sector space. The details of other sectors are mentioned in Figure 21.

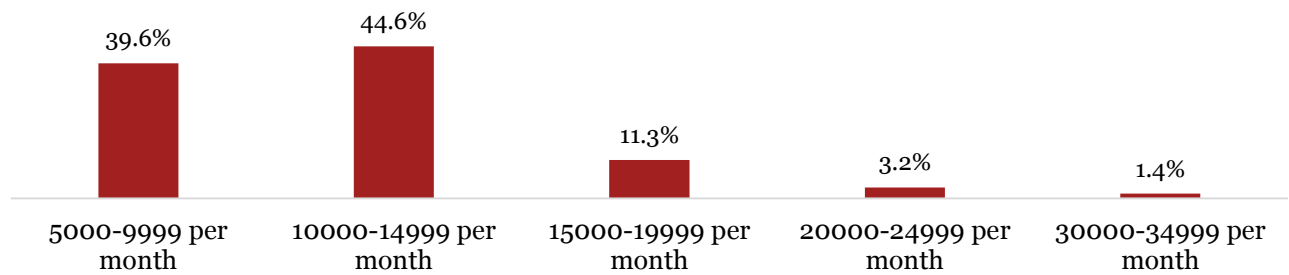
Out of total respondents, 93% preferred to work inside Tamil Nadu. However, more than half of the of the respondents (69.4%) preferred to work in the same district and 24% expressed willingness to migrate to other districts in the same state suggesting some flexibility among the youth of the district (Figure 22).

**Figure 22: Preferred work location of candidates - Thiruvallur**



Maximum respondents (44.6%) have monthly salary expectation in the range of INR 10,000-15,000. While 39.6% of respondents have a salary expectation in the range of INR 5,000-10,000 per month (Figure 23).

**Figure 23: Monthly salary expectation of respondents - Thiruvallur**

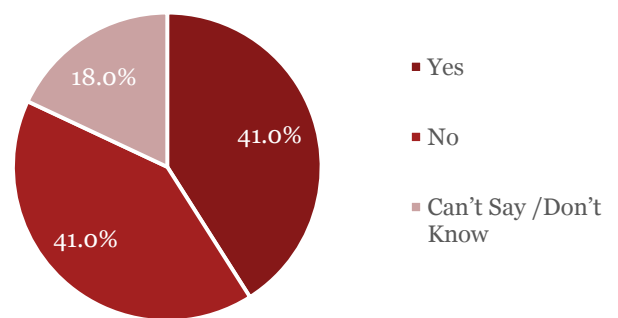


## Training Aspiration

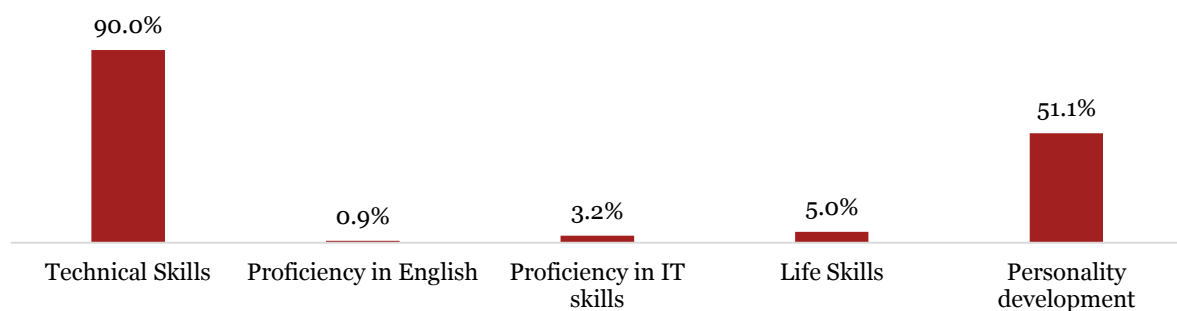
Regarding willingness of the respondents to participate in the training (skilling) programme in next (immediate) one year, more than two thirds expressed interest (Figure 24)

Further, when enquired about what should be the key focus areas of skill training, 90% of respondents reported that emphasis must be laid on technical skills followed by personality development (51%) and life skills (5%) (Figure 25).

**Figure 24: Willingness to participate in trainings - Thiruvallur**

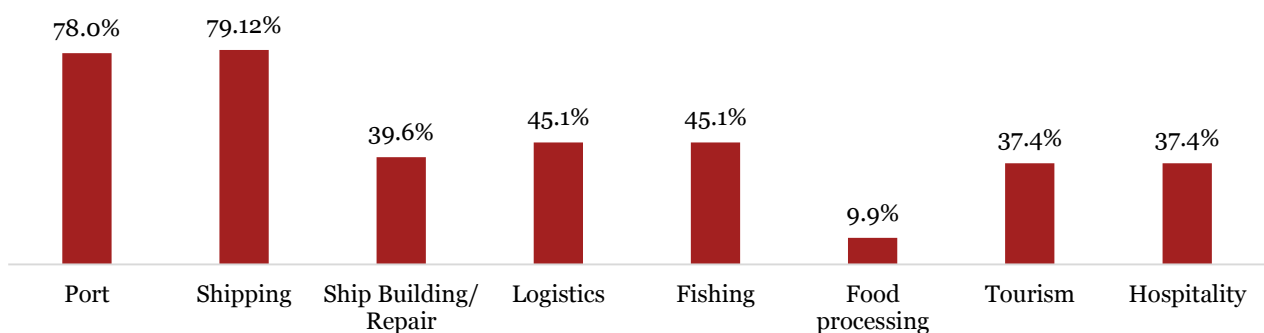


**Figure 25: Focus area on skills training - Thiruvallur**



Overall, there is high acceptability for training in port (78%) and shipping (80%), followed by logistics (45.1%) and fishing related activities (45.1%) and hospitality (37.4%) which in turn highlights the demand for the core sectors of this study (Figure 26).

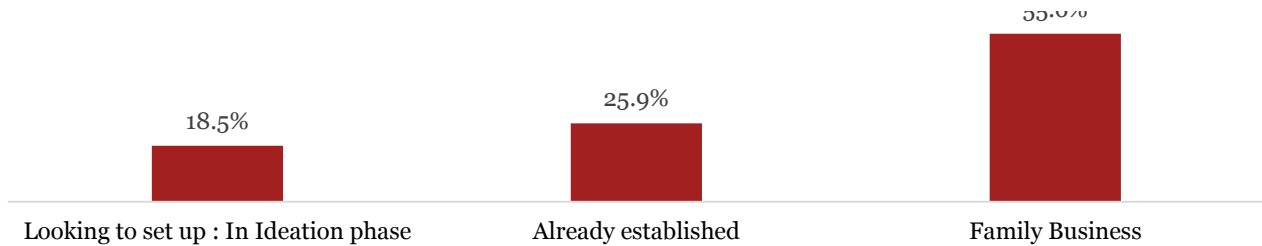
**Figure 26: Willingness of respondents to participate in trainings of different sectors - Thiruvallur**



## Self-Employment

Only 27 respondents of the sample are involved in entrepreneurial activities which is merely 7% of the sample.

**Figure 27: Current status of entrepreneurial venture- Thiruvallur**

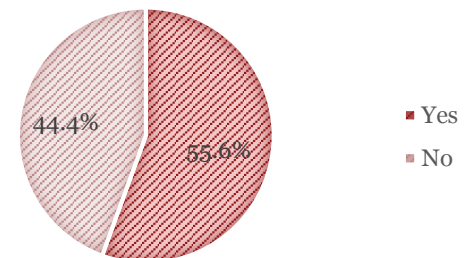


Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, 55.6% were in family business and 26% had already established ventures (Figure 27 **Error! Reference source not found.**).

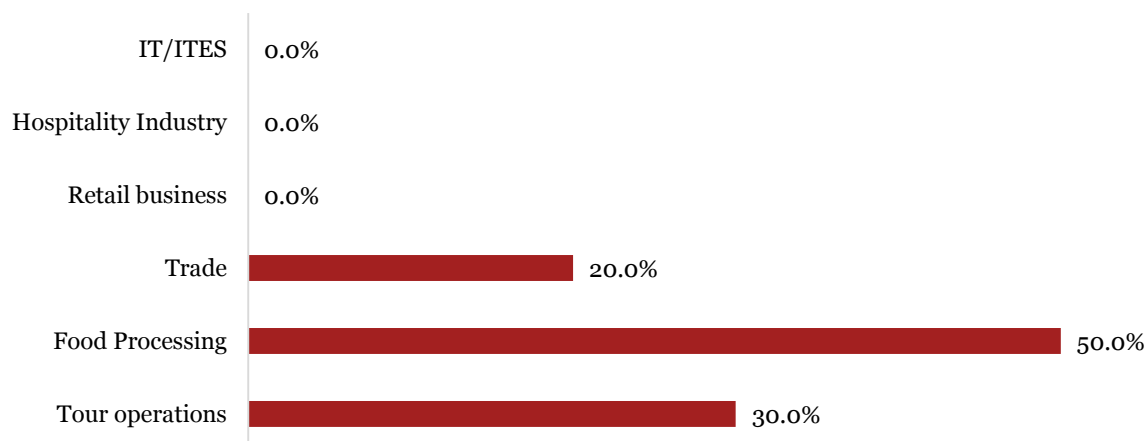
Further, 55.6% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 28).

Food Processing (50%), tour operations (30%) and trade (20%) are the only sectors in which the respondents aspired to set up ventures. IT/ITES services, retail and hospitality have found no takers as most preferred sectors for setting up own enterprise (Figure 29).

**Figure 28: Interested in skill development for enhancing entrepreneurial skills- Thiruvallur**



**Figure 29: Sectors for establishing enterprise - Thiruvallur**



### 1.1.7. Training Infrastructure

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
ITI <sup>7</sup>	20	27	Electrician, Fitter, MMV. Draughtsman Civil, Welder
Polytechnic	23	16	Civil Engineering, Electrical And Electronics Engineering, Mechanical Engineering. Civil Engineering, Electronics & Communication Engg.
PMKK Training Centre	1	5	Field Technician – Networking and Storage, Field Technician – Computing and Peripherals, Telecom -In-store promoter, Accounts Executive - Accounts Payable and Receivable, Retail Sales Associate.
PMKVY	3	15	Sewing Machine Operator, Retail Sales Associate, Accounts Executive - Accounts Payable and Receivable, Telecom -In-store promoter, Home Health Aide.
DDU GKY	Not available	Not available	Not available
Other State Govt. skill centres			
TNSDC	10	29	4 Wheeler Service Technician, Beautician, Basic Shrimp Culture Techniques, Stitchers (Leather)

The Training infrastructure in the district is dominated by the ITIs and Polytechnics. However, the trades are largely focussed on technical and engineering trades.

- ITIs – There are 20 ITIs providing training in 27 different trades. The Ambattur ITI is one of the largest in the State and is the only one to provide certified training for land surveyors. However, according to Dept. of Employment and Training data, only 55% the total capacity is sanctioned for conducting trainings. The actual occupation of seats is around 40% in total capacity.
- Polytechnics – Core engineering sectors like Civil, Electrical & Electronics, Electronics & Communication and Mechanical remain the most dominant trades, however, other trades like Hotel Management, Mechatronics, Production Technology, etc. are also gaining traction. Most of the students prefer to move to full time engineering courses post diploma.
- PMKVY & PMKK – The Trades are focussed on the Apparel, Retail, Trade, Telecom sectors with a sanctioned strength of around 1090 in the next 4 years.
- TNSDC – Through various institutions TNSDC has sanctioned courses in 29 trades with a capacity of almost 900. However, the duration and level of training vary widely and would require standardisation.

<sup>7</sup> Some of the ITIs also undertake

## 1.2. Thoothukudi

Thoothukudi, colloquially known as “Pearl City” for the pearl fishing activity, has been a major centre for ports, maritime and fisheries historically. The major exportable items produced in the district are chemicals, steel, garments and processed food<sup>8</sup>. Industry (25%) and Service sector (65%) have the largest share in the overall district economy. Thoothukudi houses one major port, the V.O. Chidambaranar Port Trust (VOCPT). It was the home port of the first modern indigenous shipping services company, the Swadeshi Steam Navigation Company, started by V.O. Chidambaranar.

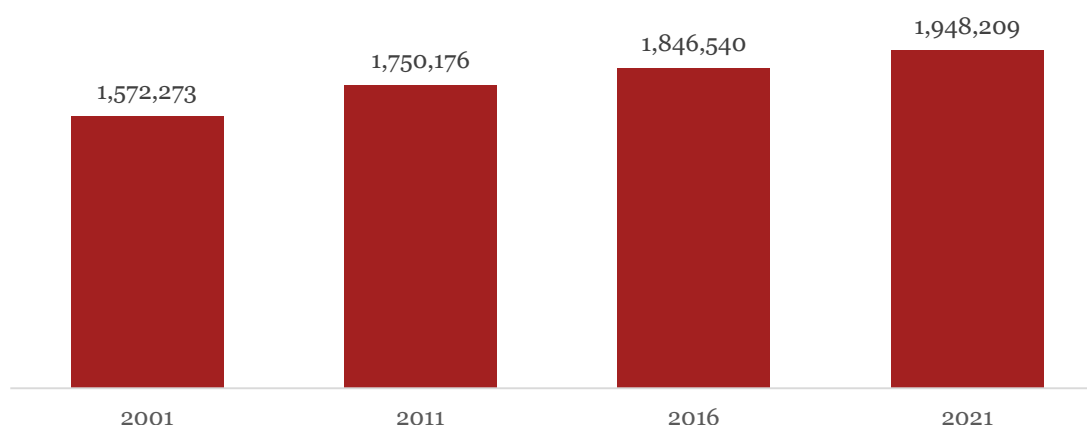
### 1.2.1. Demographic Profile<sup>9</sup>

Indicator	Value
Total population	1,750,176
Decadal rate of growth of population (2001-11)	10%
Rural population	49.85%
Female	50.5%
SC population	20%
ST population	0.28%
Workforce participation	43%
Main Workers (As % of total population)	38%
Marginal (As % of total population)	5%
Non-workers (As % of total population)	57%
*Number of people with vocational training in the age group of 15+ <sup>10</sup>	25 per 1,000

### Population trends<sup>11</sup>

Based on the population progression dynamics over the period 2001-11 (10 years), population is predicted to be 1,846,540 and 1,948,209 during 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 5.5%.

**Figure 30: Population Trend in Thoothukudi (2001-2021)**



The demographic dividend bulge in Thoothukudi will remain intact over the next decade i.e. 10 years.

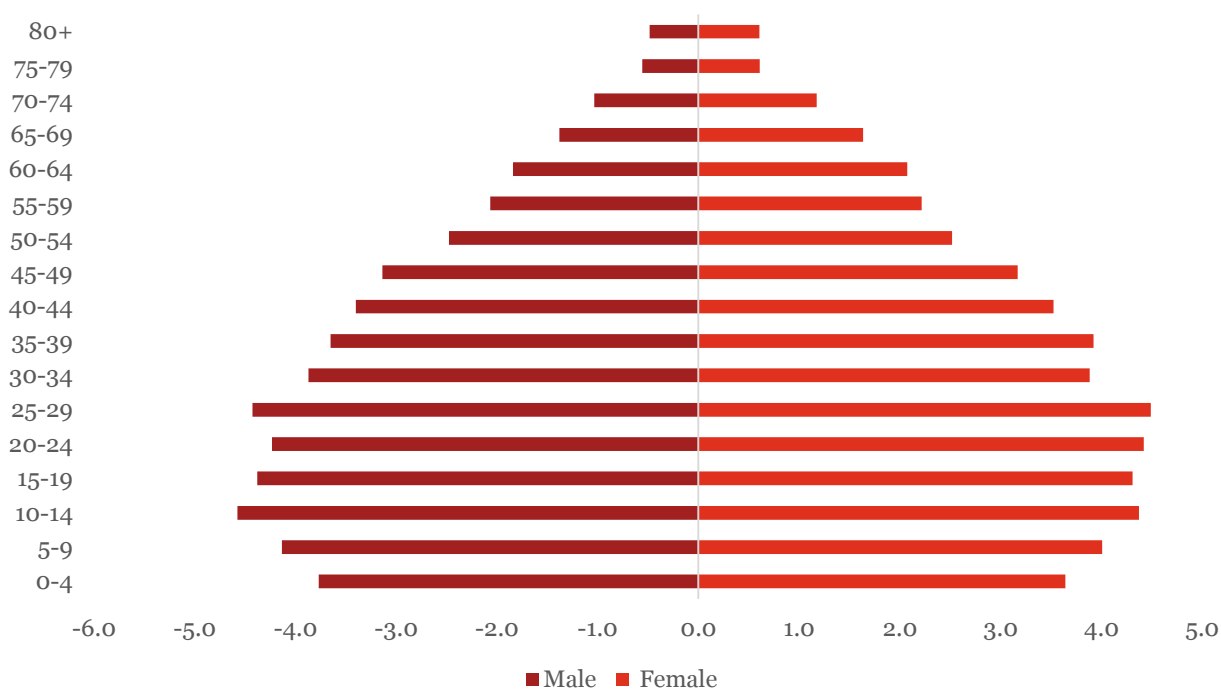
<sup>8</sup>Brief Industrial Profile of Thoothukudi District, MSME

<sup>9</sup>Census, 2011

<sup>10</sup>District Level Estimates for Tamil Nadu, Employment and Unemployment Survey, Labour Bureau 2013-14

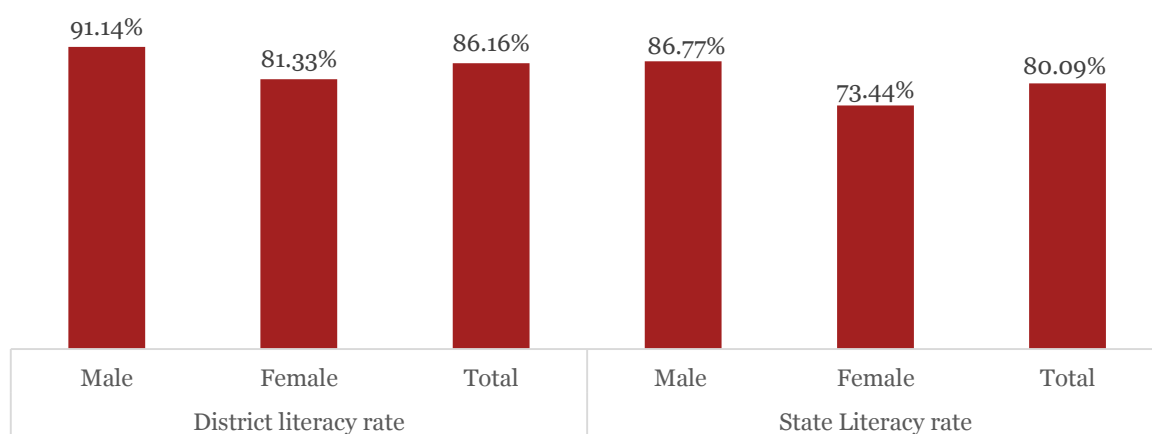
<sup>11</sup> Based on Census 2001, 2011.

**Figure 31 Population Pyramid Thoothukudi- 2011**



## Literacy rates<sup>12</sup>

**Figure 32: Thoothukudi vs Tamil Nadu literacy rates (2011)**



Total literacy rate of Thoothukudi, as per the Census 2011, is approximately 86.16%, which is higher than the State's literacy rate of around 80.09%. Also, the female literacy rate of Thoothukudi is 81.33% which is quite lower than the male literacy rate of 91.14% but only slightly lower than the state female literacy rate of 73.44% in 2011.

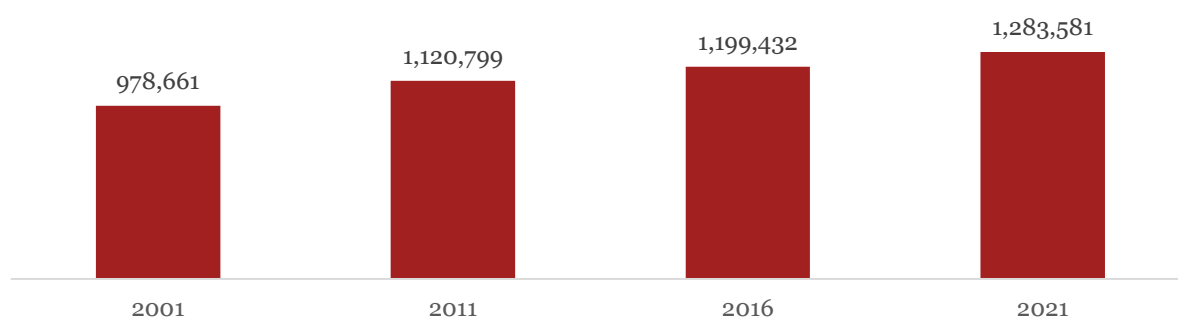
<sup>12</sup> Census , 2011



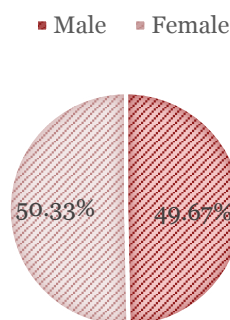
### Age specific population trends and education level for 2011<sup>13</sup>

As per the Census 2011, the population in the age-group of 15 to 24 years was 3,03,269 (17.33% of the overall population). The population in the age group of 15-59 years is estimated to be about 11,99,432 and 12,83,581 in 2016 and 2021, respectively. The projected absolute growth in the population from 2016 to 2021 is 7%.

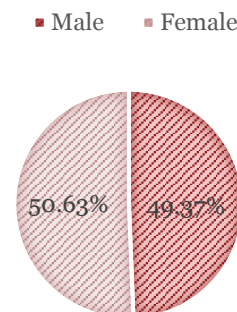
**Figure 33: Growth trend of population in the age group 15-59 years in Thoothukudi (2001-2021)**



**Figure 34: Age specific population of Thoothukudi (15-24 years)**



**Figure 35: Age specific population of Thoothukudi (15-59 years)**

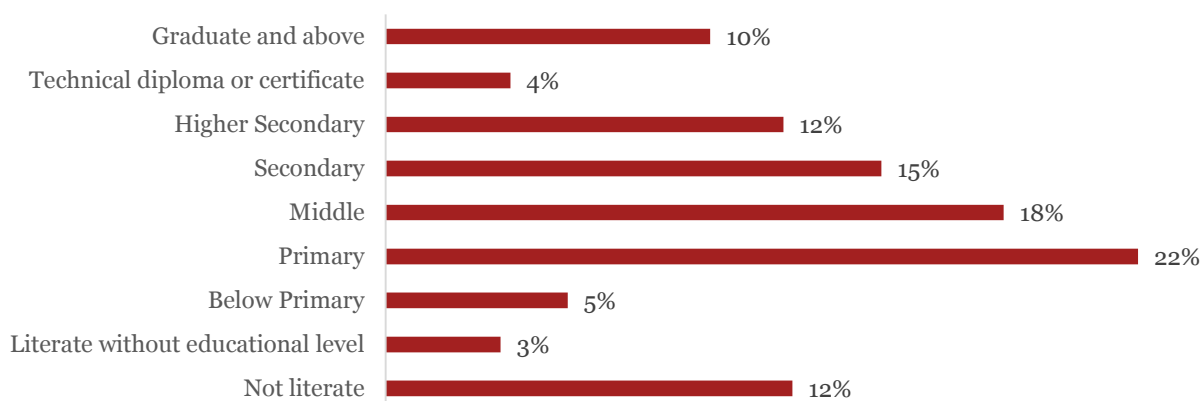


Both the age groups, 15-59 years and 15-24 years have almost equal representation of males and females with males accounting for 49.37% and 49.67% of the total population share in the 15-59 years and 15-24 years age group respectively. Females account for 50.63% and 50.33% of the total population share in the 15-59 years and 15-24 years age group respectively.

It is worthy to note that females outnumber males marginally in both the age categories (15-59 years) and (15-24 years). However, in the smaller (15-24 years) category, the share of women is lower than that of women in the larger category (15-59).

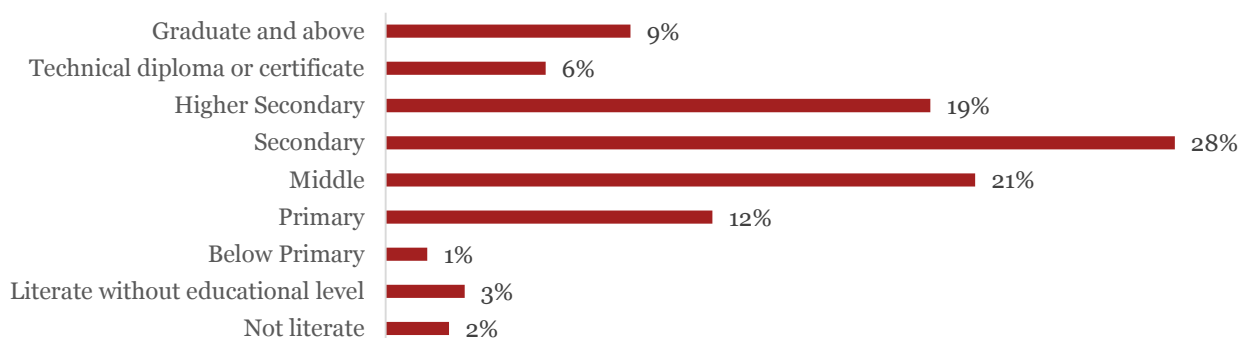
<sup>13</sup> Based on Census 2001 and 2011

**Figure 36: Age specific education level in Thoothukudi (15-59 yr)**



From the Census 2011, we understand that for the age category of 15-59 years, literacy in the working age group is 88 %. Graduates and Technical Diploma holders make only 14 % of the population. Taken together with higher secondary (12%) education only 27% of the population is educated with secondary or higher education. Moreover, 27% of the population is educated till primary and below level; and 3% is literate without any education level. The share of under educated workforce will prove to be a challenge as the availability of sufficiently educated workforce is small.

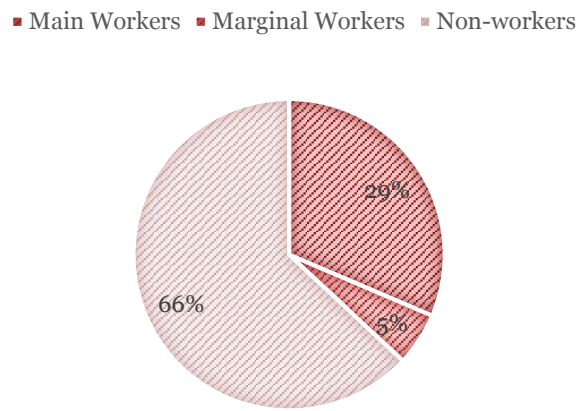
**Figure 37: Age specific education level in Thoothukudi (15-24 yr)**



For the age category of 15-24 years, 2% of the population of Thoothukudi is not literate, 3% are literate without any educational qualification, 1% have attended school till below primary level and 12% have completed schooling only up to primary level. Roughly, 21% of the population in 15-24 years category has done schooling up to the middle level, whereas, around 28% of the population in 15-24 years category has been educated till secondary. 6% of the population of this district has done a certificate/diploma course and 9% have at least completed graduation.

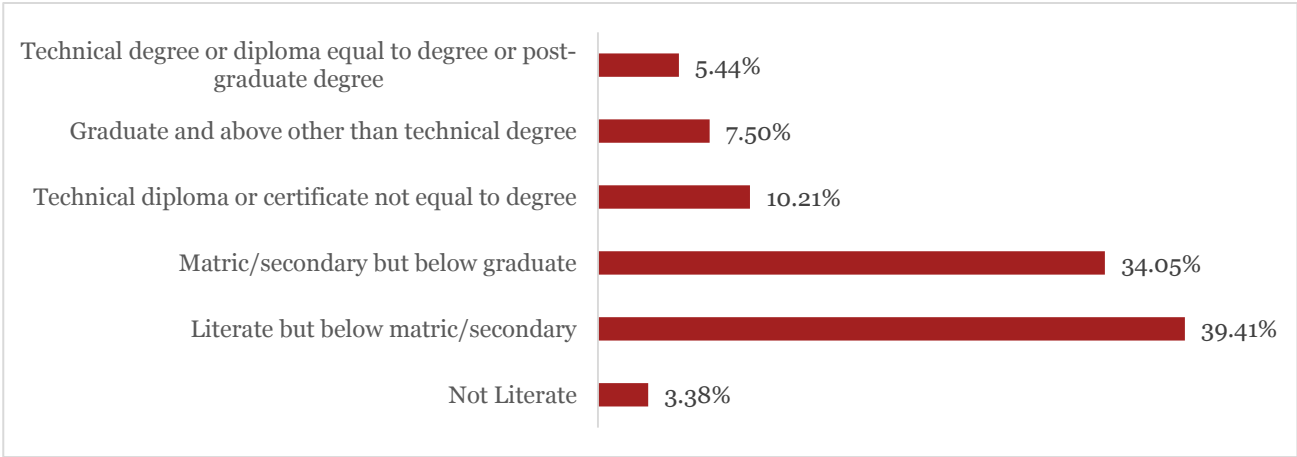
Age specific distribution of workers and educational level<sup>14</sup>

Figure 38: Age specific distribution of workers in Thoothukudi (15-24 yr)



The total workforce participation rate for this district, according to census 2011, is 42.74% and 66% of the population in the age group of 15-24 years are reported as non-workers. 29% of the population are main-workers, whereas 5% are engaged in marginal work i.e. working for 3-6 months during the year.

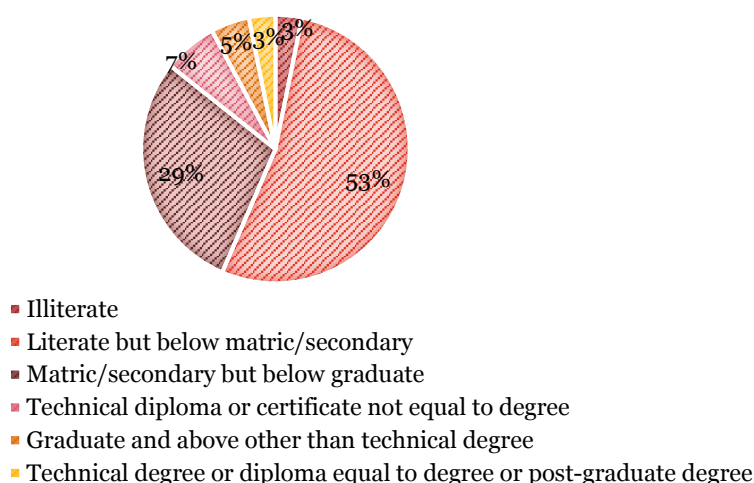
Figure 39: Education level of marginal workers available for work in Thoothukudi (15-24 year)



Amongst the 7,538 marginal workers in the age group of 15-24 years, 410 (5.44%) hold technical degree or a diploma equal to degree or post-graduate degree and 565 (7.50%) are graduate and above other than a technical degree. 770 (10.21%) have a diploma or a certificate (not equal to degree). 2567 (34.05%) are educated up to the matric/secondary level but below graduate and 2971 (39.41%) are literate with an educational qualification of below matric/secondary level. 255 (3.38%) marginal workers in this age group are not literate.

<sup>14</sup> Census, 2011

**Figure 40: Education level of main workers (15-59 years)**



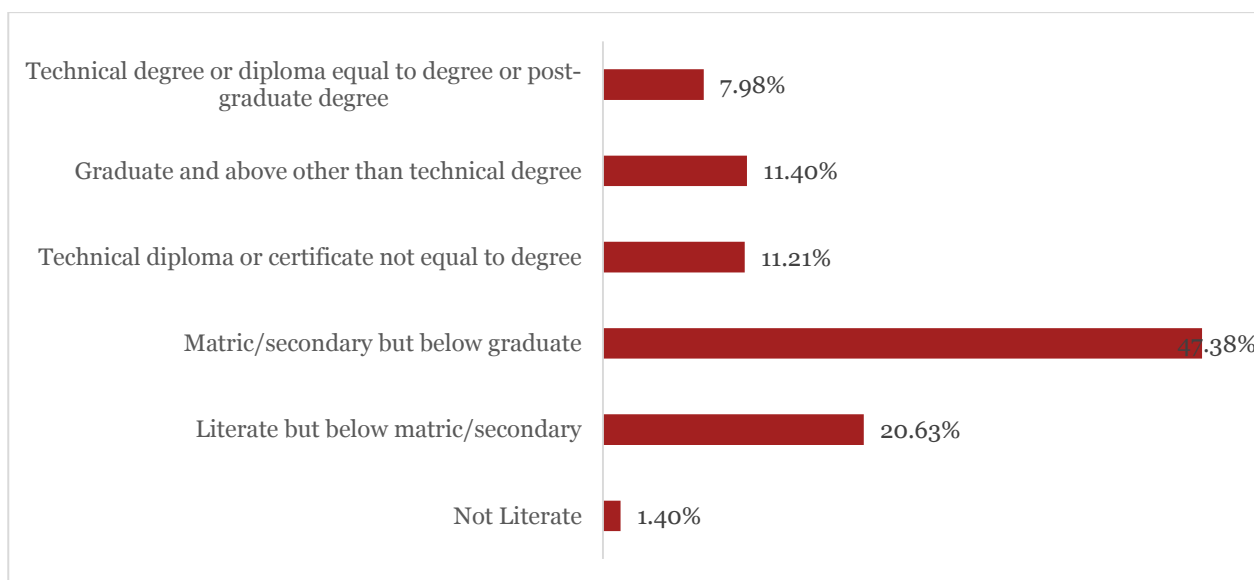
The proportion of main workers who are illiterate (*in the age category 15-24 years*) is the same as the proportion of marginal workers available for work and who are illiterate. We also find that the proportion of main workers who are literate but below matric/secondary (*in the age category 15-24 years*) is significantly more than (*14 percentage difference point between the two*) the proportion of marginal workers who are available for work and are literate but below matric/secondary.

The proportion of main workers who are matric/secondary level but below graduate (*in the age category 15-24 years*) is slightly less than (*5 percentage difference point between the two*) the proportion of marginal workers who are available for work and are matric/secondary level but below graduate.

The proportion of main workers who are graduate and above other than technical degree (*in the age category 15-24 years*) is slightly less than (*3 percentage difference point between the two*) the proportion of marginal workers who are available for work and are graduate and above other than technical degree.

The proportion of main workers who have attained an technical degree or diploma equal to degree or post-graduate degree (*in the age category 15-24 years*) is slightly less than (*3 percentage difference point between the two*) the proportion of marginal workers available for work and who have attained a technical degree or diploma equal to degree or post-graduate degree.

**Figure 41: Education level of non-workers available for work in Thoothukudi (15-24 yr)**

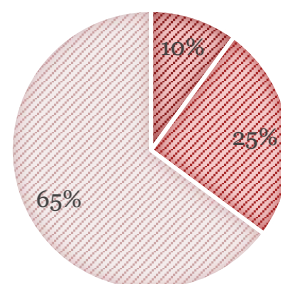


Amongst the 41,354 non-workers in the age group of 15-24 years, 3,299 (7.98%) hold a technical degree or a diploma equal to degree or post graduate degree and 4,715 (11.40%) have a graduate and above other than a technical degree. 4,639 (47.38%) have a diploma or a certificate (not equal to degree). 19,592 (47.63%) are educated up to the matric/secondary level but below graduate and 8,532 (20.63%) are literate but below matric/secondary level. 577 (1.40%) marginal workers who are available for work in this age group are not literate.

### 1.2.2. Key Economic Drivers

According to District Economy Survey, Thoothukudi, the Gross Domestic Product of the district (at constant prices- 2004-05) was INR 1,228,778 crores in 2012-13 and it has steadily grown at a CAGR of 9.5% over the period 2004-05 to 2012-13. The sectoral break up suggests that services sector contribution to district GDP is more than half (65%) followed by industries sector (25%). Further disaggregation suggests that logistics sector has a share of 30% and manufacturing has a share of 16% in the district GDP. Other sectors driving the district economy are agriculture (8%) and construction sector (8%).

**Figure 42: Sectoral breakup of Thoothukudi district GDP at constant prices (2004-05)**



■ Agriculture ■ Industry ■ Services

The key economic drivers of the district are illustrated below:



### 1.2.3. Priority Sectors

In Thoothukudi, the priority sectors that have been identified are **Port and Maritime sector** and other sectors: **logistics, fisheries, tourism and construction**. Other sectors that have been identified as priority sectors from the point of view of their contribution to district GDP are **manufacturing and agriculture**.

### 1.2.4. About Port

Ports & Maritime			
Major Ports: 1		Minor Ports: Nil	
Shipyards: Nil			
Details			
V.O. Chidambaranar Port Trust (VOCPT)			
Operations:	PPP (Only Container Terminal) Rest by Port Trust	Capacity	44.55 mn tonnes P.A
Key Cargo	Containers (36%), Dry Bulk (32%), Break Bulk (14%)	No of berths	13
		Draft	12.80 M
Description and key Trend	The VOC Port is an all-weather port and has been one of the important ports of India lying very close to the international sea route. The port’s hinterland is southern and Western parts of Tamil Nadu and South-western parts of Karnataka.  In 2015-16, it witnessed close to 14% growth in traffic which is expected to further grow in the coming years due to various projects planned in the ports and maritime sector. There are plans to expand the outer harbour and improve the efficiency of the present one which is currently at 83%.		
Terminal Operations			
	PSA Sical	Port Trust	
Annual Capacity	4,50,000 TEUs		
Type of Cargo handled	Container	Dry Bulk (Coal, Fertilizer), Liquid Bulk and Break Bulk	
Manpower	200	850 (150 on Contract)	
High Demand Job Roles	Crane Operators, Truckers, Surveyors	Mechanics for Mechanized equipment.	

### 1.2.5. Investments

The table below summarizes the investments that are in the pipeline over the next few years:

**Table 3: Proposed Key Investments for the year 2016-22 in Thoothukudi**

<b>Sector</b>	<b>Proposed Investment (INR cr)</b>	<b>Number of Projects</b>	<b>Expected Employment</b>	<b>Key Players</b>
Port & Maritime	11,823	10	7,000 persons	VOC Port, PSA Sical Container Terminal
Manufacturing	4,300	2	~45,000 persons	SIPCOT, TIDCO
Power	28,283	3	3,000 persons (Construction) 1,500 persons	TANGEDCO
Infrastructure	14,308	3	--	AAI, TNRSR, NHAI, TNRDC

In the port and maritime sector, the outer harbor development, construction and mechanization of various berths at the VOC Port and increasing rail based port connectivity are the major proposed projects that have been identified as key focus areas for future investments. Details of proposed investments in this sector are given below:

Human Resource and Skill requirement study for 21 Coastal Districts of India- Tamil Nadu: Thiruvallur, Thoothukudi

**Table 4: Details of Investments in Port and Maritime sector in Thoothukudi**

Project	Proposed Investment (INR cr)	Expected Employment	Key Players
Outer Harbour Development	10,150	-	VOC Port Trust, PSA SICAL Container Terminal
Construction of North Cargo Berth 2	332	7,000 persons <sup>15</sup>	
Construction of North Cargo Berths 3 & 4	1,101		IITTM Chennai, VOC Port Trust
Development of LNG Terminal	350		VOC Port Trust
Conversion of Berth No. 8 as Container Terminal	312.23		VOC Port Trust
Mechanization of Berth No. 9 (Upgradation of mechanical handling infrastructure at V.O. Chidambaranar Port Trust	49.20		VOC Port Trust
Construction of Shallow Water Berth for handling General Cargo	123		VOC Port Trust
Construction of Shallow Water Berth for handling Construction Materials	65.37		VOC Port Trust
Laying of Railway Track from Port Marshalling Yard to Hare Island at V.O. Chidambaranar Port	58.30		DCW, VOC Port Trust
Proposed making up cess from in between station Milavittan yard and TNHP marshalling yard	3.05		Southern Railways, VOC Port Trust

The new investments in the MSME category are to be seen mainly in food Production and Processing, especially sea food, apparel manufacturing and chemicals.

**Table 5: Details of New Investments from DIC in Thoothukudi**

Sector	Number of Projects	Proposed Investment (INR cr)	Expected Employment
Food Production and Processing	93	47	1,282 persons
Apparel & Textiles	71	10	582 persons
Wood Products	14	9	90 persons
Chemicals	30	20	357 persons

In Thoothukudi, with the Tamil Nadu vision 2023 plan, upgradation and urbanization plans are proposed in the sectors like power, water supply and sewerage and transport. The proposed Madurai-Tuticorin Industrial and Agro-Business Corridor is also expected to bring about a huge boost in the district. Brief details of proposed investments across these sectors are given below:

<sup>15</sup> Calculated from incremental Traffic and historical utilization rates at TPT.  
Human Resource and Skill requirement study for 21 Coastal Districts of India- Tamil Nadu: Thiruvallur, Thoothukudi



**Figure 43: Details of proposed investments across different sectors**

Power	Water and Sewerage	Industry	Transport
<ul style="list-style-type: none"> <li>Tuticorin Thermal Power Station Expansion at INR 4800 crores</li> <li>Udangudi Expansion at INR 4800 crores</li> </ul>	<ul style="list-style-type: none"> <li>Alwarthirunagari TP Septage Management at 11.63 crores</li> <li>Providing 60 MLD DSP at Alanthalai at INR 680 crores</li> </ul>	<ul style="list-style-type: none"> <li>TN GIM- Apparel Sector - 219 Crores</li> <li>Madurai-Thoothukudi Industrial Corridor - Manufacturing and Business Investment Regions (MBIR) II at INR 4300 crores</li> <li>Madurai-Thoothukudi Industrial Corridor Agri- Business Investment Region at INR crores</li> </ul>	<ul style="list-style-type: none"> <li>Thoothukudi Airport: Run-way extension and related expansion works along with Recarpeting of Apron at INR 506 crores</li> <li>Chennai-Thoothukkudi Freight Corridor at INR 100 crores</li> </ul>

### 1.2.6. Youth Aspiration

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

#### Respondent Profile

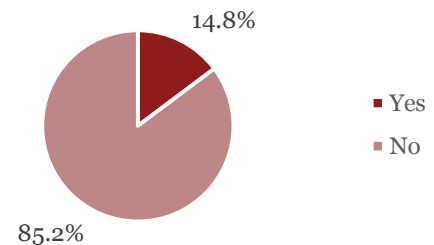
The table below provides an overview of the respondent profile:

Profile	Details
Total Sample Size	386
Gender Profile	Male - 56.7% Female -43.3%
Age Group	15-24 years
Education Level (top 3)	Secondary schooling(Class 9 to 10)- 18.7% Higher secondary schooling with commerce (Class 11 to 12)- 18.7% Senior Secondary Schooling (Class 9 to 10)- 14.2%
APL/BPL/AAV/Don't know	APL -3.6 % BPL - 90.2 % AAV -3 0.8% Don't know/Can't Say - 5.4 %
Occupational Profile (top 3)	Unemployed (42.2%), Student (30.3%), Salary from employment (9.8%)

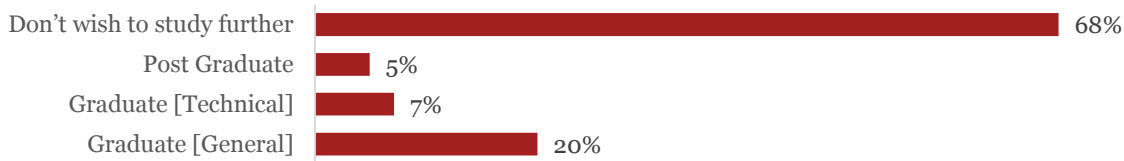
#### Exposure to Vocational Training and Educational Aspiration

Regarding the exposure to the vocational training most students reported that they had not completed any vocational training course. Overall, ~85% of the respondents had not enrolled in vocational training course (Figure 44).Further, the respondents were asked level about the level of education they wished to attain. Nearly, two-thirds of the respondents (68%) didn't aspire for further education. The desire to attain technical education is relatively low with only 7% aspiring for graduation in technical field as against preference to general degrees (20%) (Figure 45)

**Figure 44: Respondents who completed vocational training course - Thoothukudi**

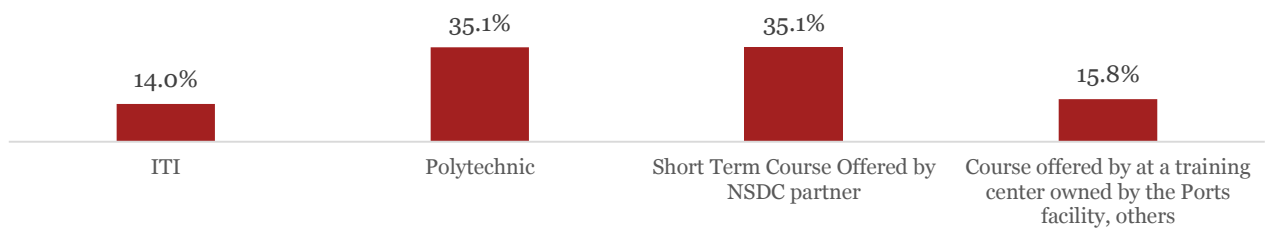


**Figure 45: Desired level of education - Thoothukudi**



Of the total respondents who underwent vocational training (which is ~14%), most were from Polytechnics (35.1%) and NSDC TSPs (35.1%). Figure 46 exhibits the percentage of respondents who completed different types of courses as part of their vocational training (Figure 46).

**Figure 46: Respondents who completed courses in vocational training - Thoothukudi**

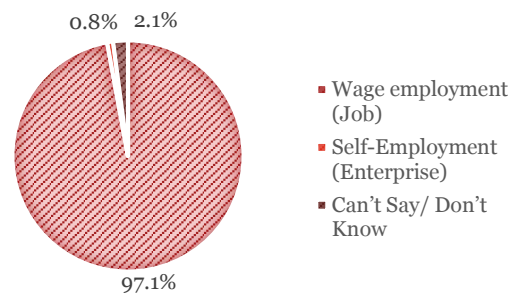


## Job Aspiration

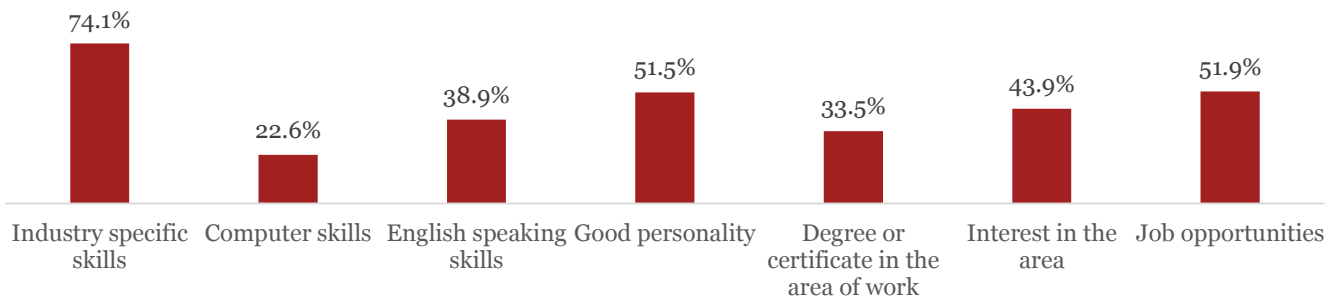
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 97% of the respondents reported to have preferred wage employment over self-employment (Figure 47).

The respondents were further asked to identify the factors important for securing employment in the area of interest. Respondents identified Industry Specific skills (74%), availability of opportunities (52%) and good personality (51.5%) as important factors (Figure 48).

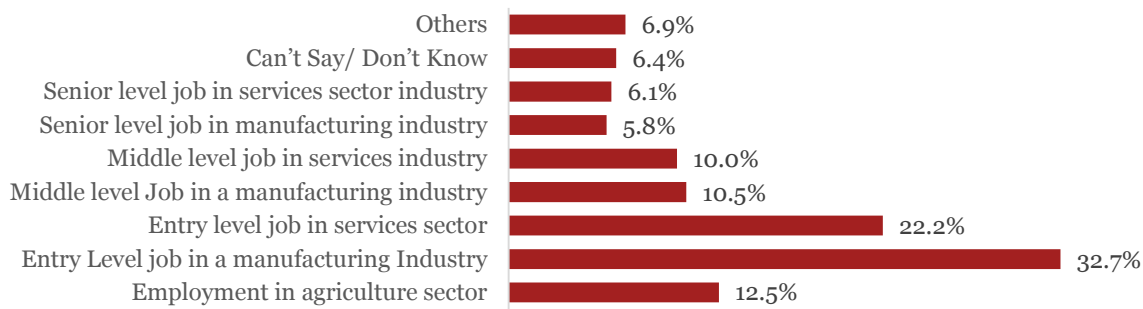
**Figure 47: Respondents aspiring for wage and self-employment - Thoothukudi**



**Figure 48: Factors important for securing employment in area of interest - Thoothukudi**



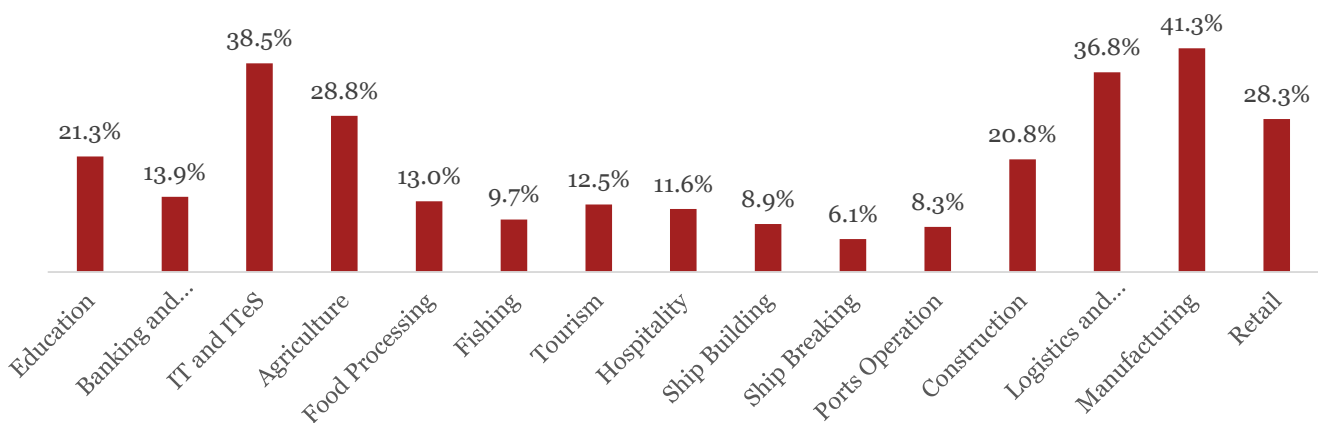
**Figure 49: Desired job profile after completion of education/training - Thoothukudi**



Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for manufacturing sector with 33% aspiring for entry level jobs and 10% aspiring for middle level jobs. This is followed by entry level jobs (22%) and middle level jobs in services sector (10%). 12.5% also want to enter the Agriculture sector (Figure 49).

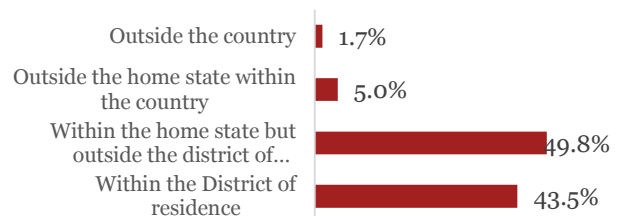
Further, Manufacturing (41.3%), IT/ITEs (38%) Logistics & transport (36.8%), Agriculture (29%) and Retail (28.3%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job in the service sector space. The details of other sectors are mentioned in Figure 50.

**Figure 50: Sectors in which respondents' foresee getting a desired job - Thoothukudi**



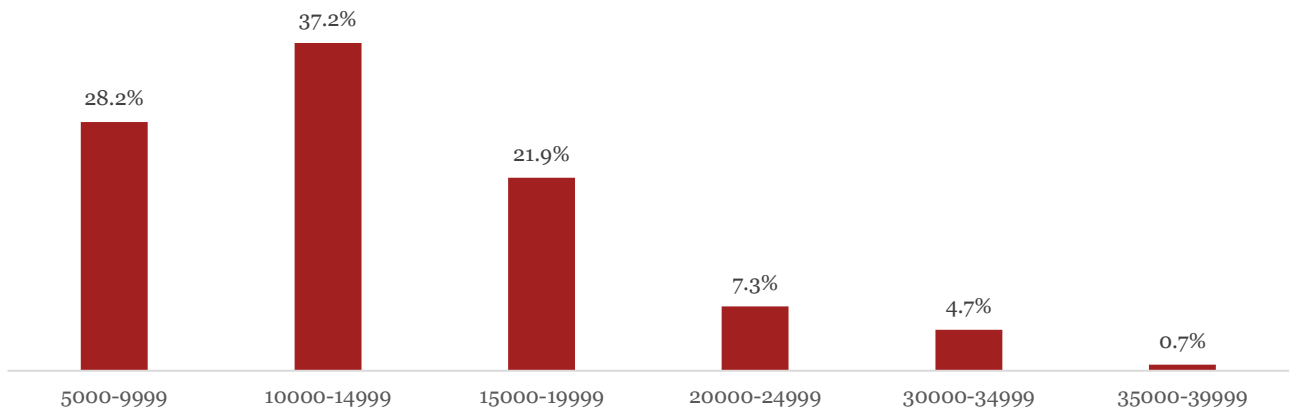
Out of total respondents, 94% preferred to work in the same state. However, less than half of the of the respondents (43.5%) preferred to work in the same district and 49% expressed willingness to migrate to other districts in the same state suggesting some flexibility among the youth of the district (Figure 51).

**Figure 51: Preferred work location of candidates - Thoothukudi**



For about 37.2% of the respondents, the monthly salary expectation was INR 10,000-15,000. And for 28.2% of respondents the expected salary is reported to be range in 5,000-10,000 per month (Figure 52).

**Figure 52: Monthly salary expectation of respondents - Thoothukudi**

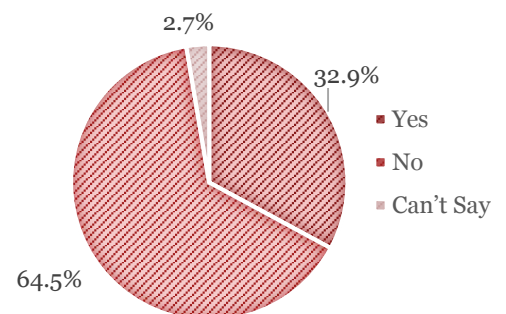


### Training Aspiration

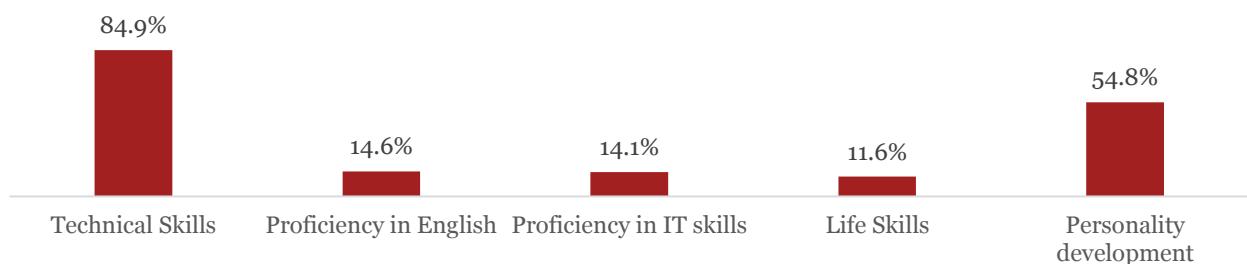
Regarding willingness of the respondents to participate in the training programme in the next one year, two thirds expressed interest (Figure 53).

Further, when enquired about the key focus areas of skill training, 84.9% of respondents reported that emphasis must be laid on technical skills followed by personality development (54.8%) and Proficiency in English and IT skills (14% each) (Figure 54).

**Figure 53: Willingness to participate in trainings - Thoothukudi**

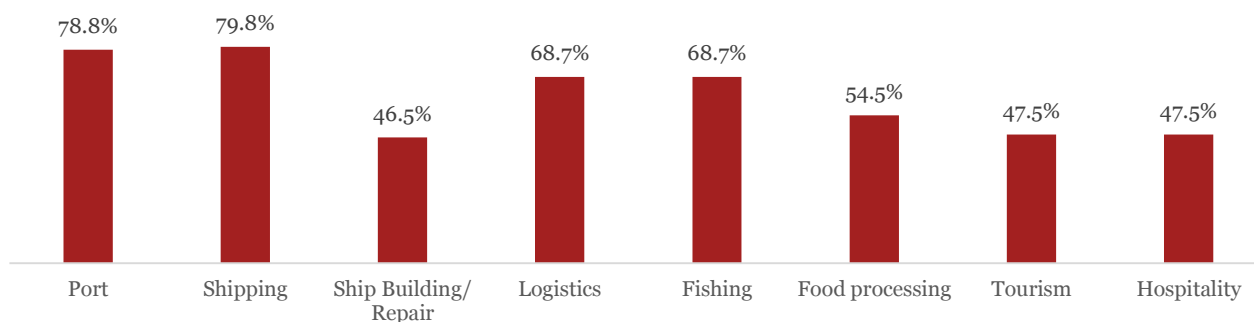


**Figure 54: Focus area on skills training - Thoothukudi**



Overall, there is high acceptability for training in port, logistics and shipping activities (barring ship building) related activities, fishing (68.7%) and food processing (54%) show demand for the core sectors of this study.

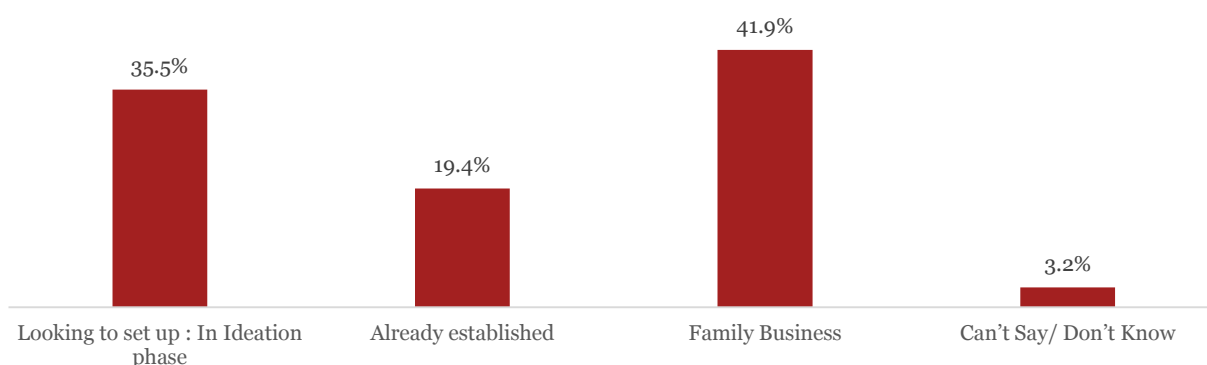
**Figure 55: Willingness of respondents to participate in trainings of different sectors - Thoothukudi**



## Self-Employment

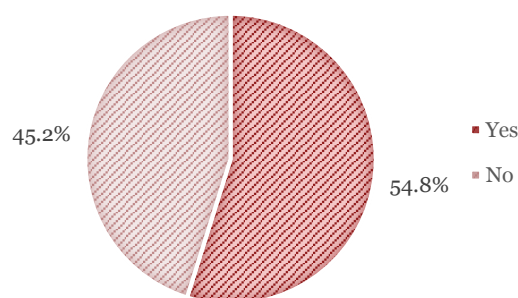
Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, 41.9% were in family business and 35.5% were in their ideation stage (Figure 56).

**Figure 56: Current Status of Entrepreneurial Venture - Thoothukudi**



Further, 54.8% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 57).

**Figure 57: Interested in skill development for enhancing entrepreneurial skills - Thoothukudi**



Retail business (92%) and hospitality (8%) are the only sectors which the respondents want to set up ventures in. IT/ITES services, trading, manufacturing and tour operations have found no takers as most preferred sectors for setting own enterprise (Figure 58).

**Figure 58: Sectors for establishing enterprise - Thoothukudi**



### 1.2.7. Training Infrastructure

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
ITI	17	16	Fitter, Electrician, Welder, MMV, COPA
Polytechnic	10	12	Civil Engineering, Electrical And Electronics Engineering, Mechanical Engineering, Civil Engineering, Electronics & Communication Engg.
PMKK Training Centre	1	2	
PMKVY	2	5	Home Health Aide, General Duty Assistant, Emergency Medical, Technician-Basic, Autoconer Tenter, Ring Frame Tenter.
DDU GKY	Information Unavailable	Information Unavailable	
Other State Govt. skill centres			
TNSDC	29	31	DTP and Print Publishing Assistant Accounts Assistant using Tally, Draughtsman Mechanical, Basic of Anatomy & Physiology, and Arc and Gas Welder.

The Training infrastructure in the district is dominated by the ITIs and Polytechnics. However, the trades are largely focussed on technical and engineering trades.

- ITI-s -There are 17 ITIs providing training in 16 different trades. However, according to information shared by the Dept. of Employment and Training, (GoTN), only 55% the total capacity is sanctioned for conducting trainings. The actual occupation of seats is around 40% in total capacity.
- Polytechnics – Core engineering sectors like Civil, Electrical & Electronics, Electronics & Communication and Mechanical remain the most dominant trades, however, new age trades like Hotel Management, Mechatronics, Production Technology, etc. are also gaining traction. The students prefer to move to full time engineering courses post diploma.
- PMKVY & PMKK – The Trades are focussed on the Hospital and Manufacturing sectors with a sanctioned strength of around 240.
- TNSDC – Through various institutions, TNSDC has sanctioned courses in 31 trades with a capacity of almost 900. However, the duration and level of training vary widely and would require standardisation.
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## 2. Skill Gap Assessment, Job Roles and Emerging Job Roles

### 2.1. Thiruvallur

#### 2.1.1. Incremental Demand<sup>16</sup> for Skilled & Semi Skilled Manpower

The district of Thiruvallur is witnessing increased industrialization and urbanization due to its proximity to Chennai. These are affecting the incremental demand for skilled workforce in the district, where as per our methodology, Construction, Manufacturing and Trade are going to generate the maximum demand for skilled and semi-skilled workers.

**Table 6: Incremental Demand for Skilled & Semi Skilled Workers in Thiruvallur**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
Ports & Allied	1,305	848	940	1,042	1,159	1,289	6,583
Logistics	1,363	1,421	1,478	1,540	1,603	1,669	9,074
Tourism	870	923	979	1,036	1,099	1,165	6,072
Construction	3,512	3,721	3,943	4,180	4,429	4,693	24,478
<b>Other Dominant Sectors in the District</b>							
Manufacturing	3,831	4,005	4,186	4,377	4,575	4,783	25,757
Trade (Retail & Wholesale)	1,864	1,976	2,094	2,221	2,354	2,495	13,004
BFSI	640	676	712	751	792	836	4,407
Agriculture	-228	-226	-226	-224	-223	-222	-1,349
<b>TOTAL</b>							<b>88,026</b>

#### Key trends in Core Sectors

- **Ports and Allied Sectors:** Expected increase in the throughput at Ennore and Kattupalli ports and the need for increased productivity to ensure competitiveness are key drivers for demand of skilled labour within the Ports & Allied Sector. The gradual shifting of traffic from Chennai port to Kamarajar Port, the large quantities and share of bulk & container cargo traffic, are expected to be dominating factors for pushing the labour requirements. The higher requirement of skills makes it one of the most promising employer of skilled labour.
- **Logistics:** Ponneri is going to emerge as a node for the CBIC and CVIC. In addition to the growth of traffic from Chennai Ennore and Kattupalli ports, gradual shifting of industries to the outskirts of Chennai city and development of Sri City in Andhra Pradesh is expected to increase the demand for total employment in the logistics sector.
- **Tourism & Hospitality:** Thiruvallur District neighbours important tourist and business destinations like Chennai and Tirpuati. Trends in migration, businesses and tourists are key drivers of the incremental demand in the sector. The sector is increasingly demanding skilled workers, especially within the Hospitality segment.
- **Construction:** In addition to the increasing urbanization, major infrastructure projects on CVIC and CBIC, Smart Cities and Metro Rail are in the anvil. Thus, there is going to be a considerable construction activity in the district.

<sup>16</sup> 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.  
Human Resource and Skill requirement study for 21 Coastal Districts of India- Tamil Nadu: Thiruvallur, Thoothukudi

- **Fisheries:** The promotion of deep line fishing, cage culture, aquaculture etc. are expected to promote requirement of skilled workers in the fishing industry. The clusters for Fish food Processing, Ornamental Fish and Crustacean cultures are also being focussed by the Govt.

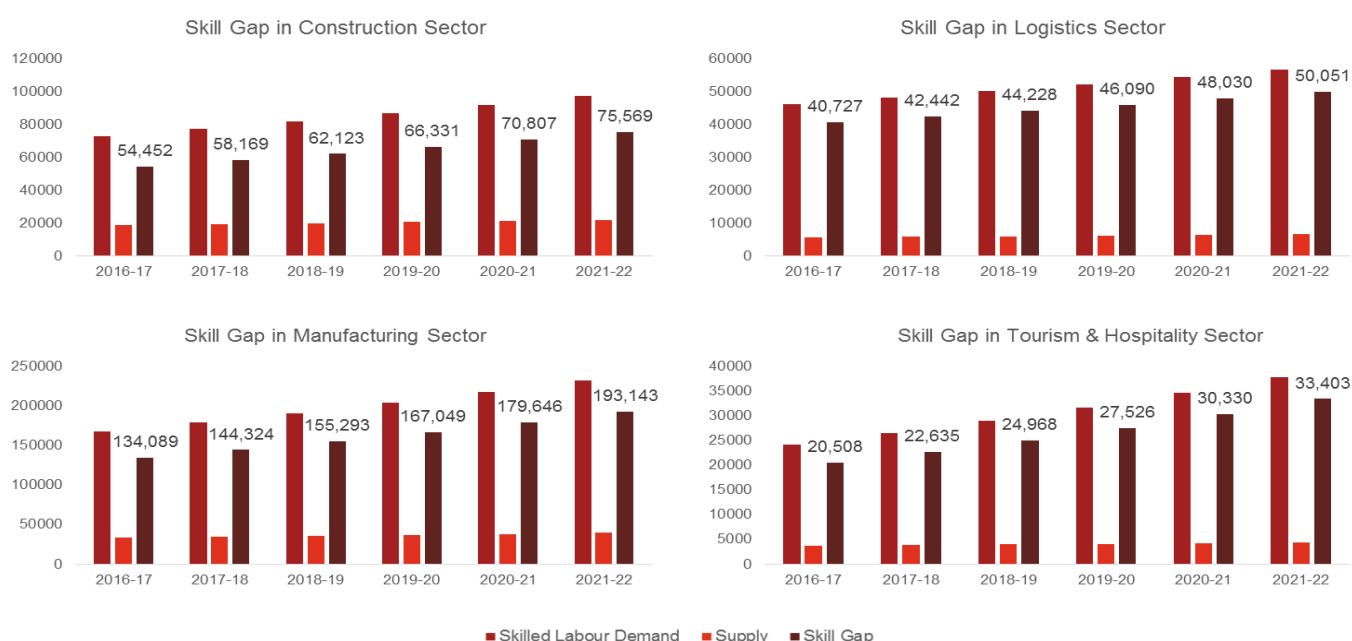
### **Key trends in other Dominant Sectors in the District**

- **BFSI:** Thiruvallur neighbors Chennai. The increasing costs of real estate in the city and the recent rapid advancements in the Banking Sector like financial inclusion, increase in coverage through insurance can expect to drive the economy towards the financial sector.
- **Manufacturing:** Part of the extended Chennai Metropolitan Area, traditionally has been Auto and Auto-components hub. Thiruvallur is set to receive further boost in Manufacturing with the CVIC and CBIC. Heavy engineering Parks, Plastic Manufacturing park, Electronics etc. are planned.
- **Trade:** The expanding nature of the urban agglomerations of Chennai and Tirupati is going to have spill-over effect on Thiruvallur's south eastern and western blocks respectively. Trade is a dominant sector in terms of both income and employment in the district and the increased formalization can expect to create a demand of reorganization and up-skilling of existing workforce.
- **Agriculture:** Increasing urbanization and relatively lower returns due to erratic weather in the district are expected to lower demand in the sector.

### **2.1.2. Gap between Total Demand<sup>17</sup> and Supply for Skilled workforce in Select Sectors**

The gap in the **existing total skilled workforce** connotes the gap between the total requirement of skilled manpower and workforce in the district with recognized trainings in the said sectors.

**Figure 59: Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in Thiruvallur**



<sup>17</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling Human Resource and Skill requirement study for 21 Coastal Districts of India- Tamil Nadu: Thiruvallur, Thoothukudi



- **Construction Sector:** The availability of the skilled workforce is substantially higher in the district than the general levels in other districts, with a concentration of institutions. However, the percentage of total skill availability is still low. The gap is set to increase from 54,462 to 75,698 assuming present rates of growth of population and demand for skilled workforce, a jump of nearly 40 %.
- **Logistics Sector:** The logistics sector has historically been characterized by its informal nature and this is reflected in the very low levels of recognized skilled workforce with less than 5,000 people with formal recognitions to meet the nearing **total requirement of skilled manpower** of 50,000. These are very exacerbated by the limited options available of recognized trainings and certificates in the sector. However, the incremental requirement for workforce in the district is expected to increase the gap further by nearly 1/4th.
- **Manufacturing Sector:** The sector has historically been served by degrees in engineering, diplomas in polytechnics and certificates in ITIs in the region. In addition, there have been certification programs in the MSME sector as well. Though as a share, close to 30,000-40,000 people are expected to be trained as per current trends, this amounts to less than 1/4ths **total requirement of skilled manpower**.
- **Tourism and Hospitality:** Given the present trends of increased formalization and requirement of skilled workers in the sector, the gap between the **total requirement of skilled manpower** and **availability of workforce with recognized trainings** is set to increase by a whopping 55% by 2022. The requirement for initiating new trainings and recognizing prior learning in the sector is thus a priority.

### 2.1.3. Job Roles High in Demand

This sections captures the jobs that have been reported to be high in demand in Thiruvallur. The job roles that are listed below have been identified by the stakeholders. Across the sectors, few of job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describes the job roles that are high in demand across the sectors.

#### Port and Maritime Sector

The port and maritime sector has reported high demand for crane operators and other skilled workers such as welders, electricians, and blasters. Safety has been underpinned as one of the areas that could be focused on for training workforce in the port and maritime sector. With increasing technological disruptions that are happening in the sector, there is a need for upskilling of the workforce. Increasing automation in the sector will make few of the manual jobs redundant. Overall, the jobs in this sector will be driven by the growth in the volume of cargo.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Port & Terminal operations	Findings
<ul style="list-style-type: none"> <li>• Berth Ship Unloaders</li> <li>• PLC Machine operators</li> <li>• Railway Engine Operator</li> <li>• Rail Mounted Quay Crane Operator</li> <li>• Rail Mounted Gantry Crane Operator</li> <li>• Forklift Operator</li> <li>• Reach Stacker Operator</li> <li>• Crane Mechanic</li> <li>• Surveyors</li> <li>• Conveyor Belt Mechanic</li> <li>• Car Drivers ( Ro-Ro)</li> </ul>	<ul style="list-style-type: none"> <li>• Well trained crane operators are difficult to find in the job market</li> <li>• Currently, Port operators and CFSS have to train the crane operators for at least three months</li> <li>• Trainings required on safety issues especially in handling crane operations</li> <li>• Rail and Conveyor based equipment and usage is heavy in the port terminals. There is limited availability of technicians in the area.</li> <li>• Port &amp; maritime sector is currently demanding skilled workforce; the shortfall is being met with migrant labour.</li> </ul>

## Other Priority Sectors

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like port and maritime sector, sectors such as logistics, manufacturing, and construction will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature.

### Logistics

Truckers are high in demand but the existing workforce that is engaged in trucking lacks life skills. Truckers who could be equipped with skills for handling hazardous substances will be greatly demanded by the manufacturing firms that are located in industrial areas such as Taloja. Automation will impact manual jobs in this sector.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Logistics	Findings
<ul style="list-style-type: none"><li>• Surveyors</li><li>• Fork lift operators</li><li>• Supervisors</li><li>• Hydraulic Axle Operator</li><li>• Truck Driver</li><li>• Helper</li></ul>	<ul style="list-style-type: none"><li>• Increasing volumes of cargo is expected to be diverted to Ennore from Chennai due to faster evacuation.</li><li>• Large manufacturing units are in want of logistics internally.</li><li>• Skills shortages for handling hazardous substances</li><li>• Life skills training required for truckers</li><li>• Increased use of ICT and automation in work processes will impact the manual jobs.</li></ul>

### Construction

Projects such as smart cities will demand skilled workforce that will be able to use smart technologies in not only building the smart cities but also maintaining them. There will also be demand for workforce that could work in renewable energy domain. Other projects such as Railways and Metro will require skilled workforce in structure design and maintenance, finishes, and electrical works for building huge infrastructural facilities.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Construction	Findings
<ul style="list-style-type: none"><li>• Solar PV installer (Civil)</li><li>• Fabricator</li><li>• Supervisor-Structure</li><li>• Supervisor-Finishes</li><li>• Supervisor - Electrical Works</li><li>• Supervisor - Roads &amp; Runways</li><li>• Painter ( Machine operated)</li></ul>	<ul style="list-style-type: none"><li>• Infrastructural development projects such as the Railways and Metro will require skilled workforce</li><li>• Site workers will require skills to use new, innovative technological devices and smart systems</li><li>• Skills to manage increased integration of technologies into the building structures</li><li>• Demand for new age installation and maintenance skills especially in renewable energy sector</li><li>• Limited apprenticeship arrangement exists, combining formal training off-the-job with on-the-job training</li></ul>

### Manufacturing

Thiruvallur is an industrial and manufacturing hub that caters to sectors such as Petroleum and Petrochemicals, Automobiles and Auto-components, Electronics, Plastics, Heavy Engineering etc. These sub-sectors demand skilled workforce that could work in manufacturing processes. Emerging technology such as 3D or additive manufacturing will shape the manufacturing sector in next few years and the workforce engaged in manufacturing will have to upgrade its skills to be in tune with the emerging market requirements. This sector will also require technological literacy among the workers.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Manufacturing</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Production Assistants</li> <li>• Welder</li> <li>• Fitter</li> <li>• Mechanic</li> <li>• Plumber</li> <li>• Electrician</li> <li>• Turner</li> <li>• Motor Binding</li> </ul>	<ul style="list-style-type: none"> <li>• Industrial areas in and around the district including Ambattur, Thirumazhisai, Ennore, Ponneri (Upcoming) demand skilled workforce.</li> <li>• Supervisory skills are also needed in the roles of foremen, leading hands and supervisors</li> <li>• High preference for apprenticeship arrangements exist, combining formal training off-the-job with on-the-job training.</li> <li>• Industry associations design custom trainings as add-ons for the sector.</li> <li>• Stakeholders indicated preference for hiring ITI graduates.</li> </ul>

## *Tourism*

Tourism sector in Thiruvallur is buoyed by demand from the neighbouring districts of Chennai, Chittore, Kanchipuram and Vellore. A small pool of local workforce is complemented with a migrant workforce that is working to support the tourism sector. There are opportunities to engage local youth in this sector. Training in the sector, among others, will require focus on English & Foreign language skills. Opportunity exists for boating facilities in Pazhaverkadu and Pulicat Lake.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Tourism</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Front Office Executive</li> <li>• Chef</li> <li>• Sommelier</li> <li>• Chauffeur</li> <li>• Kitchen Steward</li> <li>• Housekeeping Supervisor</li> <li>• Tour guide</li> <li>• Facility Store Keeper</li> <li>• Billing Executive</li> <li>• Boatman</li> <li>• Lifeguards</li> </ul>	<ul style="list-style-type: none"> <li>• Small pool of adequately skilled personnel at the skilled worker level results in a small pool of people from which to draw for higher positions</li> <li>• High migration rates result in higher turnover in employees</li> <li>• Requirement for foreign language skills to cater to tourists from France, Japan, etc.</li> <li>• General requirement of French to cater to high-end customers in culinary field.</li> <li>• Focus required on communication skills/public relations; reporting skills; administration skills and financial skills</li> </ul>

## *Fisheries*

Pockets around the coastal areas could be used for aquaculture and mariculture, especially around Ponneri, Poondi and Pazhaverkadu. Trainings imparted in aquaculture could help in providing the fishing community an insight into a more profitable way of doing business and also to make proper utilization of unused land parcels that are unfit for agriculture. Trainings in marine fish farming is necessary to make the fish farmers aware about the scientific procedure of fish farming and thereby improve upon the traditional practices. Further, shrimp and ornamental export houses in Pazhaverkadu, Kolathur area demand skilled workforce.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Fisheries</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Cold Storage Technician</li> <li>• Warehouse Manager</li> <li>• Mechanic</li> <li>• Glass/Tunnel/Trolley Freezer Operator</li> <li>• Grading supervisor</li> <li>• De-heading supervisor</li> <li>• Aquaculture Technician</li> <li>• Mariculture Technician</li> </ul>	<ul style="list-style-type: none"> <li>• Thiruvallur can hugely benefit from improved fisheries practices</li> <li>• Export potential for shrimps</li> <li>• Unused land parcels can be used for aquaculture and mariculture</li> <li>• Improved skills are particularly needed for aquaculture and mariculture</li> </ul>

## *BSFI*

A small pool of local workforce is engaged in this sector. There are opportunities to train the local youth in this sector. BSFI sector is very much susceptible to automation of front end and back end processes.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: BSFI</b>	<b>Findings</b>
<ul style="list-style-type: none"><li>• Teller</li><li>• Value banker</li><li>• Debt recovery agent</li><li>• Insurance agents</li></ul>	<ul style="list-style-type: none"><li>• Focus required on language skills</li><li>• Small pool of adequately skilled personnel at the skilled worker level results in a small pool of people from which to draw for higher positions</li><li>• Up-skilling (technology and business skills) will be important</li><li>• Automation and software could render many lower skilled customer service roles obsolete</li></ul>

## *Agriculture*

Rapid urbanization and industrialization is fast making the incentives from Agriculture far less attractive. The ever depleting water table would be a huge challenge.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Agriculture</b>	<b>Findings</b>
<ul style="list-style-type: none"><li>• Drip Irrigation Technician</li><li>• Agriculture Equipment Technician</li><li>• Harvesting machine Operator</li></ul>	<ul style="list-style-type: none"><li>• Less returns from agriculture.</li><li>• Increased use of machinery in industrialized agriculture.</li><li>• Erratic rainfall and urbanization increasing demand for water.</li><li>• Non availability of cheap labour.</li><li>• Sustainable practices for agriculture required.</li></ul>

## 2.2. Thoothukudi

### 2.2.1. Incremental Demand<sup>18</sup> for Skilled & Semi Skilled Manpower

The district of Thoothukudi is witnessing increased industrialization with the Port and other Infrastructure related developments. These are affecting the incremental demand for skilled workforce in the district, where as per our methodology, Manufacturing, Construction, Trade with significant contributions from Port & Logistic and Tourism sectors are going to generate the maximum demand for skilled and semi-skilled workers.

**Table 7: Incremental Demand for Skilled & Semi Skilled Workers in Thoothukudi**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
Ports & Allied	780	810	840	810	870	930	5,040
Logistics	1,194	1,243	1,293	1,347	1,402	1,459	7,938
Tourism	907	995	1,093	1,199	1,317	1,445	6,956
Construction	4,472	4,816	5,186	5,586	6,015	6,479	32,554
<b>Other Dominant Sectors in the District</b>							
Manufacturing	3,450	3,594	3,745	3,904	4,068	4,239	23,000
Trade (Retail & Wholesale)	1,942	2,133	2,341	2,570	2,821	3,097	14,904
Agriculture & Fisheries	540	542	546	548	552	554	3,282
<b>TOTAL</b>							93,674

#### Key trends in Core Sectors

- **Ports and Allied Sectors:** Thoothukudi port has witnessed steady growth and is expected to continue the trend with the awaited Madurai-Thoothukudi Industrial Corridor project. With the outer harbour project and/ or the Enayam port also on the anvil, the sector is set to see an increase in demand.
- **Logistics:** The Madurai-Thoothukudi Industrial Corridor, with the development of the East Coast Road is going to be the driver of workforce requirement for logistics. Increasing manufacturing in the hinterland, including Coimbatore, Madurai and Tirunelveli and the new railway line to Madurai via Aruppukottai will increase the port's viability and demand.
- **Tourism & Hospitality:** Plans are on the anvil for the development of tourism circuit through the Swadeshi Darshan Scheme. Apart from upgrading facilities to the ever increasing tourist inflows at the Thiruchendur Murugan temple, Manapad, dotted with beaches and steeples, the district is planned to be developed as "Little Goa" while temple circuits are planned in Nava Tirupati and Nava Kailayam around Sri Vaikuntam. Plans for developing a Marina in the Thoothukudi harbour are also on the anvil.
- **Construction:** The infrastructure sector including roadway upgradation (East Coast Road), Madurai-Thoothukudi Industrial Corridor (Factories, Roadways, Power lines, Railway lines), Port Development are going to be the major drivers for the construction sector. Urban development projects in underground sewage systems, water supply, and airport expansion are other expected drivers.
- **Fisheries:** There is promotion of sustainable fishing practices to protect the sensitive bio-sensitive region of the Gulf of Mannar marine bio-reserve. The increased promotion of Fish Food Processing sector is also expected to promote requirement of skilled workers in the fishing industry, aquaculture.

<sup>18</sup> Incremental Demand Estimates the additional stock of workforce that are to be created given the expected Economic Conditions in the period of study. This may help in estimating requirement for fresh trainings.  
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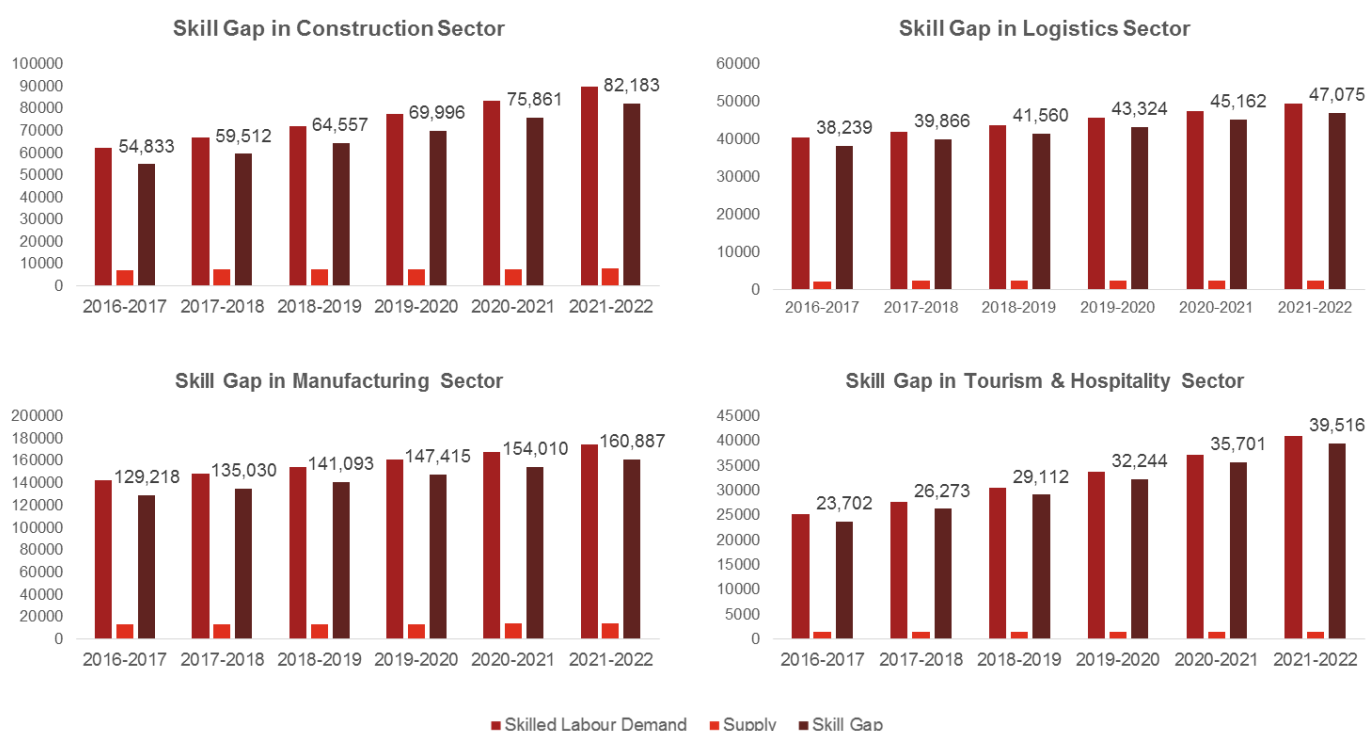
### Key trends in other Dominant Sectors in the District

- **Manufacturing & Industry:** In the Madurai Thoothukudi Industrial Corridor, Petroleum, Power, Chemicals, Steel, Fish food processing, Apparel and Agro Businesses are expected to drive the demand for growth. Thermal power plants are planned by TANGEDCO.
- **Trade:** Thoothukudi has been historically known for its marine trade links. The sector continues to be dominant in the district and is expected to increasingly formalize.
- **Agriculture & Fisheries:** The decreased landholdings and erratic rainfalls have affected employment prospects. However, fisheries have seen continuous increase in output and will be boosting employment in the sector.

### 2.2.2. Gap between Total Demand<sup>19</sup> and Supply for Skilled workforce in Select Sectors

The gap in the **existing total skilled workforce** connotes the gap between the total requirement of skilled manpower and workforce in the district with recognized trainings in the said sectors.

**Figure 60: Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in Thoothukudi**



- **Construction Sector:** The percentage of total skill availability is still low. The gap is set to increase from 54,833 to 82,183 assuming present rates of growth of population and demand for skilled workforce, a jump of nearly 40 %.
- **Logistics Sector:** Less than 2000 skilled workers are available to meet the **total requirement of skilled manpower** of 40,000. These are very exacerbated by the limited options available of recognized trainings and certificates in the sector. However, the incremental requirement for workforce in the district is expected to increase the gap further by nearly half.

<sup>19</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling Human Resource and Skill requirement study for 21 Coastal Districts of India- Tamil Nadu: Thiruvallur, Thoothukudi

- **Manufacturing Sector:** The manufacturing sector faces high skill gap owing to lack of sufficient training infrastructure in the district, with the gap exceeding 1 lakh.
- **Tourism and Hospitality:** Given the present trends of increased formalization and requirement of skilled workers in the sector, the gap between the **total requirement of skilled manpower** and **availability of workforce with recognized trainings** is set to increase by a more than 70% by 2022. The requirement for initiating new trainings and recognizing prior learning in the sector is thus a priority.

### 2.2.3. Job Roles High in Demand

This sections captures the jobs that have been reported to be high in demand in Thoothukudi. The job roles that are listed below have been identified by the stakeholders. Across the sectors, few of job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describes the job roles that are high in demand across the sectors.

#### Port and Maritime Sector

The sector is facing uncertainty due to the current slump in international shipping and international economic slowdown. The investments are also awaiting policy decisions on the proposed Industrial Corridors, port developments in Thoothukudi, Enayam and Vizhinjam (Kerala). PPP implementation is in its infancy, and will push for further requirement of labour in the near future.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Port & Terminal operations	Findings
<ul style="list-style-type: none"> <li>• PLC Machine operators</li> <li>• Railway Engine Operator</li> <li>• Rail Mounted Quay Crane Operator</li> <li>• Rail Mounted Gantry Crane Operator</li> <li>• Forklift Operator</li> <li>• Reach Stacker Operator</li> <li>• Crane Mechanic</li> <li>• Surveyors</li> <li>• Conveyor Belt Mechanic</li> </ul>	<ul style="list-style-type: none"> <li>• Current slump in shipping has distorted market.</li> <li>• Automation of Bulk cargo movement affecting lower skilled jobs in stevedoring.</li> <li>• Middle level jobs in Customs and Clearance are sufficiently available.</li> <li>• Currently, Port operators and CFSs have to train the crane operators for at least two-three months</li> <li>• Trainings required on safety issues especially with Truck Drivers.</li> <li>• PPP mode is expected to take off in the near future. Current operations is managed by Port Trust with existing and contractual labour.</li> </ul>

#### Other Priority Sectors

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like port and maritime sector, sectors such as logistics, manufacturing, and construction will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature.

#### Logistics

Truckers are high in demand but the existing workforce that is engaged in trucking lacks life skills. Truckers who could be equipped with skills for handling hazardous substances will be greatly demanded by the manufacturing firms that are located in industrial areas in and around Thoothukudi and the nearby Tirunelveli and Kanniyakumari Districts.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Logistics	Findings
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<ul style="list-style-type: none"> <li>• Surveyors</li> <li>• Fork lift operators</li> <li>• Supervisors</li> <li>• Truck Driver</li> <li>• Helper</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing volumes of cargo is expected with port expansion and Enayam Project</li> <li>• Skills shortages for handling hazardous substances</li> <li>• Life skills training required for truckers</li> <li>• Increased use of ICT and automation in work processes will impact the manual jobs.</li> </ul>
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### *Construction*

Setting up of new age industries, power plants and urban sanitation and renewable energy projects would necessitate skill and knowledge up-gradation. There is a deficiency in availability of resources in these sectors.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Construction</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Supervisor-Finishes</li> <li>• Supervisor - Electrical Works</li> <li>• Supervisor - Roads &amp; Runways</li> <li>• Solar Panel Technician</li> <li>• Painter ( Machine operated)</li> <li>• Plumbers</li> <li>• Sanitation Technicians</li> </ul>	<ul style="list-style-type: none"> <li>• Presently, the work force is largely unskilled</li> <li>• Safety is a key area of requirement. Awareness about safety equipment requires adequate orientation.</li> <li>• Skills to adapt to new technologies in building construction.</li> <li>• Demand for new age installation and maintenance skills especially in renewable energy sector</li> </ul>

### *Manufacturing*

Thoothukudi is an industrial hub that caters to sectors such as Petroleum and Petrochemicals, Apparel, Food Processing, Safety Matchstick Making etc. These sub-sectors demand skilled workforce that could work in manufacturing processes. This sector will also require technological literacy among the workers.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Manufacturing</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Production Assistants</li> <li>• Welder</li> <li>• Fitter</li> <li>• Mechanic</li> <li>• Plumber</li> <li>• Electrician</li> <li>• Turner</li> <li>• Motor Binding</li> <li>• Tailoring</li> <li>• Marketing Professionals</li> </ul>	<ul style="list-style-type: none"> <li>• Demand is driven by large scale industries, and there is immense potential through the Madurai Tuticorin Industrial Corridor</li> <li>• Apparel industry is widespread as an MSME industry and is largely driven by women from their homes or small factories in the vicinity.</li> <li>• Food processing industry with a sizable women workforce is also a key driver.</li> <li>• Currently, chemicals, engineering works are witnessing saturation.</li> </ul>

### *Tourism & Trade*

Tourism sector is set to further develop on the back bone of the Swadeshi Darshan Scheme. Employment is to increase in formal and self-employment providing higher end services. The small scale manufacturers also need to handle the trade of their produce and require marketing skills.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Tourism</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Front Office Executive</li> <li>• Chef</li> <li>• Kitchen Steward</li> <li>• Housekeeping Supervisor</li> <li>• Tour guide</li> <li>• Facility Store Keeper</li> <li>• Billing Executive</li> </ul>	<ul style="list-style-type: none"> <li>• Limited availability of adequately skilled personnel at the skilled worker level results in a smaller pool of people from which to draw for higher positions</li> <li>• High migration rate of employees results in higher turnover in of workforce</li> <li>• Requirement for English Language skills</li> <li>• Entrepreneurship skills for</li> </ul>



<ul style="list-style-type: none"> <li>• Boatman</li> <li>• Lifeguards</li> <li>• Food and Beverage Executive</li> </ul>	<ul style="list-style-type: none"> <li>• Focus required on communication skills/public relations; reporting skills; administration skills and financial skills</li> </ul>
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### *Fisheries & Sea Food Processing*

The presence of the sensitive bio-diversity in the marine eco-system, are both an opportunity and challenge in the district. On the one hand, rich varieties with high demand, both nationally and internationally are available, the threat to endangered species and sustainability due to over fishing are also threats in the foreseeable future. Threats of crossing international boundaries and borders are a constant issue in the northern blocks of the district. Inland fishing and aquaculture hold sizable opportunities. Packaged sea products are also widely exported.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Fisheries</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Deep Sea Fisherman</li> <li>• Engine &amp; Boat Mechanics</li> <li>• Inland Fishing</li> <li>• Prawn &amp; Crab Farmer</li> <li>• Cold Storage Technician</li> <li>• Warehouse Manager</li> <li>• Mechanic</li> <li>• Glass/Tunnel/Trolley Freezer Operator</li> <li>• Grading supervisor</li> <li>• De-heading supervisor</li> <li>• Aquaculture Technician</li> <li>• Mariculture Technician</li> </ul>	<ul style="list-style-type: none"> <li>• Requirement of safety trainings, handling communication equipment while at sea.</li> <li>• Necessity for boat repairers, fish net mending.</li> <li>• Potential for employment for women in sea food processing.</li> <li>• Export potential for produce</li> <li>• Unused land parcels can be used for aquaculture with appropriate skill up-gradation.</li> </ul>

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## ***3. District Action Plan***

### ***3.1. Background***

An actionable roadmap is one of the deliverables to be submitted to MoS for implementing skill training programmes in each of the districts. To develop these District specific plans, the team has mapped the emerging skilling opportunities across the 13 districts. Further, similar training opportunities or training requirements from the same sector have been clubbed into one programme to ensure optimal use of resources and to build economies of scale for delivery partners. This has been proposed to improve the chances of developing and proposing feasible and viable training delivery models.

Further, the team has also estimated the broad capital and operational expenditure expected to be incurred in operationalizing the training initiatives in the districts. Apart from this, critical operational aspects such as training delivery mechanisms, availability of curriculum and employers have also been explored. The current status of these critical aspects will help ascertain the feasibility of initiating these trainings immediately and assess the gaps that need to be bridged before these trainings can be rolled out.

### ***3.2. Objective of developing the plan***

The District action plans have been developed with an overall objective of providing a step by step skill implementation plan to the Ministry of Shipping in the six coastal districts. The specific objectives include the following:

- Mapping various skilling opportunities available in the district, keeping in mind the requirements of Port led development and emergence of CEZs.
- Mapping the current status of various pre-requisites such as availability of qualifications, curriculum, funding for training, potential training delivery partners, availability of assessors and certification processes and institutions for the training programmes.
- Identifying the potential/target beneficiaries for the training courses.
- Mapping the infrastructure and the investment that may be required to deliver the training programmes in the district.
- Providing an estimate of the investment required to create/hire the skilling infrastructure.
- Providing a step by step action plan for MoS to implement the skilling initiatives.

### ***3.3. Methodology***

Stakeholder consultations<sup>20</sup> were held at national, state and district level and that included stakeholders from government, industries, associations, and private firms. A separate plan has been prepared for each of the 13 districts. The plan has been divided into several sections and includes sections on training delivery, potential partners, and investments. The investments component has been divided into two broad heads: capital expenditure and operational expenditure. Capital expenditure has only been proposed in cases in which there were very limited possibilities of using existing institutional framework for partnership and for using existing infrastructure and equipment. Operational expenditure includes the cost of running the training programmes including the salary of the instructors. The common cost norms inform the calculation of the operational expenditure. Capital expenditure has been worked out bearing in mind the infrastructure requirements of the programme and duration of training programmes. Wherever feasible, partnership with existing programmes such as DDU-GKY and PMKVY has been suggested in the plan.

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<sup>20</sup> Roughly 300 primary consultations inform the development of this plan  
Human Resource and Skill requirement study for 21 Coastal Districts of India- Tamil Nadu: Thiruvallur, Thoothukudi

### 3.4. Summary for Thiruvallur

SN	Project Name	Job Roles	Type of training	No. of people to be trained
1.	Skill Development Centre for Ports and Logistics	Truck and heavy vehicle operators, Crane operators, Truck Drivers-cum-Hazardous Materials Handler, Surveyors	Fresh and Upskilling	5,850 persons in next 5 years
2.	Fisheries and Sea Food Culture	Aquaculture & Mariculture Ornamental fish culture Sea Weed Culture	Fresh Training	1,200 persons in next 5 years
3.	Training for Food Technicians	Food Dehydration Technician, Quality assurance Manager/Lab Technician, Food microbiologist/ Food Processing Worker, Processed Food Entrepreneur	Fresh and Upskilling	1,500 persons in next 5 years
4.	Trainings in Manufacturing and Construction	Welders, Mechanics, Electrician, Fitters, Fabricators, Machinist, CNC aided manufacturing, Commercial vehicle drivers	Fresh Training	4,500 persons in next 5 years
5.	Skill Development in tourism and hospitality Sector	Taxi Drivers, Sommeliers/Wine Stewards, Bartenders, Tour Operators	Fresh Training and Upskilling	2,600 persons in next 5 years
6.	Mechanization Training to Agriculturalists – power tilling, micro irrigation	Micro Irrigation Technician, Harvesting Machine Operator	Upskilling	600 persons in next 5 years
7.	Sustainable Fishing and Safety Training	Sorters, fish handling, spotters (Pagi), Mechanics, fish handlers, Technician	Fresh Training	7,000 persons in next 5 years

### 3.5. Action Plan for Thiruvallur

<b>Project 1: Skill Development Center for Ports and Logistics</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Two Major ports in proximity – Kamarajar Port Limited (KPL) &amp; Chennai Port Trust</li> <li>• One minor port and a shipyard at Kattupalli</li> <li>• Existing industrial cluster (Ambattur and SIDCO Industrial Estate) catering to auto components, engineering products, textiles and rubber products</li> <li>• Upcoming CVIC, CBIC, Heavy Engineering Industrial Park</li> </ul>			
<b>Rationale for a Training Center</b>		<p>The ports and associated logistics service providers such as the CFS, transport operators, custom houses, survey agencies etc. are located in close proximity. Also, there is internal requirement within the manufacturing industries in and around the district. MoS can explore the opportunity for establishing a Center for Excellence in Ports and Maritime sector. The proximity of the many industrial clusters also drives the need for internal logistics services for individual units.</p> <p>The recent oil spill in the port necessitates an urgent look at handling and disposal of oil and other hazardous chemicals in a safe and secure manner. The coastal communities could be engaged further to protect themselves and the environment from such risks in the future.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Truck and heavy vehicle operators	<ul style="list-style-type: none"> <li>• Existing Truckers</li> <li>• Unemployed Youth</li> </ul>	Upskilling (120 Hours)	1000 persons in next 5 years
				Fresh Training (240 Hours)	800 persons in next 5 years
		Crane operators	<ul style="list-style-type: none"> <li>• Existing Truckers</li> <li>• Coastal communities</li> </ul>	Upskilling (120 Hours)	300 persons in next 5 years
				Fresh Training (360 Hours)	150 persons in next 5 years
		Handling hazardous cargo and Chemicals	<ul style="list-style-type: none"> <li>• Port workers</li> <li>• Local Communities</li> <li>• Truckers</li> <li>• Fishermen</li> </ul>	Upskilling (120 Hours)	2000 persons in next 5 years
				Fresh Training (240 Hours)	1000 persons in next 5 years
		Surveyors	<ul style="list-style-type: none"> <li>• Coastal communities</li> </ul>	Fresh Training (300 Hours)	600 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Truck and heavy vehicle operators	Truck Drivers	<ul style="list-style-type: none"> <li>• Reach Truck Operator</li> </ul>	Course available for: <ul style="list-style-type: none"> <li>• Driver HMV</li> <li>• Driver LMV</li> </ul>	No course available
	Crane operators	Crane operators	QP available for: <ul style="list-style-type: none"> <li>• Crawler crane operator</li> <li>• Hydra crane operator</li> <li>• Tyre mounted crane operator</li> <li>• Junior crane operator</li> <li>• Overhead crane operator</li> </ul>	Course available for: <ul style="list-style-type: none"> <li>• Truck Mounted/Crawler/Rough Terrain Crane Operator</li> </ul>	No course available

	Handling hazardous cargo	Truck Drivers-cum-Hazardous Materials Handler	<ul style="list-style-type: none"><li>• QP does not exist</li></ul>	No course available	No course available
	Surveyors	Surveyors	QP available for: <ul style="list-style-type: none"><li>• Warehouse Supervisor</li><li>• Warehouse Quality Checker</li><li>• Warehouse Claims Coordinator</li><li>• Consignment Booking Assistant</li><li>• Shipment Classification Agent</li><li>• Clearance Support Agent</li></ul>	No course available	No course available
Investment (INR In lakhs)		Truck and heavy vehicle operators			
		Operational Expenditure	126.2		
		Crane operators			
		Operational Expenditure	35.3		
		Handling hazardous cargo			
		Operational Expenditure	197.6		
		Surveyors			
		Operational Expenditure	66		
		Total Operational Expenditure	425.4		
		Capital Expenditure for training centre	270		
Potential Partners		Partner	Areas of Support		
		KPL	<ul style="list-style-type: none"><li>• Space and infrastructure for establishing the training center</li><li>• Access to port facilities for practical training</li><li>• Guest faculty</li><li>• Input for designing curriculum</li><li>• Provision of used equipment for training</li><li>• Facilitate implementation of RPL for existing work force</li><li>• Provide guest faculty and facilitate on the job training</li></ul>		
		Industry Associations (SIDCO /TIDCO and Ambattur Industrial Estate)	<ul style="list-style-type: none"><li>• Industry interface</li><li>• On the job training</li><li>• Facilitate implementation of RPL for existing workforce</li></ul>		
		Training Partner (KPL/TSP)	<ul style="list-style-type: none"><li>• Training delivery</li><li>• Co-management of the training facility</li></ul>		
		Logistic Sector Skill Council	<ul style="list-style-type: none"><li>• Development of QPs for the identified job roles</li><li>• Develop model training programmes for the identified Job Roles</li><li>• Identification and certification of Trainers</li></ul>		

		<ul style="list-style-type: none"> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<b>Option 1</b> <ul style="list-style-type: none"> <li>• KPL or MoS creates the training facility</li> <li>• Training facility to be managed and maintained by KPL or MoS</li> <li>• KPL to deliver the training and provide qualified trainers and mobilize trainees</li> </ul> <b>Option 2</b> <ul style="list-style-type: none"> <li>• Private training provider to rent/develop the training facility and deliver the training programme</li> </ul>	

### Work Plan

Port and Logistics	in Months								
	1	2	3	4	5	6	7	8	9
Partnership with SSC, Industry Partners and Knowledge partners									
Development of QPs									
Establishment of Training infrastructure and facility									
Furnishing of the training centre									
Purchase and installation of lab equipment									
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)									
Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

<b>Project 2: Fisheries and Sea Food Culture</b>				
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Huge tracts of land parcels that are available could be used for aquaculture and mariculture</li> <li>• Huge demand for shrimps, crabs , and ornamental fish</li> <li>• Processing and exports of shrimps</li> </ul>			
<b>Rationale</b>	<p>In Thiruvallur, people have land holdings that could be used for aquaculture and mariculture due to the high salinity of soil and water. Trainings imparted in aquaculture could help in providing the fishing community the opportunity for improved livelihoods. There is a huge demand for shrimps and crabs in food sub segment (with a cluster in Ponneri) and for ornamental fish in non-food segment (with a cluster in Kolathur); and high quality produce could be exported.</p> <p>Around 10,000 people are involved in fishing and allied activities. This provides a sizable population to conduct short term trainings for value addition.</p> <p>Tamil Nadu Fisheries University with the partnership of TNSDC is already conducting trainings. This could be expanded in scope and standardized as per national standards. Such trainings will help them to get loans from the banks to engage/ venture into self-employment prospects.</p>			
Trainings	Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
	Aquaculture & Mariculture	<ul style="list-style-type: none"> <li>• Existing workforce engaged in fishery</li> <li>• Agriculturalists</li> <li>• Coastal communities</li> </ul>	Fresh Training (200 -240 Hours)	1000 persons in next 5 years

		Ornamental fish culture	• Coastal communities		600 persons in next 5 years
		Sea Weed Culture	• Coastal communities		200 persons in next 5 years
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
	Aquaculture/ Mariculture Technicians  Brackish water aquaculture farmer	Fishermen community Unemployed youth Agriculturalists	QP available for: • Aquaculture technician • Aquaculture worker • Brackish water aquaculture farmer • Mariculture operator • Shrimp farmer • Crab fattening farmer	No course available	No course available
	Ornamental fish culture	Fishermen community Unemployed youth	QP available for: • Aquaculture technician • Aquaculture worker • Freshwater aquaculture farmer • Fish Retailer • Ornamental Fish Technician	No course available	No course available
	Sea Weed Culture	Fishermen community	QP available for: • Mariculture operator • Aquaculture technician	No course available	No course available
Investment (INR In lakhs)		Incubation and training centre			
		Aquaculture & Mariculture			
		Operational Expenditure		92	
		Ornamental fish culture			
		Operational Expenditure		57.5	
		Sea Weed Culture			
		Operational Expenditure		20.7	
		Total Operational Expenditure		170	
Potential Partners		Partner	Areas of Support		
		Tamil Nadu Fisheries University, Ponneri campus	• Provide infrastructure for training • Training delivery • Support in setting up/scaling up the training centre as per the required SSC norms • Provide faculty members • Integrate the proposed trainings in its training plan		
		Central Marine Fisheries Research Institute	• Input for designing the curriculum • Guest faculty		
		Industry Associations (Shrimp and ornamental fish clusters)	• Industry interface • Facilitate sourcing of shrimps to different export houses		
		Agriculture Sector Skill Council	• Develop model training programmes for the identified Job Roles • Identification and certification of Trainers		

		<ul style="list-style-type: none"> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
	Tamil Nadu Fisheries Development Board, TNSDC, NFDB	<ul style="list-style-type: none"> <li>• Supply funds for training, infrastructure development,</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• Thiruvallur Fishery Training Institute will provide the infrastructure and deliver the training programmes</li> <li>• Agriculture Sector Skill Council will certify the training programmes</li> <li>• Department of Fisheries and MoS through TNSDC could fund the training</li> </ul>	

### Work Plan

<b>Fisheries</b>	<b>in Months</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Upgradation of training centre				
Affiliation of Training centre with ASCI				
Purchase of consumables				
Appointment of additional staff members				
Mobilization of prospective trainees				
Enrolment of students				
Roll-out of training programme				

<b>Project 3: Training for Food Technicians</b>				
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Presence of a huge market in nearby cities and towns.</li> <li>• Decreasing returns from agriculture – need for diversification and value addition</li> </ul>			
<b>Rationale for Training</b>	<p>More than 10,000 acres of mango plantations are present in the district and there is also a huge market around Thiruvallur. There will be potential demand for food technicians in the next 2-3 years. Thiruvallur also has a great opportunity for sea food processing, being one of the most prominent producers of sea food in the state. The District Agricultural Marketing Society is already conducting such trainings for women farmers to augment their incomes. These could be standardized and certificates could be provided to the trainees on completion, enabling easy access to loans for self-employment.</p> <p>Trainings at the entrepreneurial level have to be made NOS-based.</p>			
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
	Food Dehydration Technician	<ul style="list-style-type: none"> <li>• Local youth</li> <li>• SHGs</li> </ul>	Fresh Training	1500 persons in next 5 years
	Quality assurance Manager/Lab Technician	<ul style="list-style-type: none"> <li>• Local youth</li> <li>• Agriculturalists</li> <li>• SHGs</li> </ul>	(200 Hours)	
	Food microbiologist/ Food Processing Worker	<ul style="list-style-type: none"> <li>• Local youth</li> <li>• Agriculturalists</li> <li>• SHGs</li> </ul>		
	Processed Food Entrepreneur	<ul style="list-style-type: none"> <li>• Local youth</li> <li>• Agriculturalists</li> <li>• SHGs</li> </ul>	Upskilling	



				(120 Hours)	
Availability of curriculum	Job Role	Target Group	QP/NOS	MES	CTS
	Food Dehydration	Graduates in the district, women entrepreneurs, SHGs	• Fruits and Vegetables Drying or Dehydration Technician	• Fruits & Vegetables Processing • Meat and Meat Products Processing	• Craftsman – Fruits and Vegetables • Agro Processing
	Quality assurance Manager/Lab Technician	Graduates in the district, women entrepreneurs, SHGs	• Quality Assurance Manger	Fruits & Vegetables Processing	No course available
	Food microbiologist/ Food Processing Worker	Graduates in the district, women entrepreneurs, SHGs	• Food microbiologist	Fruits & Vegetables Processing	No course available
	Processed Food Entrepreneur	Existing and Potential Food Processing Workers, SHGs	• Industrial Production Worker – Food Processing	No course available	No course available
Investment (INR In lakhs)		Incubation and training center			
		Operational Expenditure	136.8		
		Capital Expenditure	20		
Potential Partners		Partner	Areas of Support		
		Industries/ MSME	• Classification of Food processing Cluster in Thiruvallur		
		Industry Associations (Food Processing)	• Industry interface • Facilitate recruitment		
		Training Partner	• Training delivery • Co-management of the training facility		
		Food Processing Sector Skill Council	• Develop model training programmes for the identified Job Roles • Identification and certification of Trainers • Identification and certification of assessors • Assessment of trainees • Certification of Trainees		
		PMKVY, TNSDC	• Funding		
		Training Delivery		• The training center will be setup by a training provider in an existing and underutilized infrastructure in Thiruvallur. The TSP has to be empaneled with FICSI and provide trainings under DDU-GKY/ PMKVY/ Schemes under DET- Tamil Nadu	

### Work Plan

Food Technician	in Months			
	1-3	4	5	6
Cluster Development				
TSP Affiliation				
Center setup				
Appointment of additional staff members				

Food Technician	in Months			
	1-3	4	5	6
Mobilization of prospective trainees				
Enrolment of trainees				
Roll-out of training programme				

Project 4: Training in manufacturing and construction					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Manufacturing and industrial hubs</li> <li>• Manufacturing contributes 25% of GDP</li> <li>• Investments like Heavy Engineering Industrial Park and Plastics Park in the district</li> </ul>			
<b>Rationale</b>		<p>Industrial areas located in Thiruvallur district and associations such as Ambattur Industrial Estate Manufacturing Association (AIEMA) demand skilled workforce. AIEMA consists of more than 800 industrial units that engage in economic activities in a wide range of sectors including Auto Components, Electrical goods, Engineering products, Pharmaceuticals, Plastics, Glass, Rubber, and Chemicals. The training centre could provide training in jobs roles that are of high demand among the industries in and around the local geography; job roles such as CNC operator, electrician, plumber, welder, CAD and CAM are the most common vocations in which training could be provided.</p> <p>The TN Vision 2023 projects that are lined up in Thiruvallur such as the Heavy Engineering Industrial Park, Plastics Park and Industrial Parks for SMEs at Chengarai, Enambakkam and Kaverirajapuram will also require a workforce skilled in the above mentioned job roles.</p> <p>Construction sector is also rapidly growing in Thiruvallur due to its proximity to metropolitan areas and the demand for skills in this sector is also increasing with the Smart Cities project set to start in Chennai.</p> <p>The existing ITI infrastructure in Ambattur can be utilized to provide industry oriented advanced training to supply job-ready candidates.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Skilling of Entry Level Workforce in Manufacturing Sector	<ul style="list-style-type: none"> <li>• Existing workforce engaged in manufacturing sector</li> <li>• ITI Graduates from Ambattur ITI</li> </ul>	Fresh Training (480 Hours)	3,000 persons in next 5 years
		Skilling for Construction Workers of Infrastructural Facilities	<ul style="list-style-type: none"> <li>• Existing workforce engaged in construction sector</li> <li>• ITI Graduates from Ambattur ITI</li> </ul>	Fresh Training (360 Hours)	1500 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Welders, Mechanics, Electrician, Fitters, CNC aided manufacturing, Commercial vehicle drivers	<ul style="list-style-type: none"> <li>• Potential workforce willing to get engaged in manufacturing sector</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>• Fitters</li> <li>• Electricians</li> <li>• Welding &amp; Quality Technician</li> <li>• Service Mechanic,</li> <li>• Machining &amp; Quality Technician</li> <li>• Commercial vehicle driver</li> </ul>	Various Courses under  Automobile Sector, Fabrication, Electrical, Electronics and hardware,	Various Courses under  Automobile Sector, Fabrication, Electrical, Electronics and hardware

	Mason, carpenter, bar bender, supervisor, land surveyor, scaffolder	• Potential workforce willing to get engaged in construction sector	QP available for: • Mason • Carpenter • Bar bender • Supervisor • Land surveyor • Scaffolder	Course available for mason, carpenter, bar bender, supervisor, scaffolder	Course available for mason, carpenter, bar bender, supervisor, scaffolder
Investment (INR In lakhs)	Training centre for skilling in manufacturing and construction sector				
	Skilling of Entry Level Workforce in Manufacturing Sector				
	Operational Expenditure			685.8	
	Skilling for Construction Workers of Infrastructural Facilities				
	Operational Expenditure			350	
	Total Operational Expenditure			715.8	
	Total Capital Expenditure			300	
Potential Partners	Partner			Areas of Support	
	Govt. ITI, Ambattur			• Provide infrastructure for training • Training delivery	
	Industry Associations (AIEMA)			• Advanced Training in Campus • Industry interface for Apprenticeship Training • Facilitate On-Job-Training • Facilitate in identifying the firms that could recruit the trained graduates in Thiruvallur and nearby areas	
	RDAT			• Facilitate Apprentice ship training scheme for on the job training.	
	Industry Associations (TIDCO)			• Industry interface • Facilitate On-Job-Training • Facilitate in identifying the firms that could recruit the trained graduates in Thiruvallur	
	TNSDC / NSDC			• NSDC – Empanelment of AIEMA (process underway) • TNSDC – Funding of Training	
	Plumbing Sector Skill Council Automotive Sector Skill Council  Construction Skill Development Council of India			• Develop model training programmes for the identified Job Roles • Identification and certification of Trainers • Identification and certification of assessors • Assessment of trainees • Certification of Trainees	
	Training Delivery			The Training would be inclusive of a 3 month long on the job training, for select candidates from the ITIs in and around Thiruvallur district. AIEMA or other industry players could identify candidates, provide inputs on curriculum and also utilize existing internal training infrastructure at AIEMA for additional inputs. RDAT in partnership with TIDCO, AIEMA etc. should facilitate the implementation through the Apprenticeship Training Scheme.	

### Work Plan

Manufacturing and construction	in Months					
	1-2	3	4	5	6	7
AIEMA empanelment with NSDC & SSCs						
Readying of Infrastructure						
Curriculum Preparation						

Manufacturing and construction	in Months					
	1-2	3	4	5	6	7
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

Project 5: Skill Development in tourism and hospitality Sector – Chauffeurs and Sommeliers					
Key economic drivers		<ul style="list-style-type: none"><li>• Proximity to Chennai, attracting large number of foreign tourist and visits for commercial purposes.</li><li>• Increasing manufacturing in and around Thiruvallur &amp; Nellore attracting foreign investors</li><li>• Located in between religious tourist hubs</li></ul>			
Rationale		With Thiruvallur emerging as one of the major investment areas for foreign capital, the need for high quality business tourism hotels has grown. In this regard, it becomes very necessary to provide basic hygiene training to the drivers so as to improve customer satisfaction.  There is a need for sophisticated services like chauffeurs, bartenders and sommeliers with knowledge of more than just the local language.			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Training for Taxi Drivers	<ul style="list-style-type: none"><li>• Existing Taxi Driver</li><li>• Unemployed Youth</li></ul>	Upskilling (120 Hours)	1,000 persons in next 5 years
				Fresh Training (200 Hours)	1,000 persons in next 5 years
		Training for Sommeliers/Wine Stewards, Bartenders	<ul style="list-style-type: none"><li>• Graduates</li><li>• Unemployed Youth</li></ul>	Fresh Training (360 Hours)	300 persons in next 5 years
		Training for Tour Operators	<ul style="list-style-type: none"><li>• Tour Guide,</li><li>• Counter Sales Executives (Tickets)</li><li>• Travel Consultant</li></ul>	Upskilling (120 Hours)	300 persons in next 5 years
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
	Training for Taxi Drivers	<ul style="list-style-type: none"><li>• Truck Driver</li></ul>	QP available for: <ul style="list-style-type: none"><li>• Taxi Driver</li></ul>	<ul style="list-style-type: none"><li>• Driver HMV</li></ul>	Not Available
	Training for Sommeliers/Wine Stewards, Bartenders	<ul style="list-style-type: none"><li>• Graduates</li><li>• Unemployed Youth</li></ul>	QP available for: <ul style="list-style-type: none"><li>• Bartender</li></ul>	No course available	No course available
	Training for Tour Operators	<ul style="list-style-type: none"><li>• Graduates</li><li>• Unemployed Youth</li></ul>	QP available for: <ul style="list-style-type: none"><li>• Tour Guide</li></ul>	<ul style="list-style-type: none"><li>• Tour Agent and Travel Operator</li><li>• Tour Guide for International Tourist</li><li>• Tourism &amp; Travel Executive</li></ul>	<ul style="list-style-type: none"><li>• Travel and Tour Assistant</li></ul>
Investment (INR In lakhs)		Training for Taxi Drivers			

	Operational Expenditure	190
	<b>Training for Tour Operators</b>	
	Operational Expenditure	77.5
	<b>Training for Bartenders</b>	
	Operational Expenditure	36.4
	<b>Total Operational Expenditure</b>	304
<b>Potential Partners</b>	<b>Partner</b>	<b>Areas of Support</b>
	Driving Schools and Private Taxi Agencies, IITTM	<ul style="list-style-type: none"> <li>• Input for designing curriculum</li> <li>• Guest faculty</li> </ul>
	Tourism SSC, Tamil Nadu Tourism Development Corporation	<ul style="list-style-type: none"> <li>• Develop model training programs</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
	Training Partner	<ul style="list-style-type: none"> <li>• Provide the infrastructure and lab for training</li> <li>• Training delivery</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• IITTM, NSDC Training Centers to deliver training for Tour Operators</li> <li>• Driving Schools, NSDC Training Centers to deliver training for Taxi Operator</li> <li>• NSDC Training Centers to deliver training for Bartending</li> <li>• The empaneled TSP could be from PMKVY</li> </ul>	

### Work Plan

Smart City	in Months					
	1	2	3	4	5	6
Partnership between Tamil Nadu Tourism Development Corporation, Tourism SSC, IITTM for development and finalization of the curriculum						
Partnership between Driving schools and Tourism SSC for development and finalization of the curriculum						
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

Project 6: Mechanization Training to Agriculturalists – power tilling, micro irrigation				
<b>Key factors</b>	<ul style="list-style-type: none"> <li>• Decreasing returns from agriculture – need for mechanization</li> <li>• Rapid industrialization has decreased the availability of agricultural labourers</li> </ul>			
<b>Rationale for Training</b>	Having suffered the worst effects of the cyclone, Thiruvallur is gearing to face one of the worst droughts ever. In light of the rapid industrialization and the non-availability of laborers in the district, farmers need to adopt methods of mechanized agriculture such as drip irrigation, machine planting and power tilling to conserve water and targeted irrigation of the crop to increase productivity and provide self-employment for youth.			
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>

		Training in adopting mechanized agriculture	• Agriculturalists	RPL / Up Skilling (120 Hours)	600 persons in next 5 years
Availability of curriculum	Job Role	Target Groups	QP/NOS	MES	CTS
	Training in adopting mechanized agriculture	Farmers, Secondary Education completed youth in the district	• Micro Irrigation Technician • Harvesting Machine Operator	No course available	No course available
Investment (INR In lakhs)		Incubation and training center			
		Capital Expenditure		5	
		Operational Expenditure		36.4	
Potential Partners		Partner	Areas of Support		
		Agriculture Dept./ Pradhan Mantri Krishi Sichalan Yojana	• Design of Scheme • Awareness Generation on Micro Irrigation among farmers • Funding of Training through RSETI		
		Tamil Nadu Agricultural University	• Knowledge partnership and identification of conducive stretches • Promotion of micro irrigation among farmers		
		TSP	• Mobilization and Training of beneficiaries		
		ASCI (SSC)	• Develop model training programs for the identified Job Roles • Identification and certification of Trainers • Identification and certification of assessors • Assessment of trainees • Certification of Trainees		
Training Delivery		• The training center will be setup by a training provider in an existing and underutilized infrastructure in the District with access to agricultural land preferably an RSETI Extension Training Centre • SSC to design curriculum • SSC Empaneled TSP to be Selected by Agriculture Dept. / Rural Development Dept.			

### Work Plan

Micro Irrigation	in Months				
	1	2	3	4	5
Partnership with SSC, Industry Partners and Knowledge partners					
TSP Affiliation					
Center setup					
Appointment of additional staff members					
Mobilization of prospective trainees					
Enrolment of trainees					
Roll-out of training programme					

### Project 7: Sustainable Fishing and Safety Training

<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Purse fishing activities produce large amounts of by-catch (unintentionally caught fish).</li> <li>• Destruction of corals due to unsustainable fishing practices.</li> </ul>			
<b>Rationale</b>		<p>The intention to catch large quantities of fish often results in following of unsustainable and destructive methods of fishing. Fishermen need to be trained to move from a capture-based approach to a culture-based one, thereby resulting in an increase in fish population as well.</p> <p>The amount that a crew can catch, depends on their skillset. The spotter is the person who spots the fishes in the sea without any scientific training. Training can be given on spotting fish, safety mechanisms to be followed, including basic navigation, reading the VPS (Vehicle Positioning systems) and basic health and hygiene training on handling the fish post-harvest.</p> <p>In addition to this, fisherman are also unable to fetch good price for their produce. Most of the good quality fishes caught by fisherman are bought by suppliers (agents of exporters) at cheap rates and the fisherman incurs a loss due to lack of expertise on exporting the fish and not having direct contacts with exporters in order to bypass the intermediaries. The members of the cooperative should be given the training regarding the rules and regulations in exporting, the quality requirements, availing facilities (like cold storage) to ensure quality of fish. This will increase the returns to the fisherman and will provide a more sustainable means of income.</p>			
<b>Trainings in high demand</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Sustainability Training	• Fisherman and crew members	Upskilling (120 Hours)	3,000 persons in next 5 years
		Safety Training	• Local fishing community • Fish cooperative Members	Up Skilling (120 Hours)	3,000 persons in next 5 years
		Export based training for fisherman cooperative	• Members of Fisherman cooperatives	Fresh Training (200 Hours)	1,000 persons in next 5 year
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target Group</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<ul style="list-style-type: none"> <li>• Sorters, fish handling, spotters (Pagi), Mechanics, fish handlers</li> <li>• Technician</li> </ul>	<ul style="list-style-type: none"> <li>• Sorters, fish handling, spotters (Pagi), Mechanics, fish handlers</li> <li>• Local fishing community</li> <li>• SHG members</li> <li>• Fish cooperative Members</li> </ul>	Fishing Boat Mechanic, Marine Capture Fisherman    Not Available	Not Available    Not Available	Not Available    Not Available
<b>Investment (INR In lakhs)</b>		<b>Sustainable Fishing</b>			
		Operational Expenditure			159
		<b>Safety Training</b>			
		Operational Expenditure			159
		<b>Export based training for fisherman cooperative</b>			
		Operational Expenditure			78
		<b>Total Operational Expenditure</b>			<b>397</b>
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		Tamil Nadu Fisheries University (TNFU) and Fisherman Cooperatives	<ul style="list-style-type: none"> <li>• Providing Trainers</li> <li>• Providing technical expertise to ASCI, FICSI SSC</li> </ul>		



		<ul style="list-style-type: none"> <li>• Space and infrastructure for establishing training</li> <li>• Practical training</li> <li>• Input for designing curriculum</li> </ul>
	ASCI ,FICSI	<ul style="list-style-type: none"> <li>• Develop model training programs</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	• TNFU to provide training infrastructure and deliver training	

### Work Plan

<b>Fisheries</b>	<b>in Months</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Development and finalization of the curriculum by TNFU				
Purchase of consumables				
Appointment of additional staff members				
Mobilization of prospective trainees				
Enrolment of students				
Roll-out of training programme				

## 3.6. Additional Training Courses

During the interaction with the State Skill Development mission, some additional training courses were also suggested with an objective to cater the requirement in the Chennai Metropolitan Area.

The training courses have been offered traditionally by various TSPs under different schemes and programmes and have been listed in the table below.

<b>S. No</b>	<b>Sector</b>	<b>Trade - QPs</b>	<b>Qualification</b>
1.	IT-ITES	Application Development, IT Support Services, Testing and QA	Graduate
2.	Healthcare	Home Health Aid, General Duty Assistant, Frontline Health Worker, Emergency Medical Technician	Matriculate



### 3.7. Summary for Thoothukudi

SN	Project Name	Job Roles	Type of training	No. of people to be trained
1	Skill Development Centre for Ports and Logistics	Truck and heavy vehicle operators, Crane operators, Truck Drivers-cum-Hazardous Materials Handler, Surveyors.	Fresh / Up-Skilling	3,100 persons in next 5 years
2	Training for Food Technicians & Sea Food Processing	Food Dehydration Technician, Quality assurance Manager/Lab Technician, Food microbiologist/Food Processing Worker, Fish Value Added Products, Processed Food Entrepreneur.	Fresh / Up-Skilling	1,750 persons in next 5 years
3	Sustainable Marine Fishing and Safety Training	Sustainability , Modern Fishing & Safety Training, Boat & Ship Repair, Export based training for fisherman cooperative	Fresh / Up-Skilling	1,700 persons in next 5 years
4	Training for Travel and Tourism	Tour Guides, Life Guard, Boat Jetty In-charge, Counter Sales Executives, Adventure sports, Tour Guide/Manager, Travel Consultant, Counter Sales Executive, Tour Vehicle Drivers	Fresh	1,000 persons in next 5 years
5	Training in Marketing and Export Training for Tiny and Small Scale Businesses	Digital Marketing, Entrepreneurship training, Export Training	Fresh	900 persons in next 5 years
6	Training in Apparel Sector	Sewing machine operator, Embroiderer ,Fabric washing, cutting and packing	Fresh	2,400 persons in next 5 years

### 3.8. Action Plan for Thoothukudi

<b>Project 1: Skill Development Center for Ports and Logistics</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• One major port – V.O. Chidambaranar Port Trust (VOCPT)</li> <li>• Existing industrial clusters (SIPCOT Industrial Complex and clusters in Kovilpatti) catering to chemicals, cement, textiles and processed food.</li> </ul>
<b>Rationale for a Training Center</b>	<p>The ports and associated logistics service providers such as the CFS, transport operators, custom houses, survey agencies etc. are located in close proximity. MoS can explore the opportunity for establishing a Center for Excellence in Ports and Maritime sector. The proximity of many industrial clusters also drives the need for internal logistics services for individual units.</p> <p>Skilled Heavy vehicle drivers are in huge demand for shipping and logistics agencies. Truckers are in short supply to move the containers and goods to and from the port site. Over 80-90% of truckers are unskilled in handling large vehicles and are chosen only based on experience. Thus, trucker's training for</p>

		logistics sector can be taken up to supply professionally trained drivers. Further, an RPL can be planned for the existing Trucking workforce. Some of the competencies that need be developed include: a) Understanding the paper-work carried out at CFS/Ports; b) Safety and security; c) Understanding different types of containers and cargo transported from/to ports; d) Cargo safety measures associated with hazardous cargos; e) Safe driving.			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Truck and heavy vehicle operators	<ul style="list-style-type: none"> <li>Existing Truckers</li> <li>Coastal communities</li> </ul>	Upskilling (120 Hours)	1,000 persons in next 5 years
		Crane / Fork Lift Operators	<ul style="list-style-type: none"> <li>Existing Truckers</li> <li>Coastal communities</li> </ul>	Fresh Training (300 Hours)	300 persons in next 5 years
		Handling hazardous cargo and materials	<ul style="list-style-type: none"> <li>Existing crane operators</li> <li>Coastal communities</li> </ul>	Up-Skilling (120 Hours)	1,500 persons in next 5 years
		Surveyors	<ul style="list-style-type: none"> <li>Coastal communities</li> </ul>	Fresh Training (120 Hours)	300 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Truck and heavy vehicle operators	Truck Drivers	<ul style="list-style-type: none"> <li>Reach Truck Operator</li> </ul>	Course available for: <ul style="list-style-type: none"> <li>Driver HMV</li> <li>Driver LMV</li> </ul>	No course available
	Crane operators	Crane operators	QP available for: <ul style="list-style-type: none"> <li>Crawler crane operator</li> <li>Hydra crane operator</li> <li>Tyre mounted crane operator</li> <li>Junior crane operator</li> <li>Overhead crane operator</li> </ul>	Course available for: <ul style="list-style-type: none"> <li>Truck Mounted/Crawler/Rough Terrain Crane Operator</li> </ul>	No course available
	Handling hazardous cargo	Truck Drivers-cum-Hazardous Materials Handler	<ul style="list-style-type: none"> <li>QP does not exist</li> </ul>	No course available	No course available
	Surveyors	Surveyors	QP available for: <ul style="list-style-type: none"> <li>Warehouse Supervisor</li> <li>Warehouse Quality Checker</li> <li>Warehouse Claims Coordinator</li> <li>Consignment Booking Assistant</li> <li>Shipment Classification Agent</li> <li>Clearance Support Agent</li> </ul>	No course available	No course available
<b>Investment (INR In lakhs)</b>		<b>Truck and heavy vehicle operators</b>			
		Operational Expenditure			53

	<b>Crane operators</b>	
	Operational Expenditure	38.8
	<b>Handling hazardous cargo</b>	
	Operational Expenditure	79.7
	<b>Surveyors</b>	
	Operational Expenditure	38.8
	<b>Total Operational Expenditure</b>	<b>210</b>
<b>Potential Partners</b>	<b>Capital Expenditure for training centre<sup>21</sup></b>	<b>100</b>
	<b>Partner</b>	<b>Areas of Support</b>
	VOCPT	<ul style="list-style-type: none"> <li>• Space and infrastructure for establishing the training center</li> <li>• Access to port facilities for practical training</li> <li>• Guest faculty</li> <li>• Input for designing curriculum</li> <li>• Provision of used equipment for training</li> <li>• Facilitate implementation of RPL for existing work force</li> <li>• Provide guest faculty and facilitate on the job training</li> </ul>
	Industry Associations (SIPCOT and Thoothukudi District Tiny and Small Scale Industries Association)	<ul style="list-style-type: none"> <li>• Industry interface</li> <li>• On the job training</li> <li>• Facilitate implementation of RPL for existing workforce</li> </ul>
	Training Partner (VOCPT/TSP)	<ul style="list-style-type: none"> <li>• Training delivery</li> <li>• Co-management of the training facility</li> </ul>
	Logistic Sector Skill Council	<ul style="list-style-type: none"> <li>• Development of QPs for the identified job roles</li> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<b>Option 1</b> <ul style="list-style-type: none"> <li>• VOCPT or MoS creates the training facility</li> <li>• Training facility to be managed and maintained by VOCPT or MoS</li> <li>• VOCPT to deliver the training and provide qualified trainers and mobilize trainees</li> </ul> <b>Option 2</b> <ul style="list-style-type: none"> <li>• Private training provider to rent/develop the training facility and deliver the training programme</li> </ul>	

## Work Plan

Port and Logistics	in Months								
	1	2	3	4	5	6	7	8	9
Partnership with SSC, Industry Partners and Knowledge partners									
Development of QPs									

<sup>21</sup> The cost of procuring three crane stimulators and ten truck stimulators.  
Human Resource and Skill requirement study for 21 Coastal Districts of India- Tamil Nadu: Thiruvallur, Thoothukudi

Establishment of Training infrastructure and facility									
Furnishing of the training centre									
Purchase and installation of lab equipment									
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)									
Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

<b>Project 2: Training for Food Technicians</b>				
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Presence of a huge market in nearby cities and towns.</li> <li>• Decreasing returns from agriculture – need for diversification and value addition</li> </ul>			
<b>Rationale for Training</b>	<p>Thoothukudi has great opportunity for sea food processing, being one of the most prominent producers of sea food in the state. The huge number of sea food processing industries in the district also result in demand for skilled workforce in the area.</p> <p>Women fisher folk handle most of the sale of fish, so any loss of fish during handling causes a substantial financial and social cost. These losses could be minimized by providing training on fish food processing to these women. These could be standardized and certificates could be provided to the trainees on completion, enabling easy access to loans for self-employment.</p> <p>Around 27,000 people are involved in fishing and allied activities, which is one of the highest in the state. Despite this, only 500 from the community are engaged in curing and processing of fish. This provides a sizable population to conduct short term trainings for value addition.</p>			
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
	Food Dehydration Technician	<ul style="list-style-type: none"> <li>• Local youth</li> <li>• SHGs</li> </ul>	Fresh Training (180-200 Hours)	200 persons in next 5 years
	Quality assurance Manager/Lab Technician	<ul style="list-style-type: none"> <li>• Local youth</li> <li>• SHGs</li> </ul>	Fresh Training (180-200 Hours)	200 persons in next 5 years
	Food microbiologist/ Food Processing Worker	<ul style="list-style-type: none"> <li>• College Graduates</li> <li>• SHGs</li> </ul>	Fresh Training (180-200 Hours)	200 persons in next 5 years
	Fish Value Added Products	<ul style="list-style-type: none"> <li>• Fisherwomen</li> <li>• Local Community Members</li> </ul>	Fresh Training (180-200 Hours)	750 persons in next 5 years
	Processed Food Entrepreneur	<ul style="list-style-type: none"> <li>• Local youth</li> <li>• SHGs</li> <li>• Local Community Members</li> </ul>	Fresh Training	200 persons in next 5 years
			Upskilling (120 Hours)	200 persons in next 5 years

Availability of curriculum	Job Role	Target Group	QP/NOS	MES	CTS
	Food Dehydration	Graduates in the district, women entrepreneurs, SHGs	• Fruits and Vegetables Drying or Dehydration Technician	• Fruits & Vegetables Processing • Meat and Meat Products Processing	• Craftsman – Fruits and Vegetables • Agro Processing
	Quality assurance Manager/Lab Technician	Graduates in the district, women entrepreneurs, SHGs	• Quality Assurance Manger	• Fruits & Vegetables Processing	No course available
	Food microbiologist/ Food Processing Worker	Graduates in the district, women entrepreneurs, SHGs	• Food microbiologist	• Fruits & Vegetables Processing	No course available
	Fish Value Added Products	Fisherwomen, Local Community Members	• Fish and Sea Food Processing Technician	• Processing of Fishes and their By-products	Not Available
	Processed Food Entrepreneur	Existing and Potential Food Processing Workers, SHGs	• Industrial Production Worker – Food Processing	No course available	No course available
Investment (INR In lakhs)		Incubation and training center			
		Operational Expenditure	200		
		Capital Expenditure	5-10		
Potential Partners		Partner	Areas of Support		
		Fisheries College and Research Institute (FC&RI)	• Providing Trainers • Providing technical expertise to ASCI, FICSI SSC • Space and infrastructure for establishing training • Practical training • Input for designing curriculum • Training delivery • Co-management of the training facility		
		Banks & Sea Food Companies in and Around Industrial Estate	• Credit Facilitation - Banks • Recruitment – Units in Food Port SEZ, SIPCOT Industrial Estate		
		Food Processing Sector Skill Council	• Develop model training programmes for the identified Job Roles • Identification and certification of Trainers • Identification and certification of assessors • Assessment of trainees • Certification of Trainees		
		TNSDC, Tamil Nadu Fisheries Development Board	• Funding		
Training Delivery		• The Fisheries College and Research Institute has existing infrastructure and conducts extension training in the sector. Funding of operational expenses for trainees and trainers would be the primary expenditure. Also, large amount of training would need to be practical and extended over a period of time to ensure the livelihood of fisher folk is not affected.			

## Work Plan

Food Technician	in Months			
	1-3	4	5	6
Cluster Development				
Center setup				
Appointment of additional staff members				
Mobilization of prospective trainees				
Enrolment of trainees				
Roll-out of training programme				

Project 3: Sustainable Marine Fishing and Safety Training				
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>Prominence of marine fishing (one of the largest in the state)</li> <li>Purse fishing activities produce large amounts of by-catch (unintentionally caught fish)</li> <li>Destruction of corals due to unsustainable fishing practices in the Bio-Reserve</li> </ul> <p>Around 27,000 people are involved in fishing and allied activities<sup>22</sup>, which is the 4<sup>th</sup> highest in the state. This provides a sizable population to conduct short term trainings for value addition.</p>			
<b>Rationale</b>	<p>The intention to catch large quantities of fish, often results in following of unsustainable and destructive methods of fishing. Fishermen need to be trained to move from a capture-based approach to a culture-based one, thereby resulting in an increase in fish population as well.</p> <p>The amount that a crew can catch, depends on their skillset and the condition of their boats. The spotter is the person who spots the fishes in the sea without any scientific training. Training can be given on spotting fish, safety mechanisms to be followed including basic navigation, reading the VPS (Vehicle Positioning systems) and basic health and hygiene training on handling the fish post-harvest. In addition, boat repair, both on-shore and off shore repair can support the requirements of more than 3000 boats in the district. Threats of crossing international boundaries and borders are a constant issue in the northern blocks of the district. Training can include these aspect as well.</p> <p>In addition to this, fisherman are also unable to fetch good price for their produce. Most of the good quality fishes caught by fisherman are bought by suppliers (agents of exporters) at cheap rates and the fisherman incurs a loss due to lack of expertise on exporting the fish and not having direct contact with exporters in order to bypass the intermediaries. The members of the cooperative should be given training, regarding the rules and regulations in exporting, the quality requirements, availing facilities (like cold storage) to ensure quality of fish. This will increase the returns to the fisherman and will provide a more sustainable means of income.</p>			
<b>Trainings in high demand</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>

<sup>22</sup> Fisheries census , 2010

		Sustainability , Modern Fishing & Safety Training	• Fisherman and crew members	Upskilling (120 Hours)	1000 persons in next 5 years
		Boat & Ship Repair	• Local fishing community • Fish cooperative Members	Upskilling (120 Hours)	500 persons in next 5 years
		Export based training for fisherman cooperative	• Members of Fisherman cooperatives	Upskilling (120 Hours)	200 persons in next 5 years
Availability of curriculum	Job Roles	Target Group	QP/NOS	MES	CTS
	• Sorters, fish handling, spotters (Pagi), Mechanics, fish handlers	• Sorters, fish handling, spotters (Pagi), Mechanics, fish handlers	Fishing Boat Mechanic, Marine Capture Fisherman	Not Available	Not Available
	• Technician	• Local fishing community • SHG members • Fish cooperative Members	Not Available	Not Available	Not Available
Investment (INR In lakhs)		Sustainability Training			
		Operational Expenditure			59.4
		Boat Repair Training			
		Operational Expenditure			29.7
		Export based training for fisherman cooperative			
		Operational Expenditure			11.89
		Total Operational Expenditure			101.9
		Capital Expenditure			10
Potential Partners		Partner		Areas of Support	
		Fisheries College and Research Institute (FC&RI)		• Providing Trainers • Space and infrastructure for establishing training • Practical training • Input for designing curriculum	
		Agriculture Sector Skill Council		• Develop model training programs • Identification and certification of Trainers • Identification and certification of assessors • Assessment of trainees • Certification of Trainees	
Training Delivery		The Fisheries College and Research Institute has existing infrastructure and conducts extension training in the sector. Funding of operational expenses for trainees and trainers would be the primary expenditure. Also, large amount of training would need to be practical and extended over a period of time to ensure the livelihood of fisher folk is not affected.			

## Work Plan

Fisheries	in Months			
	1	2	3	4

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<b>Fisheries</b>	<b>in Months</b>			
Development and finalization of the curriculum by TNFU				
Purchase of consumables				
Appointment of additional staff members				
Mobilization of prospective trainees				
Enrolment of students				
Roll-out of training programme				

Project 4: Training for Travel and Tourism					
Key economic drivers		• Huge potential for investments in Heritage Tourism, Religious Circuits, Eco Tourism, Beach and Water based tourism, Marine water sports etc.			
Rationale		Thoothukudi has plans on the anvil for the development of tourism circuit through the Swadeshi Darshan Scheme. Apart from upgrading facilities to the ever increasing tourist inflows at the Thiruchendur Murugan temple, Manapad, dotted with beaches and steeples, the district is planned to be developed as “Little Goa” while temple circuits are planned in Nava Tirupati and Nava Kailayam around Sri Vaikuntam. Plans for developing a Marina in the Thoothukudi harbour are also in process. Skilled cab drivers, tourist guides and life guards would be in demand when these plans are executed.			
Trainings in high demand		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Training for Marine Tourism and Hospitality trades	• Fisherman population, coastal community members	Fresh Training (240 Hours)	500 persons in next 5 years
		Training for Travel and Tourism	• Graduates	Fresh Training (240 Hours)	500 persons in next 5 years
Availability of curriculum	Job Role	Target groups	QP/NOS	MES	CTS
	• Tour Guides • Life Guard • Boat Jetty In-charge • Counter Sales Executives • Adventure sports	• Coastal community members	QP available for: • Tour Guide • Boat Jetty In-charge • Counter Sales Executives	MES available for: • Tour Assistant • Ticket Reservation Assistant	Course available for: • Travel Tour Assistant • Tour Guide
	• Tour Guide/Manager • Travel Consultant • Counter Sales Executive • Tour Vehicle Drivers	• Coastal community members	QP available for: • Tour Guide • Travel Consultant • Counter Sales Executive • Tour Vehicle Driver	MES available for: • Tour Assistant • Ticket Reservation Assistant • Tour Agent/Travel Operator	Course available for: • Travel Tour Assistant • Tour Guide
Investment (INR In lakhs)		Training for Marine Tourism and Hospitality			
		Operational Expenditure		64.6	
		Training for Travel and Tourism			
		Operational Expenditure		64.6	
		Total operational Expenditure		129.3	
		Capital Expenditure		25	
Potential Partners		Partner		Areas of Support	



	TSP	<ul style="list-style-type: none"> <li>• Space and infrastructure for establishing training</li> <li>• Training delivery/training facility</li> </ul>
	Hotel Management Institutes (HMIs)	<ul style="list-style-type: none"> <li>• Input for designing curriculum</li> <li>• Guest faculty</li> </ul>
	Industry Association (Hotel)	<ul style="list-style-type: none"> <li>• Facilitate On-Job-Training</li> <li>• Facilitate placements</li> </ul>
	Travel and Hospitality Sector Skill Council (THSSC)	<ul style="list-style-type: none"> <li>• Development of QPs for the identified job roles</li> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• Engage a new TSP affiliated with DDU-GKY and PMKVY to deliver the training as neither scheme has presence in the sector in the District.</li> <li>• The training centre will be setup by a training provider who will be engaged</li> </ul>	

### Work Plan

Travel and Hospitality Trades	in Months					
	1	2	3	4	5	6
TSP enplanement						
Training centre setup						
Appointment of trainers						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of centre and training programme						

<b>Project 5: Training in Marketing and Export Training for Tiny and Small Scale Businesses</b>				
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Existence of several manufacturing clusters of tiny and small scale industries</li> </ul>			
<b>Rationale</b>	<p>With decreasing returns in small scale and tiny industries, there is a need to adopt new methods of marketing by these business units. Thoothukudi has several clusters in small scale niche products like coco peat, senna leaves, safety matches (in Kovilpatti) and readymade garments. Digital/online marketing and export training can be given for these units as they also have a huge market abroad. The safety match cluster in Kalugumalai and Kovilpatti has more than 600 units and gain over 55 lakhs from exports. Further, inputs on entrepreneurship can be provided to the community members interested in establishing small enterprises. This will include inputs on business planning, market linkages and bank linkages.</p>			
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
	Digital Marketing, Entrepreneurship training	<ul style="list-style-type: none"> <li>• Existing clusters</li> <li>• Unemployed youth</li> </ul>	Fresh Training (200 Hours)	400 persons in next 5 years

		Export Training	<ul style="list-style-type: none"><li>Existing clusters</li><li>Unemployed youth</li></ul>	Fresh Training (200 Hours)	500 persons in next 5 years
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
	Entrepreneurs, Digital Marketing	Existing clusters, unemployed youth	QP available for: <ul style="list-style-type: none"><li>Social Media &amp; Digital Marketing Manager</li></ul>	No course available	No course available
	Exporter	Existing clusters, unemployed youth	QP available for: <ul style="list-style-type: none"><li>Export Assistant</li></ul>	No course available	No course available
Investment (INR In lakhs)		Incubation and training centre			
		Digital Marketing, Entrepreneurship training			
		Operational Expenditure		36	
		Export Training			
		Operational Expenditure		46	
		Total Operational Expenditure		82	
		Capital Expenditure <sup>23</sup>		34.5	
Potential Partners		Partner		Areas of Support	
		Thoothukudi District Tiny and Small Scale Industries Association, CII, Thoothukudi		<ul style="list-style-type: none"><li>Space and infrastructure for establishing the training center</li><li>Training delivery</li><li>Provision of used equipment for training</li><li>Marketing support</li></ul>	
		MSME, Entrepreneurship Development Institute		<ul style="list-style-type: none"><li>Guest faculty</li><li>Developing the training curriculum</li></ul>	
		DDUGKY, TNSDC		<ul style="list-style-type: none"><li>Funding</li></ul>	
Training Delivery		<ul style="list-style-type: none"><li>Thoothukudi District Tiny and Small Scale Industries Association, CII, Thoothukudi will provide the infrastructure and deliver the training programmes</li></ul>			

## Work Plan

Entrepreneurship, Marketing and Export	in Months			
	1	2	3	4
Development and finalization of the curriculum by MSME				
Purchase of consumables				
Appointment of guest faculty				
Mobilization of prospective trainees				
Enrolment of students				
Roll-out of training programme				

<b>Project 7: Training in the Apparel Sector</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>Textiles is a key manufacturing segment in the district</li> <li>Presence of the readymade garments cluster in Puthiamputhoor</li> </ul>
<b>Rationale</b>	The Puthiamputhoor Readymade Garment Consortium Pvt. Ltd. is a cluster of over 350 units with a total turnover of INR 100 crore. There is a constant demand for jobs like sewing machine operator, embroiderer, packer, washer

<sup>23</sup> Includes the cost of building the incubation centre  
Human Resource and Skill requirement study for 21 Coastal Districts of India- Tamil Nadu: Thiruvallur, Thoothukudi

		and cutting supervisor. The textile industry in Thoothukudi is also a major one with several textile mills in the region. The training can also be given as means of self-employment for men and women in the district.			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Sewing machine operator	<ul style="list-style-type: none"> <li>Local community</li> <li>Unemployed women</li> </ul>	Fresh Training (240 Hours)	800 persons in next 5 years
		Embroiderer	<ul style="list-style-type: none"> <li>Local community</li> <li>Unemployed women</li> </ul>	Fresh Training (240 Hours)	800 persons in next 5 years
		Fabric washing, cutting and packing	<ul style="list-style-type: none"> <li>Local community</li> <li>Unemployed youth</li> </ul>	Fresh Training (240 Hours)	800 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Sewing machine operator	<ul style="list-style-type: none"> <li>Local community</li> <li>Unemployed youth</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>Self Employed Tailor</li> <li>Sewing machine operator</li> <li>Sampling Tailor</li> </ul>	Industrial Sewing Mechanic Technician	Sewing technology
	Embroiderer	<ul style="list-style-type: none"> <li>Local community</li> <li>Unemployed youth</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>Embroidery Machine Operator</li> <li>Hand Embroiderer</li> <li>Hand Embroiderer (Addawala)</li> </ul>	Traditional embroidery	Surface Ornamentation Techniques (Embroidery)
	Fabric washing, cutting and packing	<ul style="list-style-type: none"> <li>Local community</li> <li>Unemployed youth</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>Packer</li> <li>Garment Cutter</li> <li>Fabric Cutter</li> <li>Washing Machine Operator</li> </ul>	No course available	No course available
<b>Investment (INR In lakhs)</b>		<b>Incubation and training centre</b>			
		<b>Sewing machine operator</b>			
		Operational Expenditure			73.05
		<b>Embroiderer</b>			
		Operational Expenditure			73.05
		<b>Fabric washing, cutting and packing</b>			73.05
		<b>Total Expenditure</b>			<b>219.15</b>
		Capital Expenditure			30
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		Thoothukudi District Tiny and Small Scale Industries Association, CII, Thoothukudi	<ul style="list-style-type: none"> <li>Space and infrastructure for establishing the training center</li> <li>Provision of used equipment for training</li> <li>Marketing support</li> </ul>		
		MSME, Apparel Sector Skill Council	<ul style="list-style-type: none"> <li>Guest faculty</li> <li>Training curriculum</li> </ul>		
		Training Partner	<ul style="list-style-type: none"> <li>Training delivery</li> <li>Co-management of the training facility</li> </ul>		
		DDUGKY, PMKVY, TNSDC	<ul style="list-style-type: none"> <li>Funding</li> </ul>		

<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>Engage a TSP that is affiliated with DDU-GKY and PMKVY to deliver the training at Industry Association Infrastructure</li> </ul>
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### **Work Plan**

<b>Apparel Sector Training</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
TSP empanelment						
SSC affiliation						
Training centre setup						
mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

## 4. List of Stakeholder Consultations

### 4.1. State level consultations- Tamil Nadu

S N	Stakeholder	Person	E-mail	Cell/Phone
1	Directorate of Economics and Statistics	Joint Director, State Income, ASI	desiu@gmail.com	24321189
2	Pudhuvazhvu – Tamil Nadu Mahalir	Joint Director, PVP		
3	Directorate of Employment and Training	Addl. Director, General		044 22501002
4	Directorate of Technical Education	Addl. Director, Polytechnic	tndote@gmail.com	044 2235 1018
5	Tamil Nadu Skill Development Corporation	Project Director	dettnsdm@gmail.com	044225001 07
6	Department of Fisheries	Joint Director Fisheries - Research	jdrfisheries1@gmail.com	
7	Department of Tourism	Commissioner of Tourism	cot2016.chennai@gmail.com	
8	Leather Sector Skill Council	CEO	info1@leatherssc.org	Priya – 7358076876
9	Logistics Sector Skill Council	CEO	ramanujam@lsc-india.com	
10	Tamil Nadu Hotels Association	Secretary	tamilnaduhotelsassociation@gmail.com	044 2859 1500
11	Directorate of Economics and Statistics	Joint Director, State Income, ASI	desiu@gmail.com	24321189
11	Regional Directorate of Apprenticeship Training	R. Senthil Kumar, Regional Director	rsenthil62@nic.in, rdatchen@nic.in	044 22500091, 9445563389

## 4.2. District level consultations- Thiruvallur

S N	Stakeholder	Person	E-mail	Cell/Phone
1	Additional Collector	S.S. Kumar, Additional Collector	drdatlr@nic.in	044 27663731
2	Fisheries Department	M Chandramani	mchandramani@gm ail.com	044 27972457
3	Tourism Department	John Britto, District Tourism Officer		8939955178
4	Agriculture Department	Deputy Director	agritlr@gmail.com	+(91)-44-27662852
5	Forest Department	Arumugam	tvrdfo@gmail.com	+(91)-44-27660487
6	Tamilnadu Fisheries university	Dr. S. Felix, Dean	felix@tnfu.ac.in	044 2797 1556, 94431 31025
7	DIC	Manager	tvldic@gmail.com	044 2766 6787
8	Tamilnadu Fisheries university, Department of Fishing Technology and Fisheries Engineering	M. Kalaiarasan, Assistant Professor	kalaimuthu2010@g mail.com	96775 38211
9	Agricultural Engineering Department	Raman, Assistant Engineer		044 27661737
10	Tamilnadu Fisheries university, Department of Fish Processing Technology	Dr. S. Balasundari, Professor	balasundari69@gma il.com	9443704190, 044 27971557
11	Ambattur Industrial Estate Manufacturers Association (AIEMA)		mail@aiema.net	044-26258619
12	Japan Development Service (JDS)	Mr. Akira Doi, Chief Adviser, Training Management	doi@jds21.com	81335808247
13	DDUGKY Project Director, Tiruvallur	P. Krishnammal		9445034209
14	Gandhi Foundation – Training Provider	Dr. T.L Nandagopal	gftrust2020@gmail. com	9994140160, 04427600537
15	International Maritime Academy	Dr. G. Hemapriya, Principal	imachennai41@gma il.com	
16	JMB	HR - Usha	ushad@jmbaxi.com	044 4525 2600
17	KFC	Ranjith, Assistant Store Manager		044 2627 2222
18	L& T Shipbuilding	HR – Mr Rajesh	rajesh.a@larsentoub ro.com	044- 22706585
19	Malas Aquarium Fish Farms Breeder & Wholesaler	Anand, Manager	malasfarms@yahoo. in, gmail.com	08071599628, 9940244222
20	Ringo Cargo	Ringo	ringo@ringocargo.c om	
21	GRT Regency, Tiruttani	HR		044 2788 0234
22	Sri Hari Industries	A.N.Sujeesh	sriharichn@gmail.co m	+91 44- 26255228/26256204, +91 9444014469
23	Apparel Training and Design Centre	Radhika, Teacher		
24	MRV Industries	Mr. T. Ramesh - Managing Partner	mrvindustries@gma il.com	+91 44-42189301

### 4.3. District level consultations- Thoothukudi

S N	Stakeholder	Person	E-mail	Cell/Phone
1	VOC Port	Secretary	secretary@vocport.gov.in	0461 23522322
2	VOC Port	Chief Civil Engineer	ce@vocport.gov.in	0461 2352252
3	VOC Port	Traffic Manager	tm@vocport.gov.in	0461 2352221
4	PSA-Sical	Jenita, HR Manager	jenita@psasical.co.in	09842196262
5	District Agriculture Office	Joint Director	jdatoothukudi@yahoo.com	
6	District Forest Office	Range Officer	dfotoothukudi@gmail.com	04612346600
7	District Industries Centre	R. Venkatesan, Assistant Director	venkatesanpraven@gmail.com	09443608755
8	District Tourism Office	Tourism Officer	totoothukudi@gmail.com	04612341010
9	Fisheries College	Dr. R. Santhakumar Chair, Extension Training,	soodasujan@yahoo.co.in	0461 2340554 09894530161
10	Dharangadhara Chemical Works Ltd	Vijay, Head HR	office@shpm.dcwlt.com	9843763388
11	Britto Seafood Exports Pvt Ltd	Jeyaraj		Tel: +91-461-2341318 Mob: 9787536489
12	Venus Home Appliances	R.Murali	murali@venushomeappliances.com	0461 2271891/94
13	Sahayamatha Salterns (Salt Pans)	Ramesh Rajkumar	jeffrin.rajkumar@gmail.com	9443126456
14	Kamal Healthcare Products (Unit of AVM Polybags)	S Sankar Marimuthu	sankar@kamalhealthcare.com	9442614709
15	CII, Southern Region	S George Berosé	ciithoothukudi@cii.in	04612312177, 9688318699
16	Hi-tech Flyash Pvt. Ltd	T.Seenivasan, GM	exports@hitechflyash.co.in	9842133040, 04612355318
17	Chakiat Agencies – Shipping and logistics services	Jeyanth Thomas	jeyanth_thomas@chakiat.net	04614252666
18	Thoothukudi District Tiny and Small Scale Industries Association (Thuditssia)	S. Karthikeyan, Manager	thuditssia@gmail.com	04612347005
19	Kalpaka Chemicals	S. Ganesan	kcpld@dataone.in, ganesan@kalbonus.com	04612345638
20	Miller's Super Market	Fredrick Rayen, Managing Partner	Millers_supermarket@yahoo.com	0461 – 2322075

				9443174540
<b>21</b>	Continental Warehousing Corporation (Nhava Sheva)	M Raghukumar, Deputy General Manager	raghukumar@cwnsl.com	07373786700
<b>22</b>	GRT Regency	Karthik,  HR Manager	kkan742@gmail.com	7708003195
<b>23</b>	SRM Hotel	HR Manager	srmhotel.tcr@gmail.com	0461 22 444 44
<b>24</b>	KFC	Sathish Kumar  HR Manager	sathishkumar.tuticorin@outlook.com	9786604656
<b>25</b>	Container Corporation of India	R. Sekar, Terminal Manager		0461 2340116



## *Section 3: Karnataka*

*Dakshina Kannada*  
*Udupi*

# 1. District Profile

## 1.1. Dakshina Kannada

In the cradle between the Western Ghats, and the Arabian Sea, Dakshina Kannada with the Port city of Mangalore is an important economic centre in the Western Coast. The Udupi District was split from the erstwhile unified district. Key industries include tile, beedi, cashew kernel, coconut oil, food and beverages and manufacturing activities like rubber/plastic goods, wooden products etc. Along with Udupi, the district could be termed as the cradle of Indian Banking.<sup>1</sup>

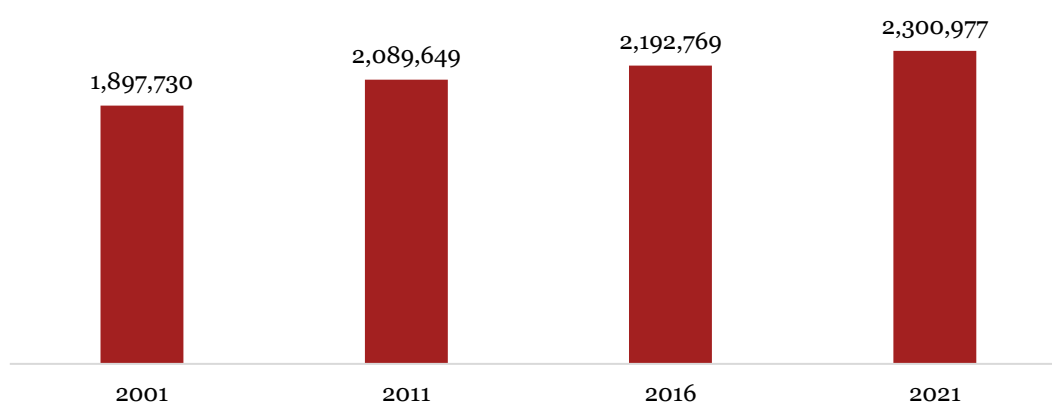
### 1.1.1. Demographic Profile<sup>2</sup>

Indicator	Value
Total population	20,89,649
Decadal rate of growth of population (2001-11)	10.11%
Rural population	52.33%
Female	50.5%
SC population	7.09 %
ST population	3.94 %
Workforce participation	47.75%
Main Workers (As % of total population)	43.76%
Marginal (As % of total population)	3.98%
Non-workers (As % of total population)	52.25%
Number of people in the state with vocational training in the age group of 15-34 <sup>3</sup>	80 out of 1000

### Population trends

The demographic dividend bulge in Dakshina Kannada is fast approaching with youth in the employable age increasing. Using the CAGR method, the population of the district is estimated to be 21,92,769 and 23,00,977 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 4.93%.

**Figure 1: Growth trend of population (2001-21)**

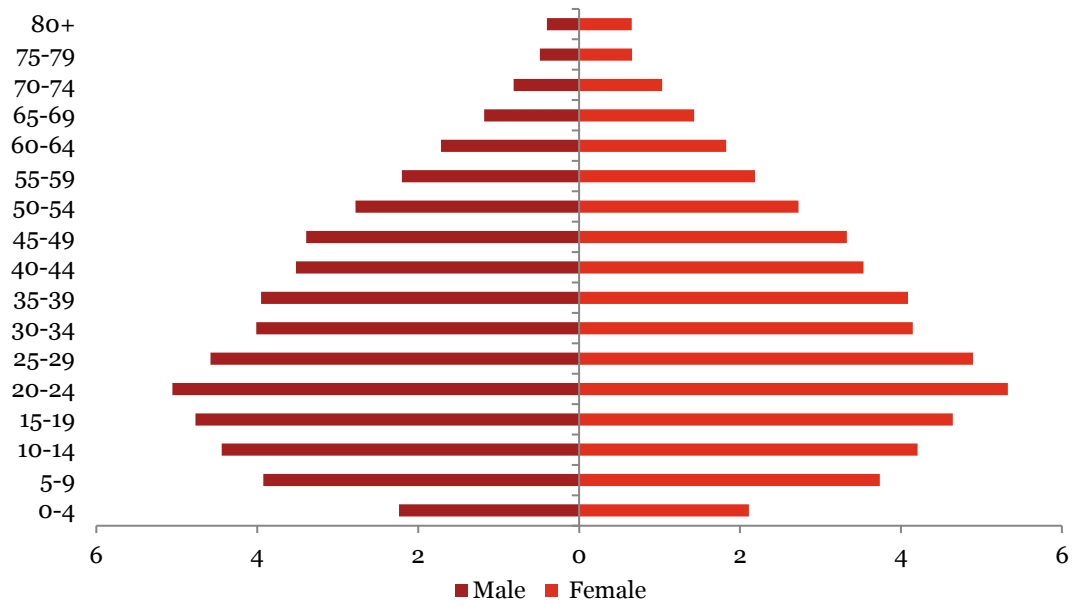


<sup>1</sup> Brief Industrial Profile, DC MSME

<sup>2</sup> Census, 2011

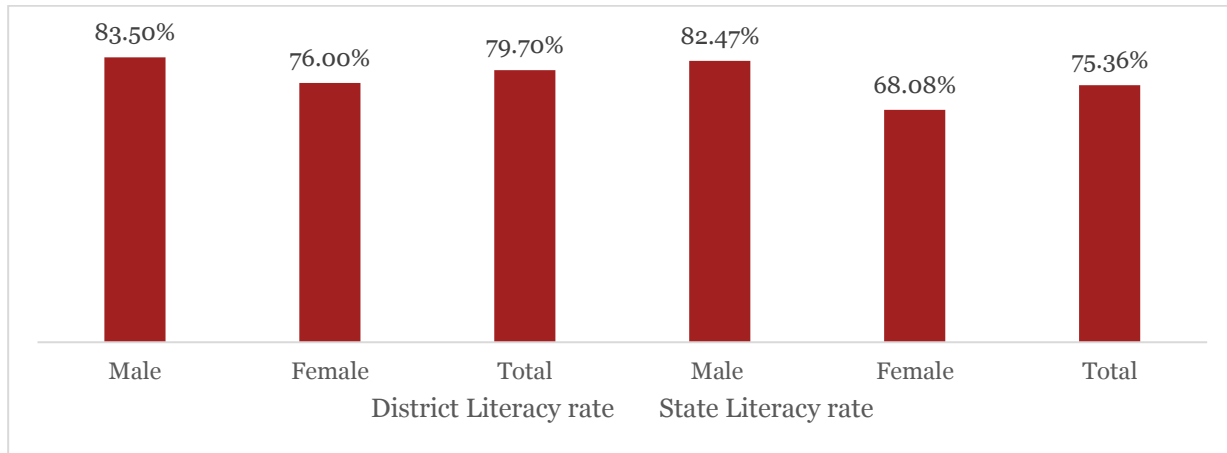
<sup>3</sup> Employment and Unemployment Survey, Vol III, Labour Bureau 2015-16

**Figure 2: Population Pyramid Dakshina Kannada- 2011**



### Literacy rates

**Figure 3: Dakshina Kannada vs Karnataka literacy rates (2011)**

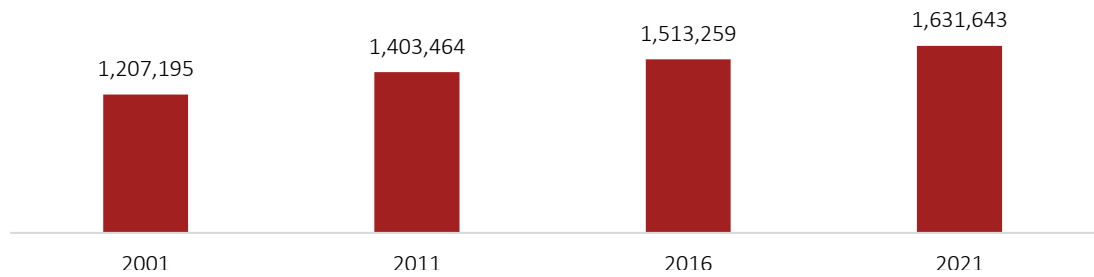


Total literacy rate of Dakshina Kannada, as per the Census 2011, is approximately 79.7%, which is more than the State's literacy rate of around 75.36%, indicating that Dakshina Kannada is a better performing district in literacy terms within the state. However, the female literacy rate of Dakshina Kannada is 76%, which is lower than the male literacy rate of 83.5% in 2011.

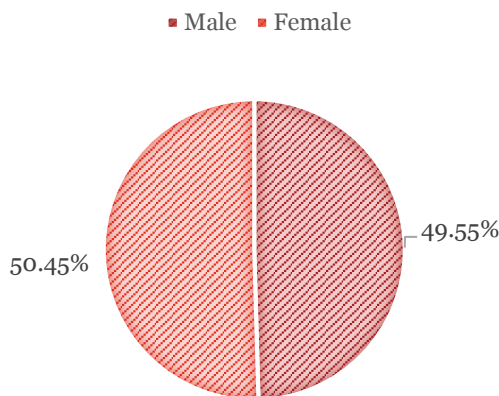
### Age specific population trends and education levels for 2011

As per the Census 2011, the population in the age-group of 15 to 24 years was 4,01,794 (19.2% of the overall population). Using proportional method, the population in the age group of 15-59 years is estimated to be 15,13,259 and 16,31,643 in 2016 and 2021, respectively. The projected absolute growth in the population from 2016 to 2021 is 3.5%.

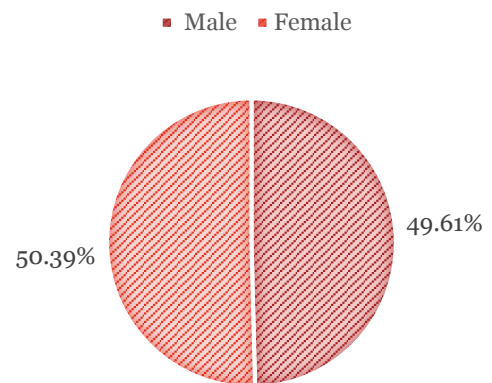
**Figure 4: Growth trend of population in the age group 15-59 years in Dakshina Kannada (2001-2021)**



**Figure 5: Age Specific Population in Dakshina Kannada (15-59 years)**

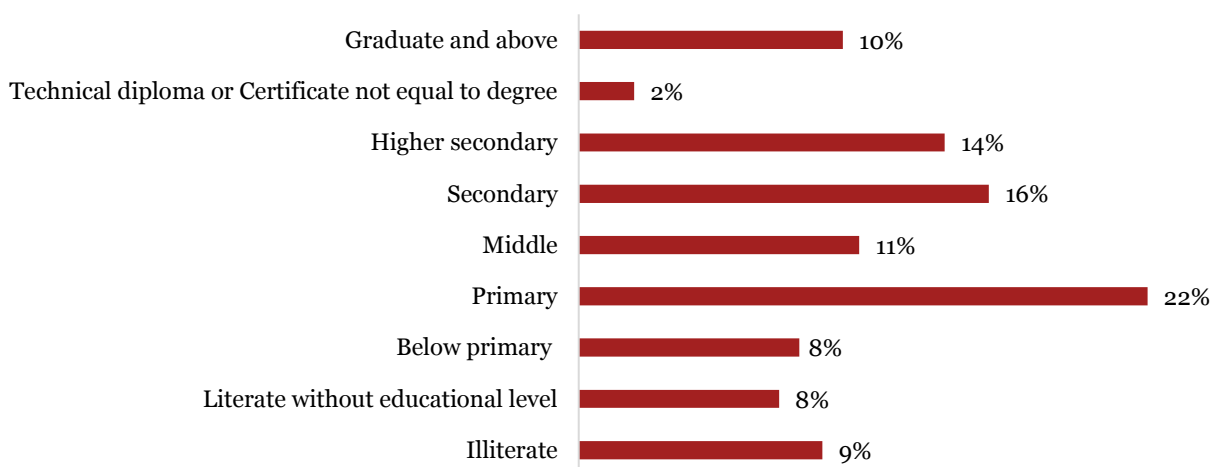


**Figure 6: Age Specific Population in Dakshina Kannada (15-24 years)**



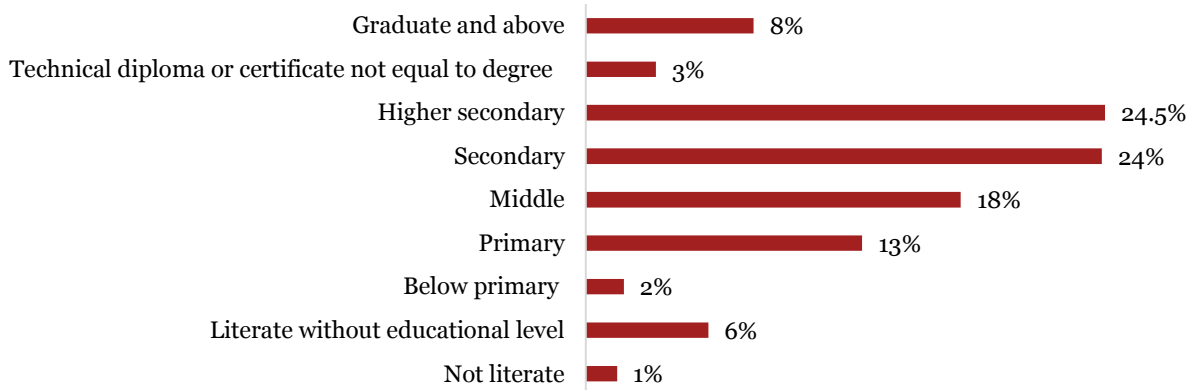
Both the age groups, 15-24 years and 15-59 years have almost equal representation of males and females with males accounting for 50.45% and 50.39% of the total population share in the 15-59 years and 15-24 years age group respectively. Females account for 49.55% and 49.61% of the total population share in the 15-59 years and 15-24 years age group respectively.

**Figure 7: Age Specific educational level in Dakshina Kannada (15-59 years)**



From the Census it is seen that for the age category of 15-59 years, 9% of the population of Dakshina Kannada is illiterate. Over 8% of the population in the working age category is literate without any educational qualification, 8% have attended school till below primary level and 22% have completed schooling only up to primary level. Roughly, 11% of the literate population has completed schooling up to the middle level, whereas around 16% of the literate population has been educated till secondary. Only 2% of the population of this district has done a certificate/diploma course and 10% have at least graduated, indicating that a graduate/post-graduate degree is more sought after than a certificate/diploma.

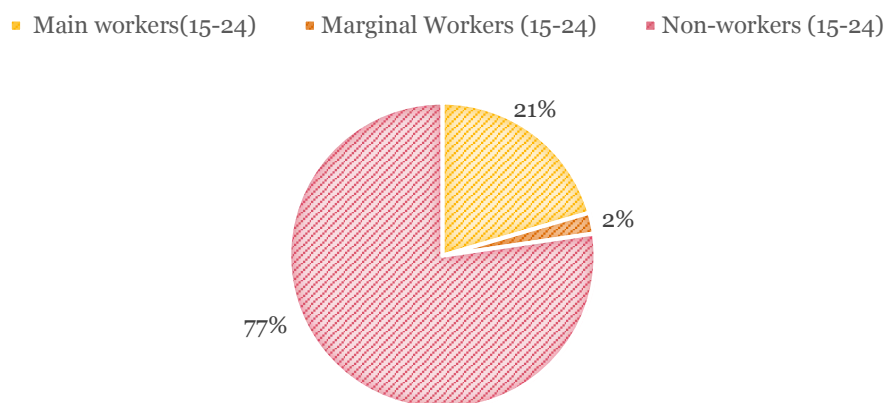
**Figure 8: Age specific education level in Dakshina Kannada (15-24 years)**



In the age group of 15-24 years, 1% of the population of Dakshina Kannada is illiterate, 6% are literate without any educational qualification, 2% have attended school till below primary level and 13% have completed schooling only up to primary level. Roughly 18% of the literate population has done schooling up to the middle level, whereas, around 24% of the literate population has been educated till secondary. Only 3% of the population of this district has done a certificate/diploma course and 8% have at least completed graduation.

### *Age specific distribution of workers and educational levels*

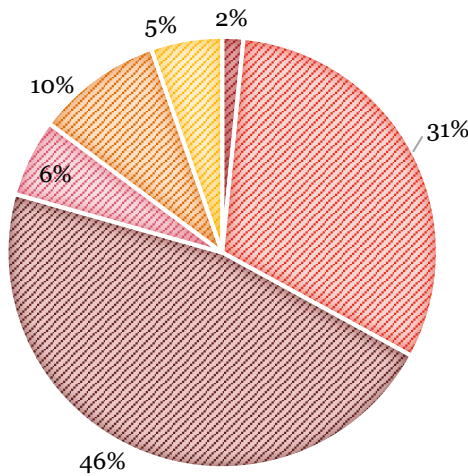
**Figure 9: Age specific distribution of workers in Dakshina Kannada (15-24 years)**



Over 77% of the population in the age group of 15-24 years are non-workers and 21% of the population are main-workers, whereas 2% are engaged in marginal work i.e. work for 3-6 months during the year.

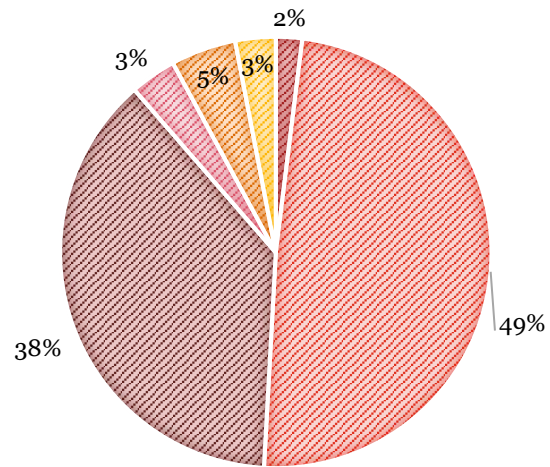
**Figure 10: Educational level for marginal workers available for work in Dakshina Kannada (15-24 years)**

- Illiterate
- Literate but below matric/secondary
- Matric/secondary but below graduate
- Technical diploma or certificate not equal to degree
- Graduate and above other than technical degree
- Technical degree or diploma equal to degree or post-graduate degree



**Figure 11: Educational level for main workers available for work in Dakshina Kannada (15-24 years)**

- Illiterate
- Literate but below matric/secondary
- Matric/secondary but below graduate
- Technical diploma or certificate not equal to degree
- Graduate and above other than technical degree
- Technical degree or diploma equal to degree or post-graduate degree

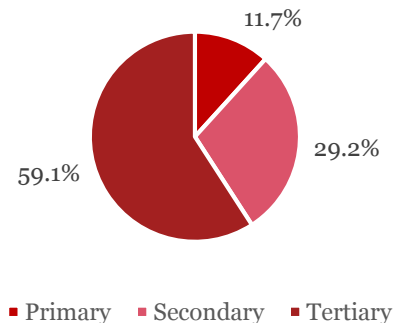


From Census 2011, depicted in the charts above, we find that the proportion of main workers who are illiterate (in the age category 15-24 years) is slightly more (0.5 percentage point difference between the two) than the proportion of marginal workers available for work and who are illiterate. We also find that the proportion of main workers who are literate but below matric/secondary (in the age category 15-24 years) is extremely higher (18 percentage point difference between the two) than the proportion of marginal workers who are available for work and are literate but below matric/secondary. The proportion of main workers who are matric/secondary but below graduate (in the age category 15-24 years) is slightly less (8 percentage point difference between the two) than the proportion of marginal workers who are available for work and are matric/secondary but below graduate. For the remaining three educational levels, we find that the population shares are more or less the same across the two worker categories.

### 1.1.2. Key Economic Drivers

The Gross Domestic Product of Dakshina Kannada district (at constant prices- 2004-05) was INR 6,90,862 crores in 2012-13 and it has steadily grown at a CAGR of 5% over the period 2004-05 to 2012-13. The sectoral break up suggests that tertiary sector contribution to district GDP is more than half (59%) followed by secondary sector (29%). Further disaggregation suggests that Trade hotels and restaurant have a share of 12.6% and manufacturing sector has a share of 16.9% in the district GDP. Banking and Insurance have witnessed an impressive growth in their contribution to the district GDP with a growth rate of 24% between 2005 and 2012.

**Figure 12: Sectoral breakup of Dakshin Kannada district GDP at constant prices (2004-05)**



The key economic drivers of the district are illustrated below:

<b>Port &amp; Maritime</b>	<ul style="list-style-type: none"> <li>Construction of Captive Jetty for handling Coal</li> <li>Development of LNG Terminal at New Mangalore Port</li> <li>Establishing handling equipment at berth No.8 for handling container at NMPT</li> <li>Construction of 2<sup>nd</sup> phase of cargo wharf at Old Mangalore Port</li> </ul>
<b>Industrial Development</b>	<ul style="list-style-type: none"> <li>EPIP Park to be established.</li> <li>IT SEZ to be established at Mangalore.</li> <li>Construction is underway for the Development of New Airport Terminal and alternate road to the airport.</li> <li>Development of Sea Food Park and Marine Biotech Park</li> </ul>
<b>Urbanization</b>	<ul style="list-style-type: none"> <li>Development of coastal circuit in <u>Dakshina Kannada</u>, <u>Uttara Kannada</u> and <u>Udupi</u> district.</li> <li>Development of cruise tourism, health care and urban tourism in <u>Mangaluru</u></li> <li>Smart City in <u>Mangaluru</u> with focus on tourism , information technology and environmental management</li> </ul>

### 1.1.3. Priority Sectors

In Dakshina Kannada, the priority sectors that have been identified are **Port and Maritime sector** and other sectors: **Construction, fisheries, logistics, tourism & hospitality**. Other sectors that have been identified as priority sectors from the point of view of their contribution to district GDP are **manufacturing, agriculture and trade**.

### 1.1.4. About Port

Ports & Maritime			
Major Ports: 1	Minor Ports:1		Shipyards: 1
Details			
New Mangalore Port			
Operations:	Land Lord Port model (PPP)	Capacity	77 MMT P.A
Key Cargo	POL, LPG, LNG, Coal, Containers	No of berths:	17
		Draft	14 M

<i>Description and key Trend</i>	The port’s interland includes the state of Karnataka and parts of Northern Kerala. The major commodities exported through the port are iron ore concentrates and pellets, iron ore fines, manganese, granite stones, coffee, cashew and containerized cargo. The major imports of the port are crude and petroleum products, LPG, wood pulp, timber logs, finished fertilizers, liquid ammonia, phosphoric acid, other liquid chemicals, and containerized cargo.		
<b>Terminal Operations</b>			
	<b>KIOCL</b>	<b>MRPL</b>	<b>UPCL</b>
<i>Annual Capacity</i>	7 MMT	15 MMT	3.5 MMT
<i>Type of Cargo handled</i>	Iron ore	Crude	Coal
<i>High Demand Job Roles</i>	Rail Engine Operator, Rail Mounted Quay Crane Operator, Rail Mounted Gantry Crane Operator, Forklift Operator, Reach Stacker Operator, Crane Mechanic, and Surveyors.	Railway Engine Operator, Rail Mounted Quay Crane Operator, Rail Mounted Gantry Crane Operator, Forklift Operator, Surveyors, Conveyor Belt Mechanic.	Rail Engine Operator, Rail Mounted Quay Crane Operator, Rail Mounted Gantry Crane Operator, Forklift Operator, Reach Stacker Operator, Crane Mechanic, and Surveyors.
<b>Old Mangalore Port</b>			
<i>Operations:</i>	Private (Adani)	<i>Capacity</i>	1.2 mn tonnes P.A
<i>Key Cargo</i>	Cement, Steel, Copra, Dry Fish, Rice, Granite Jelly/Boulder, Clay Bricks/Tiles, Vegetables/Fruits, Food Grains, Vehicle, Timber	<i>No of berths:</i>	2
		<i>Draft</i>	14M
<i>Description and key Trend</i>	Old Mangalore Port is located to South of New Mangalore Port. The port is used for Export and Import of commodities and passenger trip to Lakshadweep runs by Government of India and Lakshadweep Administration. Cruise on a small scale which has the capacity of 50-100 passengers is available in Old Mangalore Port. It is been carried out on a smaller scale usually travelled to rivers. The Old Mangalore Port runs under the State Government		

### 1.1.5. Investments

In the Port & Maritime Sector, investment worth INR 3,000 crores have been proposed for the development of LNG Terminal, construction of Captive Jetty for coal handling and providing handling equipment at Berth No. 12. Also, for handling bulk cargo at NMPT under PPP mode with a capacity of 6.73 MTPA, investments worth INR 469.46 crores have been proposed for 2018. It is expected to generate employment for over 300-400 persons.

In the tourism sector, development of coastal circuit in Dakshina Kannada, Udupi and Uttara Kannada districts has been proposed under Swadesh Darshan Scheme worth INR 95.67 Crores, development of cruise tourism worth INR 105 Cr. The key player of the project is Department of Tourism.

In the Smart City space too, some significant investments are proposed and these include installation of rooftop solar on Govt. building worth INR 203.32 crores, upgradation of roads with footpaths worth INR 150 crores, water front marina development worth INR 78 crores, redevelopment of fishing harbor along with fish market and ancillary facilities worth INR 88.46 crores and retrofit of Old Port worth INR 88.45 crores.



**Table 1: Key investments for the year 2016-22 in Dakshina Kannada**

Sector	Proposed Investment (INR cr.)	Number of Projects	Expected Employment	Key Players
Port & Fisheries	5,064.39 cr.	16	More than 2,000 persons (approx.)	NMPT, Geo tech Construction, Department of Fisheries, M/S Rajesh, M/S Yalaki Gowda
Other Investments	30,685.86 cr.	14	1,550 plus persons (approx.)	MRPL, M/S Trident Infrastructure, World Wide Shipping, KSTDC, M/S Rhymer Urban
Under Invest Karnataka	More than 370 cr.	6	Not Available	Department of Tourism, KBITS, KUIDFC
Smart City Projects	1,994.74 cr.	65	Not Available	Not Available (Conceptualization)

**Table 2: Details of Investments in Port and Fisheries in Dakshina Kannada**

Project	Proposed Investment (INR)	Project Status	Key Players
Development of 30 acres of stack yard and ancillary roads for parking of Ro-Ro cargoes and cars	25 crores	Ongoing	NMPT
Providing handling equipment at Berth No.8 for handling container at NMPT under PPP mode	300 crores	Work order will be issued	Not Available
Deep water break bulk berth (Berth No. 19) adjacent to existing berth	150 crores	Feasibility report	Not Available
Providing Reefer Panels and illumination to the new multi cargo container yard.	1.04 crores	Ongoing	NMPT
Providing Handling Equipment at Berth No.12 for handling Bulk Cargo	469.46 crores	The expected date of completion of project is December, 2018	NMPT
Construction of Captive Jetty for handling Coal	230 crores	Ongoing	Chettinad
Development of LNG Terminal/FSRU	3,000 crores	The project is on pipeline	NMPT
Construction of 2 <sup>nd</sup> phase of cargo wharf at Old Mangalore Port	9.6 crores	Ongoing	Geo Tech Constructions, Old Mangalore Port
Construction of dedicated Jetty for Lakshadweep	65 crores	Upcoming project	Not Available
Construction of bridge connecting from Chelayaru to Mukka sanctioned under NABARD 20 scheme	74 lakhs	The project commenced in the month of February 2016 and is expected to complete by 2017.	Tender awarded to Philip D Coasta
Construction of Sea walls for preventing erosion at Meenakali, Dakshina Kannada district	4.70 crores	To be started	Old Mangalore Port
Development of fishing harbor at Kulai	230 crores	To be started	Fisheries Department

Project	Proposed Investment (INR)	Project Status	Key Players
Construction of fisheries jetty at Ullal kottapura of Mangalore taluk under NABARD 18 and 19 scheme	<ul style="list-style-type: none"> <li>Under NABARD 18 scheme: INR 150 lakhs</li> <li>Under NABARD 19 scheme: INR 350 lakhs</li> </ul>	Ongoing	Fisheries Department
Construction of berthing jetty in Bokkapatna	5 crores.	The project has commenced in the month of November, 2015 and it is expected to complete in the year of 2017.	Fisheries Department
Construction of fishing jetty at Munda Sasihithlu	450 lakhs	The project commenced in the month of Nov, 2015 and is expected to complete by June, 2017.	Fisheries Department
Construction of road connecting from Mukka to Chelayaru	75 Lakhs	Ongoing	Fisheries Department

Mangalore, the district headquarters of Dakshina Kannada, has been selected as one of the SMART cities. The total cost of developing Mangalore SMART City is estimated to be around INR 2,003.75 crores. The upcoming projects under the SMART City initiative and the values are given in the table below.

### *Proposed Projects under SMART City Initiative- Mangalore*

Components	Cost (INR Crores)
<b>Area Based Development</b>	
Retrofit Car street and areas of Sri Venkatramana Temple as Religious Zone	29.21
Community Level Facilities along with international swimming pool	12.50
<b>Economy and Employment</b>	
Retrofit of Fish market	1.44
Redevelopment of central market	50.63
Redevelopment of Vacant premises of DC office into Hotel, Retail shops and Speciality restaurants	7.29
Redevelopment of Fishing harbour along with fish market and ancillary facilities	88.46
Retrofit of Old Port	88.45
Jetty repair facility and warehouse	23.95
Retrofitting of 6 tile factories into Hotel, Auditorium, Convention Centre, Museum, Marina with retail and speciality restaurants	67.24
Redevelopment of Brick factory into retail/commercial development(retail shop, small office)	10.43
Redevelopment of Old Port as Riverfront Recreational Space	25.58
<b>Health</b>	
Upgradation of Wenlock and Lady Goshen Hospital	75.90
<b>Education</b>	
Skill Development and Safety Training Centre	3.30
Implementation of e-smart schools in all government schools	16.00
<b>Open Spaces</b>	
Water front Marina Development	78.00
Development of waterfront Gardens	10.74
Development of Green Area along connector road	7.02
<b>Housing</b>	
EWS Housing	7.80

Components	Cost (INR Crores)
<b>Transport, Mobility and Walkability</b>	
Specialised Pedestrian Facilities along certain road sections	27.82
Retrofit of Bus station	9.90
Widening of Roads	150.00
Development of MLCP with retail space near Hampanakatta Junction	91.17
Upgradation of Roads with footpaths	150.00
Development of MLCP along connector road	12.46
Provision of Road side plantation	4.35
Implementation of Smart Bus Shelters	3.31
<b>IT Connectivity</b>	
100% IT Connectivity	4.40
<b>Energy Source and Management</b>	
Solar and Recreational Island	86.74
Installation of rooftop solar on Govt. buildings	203.32
<b>Water Source and Quality</b>	
100% water supply coverage along with residential meters, water quality monitoring and SCADA	40.00
Implementation of rain water harvesting in all building having area more than 1000 sq.ft.	10.00
<b>Waste Water</b>	
100% waste water coverage with SCADA and connecting the waste water to STP for treatment and reuse	128.86
100% underground drainage network for ABD	37.50
<b>Air Quality</b>	
Installation of air quality monitoring sensors and connecting them to command and control centre	1.00
<b>Energy Efficiency</b>	
Conversion of all the lighting in government building into LED	4.46
Conversion of all street lights into solar LED	21.79
<b>Underground Wiring</b>	
IPDS Proposals	114.32
<b>Sanitation</b>	
E-toilets along smart bus shelters	4.96
<b>PAN CITY</b>	
ICT and Disaster Safety Components	15.58
Public Mobility App	10.00
Hardware & GPS Support	10.00
MCC- Citizen interphase APP	2.50
Bus Shelters with Wi-Fi & E-toilets	15.00
Smart water meters for H/H (15 mm)	37.50
Smart water meter apartments (40mm) with Analyser	1.25
Bulk water meters + SCADA for water distribution network	50.00
Smart energy meters for LT (Res)	37.50
Mechanised vehicles for SWM collection (8W)	3.00
Mechanised vehicles for SWM collection (4W)	2.40
Segregated smart bins for street level collection	0.50
Hand held readers for H/H meters	0.01
Software for smart meters	0.07
Software for high bulk water meters	0.03
LED Street Lights- Major Roads	1.00
LED Street Lights- Minor Roads	1.25
LED Street Lights- Lanes	4.50
Command and Control Centre	60.00
CCTV System Fixed Zoom Telescopic Camera	3.00
Hardware Support	10.00
Networking and Cloud Support	5.00
CCTV for road surveillance (PTZ) with WP	12.50

Components	Cost (INR Crores)
CCTV for road surveillance (fixed tele) with WP	4.50
Control Room Hardware	3.50
Cabling and other hardware	2.50
Patrolling Vehicles 4W	0.36

### 1.1.6. Youth Aspiration

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

#### Respondent Profile

The table below provides an overview of the respondent profile:

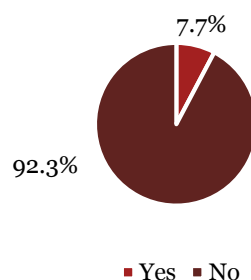
Profile	Details
Total Sample Size	388
Gender Profile	Male- 62.1% Female- 37.9%
Age Group	15-34 years
Education Level (top 3)	Senior Secondary schooling(Class 9 to 10)- 17.6% Higher secondary schooling with science (Class 11 to 12)- 10.5% Higher secondary schooling with commerce (Class 11 to 12)- 12.3%
APL/BPL/AAY/Don't know	APL-32.7 % BPL- 61.3% Don't know- 5.9%
Occupational Profile (top 3)	Salary from employment (21.6%), Own business (5.2%), Agriculture (4.1%)

### Exposure to Vocational Training and Educational Aspiration

Regarding the exposure to the vocational training, most students reported that they had not completed any vocational training course. Overall, 92.3% of the respondents had not enrolled in vocational training course (Figure 13).

Of the total respondents who underwent vocational training (which is 7.7%), majority were from ITI (40%) and polytechnic (60%). Figure below exhibits the percentage of respondents who completed different types of courses as part of their vocational training (Figure 14).

**Figure 13: Respondents who completed vocational training course – Dakshina Kannada**

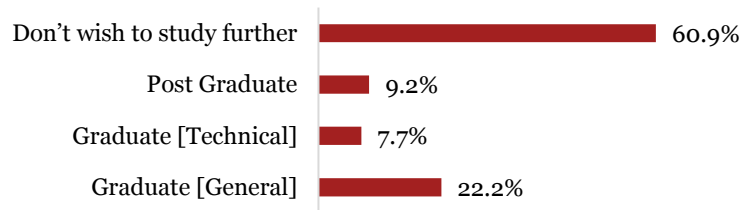


**Figure 14: Respondents who completed courses in vocational training - Dakshina Kannada**



Further, the respondents were asked about the educational level they wished to attain. Nearly 31.4% aspired to attain graduation and post-graduation level of education. The desire to attain technical education is relatively low with only 7.7% aspiring for graduation or post-graduation in technical fields (Figure 15: Desired level of education - Dakshina Kannada).

**Figure 15: Desired level of education - Dakshina Kannada**

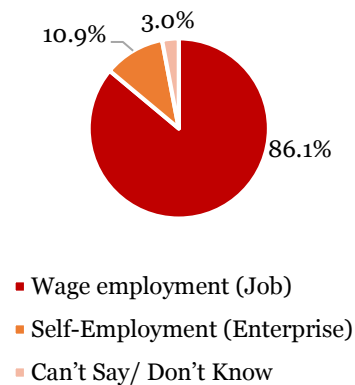


## Job Aspiration

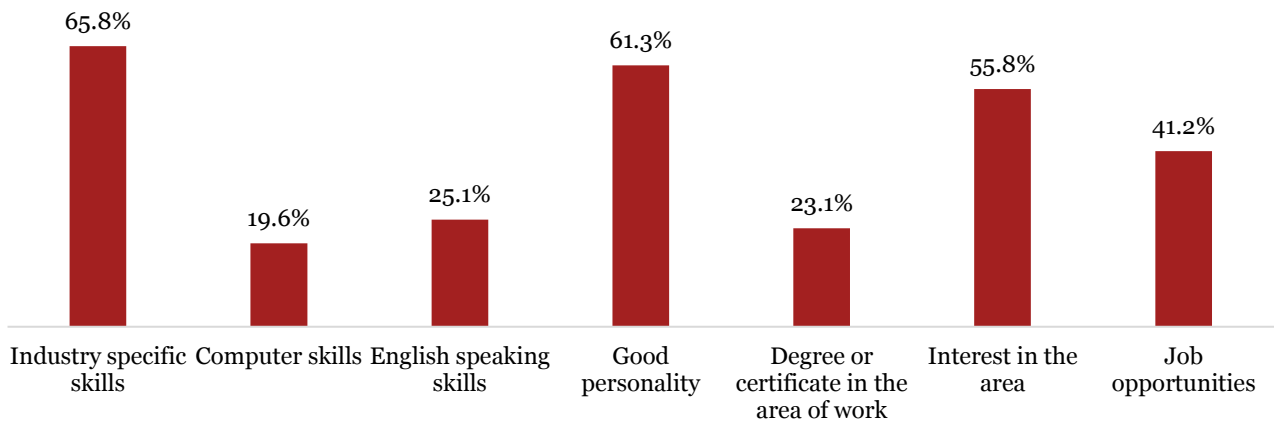
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 86% of the respondents reported to have preferred wage employment over self-employment (Figure 16).

The respondents were further asked to identify the factors important for securing employment in the area of interest. 65.8% of the respondents identified Industry specific skills as the most important factor for securing employment followed by good personality (61.3%), interest in the area (55.8%), job opportunities (41.2%) and English speaking skills (25%) (Figure 17).

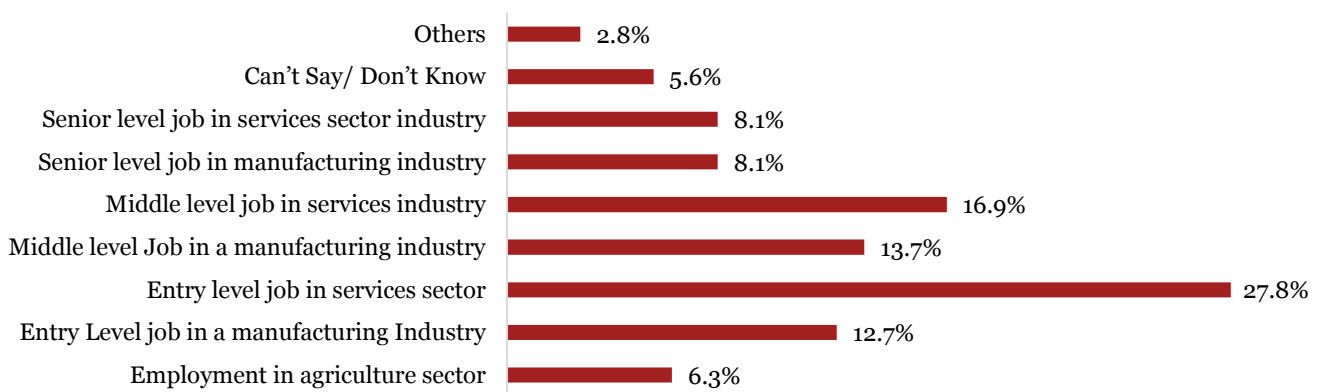
**Figure 16: Respondents aspiring for wage and self-employment – Dakshina Kannada**



**Figure 17: Factors important for securing employment in area of interest - Dakshina Kannada- Multiple response**



**Figure 18: Desired job profile after completion of education/training (Multiple responses)**

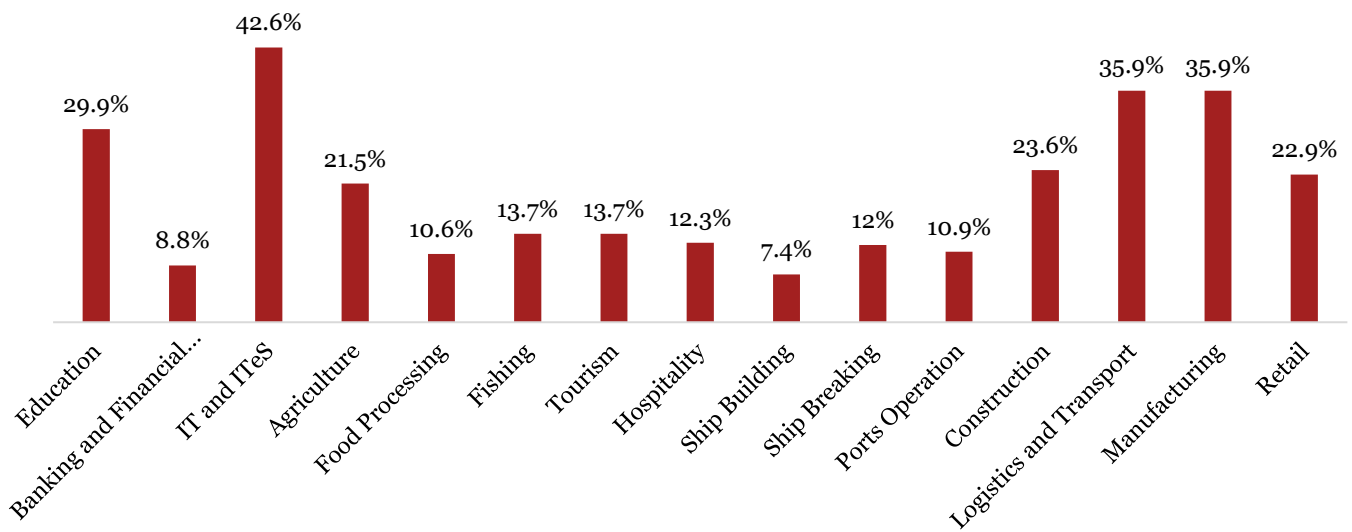


Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for services sector with 16.9% aspiring for middle level jobs and 27.8% aspiring for entry level jobs in service sector. This is followed by middle level jobs in manufacturing industry (13.7%) and senior level jobs in services sector (8%) (Figure 18<sup>4</sup>).

Further, IT and ITeS (42.6%), Logistics & transport (35.9%), manufacturing (35.9%) and education (29.9%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job in the service sector space (Figure 19). The details of other sectors are mentioned below.

<sup>4</sup> Responses of the multiple response questions will add up to more than 100%

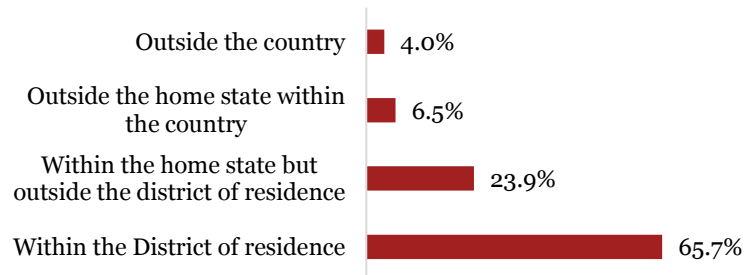
**Figure 19: Sectors in which respondents' foresee getting a desired job - Dakshina Kannada**



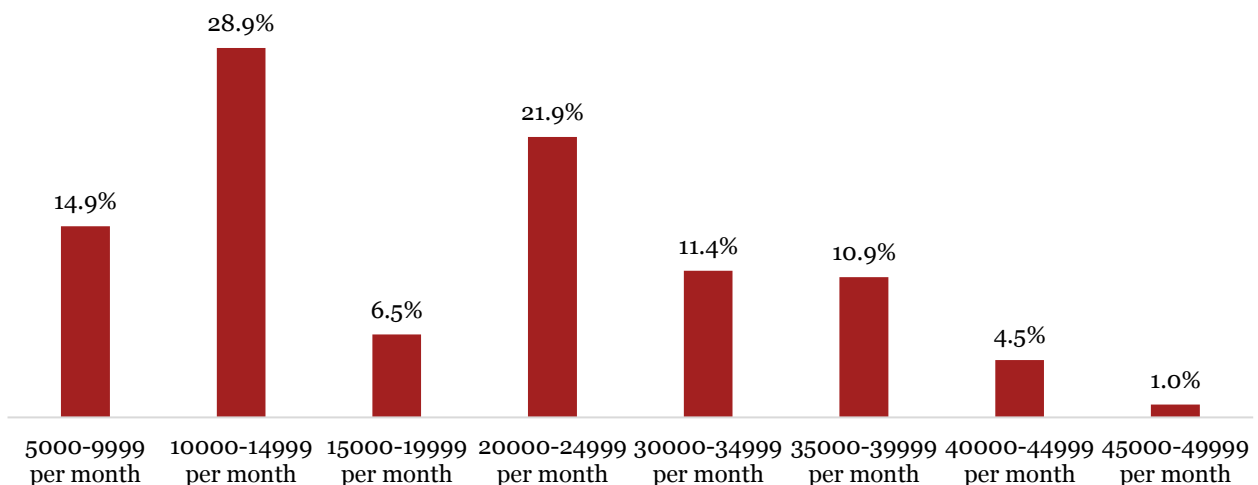
Out of total respondents, 65.7% preferred to work in the same district. 23.9% expressed willingness to migrate to other districts in the same state suggesting lack of flexibility among the youth of the district (Figure 20).

For majority of the respondents (28.9%) the monthly salary expectation was INR 10000-15000. And for 21.9% of respondents the expected salary was in the range of INR 20000-25000 per month (Figure 21).

**Figure 20: Preference for job location**



**Figure 21: Monthly salary expectation of respondents - Dakshina Kannada**



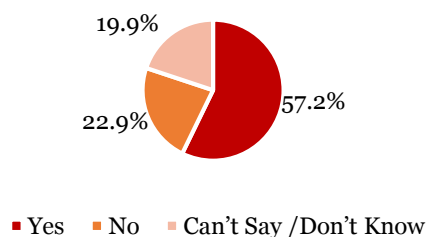
## Training Aspiration

Regarding willingness of the respondents to participate in the training programme in next one year, 57.2% expressed interest whereas 22.9% expressed disinterest (Figure 22).

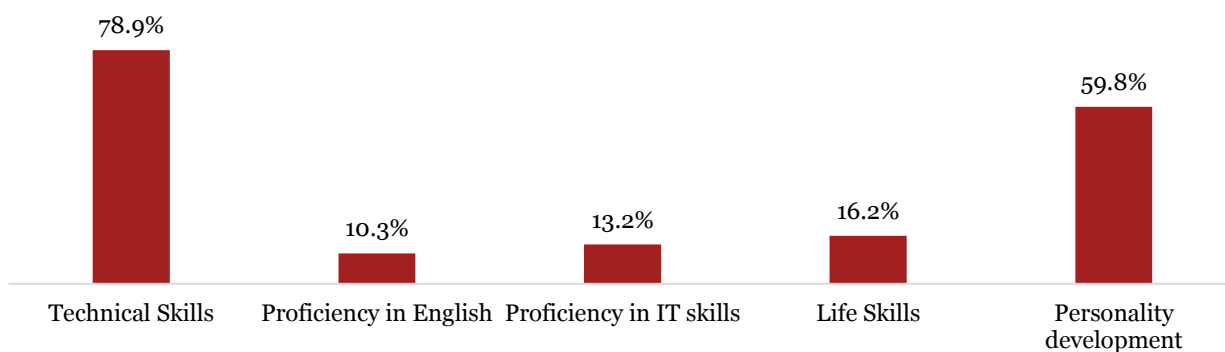
**Further, when enquired about the key focus areas of skill training, 78.9% of respondents reported that emphasis must be laid on technical skills followed by personality development (59.8%) and life skills (16.2%) (**

Figure 23).

**Figure 22: Willingness to participate in trainings - Dakshina Kannada**

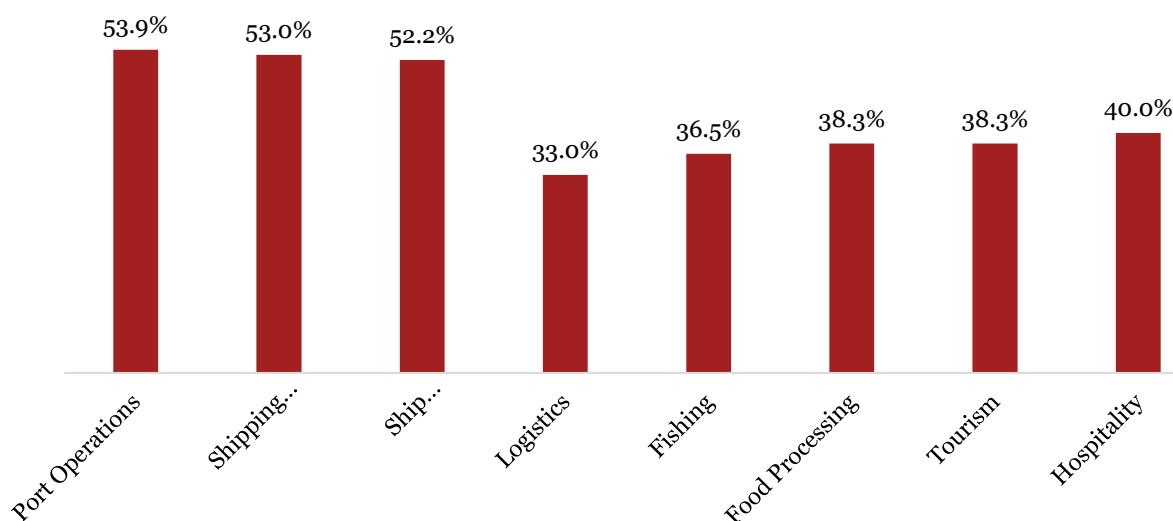


**Figure 23: Focus area on skills training (Multiple responses)**



Overall, there is demand for training in port operations (53.9%), shipping operations (53%), hospitality (40%), tourism (38.3%) and food processing (38.3%) (Figure 24).

**Figure 24: Willingness of respondents to participate in trainings of different sectors – Dakshina Kannada**

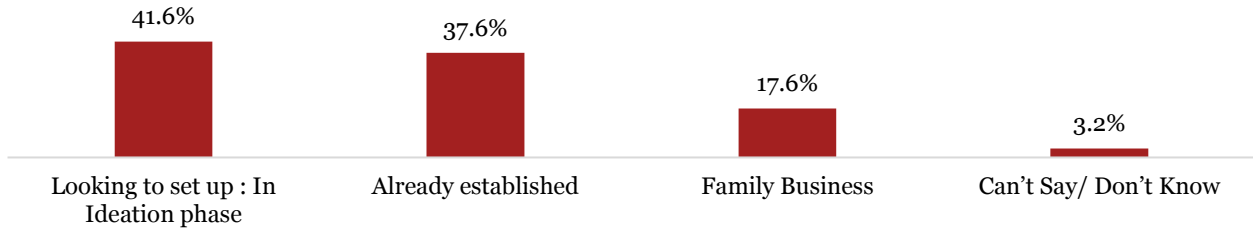




## Self-Employment

Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, 17.6% were in family business and 41.6% were in their ideation stage (Figure 25).

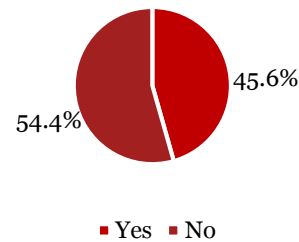
**Figure 25: Current Status of Entrepreneurial Venture - Dakshina Kannada**



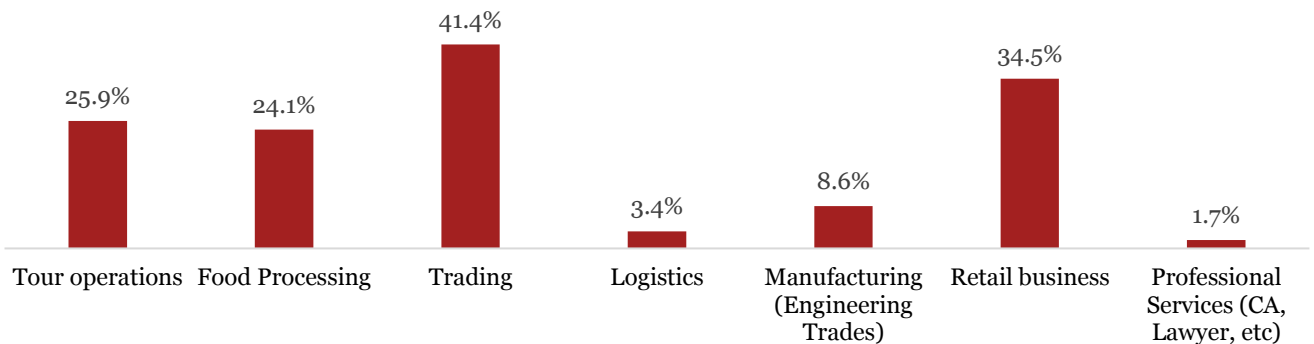
Further, 45.6% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 26).

**Figure 26: Interested in skill development for enhancing entrepreneurial skills – Dakshina Kannada**

Trading (41.4%), retail business (34.5%), tour operations (25.9%), food processing (24.1%), manufacturing (engineering trades) (8.6%) and logistics (3.4%) have been identified as most preferred sectors for setting own enterprise (Figure 27).



**Figure 27: Sectors for establishing enterprise – Multiple responses**



### 1.1.7. Training Infrastructure

The table below provides the available training infrastructure in the district:

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
ITI	31	24	Electronic mechanics, Electrician, Computer Operator and Programming Assistant, Architectural assistant, Mechanic (Refrigeration and Air Conditioning)
Polytechnic	3 (Govt.) 3 (Aided) 6 (Private)	10 7 7	Mechanical Engineering, Electronics and Communication Engineering, Computer Science, Civil Engineering, Automobile Engineering
Directorate General Training of Shipping Courses	1	14	Pre Sea Training for Graduate Engineers, Marine Engineering, Fire Fighting Course, Refresher training for Proficiency in Fire Prevention and Fire Fighting, Refresher training for proficiency Survival techniques
DDU-GKY	1	10	Hospitality, travel and tourism, Beauty and wellness, Apparel manufacturing and designing
PMKVY	1	3	Heavy earth moving machinery mechanic, Safety operator and Compressor operator

The Training infrastructure in the district is dominated by the ITIs and Polytechnics. The trades are largely focussed on technical and engineering trades.

- ITIs: There are 31 ITI's providing training in 24 different trades mainly focussed on electronic mechanics, computer operators, technician etc.
- Polytechnics: Core engineering sectors like Automobile, Civil, Electrical & Electronics, Electronics & Communication and Mechanical remain the most dominant trades. Most of the students prefer to move to full time engineering courses post diploma.
- PMKVY: The Trades are focussed on the heavy earth moving machinery mechanic, safety operator and compressor operator
- Directorate General Training of Shipping: Shipping related courses are offered at the training institution under Directorate General of Shipping and around 14 trades across multiple areas are provided.

## 1.2. Udupi

### About Udupi

The district is known as the temple town and Udupi Cuisine is famous and considered as the best in the State. The district is a prominent exporter of cashew kernals, shell oil and coconut oil. It concentrates highly on food processing/fish processing such as fish meals, fish oils, fishery products and cashews. The district is a home for prominent educational institution, 'Manipal University', an international educational institution in various fields such as Medicine, Engineering and Management. Udupi is often called as the cradle of Indian Banking. <sup>5</sup>

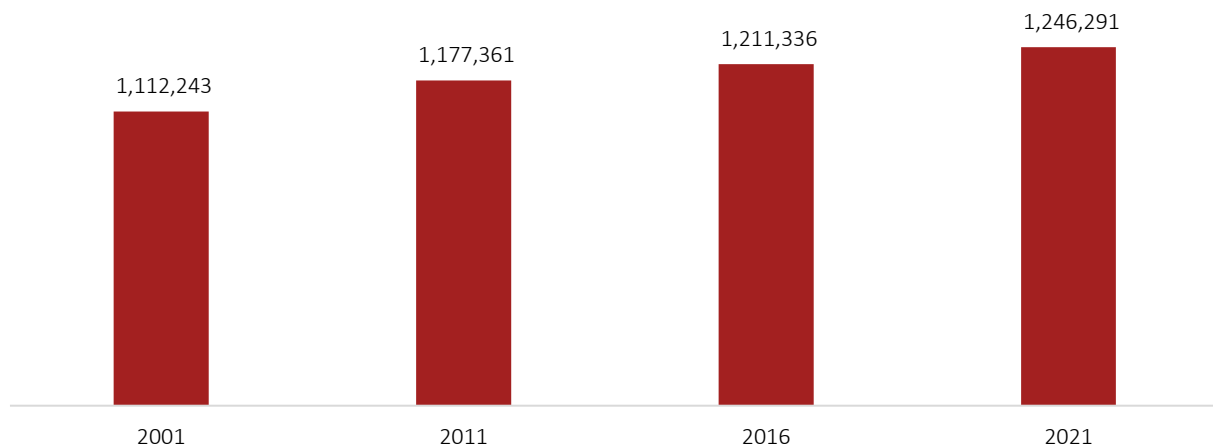
#### 1.2.1. Demographic Profile<sup>6</sup>

Indicator	Value
Total Population	11,77,361
Decadal rate of growth of population (2001-11)	5.85%
Rural Population	71.63%
Female	52.3%
SC Population	6.41%
ST Population	4.49 %
Workforce Participation (As % of total population)	43.59
Main Workers (As % of total population)	39.02
Marginal (As % of total population)	4.57
Non-workers (As % of total population)	56.4%
Number of people with vocational training in the age group of 15-34 <sup>7</sup>	80 per 1000

### Population trends

The demographic dividend bulge in Udupi is fast approaching with youth in the employable age increasing. The population of the district is estimated to be 1,2,11,336 and 1,246,291 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 2.89%.

**Figure 28: Population trend in Udupi**

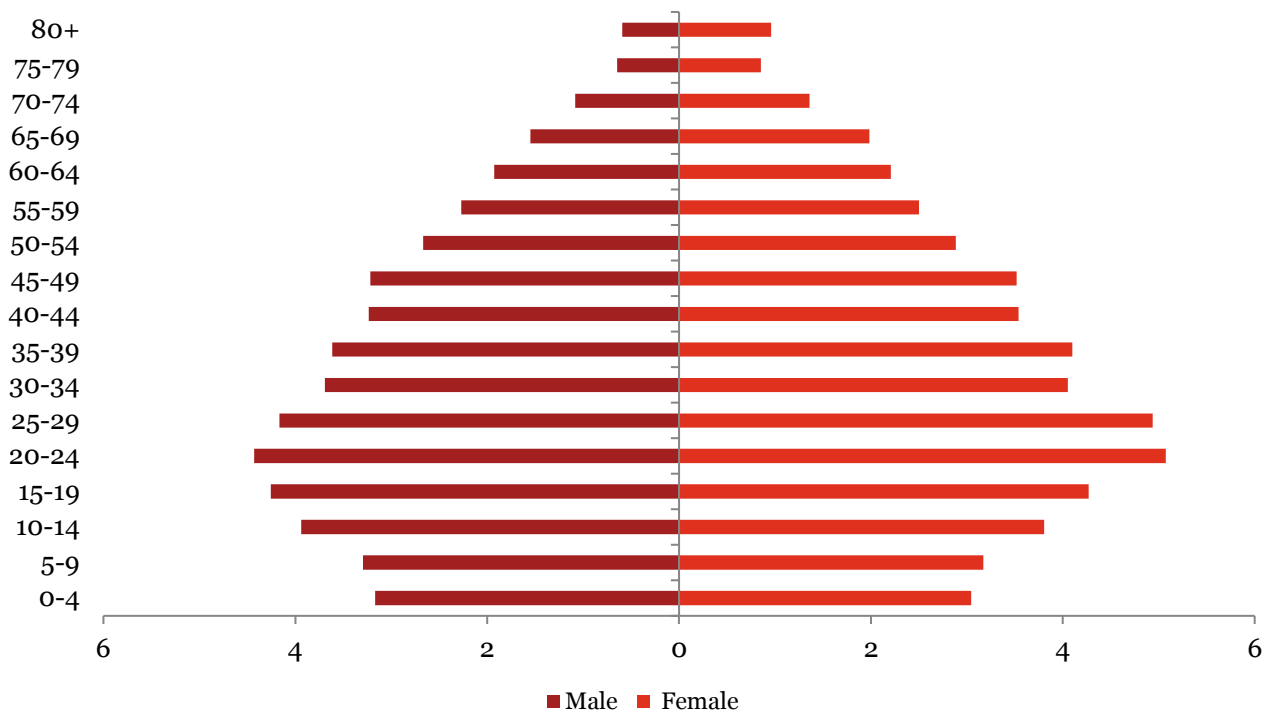


<sup>5</sup> Brief Industrial Profile, DC-MSME

<sup>6</sup> Census, 2011

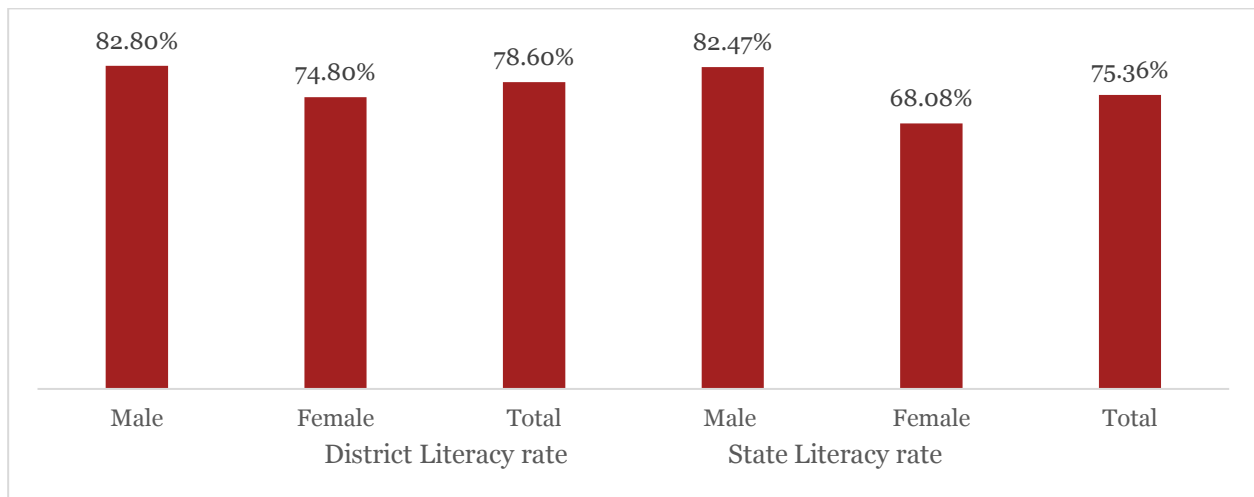
<sup>7</sup> Employment and Unemployment Survey, Vol III, Labour Bureau 2015-16

**Figure 29: Population Pyramid Udupi- 2011**



## Literacy rates

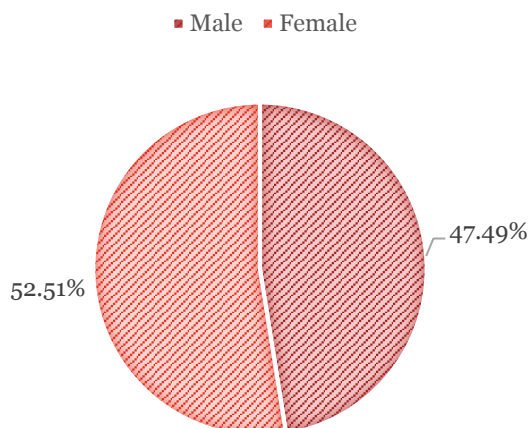
**Figure 30: Udupi vs Karnataka literacy rates (2011)**



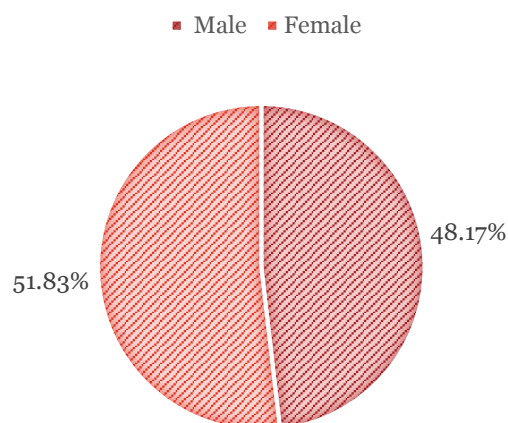
Total literacy rate of Udupi, as per the Census 2011, is approximately 78.6%, which is more than the State's literacy rate of around 75.36% indicating that Udupi is the better performing district in literacy in the state. Also, the female literacy rate of Udupi is 74.8% which is substantially lower than the male literacy rate of 82.8% in 2011.

## Age specific population trends and education level for 2011

**Figure 32: Age specific Population in Udupi (15-59 years)**

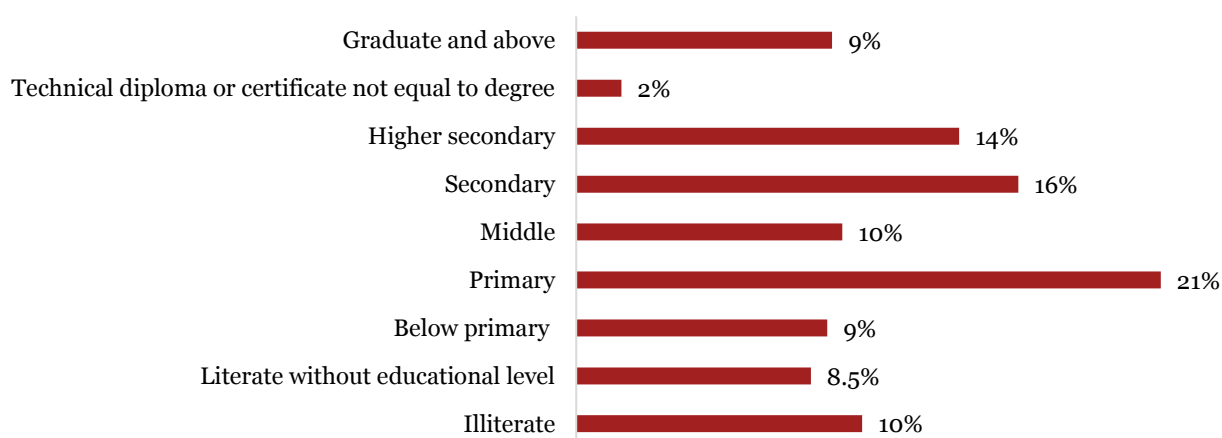


**Figure 31: Age specific Population in Udupi (15-24 years)**



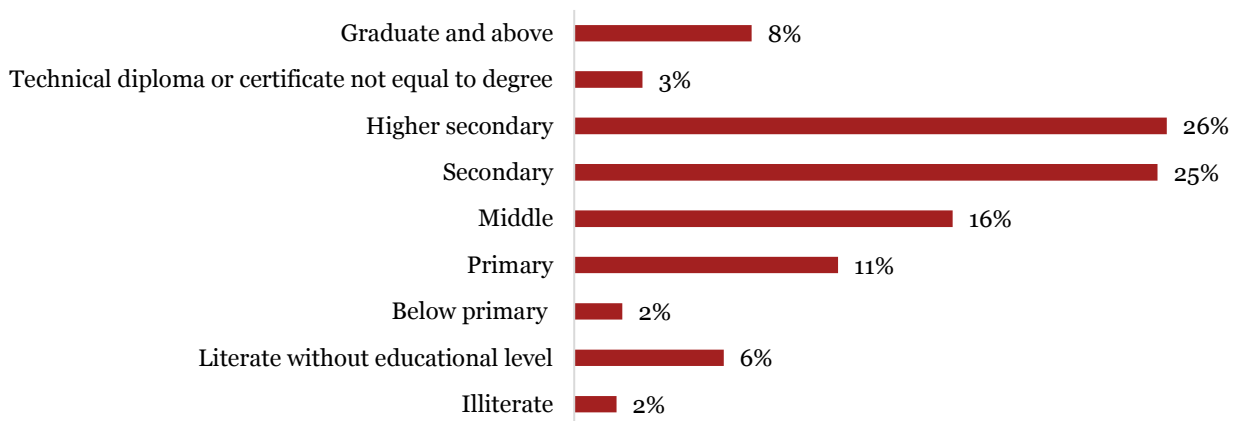
The share of population of males and females in total population of Udupi across the two age groups: 15-59 years and 15-24 years is only marginally different with males constituting 52.51% in the 15-59 year age group and 51.83% in the 15-24 year age group whereas females constituting 47.49% in the 15-59 year age group and 48.17% in the 15-24 year age group.

**Figure 33: Age Specific educational level in Udupi (15-59 years)**



The Census 2011 indicates that for the age category of 15-59 years, 10% of the population of Udupi are illiterates, 8.5% of the population in the age category are literate without any educational qualification, 9% have attended school till below primary level and 21% have completed schooling only up to primary level. Roughly, 10% of the literate population has completed schooling up to the middle level, whereas around 16% of the literate population has been educated till secondary. Only 2% of the population of this district has done a certificate/diploma course and 9% have at least graduated, indicating that a graduate/post-graduate degree is more sought after than a certificate/diploma.

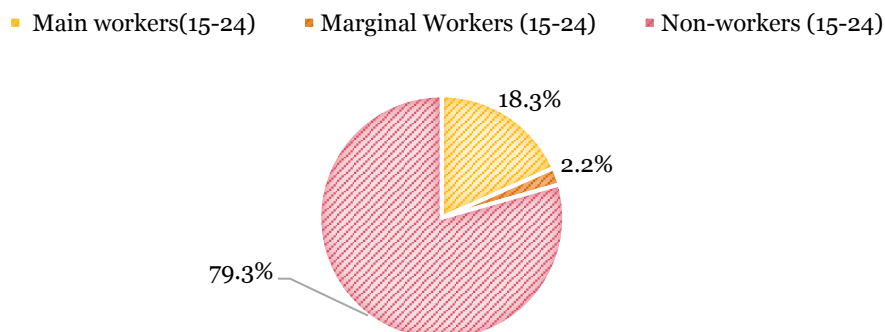
**Figure 34: Age specific education level in Udupi (15-24 years)**



For the age category of 15-24 years, 2% of the population of Udupi are illiterates, 6% are literate without any educational qualification, 2% have attended school till below primary level and 11% have completed schooling only up to primary level. Roughly, 16% of the literate population has done schooling up to the middle level, whereas, around 25% of the literate population has been educated till secondary. Only 3% of the population of this district has done a certificate/diploma course and 8% have at least completed graduation.

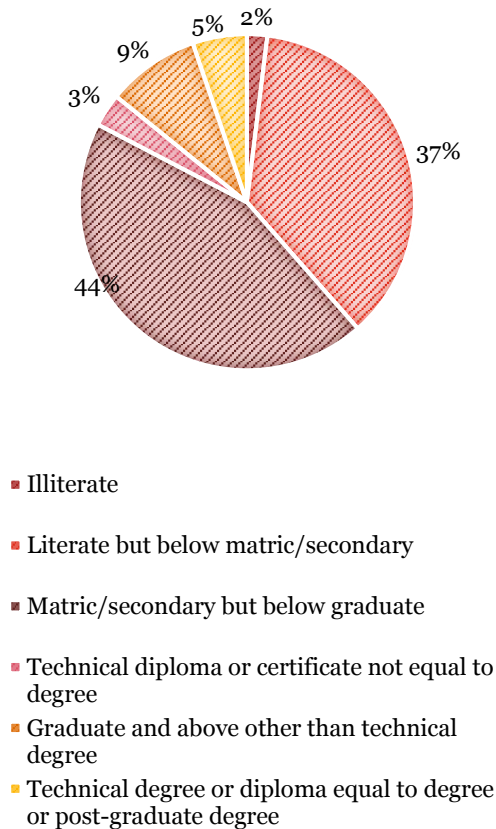
### *Age specific distribution of workers and educational level*

**Figure 35: Age specific distribution of workers in Udupi (15-24 years)**

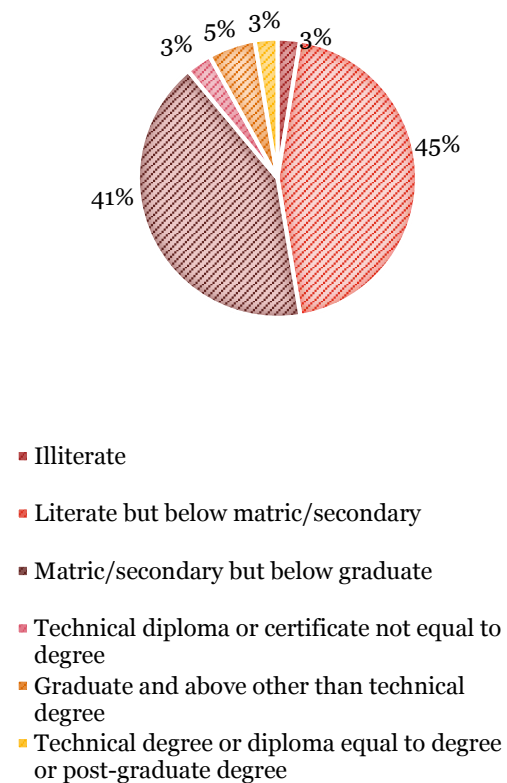


Over 79% of the population in the age group of 15-24 years are non-workers, while 18% of the population are main-workers, and 2% are engaged in marginal work i.e. work for 3-6 months during the year.

**Figure 36: Educational level for marginal workers available for work in Udupi (15-24 years)**



**Figure 37: Educational level for main workers available for work in Udupi (15-24 years)**



From the Census 2011, depicted in the charts above, we find that the proportion of main workers who are illiterate (*in the age category 15-24 years*) is slightly more (*1 percentage point difference between the two*) than the proportion of marginal workers available for work and who are illiterate. We also find that the proportion of main workers who are literate but below matric/secondary (*in the age category 15-24 years*) is slightly more (*8.5 percentage point difference between the two*) than the proportion of marginal workers who are available for work and are literate but below matric/secondary. The proportion of main workers who are matric/secondary but below graduate (*in the age category 15-24 years*) is slightly less (*2.5 percentage point difference between the two*) than the proportion of marginal workers who are available for work and are matric/secondary but below graduate. For the remaining three educational levels, we find that the population shares are more or less the same across the two worker categories.

### 1.2.2. Key Economic Drivers

According to District Economy Survey, Udupi, the Gross Domestic Product of the district (at constant prices- 2004-05) was INR 6,90,862 crores in 2012-13 and it has steadily grown at a CAGR of 9% over the period 2004-05 to 2012-13. The sectoral break up suggests that tertiary sector contribution to district GDP is nearly half (54%) followed by secondary sector (29%). Further disaggregation suggests that manufacturing sector has a share of 16% and banking and insurance have a share of 15% in the district GDP. Other sectors driving the district economy are trade, hotel and restaurant (13.8%) and construction sector (10.4%). Manufacturing in the district has witnessed an impressive growth of 14% over the years 2005-12.

The key economic drivers of the district are illustrated below:



### 1.2.3. Priority Sectors

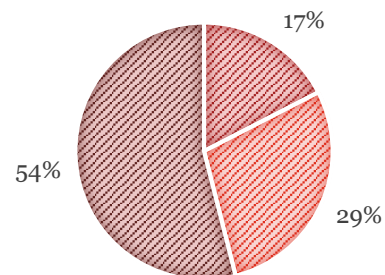
In Udupi, the priority sectors that have been identified are **Port and Maritime sector** and other sectors: **Fisheries, tourism and construction**. Other sectors that have been identified as priority sectors from the point of view of their contribution to district GDP are **manufacturing, banking and finance and trade, hotel and restaurant**.

### 1.2.4. Investments

According to the information provided by the District Industries Centre and Tourism, Udupi, the proposed investments in the district for the year 2015-16 amount to INR. 21,164.56 crores. Investment for Udupi Power Corporation project (with an expansion capacity from 1,200 MW to 2,800 MW) to the extent of INR 11,500 Cr. and investments for development of coastal circuit in three districts (Dakshina Kannada, Udupi and Uttara Kannada) worth INR 9,567.38 lakhs have been proposed.

In fisheries sector, 2<sup>nd</sup> stage of construction of Fisheries Jetty in Hejamadi Kodi Fishing Port worth INR 122.59 Cr., construction of break water/guide bund in Gangolli fishing harbor worth INR 102 cr. has been proposed for 2019, extension of brake water in Koderi worth INR 33 Cr. has been proposed for 2019.

**Figure 38: Share in Udupi district economy**





Under Invest Karnataka space too, some significant investments are proposed and these include development of city bus terminal, Sea Food Parks between Mangalore and Udupi towns. The key players for the proposed projects are KSRTC, KSIIDC and Department of Fisheries.

Details of some of the key investments proposed for the district are given below:

**Table 3: Proposed Key Investments for the year 2016-22 in Udupi**

Sector	Proposed Investment (INR crores)	Number of Projects	Expected Employment	Key Players
Fisheries	977.59	9	275 persons	M/S Sea Eagle dredging, Sri Satish Shet, M/S Unique DTM, Sripathi Associates, M/S NSK builders
Under Invest Karnataka	More than 3.06	3	Not Available	KSRTC, KSIIDC, Fisheries Department
Projects registered with DIC and tourism	21,164.56	3	1740 persons	KSTDC, UPCL, Brightflexi International Pvt. Ltd.

**Table 4: Details of Investments in Fisheries sector in Udupi**

Project	Proposed Investment (INR lakhs/cr)	Expected Employment	Project Status	Project awarded
Construction of Sea Walls for preventing erosion at Bada Ermal area, in Kapu Vidhanasabha ward, Udupi Taluk up to 50.250 kms.	100 lakhs	50 persons	Expected year of completion: 2017	Sri Satish Shet
Construction of Sea Walls for preventing erosion at Tenka Ermal area, in Kapu Vidhanasabha ward, Udupi Taluk up to 47.935 kms	100 lakhs	50 persons	Expected year of completion: 2017	Sri Satish Shet
Construction of Sea Walls for preventing erosion at Kapu Thottam area, in Kapu Vidhanasabha ward, Udupi Taluk up to 56.555 kms	100 lakhs	50 persons	Expected year of completion: 2017	Sri Satish Shet
De-silting works in estuary of Gangolli Fishing port, Kundapura	195 lakhs	15 persons	Expected year of completion: 2017	M/s Sea Eagle Dredging Marine Infrastructure Pvt., Mumbai
De-silting works in the boat basin built in first and second phases in Malpe port	225 lakhs	15 persons	Ongoing	M/s Unique DTM Associates, Mumbai
Construction of Sea Walls for preventing erosion at Malpe, Udupi upto 71.270 kms	300 lakhs	15 persons		Not Available

Project	Proposed Investment (INR lakhs/cr)	Expected Employment	Project Status	Project awarded
The 2nd stage jetty (Fisheries) construction is at Hejamadi Kodi Fishing port, Udupi	122.59 crores	Not Available.	The proposal is under the review of the Central Government	Not Available
Construction of Break Water/Guide Bund from 126.00 ms for 700 m on the north side and till 900.00 m on south side of shipping lane quay of the fishing harbour in gangolli, Kundapura	102 crores	50 persons	The expected date of completion of the project is in the month of November, 2019.	M/s Sripathi Associates
Extension of Brake Water from 200.00 m to 400.00 m (-3.00 depth) on north and south side of Fishing harbour in Koderi, Kundapura	33 crores	30 persons	The expected date of completion of the project is in the month of January, 2019.	M/s NSK Builders, Trichy

**Table 5: Details of proposed investment in Tourism Department and DIC, Udupi**

Project	Proposed Investment (INR lakhs/cr)	Expected Employment	Key Players
Development of Coastal Circuit in Dakshina Kannada, Uttara Kannada and Udupi District in Karnataka under Swadesh Darshan Scheme	9,567.38 lakhs	50 persons (Direct) 100 persons (Indirect)	KSTDC and Department of Tourism
M/S Udupi Power Corporation Ltd: Expansion plans from 1200 MW to 2800 MW	11,500 crores	1,500 persons	Udupi Power Corporation Ltd
M/S Brightflexi International Private Limited (Manufacturer of rubber products)	97.18 crores	Not Available	Brightflexi International Private Limited

### 1.2.5. Youth Aspiration

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

### Respondent Profile

The table below provides an overview of the respondent profile:

Profile	Details
Total Sample Size	384
Gender Profile	Male- 57.6% Female- 42.4%
Age Group	15-34 years
Education Level (top 3)	Senior Secondary schooling(Class 9 to 10)- 11.4% Higher secondary schooling with science (Class 11 to 12)- 25.4% Higher secondary schooling with commerce (Class 11 to 12)- 7.6%
APL/BPL/AAY/Don't know	APL-14.6 % BPL-77.1%

	AAY- 0.3% Don't know- 8.1%
Occupational Profile (top 3)	Student (24.7%), Salary from Employment (12.8%), Self Employed (9.6%)

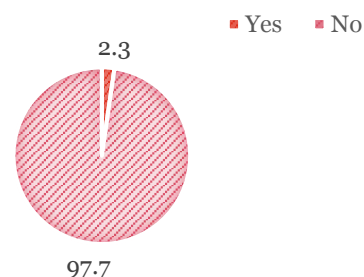
## Exposure to Vocational Training and Educational Aspiration

Regarding the exposure to the vocational training, most students reported that they had not completed any vocational training course. Overall, 97.7% of the respondents had not enrolled in vocational training course (Figure 39).

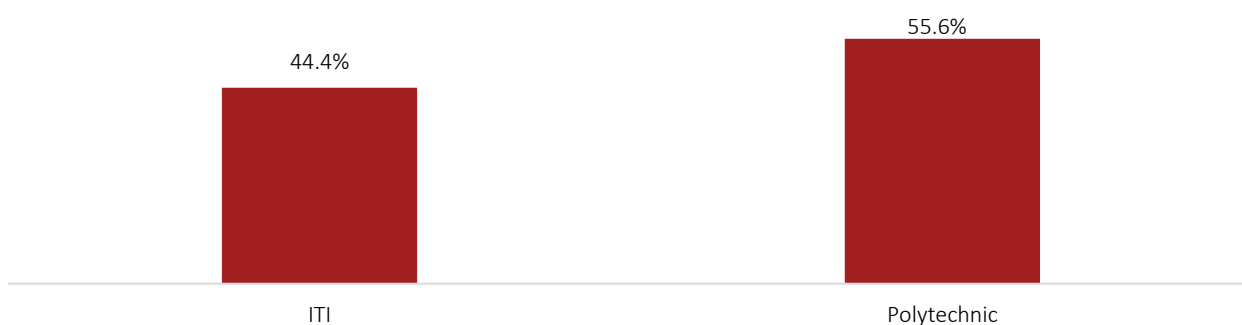
**Of the total respondents who underwent vocational training (which is 2.3%), majority were from Polytechnic (55.6%) and ITI (44.4%) (**

Figure 40).

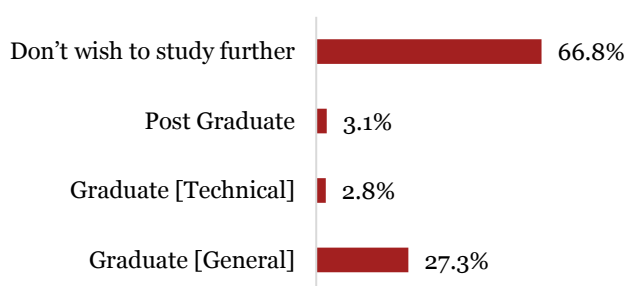
**Figure 39: Percentage of respondents who underwent vocational training**



**Figure 40: Respondents who completed courses in different vocational institutions - Udupi**



**Figure 41: Desired level of education - Udupi**



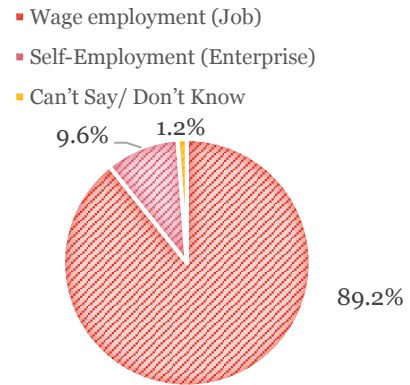
Further, the respondents were asked level about the educational level they wished to attain. Nearly 30.4% aspired to attain graduation and post-graduation level of education. The desire to attain technical education is relatively low with only 2.8% aspiring for graduation or post-graduation in technical fields (Figure 41).

## Job Aspiration

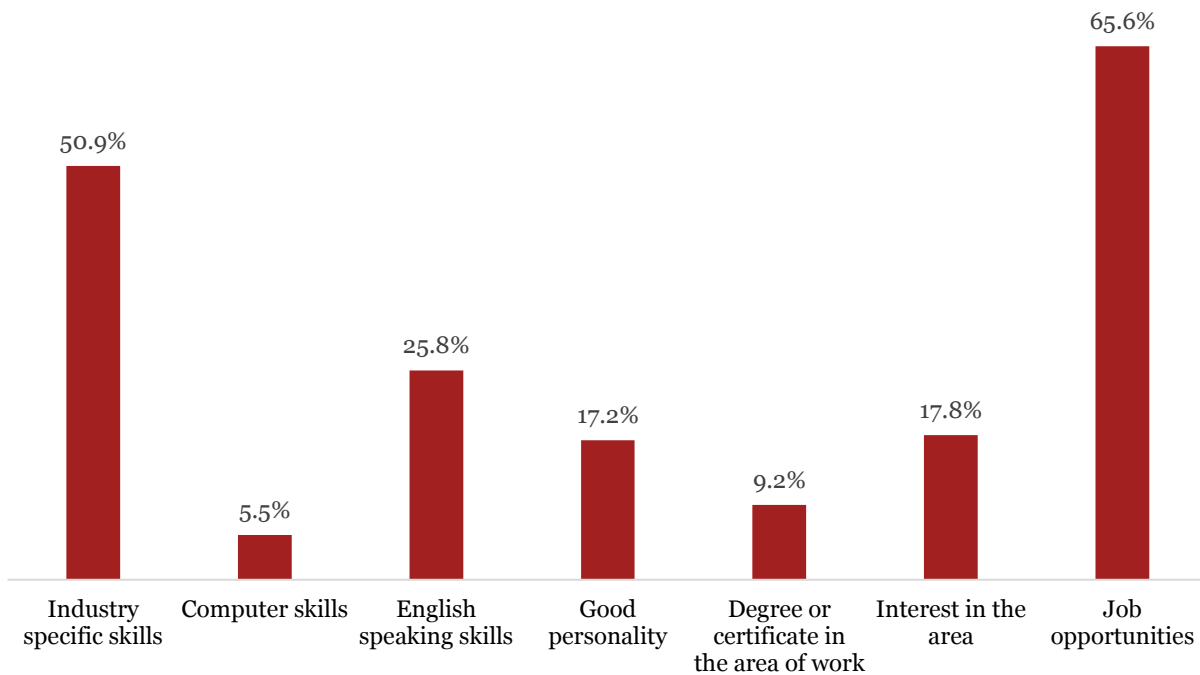
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 89.2% of the respondents reported to have preferred wage employment over self-employment (Figure 42)

The respondents were further asked to identify the factors important for securing employment in the area of interest. 65.6% of the respondents identified Job opportunities as the most important factor for securing employment followed by industry specific skills (50.9%), English speaking skills (25.8%) and good personality (17.2%) (Figure 43).

**Figure 42: Respondents aspiring for wage and self-employment – Udupi**



**Figure 43: Factors important for securing employment in area of interest**

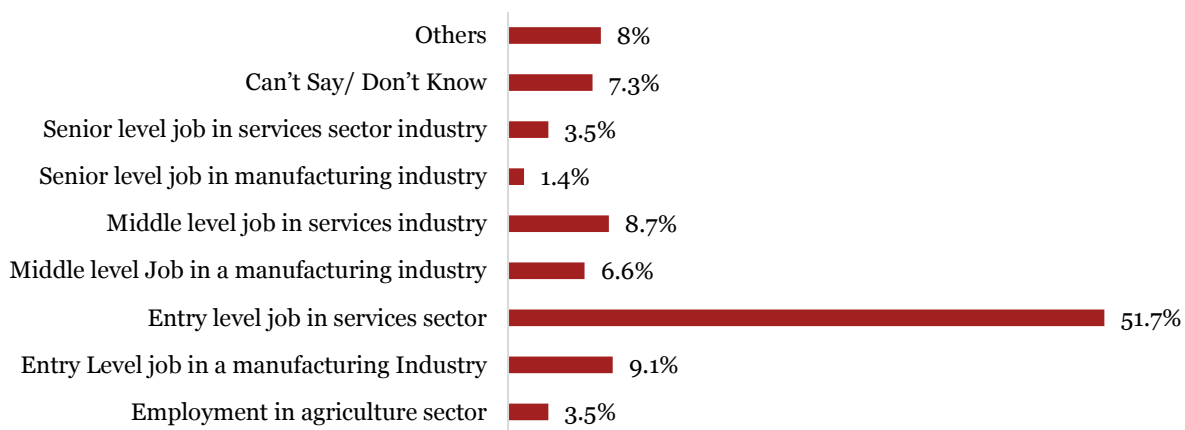


8

Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for entry level jobs in service sector (51.7%) and entry level jobs in manufacturing industry. This is followed by middle level jobs in service industry (8.7%) (Figure 44).

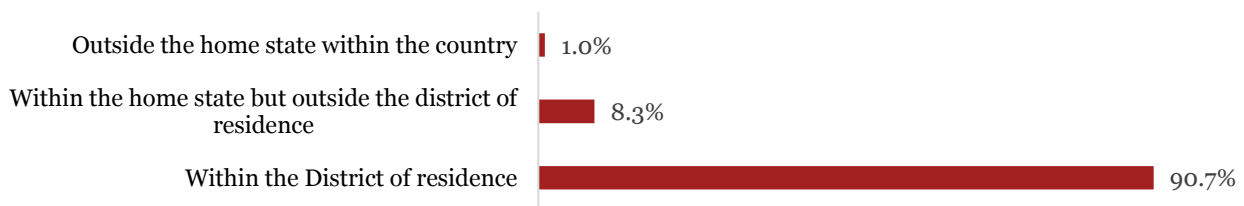
<sup>8</sup> Responses of the multiple response questions will add up to more than 100%

**Figure 44: Desired job profile after completion of education/training (Multiple responses)**

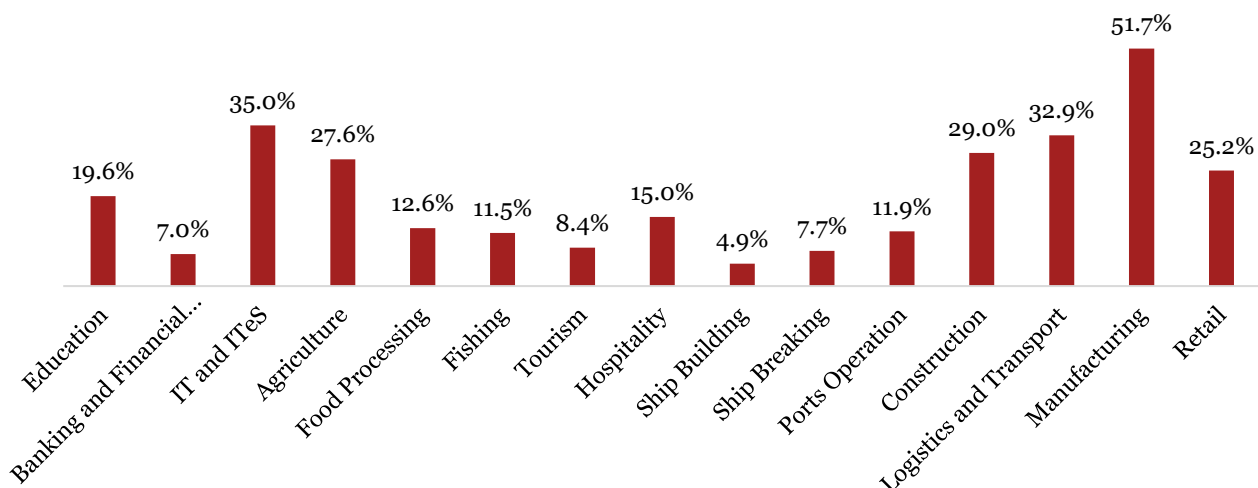


Out of total respondents, 90.7% preferred to work in the same district. 8.3% expressed willingness to migrate to other districts in the same state suggesting lack of flexibility among the youth of the district (Figure 45).

**Figure 45: Preferred work location of candidate- Udupi**



**Figure 46: Sectors in which respondents' foresee getting a desired job - Udupi**

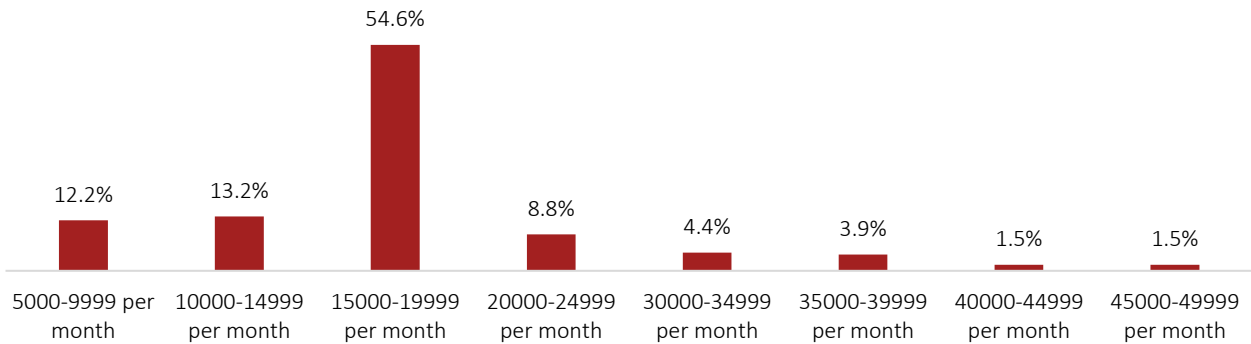


Further, Manufacturing (51.7%), IT and ITes (35%), logistic and transport (32.9%) and agriculture (27.6%) have been identified as sectors in which the respondents feel that they are mostly likely to get jobs which is in

alignment with their aspiration for a job in the service sector space. The details of other sectors are mentioned below (

Figure 46).

**Figure 47: Monthly salary expectation of respondents - Udupi**

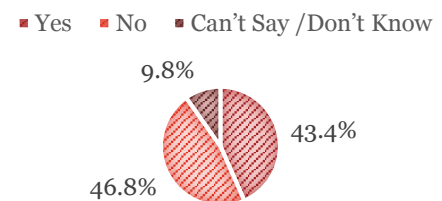


For majority of the respondents (54.6%) the monthly salary expectation was in the range of INR 15,000-20,000; and for 13.2% of respondents the expected monthly salary was in the range of INR 10,000-15,000 per month (Figure 47).

### *Training Aspiration*

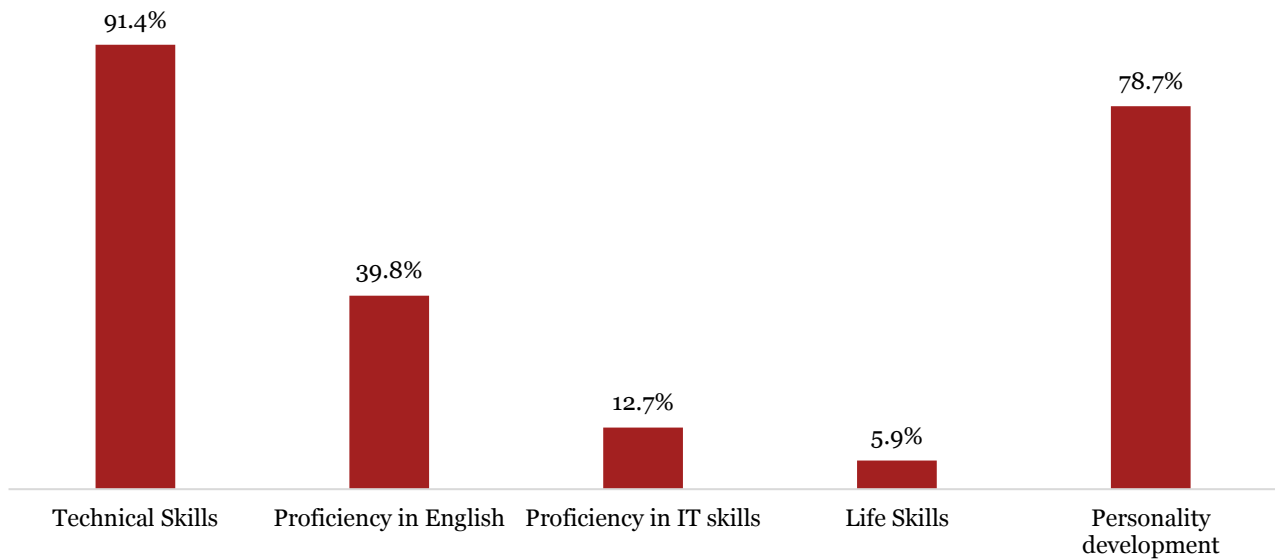
Regarding willingness of the respondents to participate in the training programme in next one year, 43.4% expressed interest whereas 46.8% expressed dis-interest (Figure 48).

**Figure 48: Willingness to participate in trainings - Udupi**



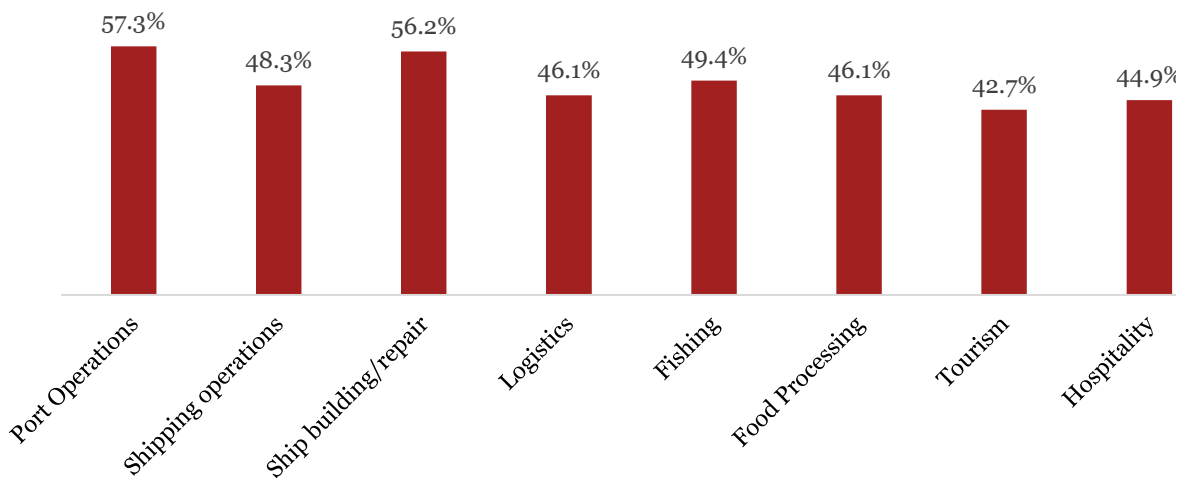
Further, when enquired about the key focus areas of skill training, 91.4% of respondents reported that emphasis must be laid on technical skills followed by personality development (78.7%) and proficiency in English (39.8%) (Figure 49).

**Figure 49: Focus area on skills training (Multiple responses)**



Overall, there is demand for training in port operations (57.3%), shipping building (56.2%), fishing (49.4%), shipping operations (48.3%) (Figure 50).

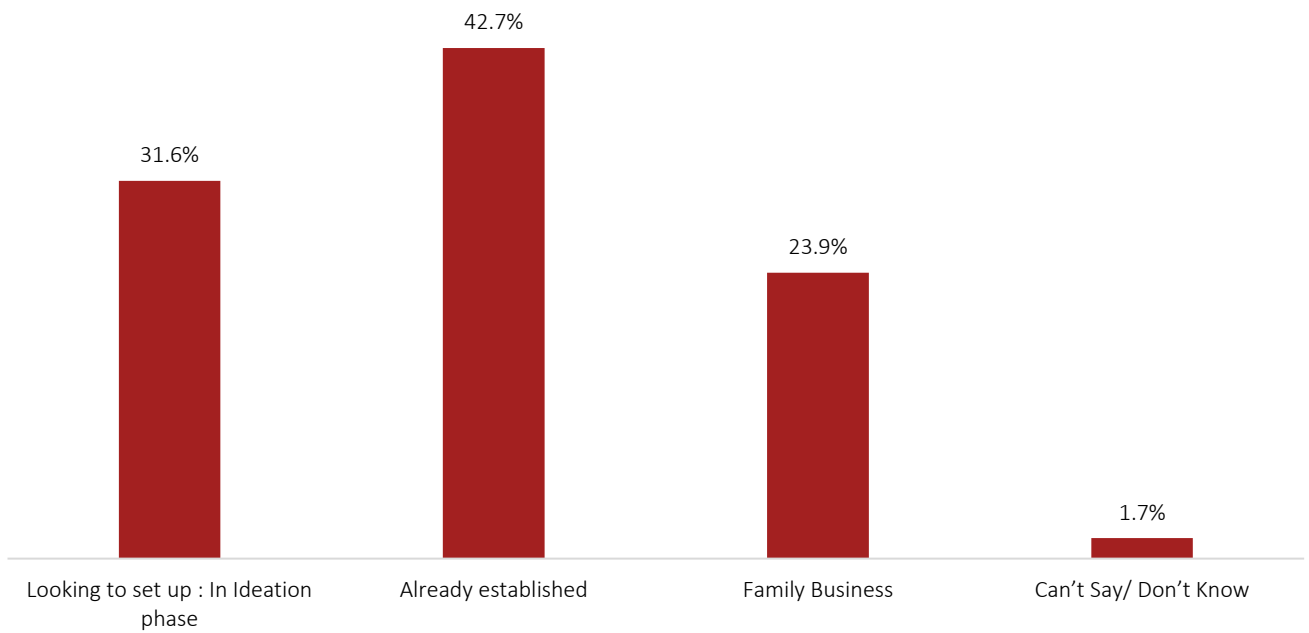
**Figure 50: Willingness of respondents to participate in trainings of different sectors – Udupi**



## *Self-Employment*

Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, 42.7% were already established and 31.6% were in their ideation stage (Figure 51).

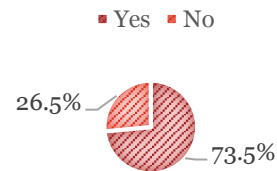
**Figure 51: Current Status of Entrepreneurial Venture - Udupi**



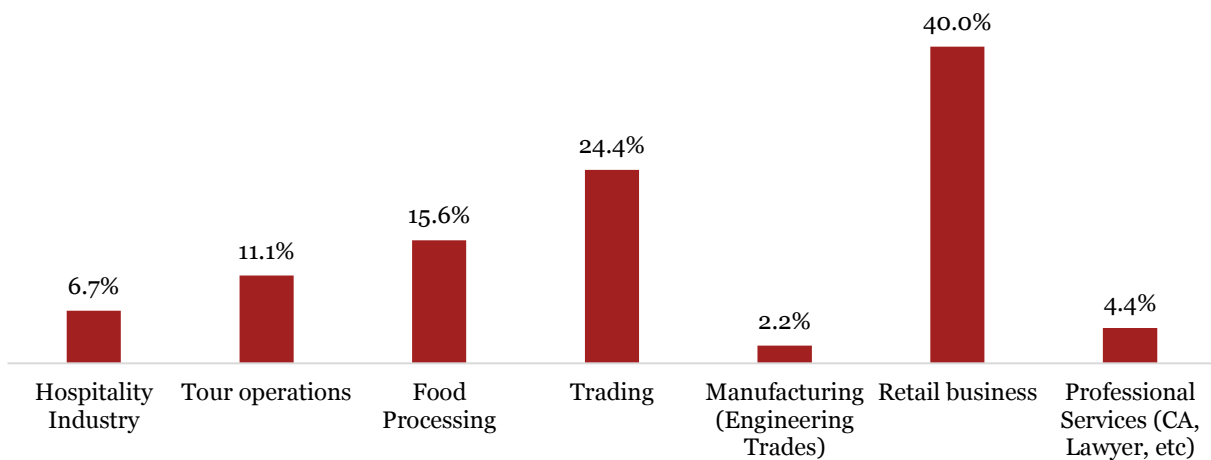
Further, 73.5% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 52).

Retail business (40%), trading (24.4%), food processing (15.6%), tour operators (11.1%) have been identified as most preferred sectors for setting own enterprise (Figure 53).

**Figure 52: Interested in skill development for enhancing entrepreneurial skills- Udupi**



**Figure 53: Sectors for establishing enterprise – Multiple responses**





### 1.2.6. Training Infrastructure

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
ITI	10	11	Electronics Mechanic, Plumber, Mechanic (Refrigeration and Air Conditioner), Computer operator and Programming Assistant, Information communication technology systems maintenance, Secretarial practice (English)
Polytechnic	6	9	Mechanical Engineering, Electronics and Communication Engineering, Computer Science, Civil Engineering, Automobile Engineering
PMKVY	1	7	CNC Programmer, Sales Associate, Trainee associate, Optical fibre technician, CNC Operator turning

The Training infrastructure in the District is dominated by the ITIs and Polytechnics. The trades are largely focussed on technical and engineering trades.

- ITIs: There are 10 ITI's providing training in 11 different trades mainly focussed on electronic mechanics, computer operator and programming
- Polytechnics: Core engineering sectors like Automobile, Civil, Electrical & Electronics, Electronics & Communication and Mechanical remain the most dominant trades. Most of the students prefer to move to full time engineering courses post diploma.
- PMKVY– The Trades are focussed on the CNC Programmer, Sales Associate, Trainee associate, Optical fibre technician and CNC Operator turning.

## 2. Skill Gap Assessment, Job Roles and Emerging Job Roles

### 2.1. Dakshina Kannada

#### 2.1.1. Incremental Demand for Skilled & Semi Skilled Manpower

The district of Dakshina Kannada is witnessing increased industrialization and urbanization. These are affecting the incremental demand of skilled workforce in the district where as per our methodology manufacturing, Logistics and Construction are the most dominant sectors that have the most labour force demand and as such most skilling opportunities.

**Table 6: Incremental Demand<sup>9</sup> for Skilled Workers in Dakshina Kannada**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
Ports & Allied	583	601	620	640	660	681	3,785
Logistics	1,211	1,242	1,272	1,305	1,337	1,370	7,737
Tourism	548	574	602	630	662	693	3,709
Construction	224	224	224	227	226	228	1,353
<b>Other Dominant Sectors in the District</b>							
Manufacturing	292	292	294	295	296	296	1,765
Trade (Retail & Wholesale)	1,401	1,467	1,539	1,614	1,693	1,774	9,488
Agriculture & Fisheries	-784	-780	-777	-774	-770	-767	-4,652
BFSI	332	362	393	427	464	504	2,482
<b>TOTAL</b>							25,667

#### Key trends in Core Sector

##### Ports & Allied Sectors

The construction of 2nd phase of cargo wharf at Old Mangalore Port, construction of dedicated Jetty for Lakshadweep, providing handling equipment at Berth No.12 and Berth No. 8 for handling Bulk Cargo and Container at NMPT under PPP Mode are expected to drive the throughput in the NMPT in the near future. The sector can expect to generate more requirements for skilled laborers for port led activities as the traffic and performance of the port is increasing.

##### Tourism & Hospitality

The district is one of the most preferred tourist destinations in the country as it is known for the religious centers and serene beauty. The increasing trends in the inflow of tourists in district would continue to require considerable workforce in the Tourism & Hospitality sector. Development of coastal circuits under Swadesh Darshan has been proposed in the areas including water sports activities, development of beaches and in hospitality sector such as home stays, floating restaurants that is expected to generate more employment in the sector in the next few years. Mangalore is also identified as potential health care tourism destination to attract

<sup>9</sup> Incremental Demand Estimates the additional stock of workforce that are to be created given the expected Economic Conditions in the period of study. This may help in estimating requirement for fresh trainings.

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tourists. Mangalore, urban center was also identified for tourism development through development of tourists attractions, entertainment parks, museums, golf courses, galleries, art & craft villages which is under urban tourism that will boost employment opportunity in the next five years.

## *Fisheries*

The sector offers a vast scope of employment for the communities in various areas, such as employment opportunities in processing plants, ice plants, transportations, marketing, crew members in fishing boats etc. Government also offers various schemes to encourage the fishing community. College of fisheries, CMFRI, MPEDA are few of the institutions to provide skill training for the community to improve on the traditional practices. The processing units, deep sea fishing, cage culture etc. demands for semi-skilled/skilled workers in the fishing industry. The investment worth INR 120 cr. has been proposed for Sea Food Park between Mangalore and Udupi towns which will provide more employment opportunities in the next few years. Various fisherman welfare schemes have been implemented for the benefit of fisherman such as insurance coverage; infrastructural support for establishing ice plants/cold storages, fish meal plants and fish market. These would require skill upgradation and spreading awareness among fisher folk.

## *Key trends in other Dominant Sectors in the District*

### *Construction*

There is a boom in construction sector in the district. The proposed Smart City projects such as widening of roads (INR 150 cr.), upgradation of roads with footpaths (INR 150 cr.) along with other investments in Port & Maritime, Fisheries and real estates including development of storage yard, container freight stations and retaining walls for MRPL etc. are driving the demand in this sector. Thus, there is going to be a considerable construction activity in the district.

### *Logistics*

The continued expansion of traffic in New Mangalore Port can be expected to drive the requirement of the truckers. Dakshina Kannada is an exporter of tiles, cashew nuts, marine fish products and has Mangalore SEZ which is near to the port. The requirement of logistics is expected to increase in order to meet the demand of construction and manufacturing growth in the district.

### *BFSI*

Mangalore is one of the financial hub of the country. The origin of Karnataka bank and Corporation bank is in the district headquarters of Dakshina Kannada. Banking sector requires qualified employees with basic computer skills. A large number of people are hired as Insurance agents which is one of the high demand job roles in the Insurance sector.

### *Manufacturing*

Manufacturing is one of the dominant sectors and is set to attract key investments. Special Economic Zones and investments Industrial Estates in Mangalore offer vibrant infrastructure for manufacturing units, such as food processing units, pharmaceuticals, petrochemicals, chemicals & fertilizers etc. The prominent players in Mangalore are Mangalore Chemicals and Fertilizers, Kudremukh Iron Ore Company Ltd, Mangalore Refinery and Petrochemicals Ltd.

### *Agriculture*

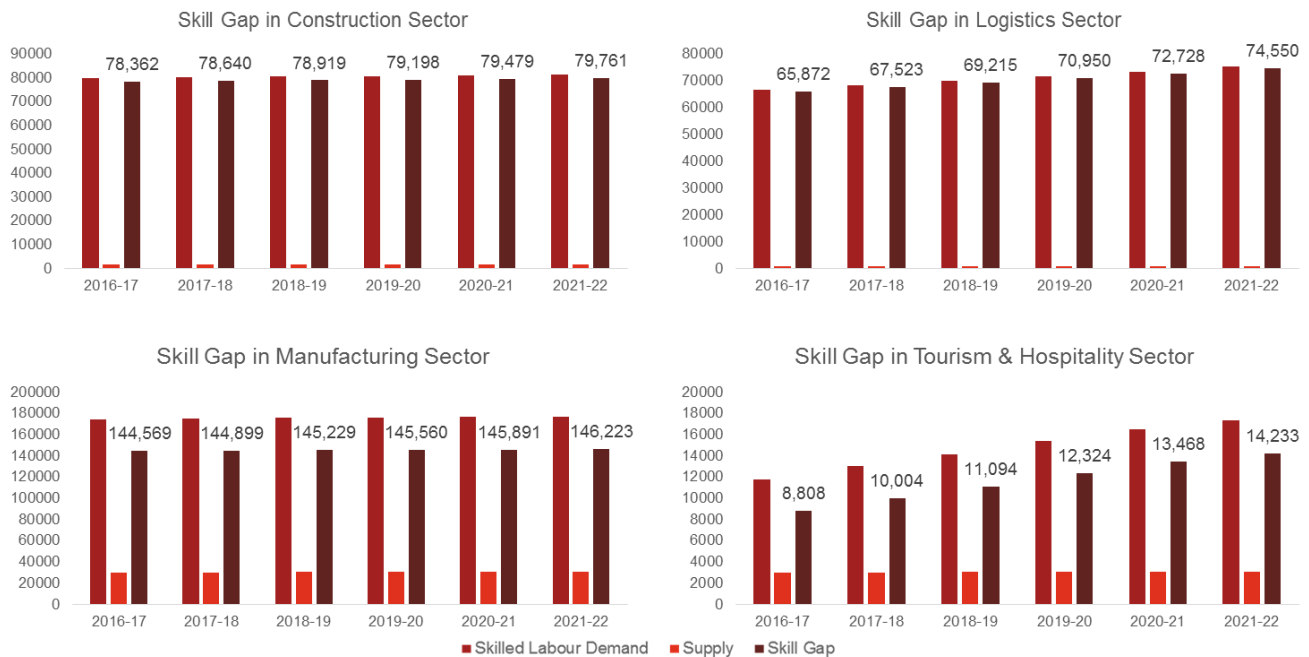
The main crops such as Paddy, coconut, black pepper, cashew, cocoa, rubber, banana etc. are cultivated in Dakshina Kannada. In the year 2014-15, the production of horticulture (fruit crops) and vegetable crops are

1,38,419.9 tonnes and 12064 tonnes. Krishi Vigyan Kendra in Dakshina Kannada often imparts training on agriculture for farmers to enhance their income.

### 2.1.2. Gap between Total Demand and Supply for Skilled workforce in Select Sectors<sup>10</sup>

The gap in the existing total skilled workforce connotes the gap between the total requirement of skilled manpower and workforce in the district with recognized trainings in the said sectors.

#### Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in Dakshina Kannada



- **Construction Sector:** The demand for skilled labour is larger in the district. However, in the present capacity, the gap between **total requirement of skilled manpower** and the **availability of workforce** is set to increase by 1000 by 2022.
- **Logistics:** The incremental requirement for workforce in the district is expected to increase the gap (9000 in next five years) indicating extreme shortage.
- **Manufacturing:** The sector has historically been served by degrees in engineering, polytechnics and ITIs in the region. The gap is set to increase marginally by 2022.
- **Tourism & Hospitality Sector:** Given the present trends of increased formalization and requirement of skilled workers in the sector, the gap between the **total requirement of skilled manpower** and **availability of workforce** is set to increase by 6,000 by 2022.

### 2.1.3. Job Roles High in Demand

This sections captures the jobs that have been reported to be high in demand in Dakshina Kannada. The job roles that are listed below have been identified by the stakeholders. Across the sectors, fewer job roles are susceptible

<sup>10</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling

to be impacted by technological disruptions and automation. The sub-sections below describe the job roles that are high in demand across the sectors.

### *Port and Maritime*

NMPT handles General Cargo, Edible Oil, Bulk Cement, Crude Oil, LPG, Coal, Chemicals, Liquid Ammonia/Phos. Acid, Bulk Cargo. In-house training division imparts skill training on cargo handling and material handling. There are no sector specific training institutes in the district. Tug operators, Surveyors and cargo handling workers are high in demand.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Port operations</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Crane Operator</li> <li>• Forklift Operator</li> <li>• Winch operator</li> <li>• Shore worker/leader</li> <li>• Surveyors</li> <li>• Supervisors</li> <li>• Truck Driver</li> <li>• Electrician</li> <li>• Tug operators</li> <li>• Maintenance technician</li> <li>• Cargo handling workers</li> <li>• Dock laborers</li> <li>• Cargo supervisor</li> <li>• Hatch worker</li> <li>• Tally clerk</li> <li>• Signalman</li> </ul>	<ul style="list-style-type: none"> <li>• In-house safety training such as safe handling of cargoes, material handling etc. are conducted by Port/Terminal operators for the employees.</li> <li>• Tug operators, cargo handling workers, surveyors, truck drivers and crane operators are high in demand.</li> <li>• Port &amp; maritime sector is currently demanding a skilled workforce</li> <li>• No specific trainings are located in the district for port operations.</li> <li>• Skilled workforce are difficult to find in the job market.</li> </ul>

### *Other Priority Sectors*

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like port and maritime sector, sectors such as logistics, manufacturing, and construction will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature.

### *Logistics*

The modes of transportation are Road, Rail and Ports. Cargo to the port are transported through road or rail. Skilled trucker drivers are high in demand.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Logistics</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Logistic managers</li> <li>• Cargo supervisors</li> <li>• H.V. Drivers</li> <li>• Crane/Equipment operator</li> <li>• Fleet manager</li> <li>• Warehouse Supervisor</li> </ul>	<ul style="list-style-type: none"> <li>• On the Job trainings for H.V. Drivers</li> <li>• Skilled workforce are required in logistic sector to handle hazardous materials.</li> </ul>

### *Construction*

In Dakshina Kannada, Smart City projects and New Mangalore Port projects require skilled workforce in electrical works, bar benders, masons, roller/grader operators, technical supervisors for building huge

infrastructural facilities. Other projects such as development of storage yard, commercial complex at Moodabidri, Dakshina Kannada etc. require semi- skilled/skilled workers.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Construction	Findings
<ul style="list-style-type: none"> <li>• Site supervisors</li> <li>• Technical Supervisor</li> <li>• Drivers</li> <li>• Grader Operator</li> <li>• Roller operator</li> <li>• Mason</li> <li>• Bar bender</li> <li>• Supervisor</li> <li>• Carpenter</li> <li>• Electrician</li> <li>• Crane Operator</li> </ul>	<ul style="list-style-type: none"> <li>• Smart city projects and other infrastructural development projects will require skilled workforce to work with sophisticated technology</li> <li>• Site workers will require skills to use new, innovative technological devices and smart systems</li> <li>• The sector hires the mixture of unskilled, semi-skilled and skilled laborers for the work. The role of unskilled workers will be cleaning, loading &amp; unloading etc.</li> <li>• No specific training providers in the district to deliver trainings. On the job trainings are provided by the industry partners.</li> <li>• Migrant labor engaged in this sector</li> </ul>

## Manufacturing

Manufacturing industries such as rubber/plastic goods, industrial valves, food processing (*cashew processing and value added fish products*), beedi rolling industries are prominent in the district. The district has industrial areas and more than 500 units. The existing workforce will have to upgrade their skills to tune with the emerging market requirements.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Manufacturing	Findings
<ul style="list-style-type: none"> <li>• Crane operator/technicians</li> <li>• Payload operator</li> <li>• Attenders</li> <li>• Drivers</li> <li>• Safety technicians</li> <li>• Assistant operators</li> <li>• Electricians</li> <li>• Helpers (loading/unloading)</li> </ul>	<ul style="list-style-type: none"> <li>• Investments are planned in the sector</li> <li>• Electricians, Welders, Plumbers, Fitters are high in demand.</li> <li>• On the job trainings are provided by the industry. An upskilling can be implemented with the help of training providers and industry partners to improve the awareness/opportunity.</li> </ul>

## Tourism

The district is investing INR 95.67 crores for the development of coastal circuit in Dakshina Kannada, Uttara Kannada and Udupi districts under Swadesh Darshan Scheme focusing on the development of beaches which includes different components such as floating restaurants, surfing equipment, water sporting equipment, rescue boats, tourist facilitation center etc. which will generate employment in the district. Training in tourism sector should focus on water sports activities and associated job roles. Development of cruise tourism, health care and urban tourism will also generate more employment in the district for the next five years.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Tourism	Findings
<ul style="list-style-type: none"> <li>• Boat/Jetty in charge</li> <li>• Security Guards &amp; Drivers</li> <li>• Tour guides</li> <li>• Life Guards</li> <li>• Marine Sports</li> <li>• Kitchen Steward</li> <li>• Chef</li> </ul>	<ul style="list-style-type: none"> <li>• Focus/Training required on associated job roles, communication and customer management</li> <li>• Key job opportunities lie for new age job roles in safety, dial-a-cab services, multi-cuisine cooking etc. especially with the increased focus through the Smart-City investments</li> </ul>

<ul style="list-style-type: none"> <li>• Ticket counter/Parking</li> <li>• Horse riding</li> </ul>	
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## ***Fisheries***

Value addition programme, training on hygiene and marketing could help the fishing community to increase the volume of their catch and revenue. Further, the processing of fish meal, fish oil and other marine products are undertaken in Dakshina Kannada that demands semi-skilled/skilled workforce. Skilled workforce is in demand for aqua culture and shrimp culture. Marine resources available in the district provide scope for setting up of units based on products such as canning units, processing units, fish net manufacturing, building of fishing boats and equipment. Establishment of Sea Food Park between Mangalore and Udupi district will increase the employment in the next few years.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Fisheries</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Cold Storage Technician</li> <li>• Supervisors</li> <li>• Helpers</li> <li>• Quality controller</li> <li>• Freezer operator</li> <li>• Grading</li> </ul>	<ul style="list-style-type: none"> <li>• Skilled manpower needed for aquaculture</li> <li>• Fishing activities are active in Dakshina Kannada and is one of the major source of income.</li> <li>• 4,052 families are involved in fishing activity in the year 2014-15</li> </ul>

## ***BSFI***

Dakshina Kannada is the hub for banking and is one of the dominant sectors, employing a large work force.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: BSFI</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Sales officer</li> <li>• Unit Manager</li> <li>• Receptionist</li> <li>• Officer</li> <li>• Clerk</li> <li>• Technical Staffs (Engineer)</li> <li>• Insurance agents</li> </ul>	<ul style="list-style-type: none"> <li>• Focus required on language and business skills</li> <li>• Basic computer knowledge is important</li> </ul>

## 2.2. Udupi

### 2.2.1. Incremental Demand<sup>11</sup> for Skilled & Semi Skilled Manpower

The district of Udupi is witnessing increased industrialization and urbanization. These are affecting the incremental demand of skilled workforce in the district where as per our methodology, logistics, manufacturing and construction are going to generate the maximum demand for skilled and semi-skilled workers after factoring in future investments and technological changes.

**Table 7: Incremental Demand for Skilled Workers in Udupi<sup>12</sup>**

<b>Sector</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>Total</b>
<b>Core Sectors</b>							
<i>Logistics</i>	2,870	3,446	4,142	4,977	5,979	7,183	28,597
<i>Tourism</i>	878	964	1,058	1,160	1,273	1,398	6,731
<i>Construction</i>	2,953	3,186	3,436	3,709	4,001	4,317	21,602
<b>Other Dominant Sectors in the District</b>							
<i>Manufacturing</i>	3,125	3,489	3,897	4,352	4,861	5,429	25,153
<i>Trade (Retail &amp; Wholesale)</i>	2,248	2,467	2,707	2,970	3,259	3,577	17,228
<i>Agriculture &amp; Fisheries</i>	-1,432	-1,407	-1,380	-1,355	-1,332	-1,307	-8,213
<i>BFSI</i>	332	362	393	427	464	504	2,482
<b>TOTAL</b>							93,580

#### Key trends in Core Sectors

##### Fisheries

The district has the largest natural fishing harbor and fish landing centers in the state. The promotion of deep sea fishing and pisciculture are expected to promote requirement of skilled workers in the sector. The investment worth INR 120 cr. has been proposed for Sea Food Park between Mangalore and Udupi towns which is expected to provide more employment opportunities by establishing processing units, value added fish products etc.

##### Transportation, Logistics and Warehouse

It is expected to generate more employment in the sector for the next five years as the district is the tourist spot which is expected to set a positive impact. The district is known as exporter of cashew, fish related products and other products which will increase the demand for total employment in the logistics sector.

##### Tourism

The proposed investment under the Swadesh Darshan which intends to the development of nine beaches across three districts and the increasing trends of tourists are the key drivers of the incremental demand in the sector. The district is known for the cuisine and the sector opts for skilled workers. Job roles in water sports activity and in hospitality sector require skilled workforce.

<sup>11</sup> 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.

<sup>12</sup> There is no port in Udupi district



## Key trends in other Dominant Sectors in the District

### Agriculture

The impact of the real estate boom, industrial development and urbanization is expected to have a negative impact on this sector. However, due to the demand, awareness and the infrastructure available, there arises the need for skilled workforce in the near future. More than 80 farmers are engaged in sericulture in year 2014-15.

### Manufacturing

Udupi has 4 industrial areas/industrial estates catering to various manufacturing units which require semi-skilled or skilled workforce. Baliga Fish Nets and Best Seller Apparels Pvt. Ltd, are the prominent industrial players in the district to hire the semi-skilled/skilled workers. The projects which are registered with DIC, production units in the district provide an increasing demand for the skilled workforce.

### Construction

The projects such as construction of sea walls for preventing erosion, Jetty construction and other residential construction in the district provides a positive impact on the requirement of skilled manpower.

### BFSI

The district is the financial hub as part of the erstwhile unified South Canara District. The district has emerged as a hub for training in the BFSI sector.

### 2.2.2. Gap between Total Demand<sup>13</sup> and Supply for Skilled workforce in Select Sectors

The gap in the existing total skilled workforce connotes the gap between the **total requirement of skilled manpower** and **workforce in the district with recognized trainings in the said sectors**.

#### Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in Udupi



<sup>13</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling

- **Construction Sector:** The demand for skilled labour is larger in the district. However, in the present capacity, the gap between **total requirement of skilled manpower** and the **availability of workforce** is set to increase by 18,000 by 2022.
- **Logistics:** The incremental requirement for workforce in the district is expected to increase the gap (2,60,000 in next five years) indicating extreme shortage.
- **Manufacturing:** The sector faces high skill gap owing to lack of sufficient training infrastructure in the district. The gap is set to increase by 2022.
- **Tourism & Hospitality Sector:** Given the present trends of increased formalization and requirement of skilled workers in the sector, the gap between the **total requirement of skilled manpower** and **availability of workforce** is set to increase by 17,000 by 2022.

### 2.2.3. Job Roles High in Demand

This sections captures the jobs that have been reported to be high in demand in Udupi. The job roles that are listed below have been identified by the stakeholders. Across the sectors fewer job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describe the job roles that are high in demand across the sectors.

#### Ship building/repair

The ship building/repair sector has reported high demand for welders, CNC operators, machinist, technicians, scaffolders, surveyors, gas gutters and other skilled workers. The said job roles are in demand but there is a need for upskilling of the workforce. There is a significant demand for the skilled workers who possess the necessary skills required for the growth and development of the business. The sector focuses on safety training, clean environment and pollution control.

Job Roles: Ship building and repairs	Findings
<ul style="list-style-type: none"> <li>• Welders</li> <li>• Riggers</li> <li>• Scaffolders</li> <li>• Painter</li> <li>• AC technician</li> <li>• Grinders</li> <li>• Mechanical/Automobile/Electrical engineers</li> <li>• CNC Operator</li> <li>• Fabricators</li> <li>• Gas cutters</li> <li>• HVAC</li> <li>• Blaster</li> <li>• Electrician</li> </ul>	<ul style="list-style-type: none"> <li>• Well trained workforce for the sector is difficult to find in the job market</li> <li>• In-house team to design and engineering.</li> <li>• No specialized training institutions are located in the district.</li> <li>• Tebma Shipyard offers dredgers, Geotechnical research vessel, Multi-purpose offshore Support vessel, Tugs, Anchor handling tug supply vessels which require experienced and skilled workforce.</li> <li>• Workers for ship building/repair, supervisors are high in demand.</li> <li>• Stakeholders indicated preference for hiring ITI graduates with minimum years of experience.</li> </ul>

#### Tourism & Hospitality

The district ranks 10<sup>th</sup> among tourist arrivals in Karnataka. There are opportunities to engage local youths in tourism sector. There is a greater scope for boat operators, banana ride, water scooter ride etc. which exists in Malpe beach. The coastal circuit projects which have been proposed in the district would also require skilled manpower.

Job Roles: Tourism & Hospitality	Findings
<ul style="list-style-type: none"> <li>• Front Office Executive/associate</li> <li>• Store Keepers</li> <li>• Coffee counter</li> <li>• Bell boy</li> </ul>	<ul style="list-style-type: none"> <li>• Udupi is famous for cuisine and the sector demands for well-trained workforce.</li> <li>• Focus required on communication skills/entrepreneurial skills etc.</li> </ul>

<b>Job Roles: Tourism &amp; Hospitality</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Kitchen/Vessel cleaners</li> <li>• Room service boy</li> <li>• Chef (South Indian/North Indian/Chinese etc.)</li> <li>• Assistant Chef</li> <li>• Helper</li> <li>• Pantry</li> <li>• Housekeeping Attendant</li> <li>• Boat/Jetty in charge</li> <li>• Security Guards &amp; Drivers</li> <li>• Life guards</li> </ul>	<ul style="list-style-type: none"> <li>• No specialized training institutions are located in the district for water sports activities.</li> <li>• Life skills training/awareness to promote home stays can be provided among the local people.</li> </ul>

### *Other Priority sectors*

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like port and maritime sector, sectors such as logistics, manufacturing, and construction will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature.

### *Manufacturing*

The district has more than 500 micro and small enterprises such as engineering units, garments, rubber, plastic, petro and leather based industries, etc. Presence of printing press in Manipal t offers printings on cheques, share certificates etc. The existing workforce will have to upgrade the skills according to the emerging market requirements. Skill requirements vary for different roles within the same sector. The sector demands workforce who has in-depth knowledge on various production and operation processes. On the job trainings are conducted in the industries to meet the existing requirements.

<b>Job Roles: Manufacturing</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Machine operators</li> <li>• Helpers</li> <li>• Quality controllers</li> <li>• Safety technicians</li> <li>• Assistant operators</li> <li>• Electricians</li> </ul>	<ul style="list-style-type: none"> <li>• ITI graduates are preferably hired for majority of the job roles.</li> <li>• Unskilled workers are hired to perform activities such as cleaning/washing, helper etc.</li> <li>• Majority of the laborers work on contract basis.</li> </ul>

### *BFSI*

In Udupi, BFSI is one of the most dominant sectors. Presence of one of the public sector banks viz. Syndicate bank has its origin in the district.

<b>Job Roles: BFSI</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Sales officer</li> <li>• Officer</li> <li>• Clerk</li> <li>• Insurance agents</li> <li>• Attenders</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on communication /presentation skills/computer knowledge.</li> <li>• Upskilling on technology and customer service will be important.</li> <li>• Insurance agents are in demand.</li> <li>• Knowledge on various schemes/policies/products</li> </ul>

### *Construction*

The sector is likely to generate employment for many as the port is near to the district and hence the need for semi-skilled and skilled workers is important. In Udupi, construction such as the jetty, residential activities require a pool of skilled workers in structural design, maintenance or electrical works etc. The preference for white collared jobs among the people has created an acute shortage of people for blue collared jobs, such as, construction workers, masons etc.

<b>Job Roles: Construction</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>Contractors</li> <li>Painters</li> <li>Tile/Granite workers</li> <li>Fabricators</li> <li>Site supervisors</li> <li>Technical Supervisor</li> <li>Drivers</li> <li>Grader/Roller Operator</li> <li>Mason</li> <li>Bar bender</li> <li>Supervisor</li> <li>Carpenter</li> <li>Electrician</li> <li>Crane Operator</li> <li>Office staffs</li> </ul>	<ul style="list-style-type: none"> <li>Industry partners will provide safety trainings to the workforce.</li> <li>Site workers will require skills to use technological devices and smart systems.</li> <li>Industry partners should pitch in to provide safety training and other relevant trainings to the existing workforce.</li> <li>Steel fabricators, masons, electrician, bar benders, helpers and site supervisors are in demand. The sector is facing a challenge in getting the skilled manpower. There is a combination of unskilled, semi-skilled and skilled workers in this sector. The role of unskilled workers would restrict in loading/unloading, cleaning etc.</li> </ul>

## *Food Processing*

Cashew kernels, fish meal & oil, frozen fishes are the major exportable items from the district. Since fishing is one of the major source of income in the district, fishing sector has 90 ice plants, 8 cold storages, fish processing plants, freezing units and canning plants in Udupi. Majority of the rural communities engage in the food processing activities such as cashew processing, fish meal & oil production. There are several large and medium scale food processing units such as Raj Fish Meal & Oil Company, Goan Fresh Marine Exports, Amit Cashew Industries etc.

<b>Job Roles: Cashew Processing</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>Peelers</li> <li>Graders</li> <li>Packing</li> <li>Sorting</li> <li>Helpers</li> <li>Supervisors</li> <li>Assistants</li> <li>Cooking</li> <li>Colour sorter</li> <li>Electricians</li> <li>Machine Operators</li> </ul>	<ul style="list-style-type: none"> <li>Semi-skilled workers with experience are generally hired in this sector.</li> <li>Unskilled workers are also hired for the roles of segregating the poor quality fishes, peeling, grading and packing</li> <li>Upskilling/fresh trainings on cashew processing are required.</li> </ul>
<b>Job Roles: Fish Meal &amp; Oil Production</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>Boiler Operator</li> <li>Drier operator</li> <li>Floor workers</li> <li>Grader</li> <li>Peeler</li> <li>Helpers</li> <li>Supervisors (Production/receiving/warehouse)</li> <li>Assistants</li> <li>Maintenance operator</li> <li>Quality controller</li> <li>Production Manager</li> <li>Packers</li> </ul>	<ul style="list-style-type: none"> <li>NETFISH, MPEDA provides trainings in hygiene, material handling and safety for the existing workers in the factory.</li> <li>Skilled workers are required to perform activities such as boiler operator, chemists, supervisors, production manager.</li> <li>Fishing communities can be hugely benefited.</li> <li>Stakeholders indicated preference for hiring 12<sup>th</sup> pass people with experience for job roles such as graders, peelers etc and ITI certificate holders as boiler/drier operator.</li> </ul>

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## 3. District Action Plan

### 3.1. Background

An actionable roadmap is one of the deliverables to be submitted to MoS for implementing skill training programmes in each of the districts. To develop these District specific plans, the team has mapped the emerging skilling opportunities across the District. Further, similar training opportunities or training requirements from the same sector have been clubbed into one programme to ensure optimal use of resources and to build economies of scale for delivery partners. This has been proposed to improve the chances of developing and proposing feasible and viable training delivery models.

Further, the team has also estimated the broad capital and operational expenditure expected to be incurred in operationalizing the training initiatives in the districts. Apart from this, critical operational aspects such as training delivery mechanisms, availability of curriculum and employers have also been explored. The current status of these critical aspects will help ascertain the feasibility of initiating these trainings immediately and assess the gaps that need to be bridged before these training can be rolled out.

### 3.2. Objective of developing the plan

The District action plans have been developed with an overall objective of providing a step by step skill implementation plan to the Ministry of Shipping in the six coastal districts. The specific objectives include the following:

- Mapping various skilling opportunities available in the district, keeping in mind the requirements of Port led development and emergence of CEZs.
- Mapping the current status of various pre-requisites such as availability of qualifications, curriculum, funding for training, potential training delivery partners, availability of assessors and certification processes and institutions for the training programmes.
- Identify the potential/target beneficiaries for the training courses.
- Map the infrastructure and the investment that may be required to deliver the training programmes in the district.
- Provide an estimate of the investment required to create/hire the skilling infrastructure.
- Provide a step by step action plan for MoS to implement the skilling initiatives.

### 3.3. Methodology

Stakeholder consultations<sup>14</sup> that were held at national, state and district level and that included stakeholders from government, industries, associations, and private firms have prepared a separate plan. The plan has been divided into several sections and include sections on training delivery, potential partners, and investments. The investments component has been divided into two broad heads: capital expenditure and operational expenditure. Capital expenditure has only been proposed in cases in which there were very limited possibilities of using existing institutional framework for partnership and for using existing infrastructure and equipment. Operational expenditure includes the cost of the running the training programmes including the salary of the instructors. The common cost norms inform the calculation of the operational expenditure. Capital expenditure has been worked out bearing in mind the infrastructure requirements of the programme and duration of training programmes. Wherever feasible, partnership with existing programmes such as DDU-GKY and PMKVY has been suggested in the plan.

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<sup>14</sup> Roughly 300 primary consultations inform the development of this plan

### 3.4. Summary for Dakshina Kannada

SN	Project Name	Job Roles	Type of training	No. of people to be trained
1	Training in construction sector	Bar benders, Scaffolder, Carpenters, Graders, Masons.	Fresh	2,500 persons in next 5 years
2	Skill training in Port & Maritime	Tug Operators, Mooring launch operator/masters, Surveyors, Shore Worker.	Fresh	1,500 persons in next 5 years
3	RPL and Training in tourism and hospitality	Tour packaging, tour agent/travel operator, lifeguard, surfing, boat operator, Chef, kitchen helpers, Assistant, Street-food vendor, etc. Entrepreneurial skills.	Fresh & RPL	5,000 persons in next 5 years
4	Electives/Short term training for infrastructure and Port management	Operational Manager, and Port training.	Fresh	250 persons in next 5 years
5	Training for emerging job roles in Smart City Projects	Electronic and Electrical Technician, Solar Panel and Water Management Technician.	Fresh	1,200 persons in next 5 years
6	Fisheries Sector Training	Sorters, fish handling, spotters (Pagi), Mechanics, fish handlers	Fresh and Upskilling	2,300 persons in next 5 years

### 3.5. Action Plan for Dakshin Kannada

Project 1: Training in construction sector				
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>Smart City Projects such as widening of Roads (INR 150 crores); upgradation of Roads with footpaths (INR 150 crores) etc.</li> <li>Other Projects that are proposed in the district are: <ul style="list-style-type: none"> <li>Construction of 2<sup>nd</sup> phase of cargo wharf at Old Mangalore Port (INR 9.6 crores).</li> <li>Construction of Sea walls for preventing erosion at Meenakali, Dakshina Kannada district (INR 4.70 crores).</li> <li>Retaining walls for Mangalore Refinery and Petrochemicals Limited (INR 7 crores).</li> <li>Development of storage yard (INR 10 crores).</li> </ul> </li> </ul>			
<b>Rationale for a Training Center</b>	As Mangalore is selected as one of the Smart Cities in Karnataka, it is expected that construction activity will get a boost. The sector contributes 10.4% of the total GDP. Many projects are expected to come up which will generate employment in this sector. This in addition to the normal construction activities which are happening in the city. Therefore, skill and safety training in construction sector would provide an immense opportunity to skilled labourers. Carpenters, bar benders, scaffolder and excavator operators are in demand.			
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>

		Skilling for construction workers	Mangalore Block of the district	Fresh Training	2,500 persons in next 5 years
Availability of curriculum	Job Role	Target groups	QP/NOS	MES	CTS
	Bar benders, Scaffolder, Carpenters, Graders, Masons	Mangalore Block of the district	QP available for: <ul style="list-style-type: none"><li>Bar bender, Scaffolder, Carpenter, Masons</li></ul>	MES available for: <ul style="list-style-type: none"><li>Bar bender, Scaffolder, Carpenter, Masons</li></ul>	CTS available for: <ul style="list-style-type: none"><li>Carpenter, Mason</li></ul>
Estimated investment for establishing a training center (INR in lakhs)		Training in construction sector			
		Operational Expenditure	450		
Potential Partners		Partner	Areas of Support		
		ITI and Training Partners (National Academy of Construction, Hyderabad)	<ul style="list-style-type: none"><li>Training delivery</li><li>Installation of required equipment for practical training</li><li>Designing the curriculum</li></ul>		
		Industry partners (Trident Infrastructure)	<ul style="list-style-type: none"><li>Space and infrastructure for training</li><li>Facilitate on the Job training</li><li>Provide inputs in curriculum design</li></ul>		
		Construction and Infrastructure SSC	<ul style="list-style-type: none"><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>		
Training Delivery		<b>Option 1</b> <ul style="list-style-type: none"><li>Partnership with Industry partners to deliver training</li><li>Training facility to be managed and maintained by Construction and Infrastructure SSC</li></ul> <b>Option 2</b> <ul style="list-style-type: none"><li>Engage a TSP affiliated with DDU-GKY and PMKVY to deliver the training</li><li>TSP to set up a training center</li></ul>			

## Work Plan

<b>Training in construction sector</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
TSP empanelment						
SSC affiliation						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

<b>Project 2: Skill training in Port &amp; Maritime</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>Major Port- New Mangalore Port</li> <li>Old Mangalore Port handles the import and export of cargoes mainly to Lakshadweep.</li> </ul>
<b>Rationale for a Training Center</b>	A group of qualified people are in demand to assist the berthing of ships and for the safe operations for mooring/berthing of a ship. As on 1 <sup>st</sup> November, 2016, the strength of NMPT is 1,015. With the increase in the port performance, the requirement of skilled workers for port activities would increase. Similarly, tug operators and surveyors must be qualified labourers.



		There are different types of mooring, surveys etc. and it is required to understand the safety procedure to be used. The skill training course should cover all on-shore and off-shore operations. The training/course should also benefit winch operator, signalman, cargo supervisor, shore leader/worker etc.			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Skill training in Port & Maritime	Coastal Communities	Fresh Training	1,500 persons per year
Availability of curriculum	Job Role	Target groups	QP/NOS	MES	CTS
	Tug Operators	<ul style="list-style-type: none"><li>Existing workers</li><li>Coastal Communities</li></ul>	Not Available	Not Available	Not Available
	Mooring launch operator/ masters	<ul style="list-style-type: none"><li>Existing workers</li><li>Coastal Communities</li></ul>	Not Available	Not Available	Not Available
	Surveyors	<ul style="list-style-type: none"><li>Existing workers</li><li>Coastal Communities</li></ul>	Not Available	Not Available	Not Available
	Shore Worker	<ul style="list-style-type: none"><li>Existing workers</li><li>Coastal Communities</li></ul>	Not Available	Not Available	Not Available
Estimated investment for establishing a training center (INR in lakhs)		Skill training in Port & Maritime			
		Operational Expenditure	115		
Potential Partners		Partner	Areas of Support		
		Maritime Institutes/Colleges	<ul style="list-style-type: none"><li>Establishment/Upgrading the training center by purchasing and installing the required equipment</li><li>Training delivery</li><li>Development of curriculum</li><li>Identification of trainers</li><li>Assessment and certification of trainees</li></ul>		
		Port Terminal Operators/NMPT	<ul style="list-style-type: none"><li>Provide infrastructure for training</li><li>Input for designing curriculum</li><li>Guest faculty</li><li>Access to port facilities</li></ul>		
Training Delivery		<b>Option 1</b> <ul style="list-style-type: none"><li>To engage a TSP affiliated with Directorate General of shipping to impart training.</li></ul> <b>Option 2</b> <ul style="list-style-type: none"><li>Port/Terminal operators to create the training facility in the port locality</li></ul>			

## Work Plan

Skill Training in Port & Maritime	in Months					
	1	2	3	4	5	6
Upgradation of training center						
Development of QPs						



Skill Training in Port & Maritime	in Months					
	1	2	3	4	5	6
Establishment of training infrastructure and facility/ Purchase and installation of lab equipment						
Appointment of trainers						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

Project 3: RPL and Training in tourism and hospitality					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>Huge Inflow of tourists</li> <li>Development of Coastal Circuit in the district (INR 95.67 Crores)</li> <li>Trade, Hotel and restaurant contributes 12.6% share of the total GDP.</li> </ul>			
<b>Rationale for a Training Center</b>		<p>Tourism sector is witnessing the development of coastal circuit project under Swadesh Darshan Scheme in the district of Dakshina Kannada, Udupi and Uttara Kannada comprising of 9 beaches with an aim to create world class beach tourism. The various project components include life guards watch tower, boat operator, kiosks for food and beverage, surfing, water sporting, rescue boat operator etc. Marina Waterfront development as a part of Smart City Mission will also gear up employment opportunities. Surfing Club in Mulki has planned short term courses in various places in Dakshina Kannada and Udupi district.</p> <p>Department of Tourism has planned to promote home stays, small shops, floating restaurants as a part of the project which will generate more employment for the local communities. Measures have been taken to encourage homestays by providing concessions for certified homestays that can be availed in the district by the localities. Keeping in mind, a training on self-management &amp; effective communication, Entrepreneurial skills, Food &amp; Beverage preparation, hygiene cooking, customer service can be imparted to the target audience in order to add value as it is equally important to understand to behave professionally with the customers. Opportunities exist for cooks (South/north Indian and Chinese), pantry man, cashiers, supervisors, kitchen steward. The course should mould an individual to maintain a positive attitude and personal presentation at workplace, preparation of local food, demonstrating the food safety methods in restaurants, effective communication, safe working practices, hygiene food preparation etc.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		RPL and Training in tourism	Coastal Communities/Existing workforce	Fresh Training	1,250 persons in 5 years
				RPL	2,500 persons in 5 years
		Training in hospitality	Coastal communities/youths	Fresh Training	1,250 persons in 5 years
<b>Availability of curriculum</b>	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<ul style="list-style-type: none"> <li>Tour packaging, Tour agent/travel</li> </ul>	Coastal Communities/Existing workforce	Not Available	MES Available for:	Not Available

	operator life guard, surfing, boat operator and water sport activities			Tour agent/travel operator	
	<ul style="list-style-type: none"><li>Chef, kitchen helpers, assistants, street food vendors, order taker etc.</li></ul>	Coastal Communities/Youths	QP available for: <ul style="list-style-type: none"><li>Kitchen helpers</li><li>Kitchen Steward</li><li>Order taker-Home Delivery</li></ul>	Not Available	<ul style="list-style-type: none"><li>Food Production (General)</li><li>Baker and Confectioner</li><li>Food &amp; Beverage Guest Service Assistant</li></ul>
	<ul style="list-style-type: none"><li>Entrepreneurial skills</li></ul>	Coastal Communities/Youths	Not Available	Not Available	Not Available
<b>Estimated investment for establishing a training center (INR in lakhs)</b>		<b>RPL and training in tourism &amp; hospitality</b>			
		Operational Expenditure	400		
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		Tourism and Hospitality Sector Skill Council-Affiliated Training Providers/Surfing Club, Mulki	<ul style="list-style-type: none"><li>Training delivery</li><li>Infrastructure for training</li><li>Use of equipment</li></ul>		
		Hotel Management Institutes/ South Kanara District Hotel Association	<ul style="list-style-type: none"><li>Input for designing curriculum</li><li>Guest faculty</li></ul>		
		Tourism Department/Surfing Federation of India	<ul style="list-style-type: none"><li>Funding and Regulations</li><li>Input for designing curriculum</li></ul>		
		Tourism and Hospitality Sector Skill Council	<ul style="list-style-type: none"><li>Identification and certification of trainers/assessors</li><li>Assessment and certification of trainees</li></ul>		
<b>Training Delivery</b>		<ul style="list-style-type: none"><li>Affiliated existing TSP to deliver the training.</li></ul>			

## Work Plan

RPL and Training in tourism and hospitality	in Months					
	1	2	3	4	5	6
Partnership with SSC, Affiliated TSP/Institutes						
Development of QPs						

RPL and Training in tourism and hospitality		in Months					
		1	2	3	4	5	6
Appointment of trainers							
Mobilization of prospective trainees							
Enrolment of students							
Roll-out of training programme							
Project 4: Electives / Short term trainings for Infrastructure and Port Management							
Key economic drivers		<ul style="list-style-type: none"><li>Major Port- New Mangalore Port</li><li>Mangalore Special Economic Zone is the vibrant and operational multi-product SEZs catering to petrochemical, manufacturing, service and warehousing, Tebma Shipyard in Udupi.</li><li>The district has mega industries such as MRPL, ONGC, MCF, KIOCL</li></ul>					
Rationale for a Training Center		Investment opportunities lined up in the Port & Maritime sector. Setting up of a training centre will provide a positive impact. The training on various elective courses such as Infrastructure, Construction, Port management, managing SEZs, logistics, supply chain management, strategic operations, Managing Electricity Business, managing oil & gas business etc. can be implemented under one umbrella. Adani group has similar kind of PGDM institute in Ahmedabad, “Adani Institute of Infrastructure Management” which caters the needs based on the requirements. Similar kind of institute/training centre can be set up in the district or partnership with the industry partner. The training institute should include a course on port management.					
Trainings		Training courses		Target Beneficiaries	Type of Trainings	Total Number of beneficiaries	
		Short term training with elective course package in the area of Infrastructure management, logistic, construction management, port management and finance.		Port Staffs/Students	Fresh Training	250 persons in 5 years	
Availability of curriculum	Job Role	Target groups		QP/NOS	MES	CTS	
	Operational Manager, Port Trainee	Port staffs/Students		Not Available	Not Available	Not Available	
Estimated investment for establishing a training center (INR in lakhs)		Operational Manager/Port Trainee					
		Capital Expenditure <sup>15</sup>			70		
		Operational Expenditure			70		
Potential Partners		Partner		Areas of Support			
		Affiliated Training Providers/Universities		<ul style="list-style-type: none"><li>Training delivery</li><li>Training facility/infrastructure</li></ul>			
		Industry Partner		<ul style="list-style-type: none"><li>Input for designing curriculum</li></ul>			
		Logistics SSC and University		<ul style="list-style-type: none"><li>Development of QPs for the identified job roles</li><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers/assessors</li><li>Assessment and c certification of trainees</li></ul>			

<sup>15</sup> Building construction cost

<b>Training Delivery</b>	Affiliated training provider to rent/develop the training center and deliver the training programme
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## Work Plan

<b>Training for Infrastructure and Port Management</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Partnership with SSC						
Development of QPs						
Training centre setup						
Establishment of training infrastructure and facility						
Appointment of staff members						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

<b>Project 5: Training in Smart City Sector</b>					
<b>Key economic drivers</b>		Smart City projects such as ICT and Disaster Safety Components (INR 15.58 Cr), CCTV System Fixed Zoom Telescopic Camera (INR 3 Cr), CCTV for road surveillance (INR 12.50), implementation of rain water harvesting in all buildings having area more than 1000 sq. ft. (INR 10 Cr), waste water coverage and connecting the waste water to sewage treatment plan for treatment and reuse (INR 128.86 Cr)			
<b>Rationale for a Training Center</b>		<p>Interconnectivity between devices through internet is increasingly available in commonplace and ICT component in the Smart Cities forms a major chunk in the proposed plan. With major development plans on for installation of CCTV monitoring systems, smart portals for public utilities, air quality monitoring systems, major employment opportunities can be seen for technicians with skills in installation and maintenance of such services. In addition, Green Jobs including water management technicians, solar panel technicians would be required to upgrade the infrastructure of the city of Mangaluru towards the goal of sustainability of the smart city programme.</p> <p>The scope would increase in the subsequent years with proposed expansion of the coverage of the smart city project beyond the pilot area. The Skill Development Centre proposed under the smart city project could be utilised to train smart city oriented trainings.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Training in Electronics & Electrical Trades for Smart Cities	Local youths	Fresh Training	1,200 persons in 5 years
<b>Availability of curriculum</b>	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Electronic & Electrical Technician	ITI (Electrical and Mechanical)/Diploma (Electrical and	QP available for:	MES available for: <ul style="list-style-type: none"> <li>Basic Electronic Mechanic</li> </ul>	Technician Power Electronics systems

		Mechanical) candidates )	<ul style="list-style-type: none"><li>Electrical Technician</li></ul>	<ul style="list-style-type: none"><li>Industrial Electrical</li></ul>	
	Solar Panel and Water Management technician		QP available for: <ul style="list-style-type: none"><li>Solar PV Installer</li><li>Wastewater treatment Plant technician / helper</li></ul>	MES available for: <ul style="list-style-type: none"><li>Solar PV technician/Assistant Solar PV technician</li><li>Solar electric System Installer &amp; Service Provider, Solar Hot Water system installer</li></ul>	No course available
<b>Estimated investment for establishing a training center (INR)</b>		<b>Training in Smart City Sector</b>			
		Operational Expenditure	15,574,275		
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		Affiliated Training Providers	<ul style="list-style-type: none"><li>Training delivery</li><li>Training facility/infrastructure</li></ul>		
		Industry Partner	<ul style="list-style-type: none"><li>Input for designing curriculum</li></ul>		
		IT-ITES NASSCOM, Telecom SSC, Green Jobs SSC	<ul style="list-style-type: none"><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers/assessors</li><li>Assessment and certification of trainees</li></ul>		
<b>Training Delivery</b>		To engage an affiliated TSP to deliver the training			

## Work Plan

<b>Training in Smart City Sectors</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Establishment of training infrastructure and facility						
Purchase and installation of lab equipment						
Appointment of trainers						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

<b>Project 6: Sustainable Fishing and Safety Training</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>Purse fishing activities produce large amounts of by-catch (unintentionally caught fish).</li> <li>Destruction of corals due to unsustainable fishing practices.</li> </ul>
<b>Rationale</b>	<p>There are more than 17,000 people involved in fishing and related activities in the Dakshina Kannada District<sup>16</sup>. The intention to catch large quantities of fish often results in following unsustainable and destructive methods of fishing. Fishermen need to be trained to move from a capture-based approach to a culture-based one, thereby effecting an increase in fish population as well.</p> <p>The amount that a crew can catch, depends on their skillset. The spotter is the person who spots the fishes in the sea without any scientific training. Training</p>

<sup>16</sup> Fisheries Census, 2010

		<p>can be given on spotting fish, safety mechanisms to be followed including basic navigation, reading the VPS (Vehicle Positioning systems) and basic health and hygiene training on handling the fish post-harvest.</p> <p>In addition to this, fisherman are also unable to fetch good price for their produce. Most of the good quality fishes caught by fisherman are bought by suppliers (agents of exporters) at cheap rates and the fisherman incurs a loss due to lack of expertise on exporting the fish and not having direct contacts of exporters in order to bypass the intermediaries. The members of the cooperative should be given the training regarding the rules and regulations in exporting, the quality requirements, availing facilities (like cold storage) to ensure quality of fish. This will increase the returns to the fisherman and provide a more sustainable means of income.</p>			
Trainings in high demand		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Sustainability Training	• Fisherman and crew members	Upskilling (120 Hours)	1,000 persons in next 5 years
		Safety Training	• Local fishing community • Fish cooperative Members	Up Skilling (120 Hours)	1,000 persons in next 5 years
		Export based training for fisherman cooperative	• Members of Fisherman cooperatives	Fresh Training (200 Hours)	300 persons in next 5 years
Availability of curriculum	Job Roles	Target Group	QP/NOS	MES	CTS
	• Sorters, fish handling, spotters (Pagi), Mechanics, fish handlers	• Sorters, fish handling, spotters (Pagi), Mechanics, fish handlers	Fishing Boat Mechanic, Marine Capture Fisherman	Not Available	Not Available
	• Technician	• Local fishing community • SHG members • Fish cooperative Members	Not Available	Not Available	Not Available
Investment (INR In lakhs)		Sustainable Fishing			
		Operational Expenditure		53	
		Safety Training			
		Operational Expenditure		53	
		Export based training for fisherman cooperative			
		Operational Expenditure		25	
		Total Operational Expenditure		131	
Potential Partners		Partner	Areas of Support		
		Fisheries Dept.	• Providing Trainers • Providing technical expertise to ASCI, FICSI SSC • Space and infrastructure for establishing training • Practical training • Input for designing curriculum		
		ASCI ,FICSI	• Develop model training programs • Identification and certification of Trainers		

		<ul style="list-style-type: none"> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	• Fisheries Dept. to provide training infrastructure and deliver training	

### 3.6. Additional Training Courses

During the interaction with the State Skill Development mission, some additional training courses were also suggested with an objective to cater to the requirement emerging around the state.

The training courses have been offered traditionally by various TSPs under different schemes and programmes and have been listed in the table below.

S. No	Sector	Trade - QPs	Qualification
1.	IT-ITES	Application Development, IT Support Services, Testing and QA	Graduate
2.	Aviation	Support Staff, Safety Officers, Baggage handlers	Graduate

### 3.7. Summary for Udupi

SN	Project Name	Job Roles	Type of training	No. of people to be trained
1	Training in Tourism and Hospitality	Life guards, paragliding coach, banana ride, jet skiing/speed boats, water scooter ride, tour guides, tour vehicle drivers Kitchen steward, Assistant, street food vendors, order taker, helpers	Fresh	2,500 persons in next 5 years
2	Training in BFSI	Insurance Agents, Accounts Executive, Sales Advisor	Fresh	1,000 persons in next 5 years
3	Entrepreneurial training in Apparel Manufacturing	Ornamentalist, Pattern Master, Fashion Designer, Garment Cutter, Quality Controllers, basic Sewing machine operator, Finisher Checker,	Fresh	1,250 persons in next 5 years
4	Training in manufacturing sector	Welders, machinery/electrical work operators, assembling, welding and inspection fixtures, electricians, mechanics and fitter, CNC machine operator	Fresh and Upskilling	1,000 persons in next 5 years
5	Upskilling cashew and marine food processing	Fish-processing technician, Broiler operator, Shelling, peeling grading, cutting, supervisor, cooking	Fresh and Upskilling	1,000 persons in next 5 years
6	Training for local and entrepreneurship development	Artists	Fresh	500 persons in next 5 years
7	Training Centre for fishermen	Fishermen, Carpenter, Machine repairing mechanics	Upskilling	5,000 in next 5 years



### 3.8. Action Plan for Udupi

<b>Project 1: Training in tourism and hospitality</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>Development of Coastal Circuit in Dakshina Kannada, Uttara Kannada and Udupi District in Karnataka under Swadesh Darshan Scheme worth INR 9567.38 lakhs</li> <li>Main attractions are the Udupi Sri Krishna and the Kolur Moentokambika Temples, beach tourism at Malpe and other locations and nature tourism in the Western Ghats. Around 1500259 visited Malpe beach and 1605373 visited Sri Krishna Temple from the month January to October, 2016.</li> </ul>			
<b>Rationale for a Training Center</b>		<p>Department of Tourism under Swadesh Darshan intends to take up Coastal circuit development across three districts comprising of 9 beaches to create world class beach tourism which will have huge potential for tourism and hospitality sector. Skilled workers are required to play a role as boat operators, rescue boat operators, life guards, assistants etc. Apart from the water sports, job roles such as tour guides, tour vehicle drivers etc. are in demand and must possess qualities such as effective communication, interpersonal skills, creative thinking, good knowledge on history of Karnataka, art, culture, cuisine, heritage, local handicrafts, basic manners, etiquette, foreign exchange formalities etc.</p> <p>Along with the development of water sports activities, the project also creates an opportunity for kitchen stewards, chefs, pantry man etc. as the Department of Tourism has planned to promote floating restaurants, house boats which will generate more employment for the locals. Udupi is famous for Udupi cuisine. A module on specific areas such as entrepreneurship development, food safety and hygiene, production and services, good practices in the sector can be promoted.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Training in tourism (focus on Water sports activities)	Local community members	Fresh Training	1,000 persons in next 5 years
		Training in hospitality	Local communities/youth	Fresh Training	1,500 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<ul style="list-style-type: none"> <li>Life guards, paragliding coach, banana ride, Jet Skiing/Speed boats, water scooter ride, tour guides, tour vehicle drivers</li> </ul>	Local community members (Minimum age: 18 years)	QP available for: <ul style="list-style-type: none"> <li>Paragliding Coach</li> <li>Tour Guide</li> <li>Tour Vehicle drivers</li> </ul>	MES available for: <ul style="list-style-type: none"> <li>Tour Guide for International Tourist</li> <li>Tour Agent and Travel Operator</li> <li>Tourism and Travel Executive</li> </ul>	CTS available for: <ul style="list-style-type: none"> <li>Tourist Guide</li> <li>Travel and Tour Assistant</li> </ul>

	<ul style="list-style-type: none"><li>Kitchen steward, assistant, street food vendors, order taker, helpers</li></ul>	Local communities/youths	QP available for: <ul style="list-style-type: none"><li>Kitchen helpers</li><li>Kitchen Steward</li><li>Order taker-Home Delivery</li></ul>	Not Available	CTS available for: <ul style="list-style-type: none"><li>Food Production (General)</li><li>Baker and Confectioner</li><li>Food &amp; Beverage Guest Service Assistant</li></ul>
Estimated investment for establishing a training center (INR)		Training in tourism and hospitality			
		Operational Expenditure	500		
Potential Partners		Partner	Areas of Support		
		Affiliated Training Providers	<ul style="list-style-type: none"><li>To provide the infrastructure and facilities (lab and equipment)</li><li>Training delivery</li></ul>		
		Department of Tourism/State Government	<ul style="list-style-type: none"><li>Funding and regulations</li><li>Input for designing curriculum</li></ul>		
		Tourism and Hospitality Sector Skill Council	<ul style="list-style-type: none"><li>Develop QPs for the identified job roles</li><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers/assessors</li><li>Assessment and c certification of trainees</li></ul>		
Training Delivery		<b>Option 1</b> <ul style="list-style-type: none"><li>A collaboration with hotel management institute to access the facilities for training</li></ul> <b>Option 2</b> <ul style="list-style-type: none"><li>The training center will be set up by a training provider</li></ul>			

## Work Plan

<i>Training in tourism and hospitality</i>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
TSP empanelment						
Developing QP/NOS and curriculum						
Appointment of trainees						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training center and training programme						

<b>Project 2: Training in BFSI</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>The district often called as cradle of Indian banking has Syndicate Bank as its origin in Udupi.</li> <li>Presence of printing unit in Manipal that offers printings on cheques, share certificates etc.</li> </ul>

<b>Rationale for a Training Center</b>		Banking and Insurance, has the highest share of the total GDP (17.1%) in the district. For the benefit of coastal communities, BFSI offers various schemes such as accidental insurance policy, commercial policy for fishing boats, health policy etc. Insurance agents in marine field have lot of opportunities and they are required to sell the products and provide awareness among the localities about the merits of the policies, thus there is a need for training local communities in BFSI sector. Insurance agents are high in demand and an agent must possess strong communication and interpersonal skills, as the agents interact directly with the clients. In respect of becoming an agent of Insurance company, the candidate has to undergo the training prescribed by IRDA. The trainees should possess good knowledge of products/schemes/policies which will be benefit different groups of community. T.A. Pai Management Institute, Manipal offers PGDM in Banking and Financial Services. They offer specialised training in banking and capital markets.			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Number of beneficiaries</b>
		Training in BFSI	Local community/ Youths	Fresh Training	1,000 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<ul style="list-style-type: none"><li>Insurance agents</li><li>Accounts Executive (<i>Payroll, Accounts payable, receivable</i>)</li><li>Sales advisor</li></ul>	Local community members	QP available for: <ul style="list-style-type: none"><li>Life Insurance Agent</li><li>Accounts Executive (Payable, Receivable)</li></ul>	MES available for: <ul style="list-style-type: none"><li>Insurance Sales advisor</li><li>Insurance Sales Associate</li><li>Senior Sales Person</li></ul>	Not Available
<b>Estimated investment for establishing a training center (INR)</b>		<b>Training in BFSI</b>			
		Operational Expenditure	250		
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		Affiliated training providers of SSC/National Insurance Academy/ T.A. Pai Management Institute/RUDSET and Synd RSETI/Rooman Technologies	<ul style="list-style-type: none"><li>Access to the existing space and infrastructure to facilitate training.</li><li>Training delivery</li></ul>		
		Insurance companies/Banks	<ul style="list-style-type: none"><li>Inputs for curriculum design</li><li>Guest faculty</li></ul>		
		BFSI Sector Skill Council	<ul style="list-style-type: none"><li>Develop QPs for the identified job roles</li><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers/assessors</li><li>Assessment and certification of trainees</li></ul>		
<b>Training Delivery</b>		Institutes/Local colleges to offer the space and infrastructure to deliver the training.			

## Work Plan

Training in BFSI	in Months					
	1	2	3	4	5	6
Partnership with SSC, Industry Partners						
Developing QP/NOS/Curriculum						
Upgradation of training center						
Appointment of staff members						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

Project 3: Entrepreneurial training in apparel manufacturing					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>Best Sellers Apparels Pvt. Ltd is the prominent apparel manufacturer in Udupi district which employs more than 500 employees.</li> </ul>			
<b>Rationale for a Training Center</b>		<p>In the district, tailoring &amp; embroidery provides both wage and self-employment for the localities. The garment production units provide jobs in small scale sector which offers ample opportunities for entrepreneurs. Entrepreneurial skills such as marketing issues and strategic management, process of communication, creativity, innovation, risks involved etc. can be provided through the centre. Various short term courses on tailoring/embroidery are provided by various institutions such as RUDSET, RSETI, etc. Best Seller Apparels Pvt. Ltd is the prominent garment manufacturer in the district which provides immense opportunity for the local communities and provides on the job training for their employees. A training centre which can provide courses such as computerized embroidery techniques, designers, advance apparel manufacturing, garment testing &amp; quality control, supervisor, CAD/CAM, software application in textile design will provide an additional skill and opportunity inside and outside the district.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Training in apparel	Local communities / existing workforce	Fresh Training	1,250 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<ul style="list-style-type: none"> <li>Ornamentalist (Bead work/design) pattern master, fashion designer, garment cutter, quality controller, basic sewing operator, industrial</li> </ul>	Local communities/existing workforce/unemployed youths (majorly ladies)	QP available for: <ul style="list-style-type: none"> <li>Sewing machine operator</li> <li>Pattern master</li> <li>Production supervisor (Sewing)</li> <li>QC Executive</li> </ul>	MES available for: <ul style="list-style-type: none"> <li>Apparel Finisher and Checker</li> <li>Ornamentalist (Bead worker, Patch work)</li> <li>Industrial Sewing Machine Technician</li> <li>Apparel CAD/CAM</li> </ul>	CTS Available for: <ul style="list-style-type: none"> <li>Surface Ornamentation Techniques</li> <li>Computer Aided Embroidery and Designing</li> <li>Fashion Design Technology</li> </ul>

	sewing machine operator, production supervisor, finisher ,checker, CAD/CAM		Sewing Line <ul style="list-style-type: none"><li>Garment Cutter</li><li>Fashion Designer</li></ul>	<ul style="list-style-type: none"><li>Apparel pattern making</li><li>Apparel production Supervisor</li><li>Apparel production Supervision and Quality Control</li><li>Basic Sewing operator</li></ul>	
Estimated investment for establishing a training center (INR)	Entrepreneurial training in apparel manufacturing				
	Operational Expenditure	350			
Potential Partners	Partner	Areas of Support			
	Affiliated training providers of SSC/ Apparel Training & Design Centre, Gurgaon	<ul style="list-style-type: none"><li>Space and infrastructure to deliver the training</li><li>Training delivery</li><li>Facilitate placements</li><li>Installation of required equipment/Access to the existing equipment for practical training</li></ul>			
	Industry Partners	<ul style="list-style-type: none"><li>Inputs in curriculum design</li><li>Guest faculty</li></ul>			
	Apparel Sector Skill Council	<ul style="list-style-type: none"><li>Develop QPs for the identified job roles</li><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers/assessors</li><li>Assessment and certification of trainees</li></ul>			
Training Delivery	<b>Option 1</b> <ul style="list-style-type: none"><li>Access the existing infrastructure to deliver the training</li><li>Installation of required equipment to gain practical experience</li></ul> <b>Option 2</b> <ul style="list-style-type: none"><li>Training center set up by the training provider</li></ul>				

## Work Plan

Entrepreneurial training in apparel manufacturing	in Months					
	1	2	3	4	5	6
Partnership with SSC and Apparel Training & Design Centre						
Developing QP/NOS/Curriculum						
Upgradation of training center						
Appointment of staff members						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

<b>Project 4: Training in manufacturing Sector</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>Manufacturing and Industrial hubs</li> <li>The district has 4 Industrial areas along with one proposed industrial area in Bola. The Shivalli Industrial area has 92 units which caters to various manufacturing units. Udupi has three industrial estates.</li> <li>Manipal Press, Best Sellers Apparels Pvt. Ltd and Baliga Fish Nets are the prominent players in the district.</li> </ul>			
<b>Rationale for a Training Center</b>		<p>As per the MSME data, the district has 477 Engineering units with an investment of INR 2394.38 lakhs employing 271 persons. Manufacturing of vessels, cooker, non-stick utensils, manufacturing of industrial valves, copper conductor manufacturing, fish net manufacturing etc. requires skilled, semi-skilled and unskilled labourers. Various manufacturing industries have been set up in the industrial areas which produce aluminium and steel utensils, industrial valves, copper conductor manufacturers etc in which skilled labourers are required for operating machineries who are usually recruited from ITI. A short term skill training/upskilling and safety training can benefit the local youths in identifying opportunities in various manufacturing companies. The course can cover the activities involved in various manufacturing industries such as spinning, buffing, welding, reverting, blasting, painting, assembling etc. Skilled labourers such as CNC operators, turners, welders, machinery work operators and electrical work operators are high in demand</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Training in manufacturing sector (Entry level workforce)	Local community/ Youths	Fresh Training	1,000 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<ul style="list-style-type: none"> <li>Welders, Machinery/ Electrical work operators</li> <li>Assembling</li> <li>Welding &amp; Inspection fixtures</li> <li>Electrician</li> <li>Mechanics and Fitter,</li> <li>CNC machine operator.</li> </ul>	Local community/ Youths	QP available for: <ul style="list-style-type: none"> <li>Electrician</li> <li>Mechanics</li> <li>Fitter</li> </ul>	MES available for: <ul style="list-style-type: none"> <li>Drafting (Mechanic)</li> <li>Grinding</li> </ul>	CTS available for: <ul style="list-style-type: none"> <li>Operator Advanced Machine Tools</li> <li>Mechanics</li> </ul>
<b>Estimated investment for establishing a training center (INR)</b>		<b>Training in manufacturing Sector</b>			
		Operational Expenditure	400		
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		Affiliated training providers of SSC/N.M.A.M Institute of	<ul style="list-style-type: none"> <li>Space and infrastructure to deliver the training</li> <li>Training delivery</li> <li>Facilitate placements</li> <li>Installation of required equipment/Access to the existing equipment for practical training</li> </ul>		

	Technology /IMTMA Technology Centre, Bangalore	
	Industry Partners	<ul style="list-style-type: none"> <li>Inputs in curriculum design</li> <li>Guest faculty</li> </ul>
	Automotive Sector Skill Council	<ul style="list-style-type: none"> <li>Develop QPs for the identified job roles</li> <li>Develop model training programmes for the identified Job Roles</li> <li>Identification and certification of Trainers/assessors</li> <li>Assessment and certification of trainees</li> </ul>
<b>Training Delivery</b>	<b>Option 1</b> <ul style="list-style-type: none"> <li>Access the existing infrastructure to deliver the training</li> <li>Installation of required equipment to gain practical experience</li> </ul> <b>Option 2</b> <ul style="list-style-type: none"> <li>Training center set up by the training provider</li> </ul>	

## Work Plan

<b>Training in manufacturing sector</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Developing QP/NOS/Curriculum						
Installation of equipment						
Appointment of staff members						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

<b>Project 5: Upskilling in food processing (Cashew and Marine Food Processing)</b>				
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>Processing and exports of cashews and marine food processing.</li> <li>The district has 90 Ice plants and 8 Cold Storages with the capacity of 2,437 M. tonnes and 565 M. tonnes.</li> </ul>			
<b>Rationale for a Training Center</b>	<p>The district is known for fish meal/oil and cashew processing. Cashew processing is one of the major clusters in the district and has huge potential. Cashew Kernels, Fish meal and oil are the major exportable items. Large number of workers are involved in cashew processing activities such as shelling, peeling, grading, cutting, roasting, supervision and office works. The labourers are provided on the job training on cashew and fish meal processing. Upskilling on following activities can be provided with the collaboration of industry partners to generate opportunity. Upskilling for value added products and for activities such as shelling, cooking, grading, sorting, cleaning, food safety, machine operations, boiler operation, maintenance etc. can be implemented and a training completion certificate could be issued.</p>			
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>

		Cashew Processing	<ul style="list-style-type: none"> <li>Existing Workforce</li> <li>Coastal communities</li> </ul>	Fresh Training/ Upskilling	100-150 persons per year
		Marine Food processing	<ul style="list-style-type: none"> <li>Existing Workforce</li> <li>Coastal communities</li> </ul>	Fresh Training/ Upskilling	1,000 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<ul style="list-style-type: none"> <li>Fish processing Technician</li> <li>Boiler Operator</li> <li>Quality Control</li> </ul>	Coastal communities/Youths	<ul style="list-style-type: none"> <li>Fish and Sea Food Processing Technician</li> </ul>	Not Available	Not Available
	<ul style="list-style-type: none"> <li>Shelling</li> <li>Peeling</li> <li>Grading</li> <li>Cutting</li> <li>Supervisor</li> <li>Cooking</li> </ul>	Coastal communities/Youths	Not Available	Not Available	Not Available
<b>Estimated investment for establishing a training center (INR)</b>		<b>Upskilling in food processing</b>			
		Operational Expenditure	2,00,00,000		
		<b>Partner</b>	<b>Areas of Support</b>		
		Training Providers (ICAR- Central Coastal Agricultural Research Institute, Central Marine Fisheries Research institute, MPEDA, National Institute of Fisheries Post Harvest Technology and Training)	<ul style="list-style-type: none"> <li>Training delivery</li> <li>Facilitate implementation of upskilling for existing workforce</li> <li>Provide infrastructure for training</li> <li>Provide faculty members</li> </ul>		
		Industry Partners (Raj Fish Meal & Oil Company, Cashew Processing Industries)	<ul style="list-style-type: none"> <li>Input for designing the curriculum</li> <li>Guest faculty</li> </ul>		
		Department of fisheries/State Govt.	<ul style="list-style-type: none"> <li>Funding and regulations</li> </ul>		
		Industry Association (Karnataka Cashew Manufacturers Association)	<ul style="list-style-type: none"> <li>Industry Interface</li> </ul>		
		Agriculture Sector Skill Council	<ul style="list-style-type: none"> <li>Develop QPs for the identified job roles</li> <li>Development of Training Programs</li> </ul>		



		<ul style="list-style-type: none"> <li>• Identification and certification of Trainers/assessors</li> <li>• Assessment and certification of trainees</li> </ul>
<b>Training Delivery</b>	Training Providers to deliver the training and provide the infrastructure	

## Work Plan

<b>Upskilling in food processing (Cashew and Marine Food Processing)</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Partnership with, NIFPHATT, MPEDA, Industry Partners						
QP development for the identified job roles						
Appointment of staff members						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

<b>Project 5: Training for local art and entrepreneurship development</b>					
<b>Key economic drivers</b>		Yakshagana, the famous dance form is popular in Udupi. Other traditional dance and drama forms can be seen in various parts of the district. The district has several Yakshagana troupes.			
<b>Rationale for a Training Center</b>		Department of tourism has identified the necessity of developing the art forms in the district and is in a conceptualisation stage for encouraging the local art such as various dance forms, classical music, fine arts, traditional arts etc. It is necessary to encourage entrepreneurship and livelihood opportunities for the locals. Yakshagana being the traditional dance form of Karnataka, should be promoted at a large scale. The beauty of Yakshagana lies in the presentation which is usually presented from dusk to dawn. Metal works which are also prominent in the district as the religious duties are made up of metal. Thus, specific inputs on improved design/pattern, drawing, finishing, export/import norms, opportunities can be provided through the centre. Further, input on entrepreneurship shall be provided to encourage the talented people to take it up professionally thereby establishing small enterprises.			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Training for local arts	Rural Communities	Fresh Training	500 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Artists (Yakshagana dance form, classical music, traditional arts, fine arts, Metal works)	Rural Communities	Not Available	Not Available	Not Available
<b>Estimated investment for establishing a training center (INR)</b>		<b>Training for local art and entrepreneurship development</b>			
		Artists (Yakshagana dance form, classical music, traditional	19,28,700		

	<i>arts, fine arts, Metal works)</i>	
	<b>Partner</b>	<b>Areas of Support</b>
	Training Providers (Fine Arts)	<ul style="list-style-type: none"> <li>• Training delivery</li> <li>• Utilization of the existing infrastructure</li> <li>• Provide faculty members</li> <li>• Designing the curriculum</li> </ul>
	Handicraft Sector Skill Council/Fine Arts College	<ul style="list-style-type: none"> <li>• Develop QPs for the identified job roles</li> <li>• Development of Training Programs</li> <li>• Identification and certification of Trainers/assessors</li> <li>• Assessment and certification of trainees</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• Department of Tourism could fund the training</li> <li>• Partnership with Fine Arts College to deliver training</li> </ul>	

## Work Plan

Training for local art and entrepreneurship development	in Months					
	1	2	3	4	5	6
Partnership with Fine Arts College						
QP development for the identified job roles						
Appointment of additional staffs (if required)						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

Project 6: Training center for fishermen	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Sea Food Park worth INR 120 cr.</li> <li>• Marine &amp; Forest resources in the district provides scope for setting up of units such as manufacturing of fish nets, building of wooden boats and other fishing equipment making.</li> <li>• 27,099 families are involved in fisheries as on 2014-15</li> <li>• As per CMFRI Census report, 2010: 69 males are engaged for making/repairing the nets</li> </ul>
<b>Rationale for a Training Center</b>	<p>The district has 79,233 active fishermen and 1,51,020 tonnes of fish catch for the year 2015-16. Sea Food Park in Udupi will provide a positive impact for entrepreneurs to set up more processing units for value added products and will create more employment in various areas.</p> <p>Fishing is carried out by using traditional methods. A large number of families depend on fishing for their livelihood. A decent number of fisherwoman play a vital role in local retail sales of fishes which is one of the prominent components in the sector. Skill training, targeting the fishermen communities can be implemented on regular basis. Skill training on <b>advanced methods/equipment used for fish catch, fish handling &amp; hygiene</b>, information on available schemes/policies, <b>marketing strategies, export procedure, storage</b>, packaging, proper waste disposal, usage of ice, avoiding contamination can be covered on regular basis.</p>

		Further, the district has 4,070 motorized non-mechanical boats, 2,042 motorized mechanical boats, 1,929 non-motorized boats. As fishing is one of the major source of income generation in the district, fishery related activities will also play a vital role for alternate source of livelihood. The boat building and the minor engine/boat repairs are done by skilled carpenters, machine repairing mechanics. There are boat building yards in Udupi district. A group of 20-30 skilled workers are required to build a fishing boat/single-day or multi-day trawler which requires approx. 1-2 months to complete. Since the fishing boats are huge in number, there arises a huge potential for repairing. <b>Fresh training/Upskilling for fishing boat/engine repair, maintenance, boat building and boat designing</b> can be implemented for existing workforce in the district which will increase the source of income. The module can include basic boat design principles/elements, safety measures etc.			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Upskilling for fishermen	Fishermen	Fresh Training/ Upskilling	500 persons per year
		Upskilling for boat manufacturing/repairs/boat design	Existing Workforce	Fresh Training/ Upskilling	50-100 persons per year
Availability of curriculum	Job Role	Target groups	QP/NOS	MES	CTS
	Fishermen	Fishermen Community	<ul style="list-style-type: none"><li>Inland/Marine Capture fisherman cum Primary Processor</li></ul>	Not Available	Not Available
	<ul style="list-style-type: none"><li>Carpenters</li><li>Machine repairing mechanics</li></ul>	Existing workforce	<ul style="list-style-type: none"><li>Fishing boat maintenance worker</li><li>Fishing boat mechanic</li></ul>	Not Available	Not Available
Estimated investment for establishing a training center (INR)		Training center for fishermen			
		Operational Expenditure	51,96,750		
		Partner	Areas of Support		
		Training Providers (Fishing harbour, CMFRI, MPEDA, NIPPHATT)	<ul style="list-style-type: none"><li>Training delivery</li><li>Facilitate implementation of upskilling for existing workforce</li><li>Provision of used equipment for training</li></ul>		
		Agriculture Sector Skill Council	<ul style="list-style-type: none"><li>Develop QPs for the identified job roles</li><li>Development of Training Programs</li><li>Identification and certification of Trainers/assessors</li><li>Assessment and certification of trainees</li></ul>		
Training Delivery		<ul style="list-style-type: none"><li>Partnership with CMFRI, MPEDA, NIPHATT to deliver the training</li><li>Department of Fisheries could fund for the training</li></ul>			

## Work Plan

Training center for fishermen	in Months					
	1	2	3	4	5	6
Partnership between Fine Arts						
Developing QP/NOS						
Appointment of staffs						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

## 4. List of Stakeholders Consultations

### 4.1. State level consultations -Karnataka

Sl. No.	Stakeholder	Person	E-mail	Cell/Phone
1	Fisheries Department	Mr. C.K.Murthy, Joint Director	ckmurthy20@yahoo.co.in dfkarnataka@rediffmail.com	080-22864654
2	Department of Industries and Commerce	Mr. Jagadish, Joint Director, Planning		9611171799
3	Karnataka Udyog Mitra	Mr. Murthy, Joint Director		
4	Karnataka Industrial Areas Development Board	Mr. Narasimha Murthy, Assistant Secretary	sreemanthamurthy@gmail.com	9449803153
5	Department of Tourism	Mr. Poovayan, Joint Director Mr. Krishnamurthy, Assistant General Manager, KSTDC	agmh@karnatakaholidays.net info@karnatakaturism.org	080-22352901
6	Jungle Lodges and Resorts	Mr. Kunal, Manager	kunal@jnglelodges.com	
7	Directorate of Employment and Training	Mr. Nagesh, Deputy Director, Training Mr. Paramandam, Assistant Director	misspiu.det@gmail.com	080-25189114/25189103
8	Karnataka Vocational Training and Skill Development Center	Mr. Earamudhiah, Executive Director Mr. Sreenath, Training Manager	kvt.iti@gmail.com	080-22450222/22450666/22450444
9	Urban Development			080-22035173
10	Karnataka Urban Infrastructure Development and Finance Corporation Ltd	Dr.S. Subramanyam, Social Development Specialist, Smart City Mission	subramanyam@kuidfc.com	080-25196159/09902305931
11	Department of Technical Education	Mr. Manjunath, Joint Director	dtekar@hotmail.com	9448958958
12	Directorate of Economics and Statistics	Ms. Kavitha, Assistant Director		9901097206
13	Labour Net services India Pvt. Ltd	Mr. Vijayan, Assistant Manager- Human Resource Mr. Prakash, Senior Manager- HR	Vijayan.s@labournet.in	09008266022; Mr. Vijayan 09535520066; Mr. Prakash
14	Artha Vidhya (ePalmleaf ITES Private Limited)	Mr. Jayaram, Territory Manager- Business Development	Jayram.ms@arthavidhya.com	09591191111

## 4.2. District level consultations- Dakshina Kannada

Sl. No.	Stakeholder	Person	E-mail	Cell/Phone
1	Tourism Depn	Mr. Teju Murthy, AD	adtourismmangalore@gmail.com	9980296190
2	Municipal Corporation	Mr. Mohammed Nazir, Commisioner		
3	Sri Ganesh Shipping Agency	Karthik, Managing Director	Agency@ganeshshipping.com	08722248989
4	District Industries Center	Mr. Gokul S Naik, JD	jd-mangalore@karnatakaindustry.gov.in	9448951722/0824-2212494/2214021
5	Mangalore SEZ Limited	Mr. Suryanarayana, Vice President	v.suryanarayana@ilfsindia.com; velnati.surya@gmail.com	0824-2452748
6	New Mangalore Port Trust	Mr. Harinath, Deputy Chief Engineer	dyce@nmpt.in	09845175268
7	Old Mangalore Port	Mr. Gows Ali, Traffic manager Mr. Prakash Assistant Executive Engineer and Mr. Manohar, Assistant Engineer	mangaloreport@gmail.com manoharacharya89@yahoo.com	Mr. Gows Ali: 9448317404 Mr. Manohar:- 09632221774
8	UPCL	Mr. Ratan Sharma, Regional Manager Admin	Ratan.sharma@adani.com	09513945266
9	Atlantic Shipping	Mr. Prathap Shetty, Branch Manager	mangalore@atlanticshpg.com	09972073316
10	Hiralal & Co. (Shipping) Pvt. Ltd	Mr. Ashwith Kumar	mangalore@hiralalga.com	09845029379
11	CMFRI	Scientist-in-Charge Ms. Prathiba	cmfrimng@gmail.com / mangalore.cmfri@icar.gov.in	+91 824 2424152
12	College of Fisheries, Mangalore	Mr. Venugopal, Dean	deanfisheries@gmail.com	9481269922
13	Fisheries Department, Fishing Harbour	Mr. Mahesh, Deputy Director	Pc_malpe@gmail.com	09902719898/ 0820-2537596
14	Karnataka Fisheries Development Corporation Ltd	Mr. Mallesh, Manager		09611022114
15	Karnataka German Multi Skill	Mr. Salian, Director	director.bengaluru@kgtti.com giridharsalian@gmail.com	080-26642627, Blore office

	Development Society	Mr. Jayaram, Director, Bangalore Office	director.mangalore@kgtti.com	0824 – 2211477, 8553306561 Mlore Office
16	Syndicate Bank	Mr. Raghav. V. Yajamanya, Lead District Chief Manager, Dakshina Kannad district	Ldo.mangalore@syndicatebank.co.in	0824-2445755
17	Govt ITI	Mr. Salian, Principal		0824-2211285, ITI number
18	Karnataka Polytechnic	Mr. Jayadevappa, CCTEK Manager		
19	SBI Life Insurance	Mr. Sandeep Bolar, Divisional Sales Manager		
20	Bhavani Shipping Services (I) Pvt Ltd	Mr. Roshan Hegde, Branch Manager	rhegde@bhavanigroups.com	07899732211/ 0824-2457482
21	Sterling Foods	Mr. Ravindra Bhat, Accounts Manager	vinildavid@sterlingfoods.com	9342944609/0 824-3002705
22	South Canara District Central Co-operative Bank Ltd.	CEO	admin@scdccb.com	(0824)- 2440381,2440 882
23	Mangalore Chemicals and Fertilizers Limited (MCF)	Mr. Suresh, Chief Manager-HR	psp@mangalorechemicals.com	0824- 2220672; 9448932638
24	Mangalore Refinery and Petrochemicals Limited (MRPL)	Mr. Shankaranarayanan, Senior Manager	Sankar_narayanan@mrpl.co.in	0824- 2408286, 9741151772
25	Kudremukh Iron Ore Company (KIOCL)	Mr. Govindaraj Bhatt, Joint General Manager		0824-2403220
26	KIOCL QUESS Skill Academy	Mr. Kalvin, Center Head		09945355077
27	Trident Infrastructure	Mr. Sarvesh, Project Manager		08884454596
28	Yojaka (India) Pvt. Ltd	Director	dineshnair@yojaka.co.in' hr@yojaka.co.in	0824- 2457173/0984 4563866
29	Seaways Shipping and Logistic	Mr. Praveen, Deputy General Manager and President of Mangalore Steamer Agent Association		
30	Poonja International	Mr. Malay, Manager		
31	Ginger Hotel	Mr. Sajeew Mathew, Hotel Manager	Hm.mangalore@gingerhotels.com	0824-6663333

32	Stevedores Association	Mr. SHekhar Pujari, President		
33	NetFish, MPEDA	Mr. Narayan, Co-ordinator		09448530798
34	Canara Lighting Industries Pvt. Ltd.	Mr. Naveen, HR	Naveen.p@canaralighting.com	
35	M/s. Blue Water Foods & Exports(P)Ltd.	Mr. Srinivas, Manager	bluewaterfood@gmail.com; bluewater@mangalagroup.com	09740090001
36	Delta Infralogistics (Worldwide) Ltd.	Mr. Joseph, Manager	info@groupdelta.in / deltainfralogistics@gmail.com / wrldwide@sancharnet.in	+91 824 2454811 / 12 / 13
37	Pantaloons	Mr. Surendra Kumar, Manager		09620159542
38	Big Bazaar	Mr. Patan, Manager		08088430771



### 4.3. District level consultations- Udupi

Sl. No.	Stakeholder	Person	E-mail	Cell/Phone
1	District Industries Center	Mr. Ramananda Nayak, Joint Director	jddicudupi@gmail.com	9448120447
2	Tourism Dep	Mr. Nagaraj, AD	tourismdeptudupi2005@gmail.com; tourismdeptudupi2012@gmail.com	9448999408
3	Port and Fisheries Department	Mr. Dayananda, Executive Engineer	pfdudupi@gmail.com	09886644322
4	Malpe Fishing harbour	Mr. Ganapathy Bhatt,		09902719898/0820-2537596
5	Port Office	Mr. Nagaraj and Mr. Swamy,		09886881136
6	Tebma Shipyards	Mr. Aboobacker, Vice President-Operations  Mr. Ganeshamoorthy, Asst. Manager	Ganeshamoorthy.s@tebma.com	09379460660: Mr. Aboobacker  07483215412: Mr. Ganeshamoorthy
7	Fisheries Department	Mr. Parshwant, Senior Assistant Director		09845875036
8	Urban Development	Mr. Jithesh, Executive Engineer		
9	Baliga Fish Nets	Mr. Radhakrishnan, Production Manager		09880453433
10	Malpe and Manipal Constructions and Developers	Mr. Suhail		09945542599
11	Regal Developers	Mr. Vinod		09945550903
12	United India Insurance	Mr. T.N.Pai, Divisional Manager	mnpai@uiic.co.in	09448575926
13	IDBI Bank	Mr. Sunly, Officer		
14	Canara Bank	Mr. Naresh, officer		
15	Govt. ITI, Perdoor	Ms. Vineetha, Staff Mr. Krishna, Junior training officer	perdoor@gmail.com	0820-2543485 9164531808: Krishna Sir
16	RUDSET	Mr. Raghavendra, Director Mr. Madhavraj Bhat, officer		09449862808: Mr. Raghavendra, Director 09611544930: Mr. Madhavraj Bhat

17	Mandavi Construction and developers	Mr. Jaison, Project Manager		0997299480
18	Amit Cashew Industries	Mr. Amit	omcashews@gmail.com	09964199570
19	Shreenidhi Cashews	Mr. Sulakshana	Shree.vin.exports@gmail.com	09900605551
20	Baby Marine Product	Mr. Lincy Robert	lincy@babymarine.com	09341712064
21	Govt ITI, Udupi	Mr. Jagadeesh, Principal Mr. Sathish, Lecturer	govtitiudupi@gmail.com	09448409355
22	Raj Fish Meal	Mr. Harish, Production in charge	pramodraj.supriya@gmail.com	Supriya:- 09845216812; Mr. Harish:- 09448272980
23	Sadhguru Shikshana Prathishta	Mr. Santhapriya	drshanthapriya@gmail.com; sadhguruudupi@gmail.com	09448327884
24	Woodlands Restaurant	Mr. Prasad Rao, Manager		09342740004
25	UPCL	Mr. Parashuram, DGM and Mr. Krishna Reddy, officer		09663303179  09686447835: Krishna Reddy sir
26	Syndicate Bank	Mr. Francis, District Lead Manager		09449860858
27	Country Inn and Suites by Carlson	Mr. Prashanth, HR Mr. Prabhakar, Manager		Mr. Prashanth: 08884480908 Mr. Prabhakar:- 08884480902/09
28	SyndRSETI	Mr. Santhosh, Director	sirdmanipal@yahoo.in	09449862665
29	Arte Central Park	Mr. Akash, Front Office Manager	Gstrel.artemanipal@1589hotels.com	7338697811
30	Supritha Cashew Industries	Mr. Kashinatha Shenoy		09448488014
31	Yes Bank	Mr. Praveen T A V, Senior Officer, Branch Service Partner Branch Banking	Praveen.tav@yesbank.com	09502240854
32	NMAM Institute of Technology, Nitte Education Trust	Mr. Balasubramani, Director	Balasubramani.r@nitte.edu.in	09900462705
33	JRG Foundries	Mr. Harish, HR		0820- 2566380
34	Bhandary Powerlines Pvt. Ltd	Mr. Jnananda, GM	jnana@bhandarypowerlines.com	09900160294

35	Udaya Steels	Mr. Kiran, Staff		08088619037
36	Big Seller Apparels Pvt. Ltd	Mr. Nagraj, Manager-Admin., Finance	best@bestmpl.com	09449388801

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## *Section 4: Goa*

*North Goa*

*South Goa*

# 1. District Profile

## 1.1. Goa

Goa comprises of 2 districts – North Goa and South Goa. North Goa, with a geographical area of 1,736 kms, is bounded by the river Teracol that separates it from the Sindudhurg District of Maharashtra; in the east by Belgaum District of Karnataka; in the South by Zuari River; and in the west by the Arabian Sea. Panaji is the district headquarters of North Goa. The district comprises of 6 taluks namely, Tiswadi, Bardez, Pernem, Bicholim, Satari and Ponda. There are 213 villages and 27 towns, out of which 7 are Municipal towns.

South Goa covers the entire southern part of Goa state. Arabian Sea is to the west; North Goa district to the North; and Uttar Kannada district of Karnataka in the East and South. The total geographical area of the district is 1966 sq. kms. Margao, also known as Commercial Capital of Goa, houses the Headquarters of South Goa District. South Goa is divided into 5 talukas for administrative convenience, viz., Salcete, Quepem, Canacona, Sanguem & Mormugao (Vasco-da-Gama) - geographically, Sanguem being the largest taluka & Mormugao being the smallest one. Very recently, one more taluka known as Dharbandora has been carved out, dividing the Sanguem Taluka.<sup>1</sup>

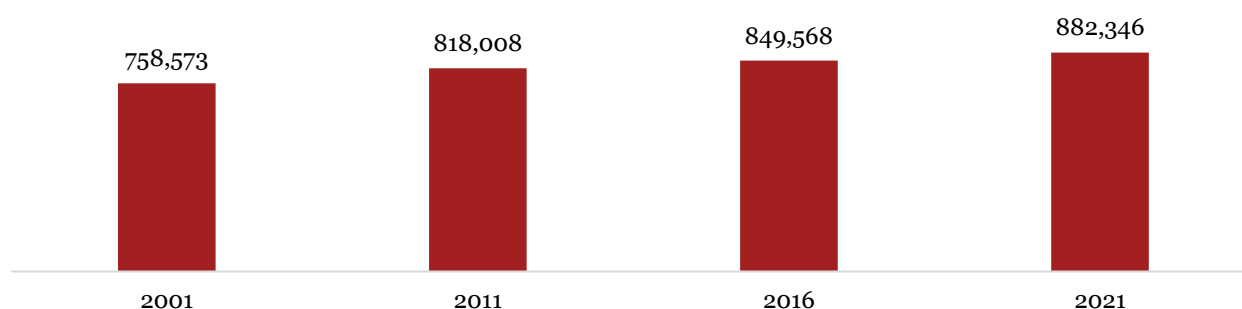
### 1.1.1. Demographic Profile – North Goa

Indicator	North Goa <sup>2</sup>
Total population	818,008
Decadal rate of growth of population (2001-11)	7.84%
Rural population	324,927
Female	401,331
SC population	17,606
ST population	56,606
Workforce participation	40.06%
Main Workers (As % of total population)	32.94%
Marginal (As % of total population)	7.12%
Non-workers (As % of total population)	59.94%
*Number of people with vocational training in the age group of 15+ in the state <sup>3</sup>	93 out of 1000

### Population trends<sup>4</sup>

Between the censuses of 2001 and 2011, North Goa has recorded an annual growth rate of 0.76%. The district has shown signs of decreasing population growth and has almost been stagnated for past few years. It is estimated that the population would have grown to 8.49 lakhs in 2016 and will grow up to 8.82 lakhs by 2021.

**Figure 1: Population trend in North Goa (2001 -2021)**



<sup>1</sup> District Census Handbook (2011) – North Goa

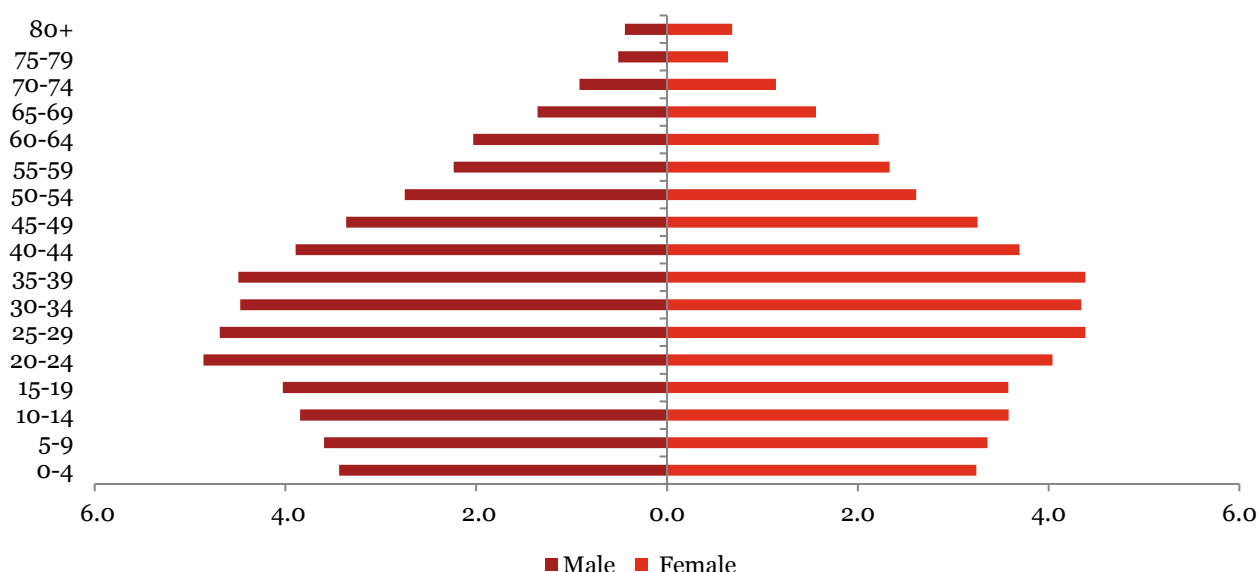
<sup>2</sup> Census 2011

<sup>3</sup> Employment and Unemployment Survey, Vol III, Labour Bureau 2015-16,

<sup>4</sup> Census of India (2001 and 2011), PwC Analysis

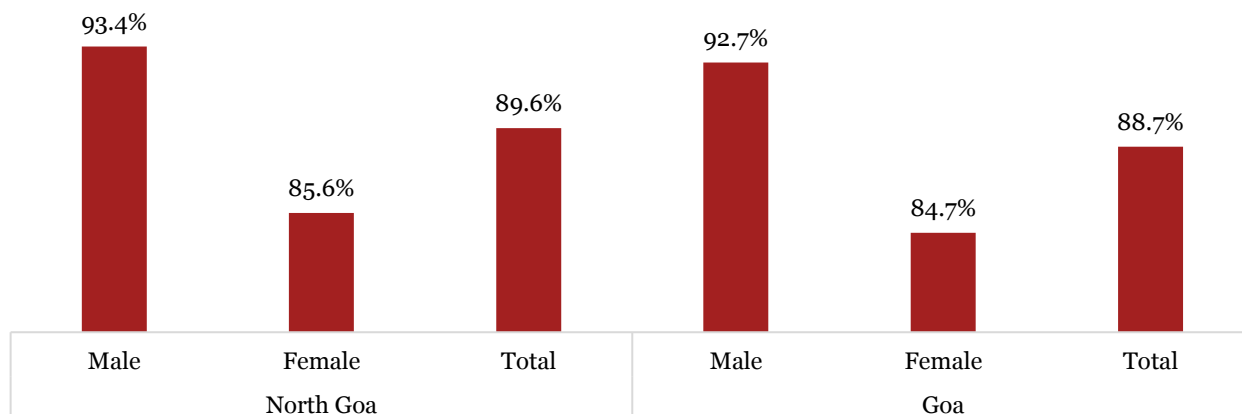
North Goa currently has a large proportion of youth population. More than 20% of the population is in the age group of 20 to 40 years. However, it is evident that this proportion will gradually decline. Thus, the District will need to act quickly on scaling its capacity to skill.

**Figure 2: Population pyramid North Goa (2011)**



## Literacy rates<sup>5</sup>

**Figure 3: North Goa Vs Goa (2011)**



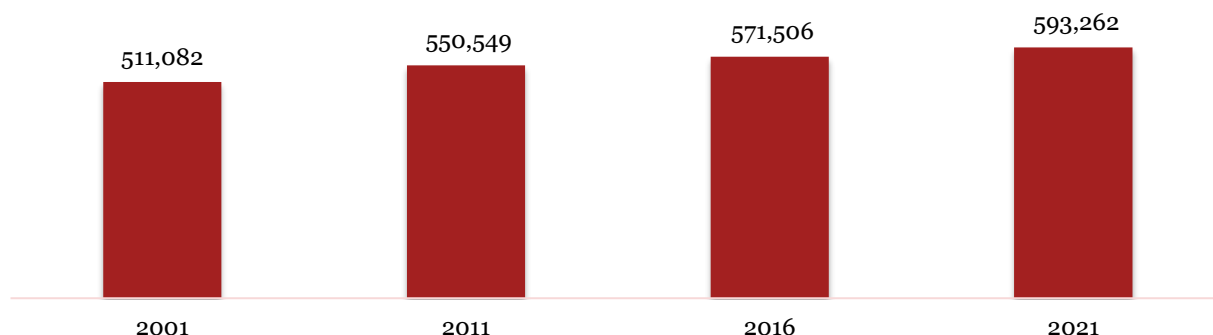
Goa with an average literacy rate of 88.70%, fares fairly well when compared to the national average of 74.04%. North Goa (89.6%) has a better literacy rate as compared to Goa (88.7%) as a State. The literacy rates are higher amongst males (93.4%) as compared to females (85.6%) in North Goa.

<sup>5</sup> Based on Census 2001 and 2011

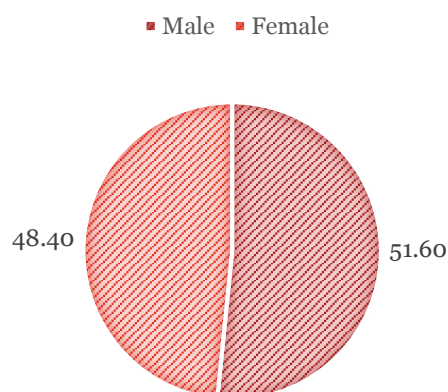
## Age specific population trends and education level for 2011<sup>6</sup>

As per the Census 2011, for North Goa the population in the age-group of 15 to 24 years was 1, 34,789 (16.5% of the overall population). The population in the age group of 15-59 years is estimated to be 5, 71,506 and 5, 93,262 in 2016 and 2021. The projected absolute growth in the population from 2016 to 2021 is 3.81%.

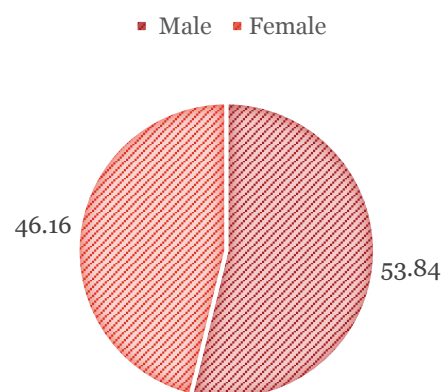
**Figure 4: Growth trend of population in the age group 15-59 years in North Goa (2001-2021)<sup>7</sup>**



**Figure 5: Age specific population in North Goa (15-59 years)**



**Figure 6: Age specific population in North Goa (15-24 years)<sup>8</sup>**

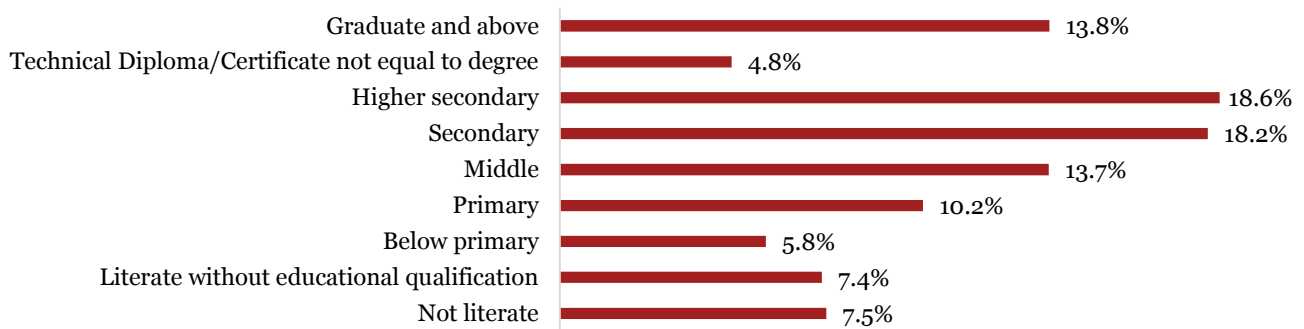


While in the age group of 15-59 the share of population of males and females in total population of North Goa is around 51.60% and 48.40% respectively. The share of population of males and females in the age group of 15-24 is 53.84% and 46.16% respectively. This indicates a widening gap between the share of male and female populations.

<sup>6</sup> Census 2011

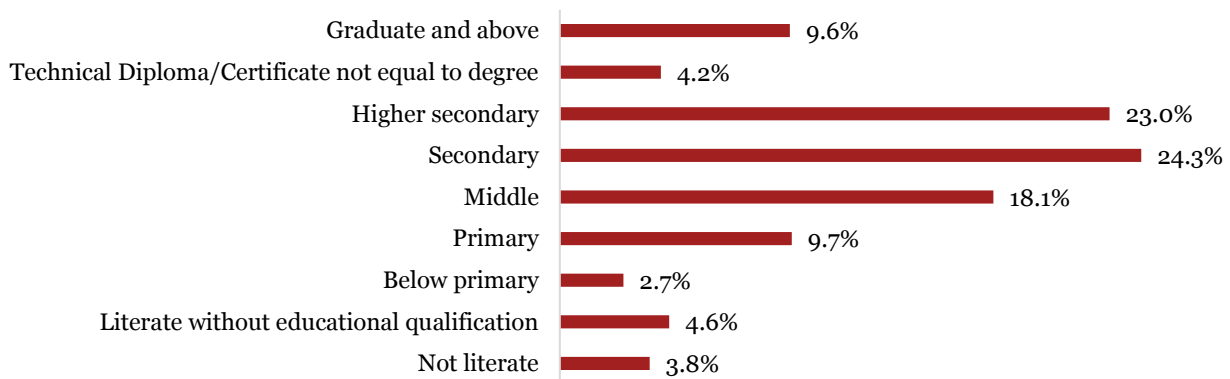
<sup>7</sup> PwC Analysis

**Figure 7: Age specific education level in North Goa (15-59 years)<sup>9</sup>**



The census indicates that for the age category of 15-59 years, 7% of the population of North Goa is illiterate. 7% of the population is literate without any educational qualification. 6% have attended school till below primary level and 10% have completed schooling only up to primary level. Roughly, 14% of the literate population have completed schooling up to the middle level, whereas around 18% of the literate population have been educated till secondary. 19% of the population of this district is higher secondary whereas only 5% of the population has done a certificate/diploma course and 14% have at least graduated, indicating that a graduate/post-graduate degree is more sought after than a certificate/diploma.

**Figure 8: Age specific education level in North Goa (15-24 years)<sup>10</sup>**



For the age category of 15-24 years, 3.8% of the population of North Goa is not literate. 4.6% are literate without any educational qualification, 2.7% have attended school till below primary level and 9.7% have completed schooling only up to primary level. Around 18.1% of the literate population has done schooling up to the middle level, whereas, around 24.3% of the literate population has been educated till secondary. 23% of the population has completed higher secondary whereas only 4.2% of the population of this district has done a certificate/diploma course and 9.6% have at least completed graduation.

It is emerging from the analysis that in the age group of 15-24 years there is a significant increase in the proportion of individuals who have attained Middle, Secondary and Higher Secondary level of education as compared to data available for the age group of 15-59 years. However, the proportion of individuals who have acquired vocational education is slightly lower in the age group of 15-24 years (4.2%) as compared to individuals in the age group of 15-59 years.

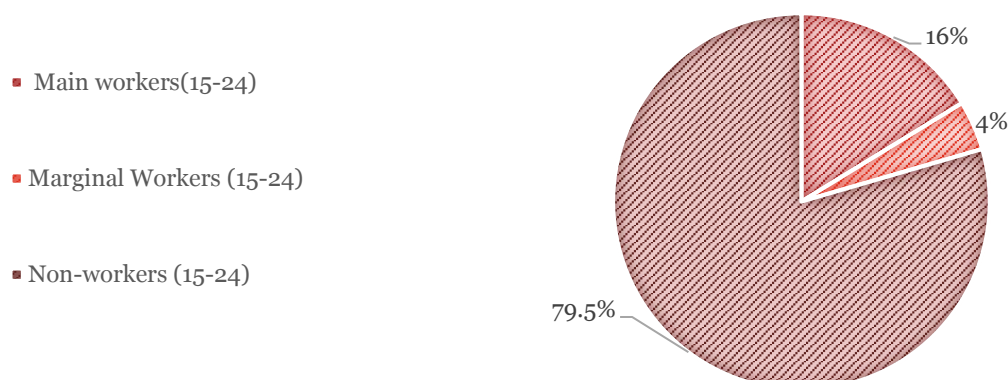
<sup>9</sup> PwC Analysis

<sup>10</sup> PwC Analysis



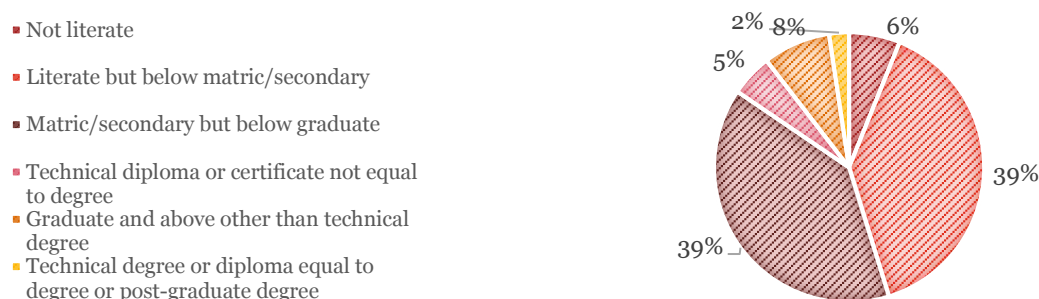
## Age specific distribution of workers and educational level

**Figure 9: Age specific distribution of workers in North Goa (15-24 years)**

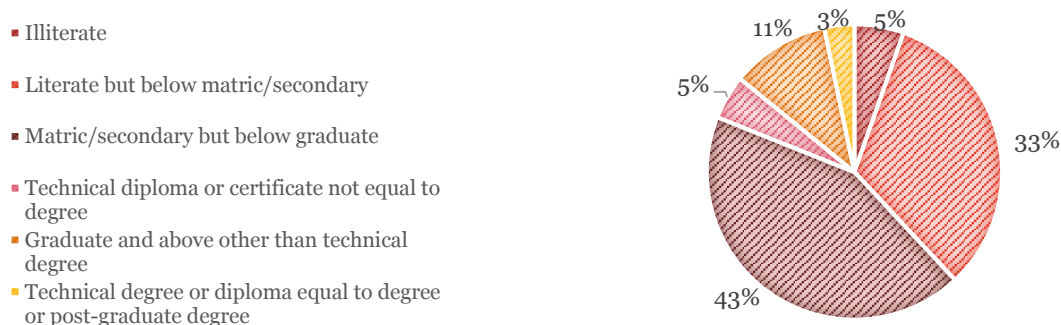


In North Goa, 79.5% of the population in the age group of 15-24 years are non-workers, 16% of the population are main-workers whereas 4% are engaged in marginal work i.e. work for 3-6 months during the year.

**Figure 10: Education level of marginal workers available for work in North Goa (15-24 years)**



**Figure 11: Education level of main workers available for work in North Goa (15-24 years)**



The educational profile of the main and marginal workers in the 15-24 years age group in the district are similar. However the relatively higher share of 'Literate but below Matric/ Secondary' amongst marginal workers (39%) as against main workers (33%) could be indicative of the constraints faced by minimally educated in securing a steady employment or means to livelihood.

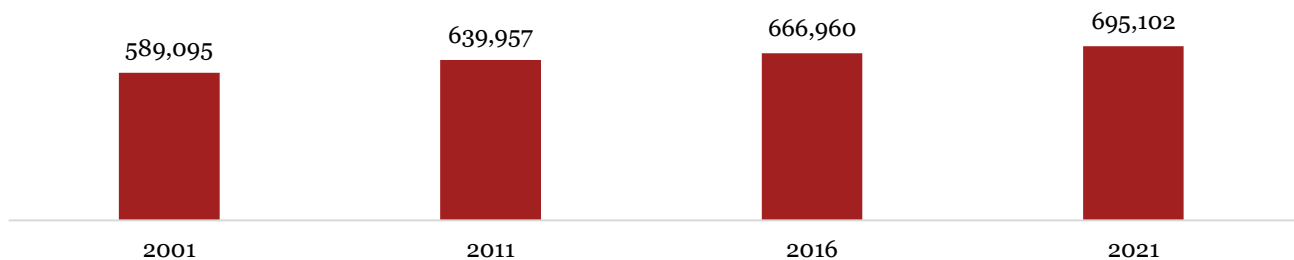
### 1.1.2. Demographic Profile – South Goa

Indicator	South Goa <sup>11</sup>
Total population	640,537
Decadal rate of growth of population (2001-11)	8.73%
Rural population	226,804
Female	318,074
SC population	7,843
ST population	92,669
Workforce participation	38.97%
Main Workers (As % of total population)	32.26%
Marginal (As % of total population)	6.71%
Non-workers (As % of total population)	61.03%
*Number of people with vocational training in the age group of 15+ in the state <sup>12</sup>	93 out of 1000

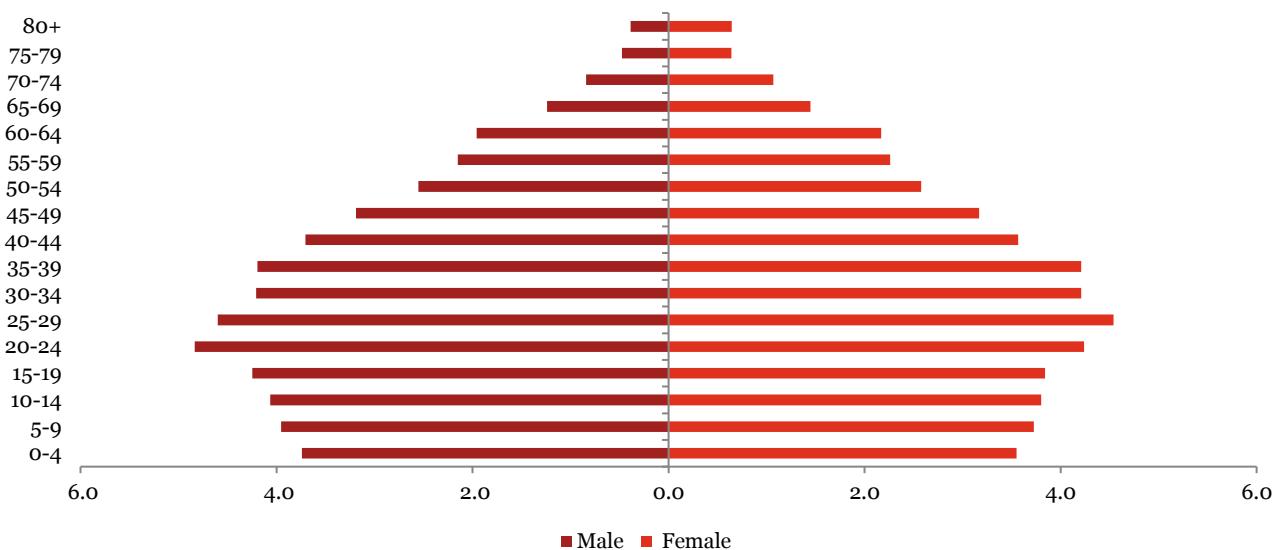
#### Population trends<sup>13</sup>

Based on the census data of 2001 and 2011, the CAGR for South Goa comes to 0.83%. The district has shown signs of decreasing population growth rate and the growth rate has almost been stagnated for past few years. It is noticed that the population would have grown to 6.66 lakhs in 2016 and will grow upto 6.95 lakhs by 2021.

**Figure 12: Population trend in South Goa (2001 - 2021)<sup>14</sup>**



**Figure 13: Population pyramid South Goa (2011)**



<sup>11</sup> District Census Handbook – South Goa

<sup>12</sup> Employment and Unemployment Survey, Vol III, Labour Bureau 2015-16,

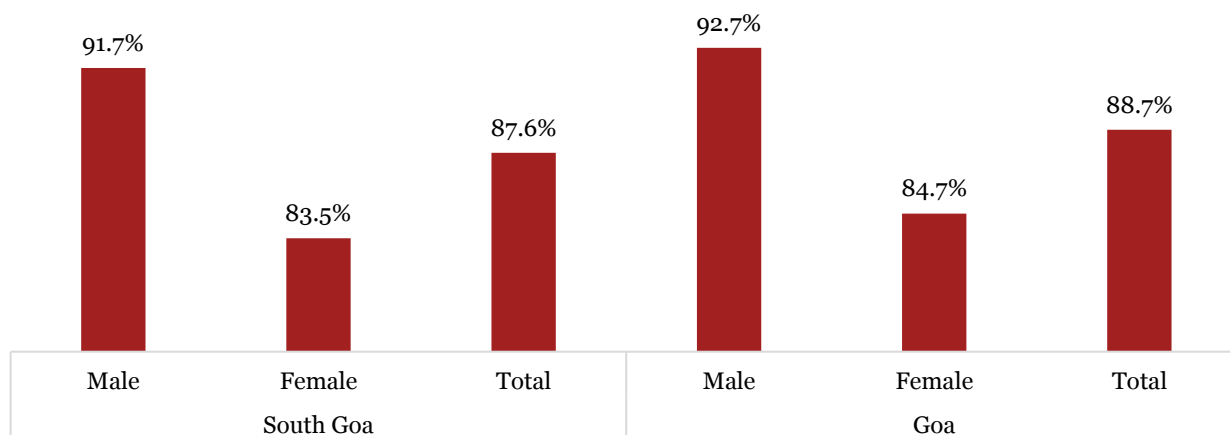
<sup>13</sup> Based on Census 2001 and 2011

<sup>14</sup> Census of India (2001 and 2011), PwC Analysis

The demographic dividend bulge in South Goa is fast decreasing with youth in the employable age increasing. A large proportion of the population is in the age group of 20 to 39 years. This indicates that the young population

### *Literacy rates<sup>15</sup>*

**Figure 14: South Goa Vs Goa (2011)**

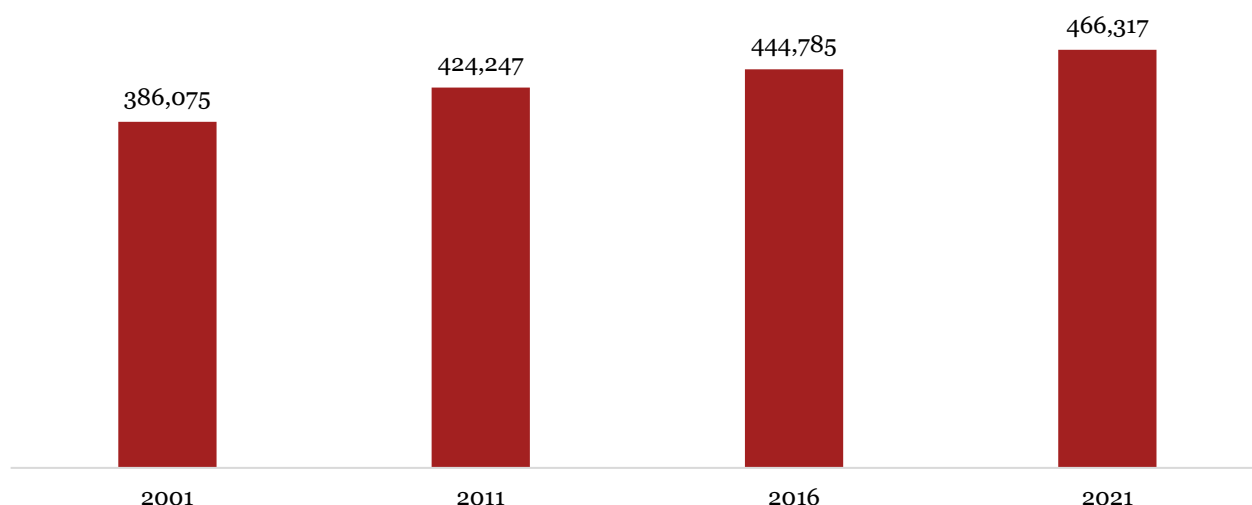


Goa with an average literacy rate of 88.70%, fares fairly well when compared to the national average of 74.04%. South Goa also has a very good literacy rate but a little less than North Goa and thus the State average. 87.6% people are literate in South Goa. South Goa also has more literacy amongst males as compared to females.

### *Age specific population trends and education level for 2011<sup>16</sup>*

As per the Census 2011, for South Goa the population in the age group of 15-24 years was 1,09,831 (17.16% of the overall population). Using proportional method, the population in the age group of 15-59 years is estimated to be 4, 44,785 and 4, 66,317 in 2016 and 2021. The projected absolute growth in the population from 2016 to 2021 is 4.84%.

**Figure 15: Growth trend of population in the age group 15-59 years in North Goa (2001-2021) <sup>17</sup>**

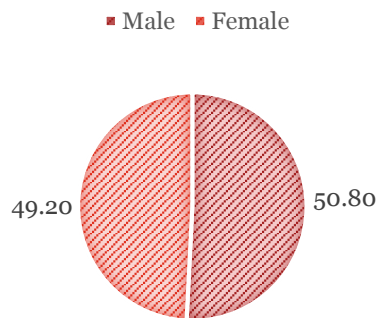


<sup>15</sup> District Census Handbook

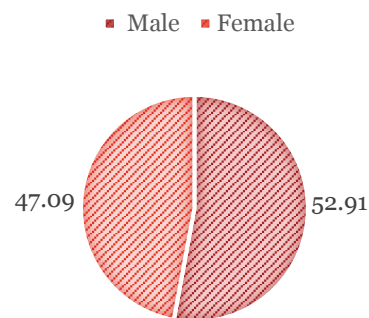
<sup>16</sup> Census 2011

<sup>17</sup> PwC Analysis

**Figure 16: Age specific population in South Goa (15-59 years)**

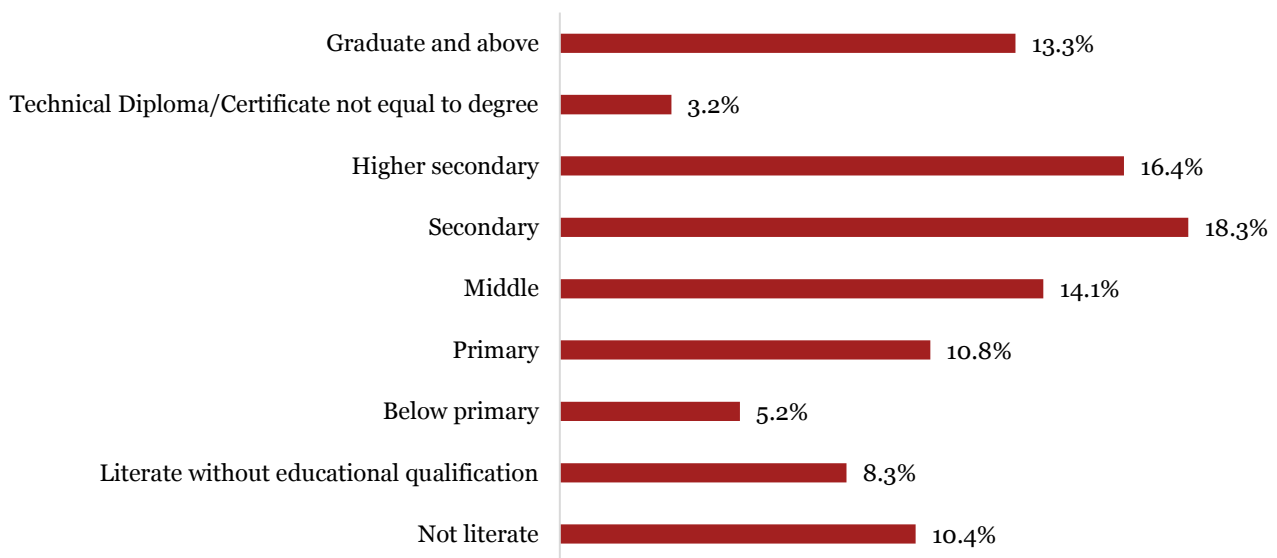


**Figure 17: Age specific population in South Goa (15-24 years)**



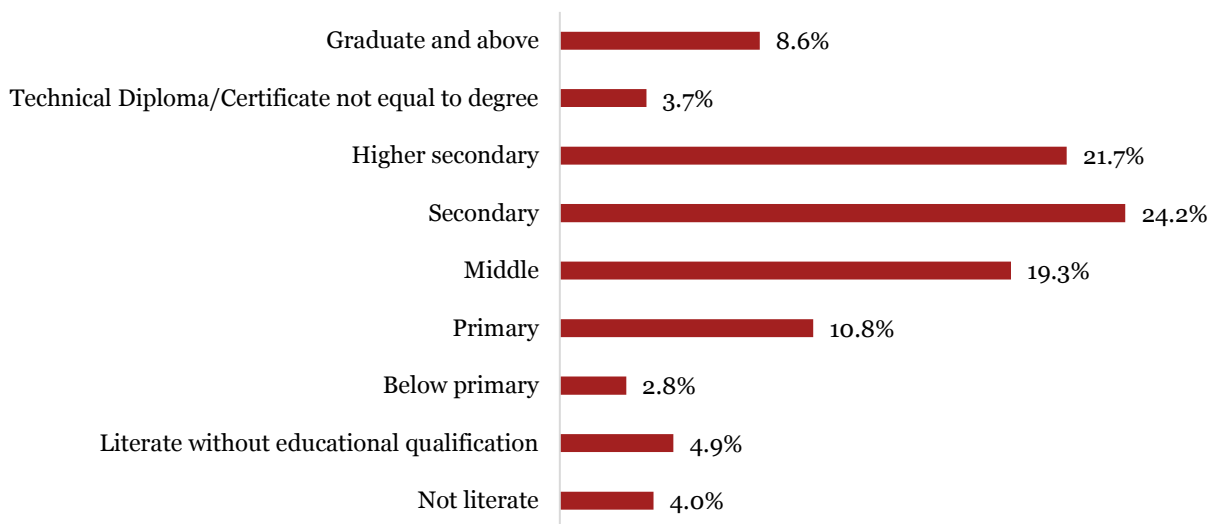
While in the age group of 15-59 the share of population of males and females in total population of South Goa is around 50.80% and 49.20% respectively, the share of population of males and females in the age group of 15-24 is 52.91% and 47.09% respectively. This indicates a widening gap between the share of male and female populations.

**Figure 18: Age specific educational level in South Goa (15-59 years)**



The census indicates that for age category of 15-59 years, 10.4% of the population of South Goa is not literate. 8.3% of the population in the age category are literate without any educational qualification, 5.2% have attended school till below primary level and 10.8% have completed schooling only up to primary level. Around, 14.1% of the literate population have completed schooling up to the middle level, whereas around 18.3% of the literate population have been educated till secondary. 16.4% of the population has completed higher secondary whereas only 3.2% of the population of this district have done a certificate/diploma course and 13.3% have at least graduated, indicating that a graduate/post-graduate degree is more sought after than a certificate/diploma.

**Figure 19: Age specific educational level in South Goa (15-24 years)**

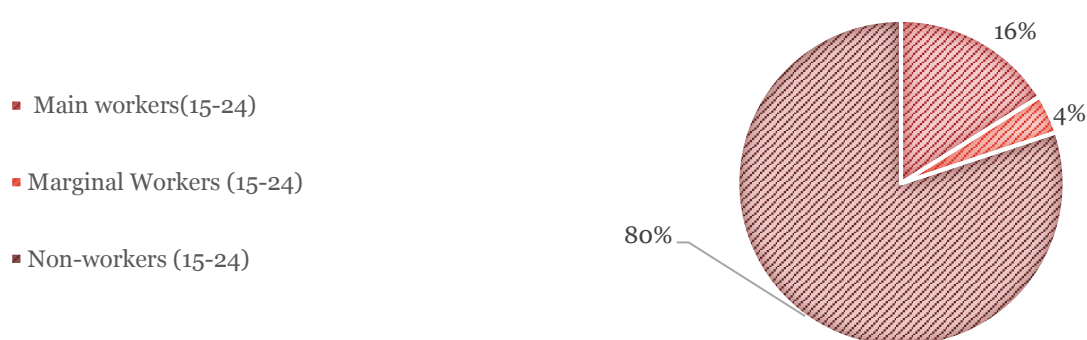


For the age category of 15-24 years, 4% of the population of South Goa is not literate. 4.9% are literate without any educational qualification, 2.8% have attended school till below primary level and 10.8% have completed schooling only up to primary level. Roughly 19.3% of the literate population has done schooling up to the middle level, whereas, around 24.2% of the literate population has been educated till secondary. 21.7% of the population has completed higher secondary whereas only 3.7% of the population of this district has done a certificate/diploma course and 8.6% have at least completed graduation.

Comparing the education data for the two age group, in case of South Goa it is evident that a larger proportion of individuals have acquired school education in 15-24 years age group. The proportion of individuals with vocational training has only marginally more in the age group of 15-24 years.

### *Age specific distribution of workers and educational level<sup>18</sup>*

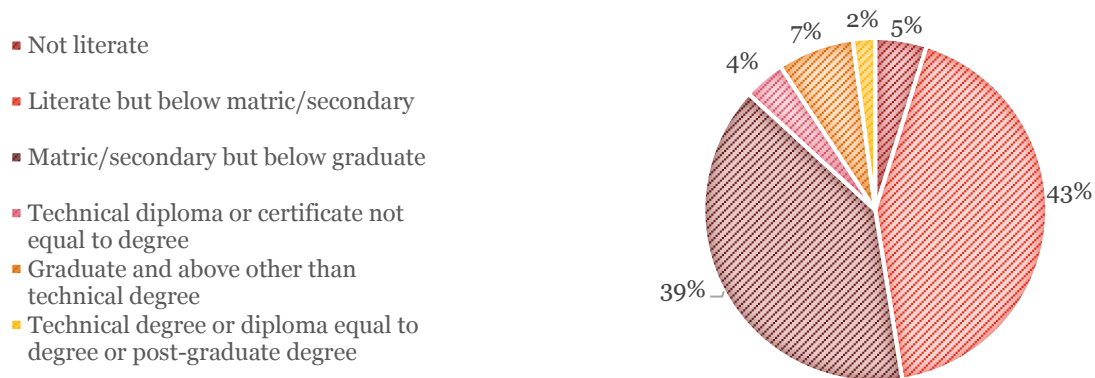
**Figure 20: Age specific distribution of workers in South Goa (15-24 years)**



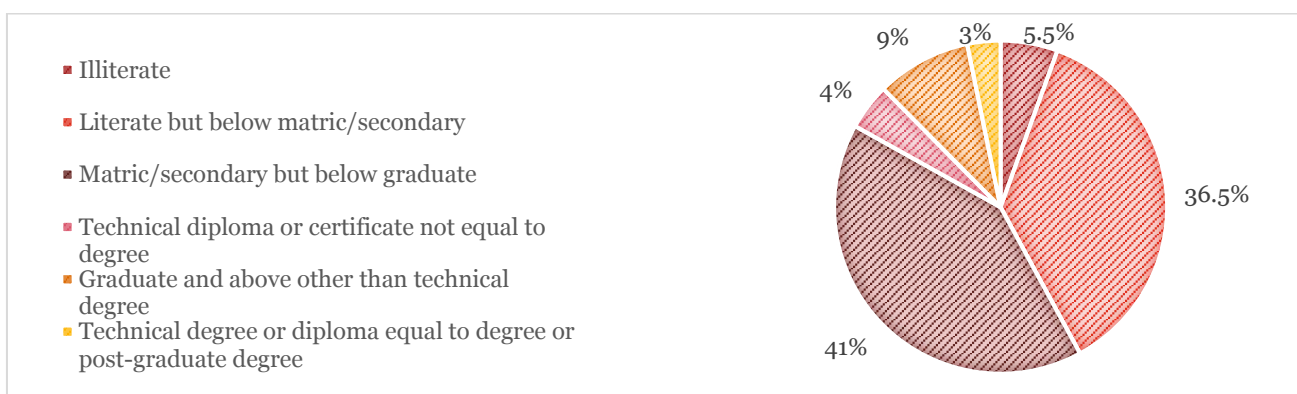
In South Goa, 80% of the population in the age group of 15-24 years are non-workers. 16% of the population are main-workers, whereas 4% are engaged in marginal work i.e. work for 3-6 months during the year.

<sup>18</sup> PwC Analysis

**Figure 21: Education level of marginal workers available for work in South Goa (15-24 years)**



**Figure 22: Education level of main workers available for work in South Goa (15-24 years)**

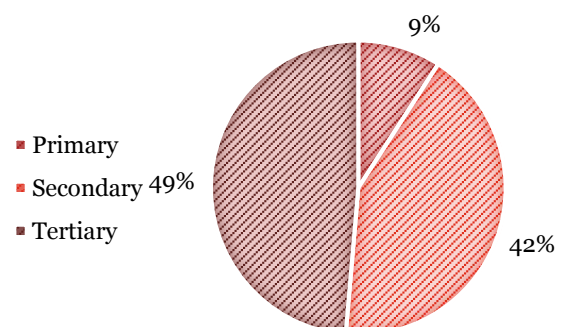


### 1.1.3. Key Economic Drivers

The GSDP for FY 2014-15 at constant (2004-05)<sup>19</sup> prices has been estimated at Rs. 32,581.73 Cr against Rs. 30,345.36 Cr for FY 2013-14. A growth of 7.37% was registered for FY 2014-15. It can be clearly noted from the Economic Survey Report of Goa that the primary sector contributed only 9.13%, secondary sector contributed 42.24% and tertiary sector contributed 48.63% in Goa's economy. The decline in primary sector can be attributed to the huge fall in mining and quarrying sub sector. Further disaggregation suggests that manufacturing sector has a share of 31.68% in the State GDP, hotels & restaurants have a share of 11.21% in the State GDP and BFSI/Real Estate has a share of 11.23% in the State GDP.

The key economic drivers of the district are illustrated below:

**Figure 23: Sectoral breakup of Goa at constant prices (2004-05)**



<sup>19</sup> Economic Survey 2014-15, PwC Analysis

#### Ports/Inland water transport

- Lighthouse tourism in Aguada fort
- Operations of Vedanta group to start from April onwards
- MPT to be notified port for both import & export of pharma products
- Expansion of current port
- Enhancing port connectivity and inland waterways

#### Hospitality

- 5 Star properties and luxury resorts/spa - total 34 projects worth Rs. 5000 Cr

#### Infrastructure/Urbanization

- Proposed new airport coming up near Morjim beach with a proposed investment of Rs. 3000 Cr. Extension of current airport
- Panaji to be developed under smart city project
- Strengthening of road and inland waterways infrastructure
- Proposed two bridges

#### Eco friendly tourism

- Rs. 1000 Cr project proposed on river chapora
- Coastal circuit scheme worth Rs. 200 Cr
- Swadesh darshan scheme – Developing destinations

#### Manufacturing

- Expansion of manufacturing facility for 2 wheeler tyres (875 Cr)
- Expansion in manufacturing facility of Cipla and Vedanta (2000 Cr)
- Establishment of clusters of pharma, IT Hardware & Electronics and Food processing industries

### 1.1.4. Priority Sectors

In Goa, the priority sectors that have been identified are **Ports, Tourism & Hospitality, Logistics and Construction**. Other sectors that have been identified from the point of view of their contribution to district GDP are **Banking and Finance Services and Manufacturing**.

### 1.1.5. About the Ports

Ports & Maritime			
Major Ports: 1		Minor Ports: 5	Shipyards: 10 (Approximate)
Details			
Mormugao Port Trust			
Operations:	PPP ( Under Tender)	Capacity	49.35 Mn Tonnes PA
Key Cargo	Ship Repair, Coal, coke, iron ore, liquid cargo, cruise vessels (cruise berth)	No of berths:	11
		Depth	8-14 Mtr

<i>Description and key Trend</i>	<p>Goa has 1 major port (Mormugao Port Trust) and 5 minor ports in Panjim, Chapora, Betul, Talpona and Tiracol. MPT has been functioning since 1882. Currently there are 11 berths and 6 mooring dolphins. A maritime board has been proposed for Goa but currently it is yet to become functional. The main products imported from MPT include coal coke (Indonesia, South Africa), limestone, ammonia (Zuari plant) and wood chips. The main products for export include Iron ore.</p> <p>Berth no. 1, 2 and 3 have been given to Western India Shipyard Ltd. (ABG Group). It is a ship repair facility. It also has a floating dry dock facility. Berth No. 4 caters to port craft and small vessels. It is handled by MPT. Berth no. 5 and 6 have been outsourced to Jindal group. They are operated by Southwest Port Ltd. berth no. 5 handles steel and berth no. 6 is a dedicated coal terminal. Berth no. 7 is also a dedicated coal terminal operated by Adani group. The outsourcing process of berth no. 8 and 9 has been completed and they will soon be handed over to Vedanta group from April 2017 onwards. Vedanta group plans to utilise the Berth for captive purposes. Only the no 10 and 11 berths are operated by MPT.</p> <p>The depth of the berths has been proposed to be increased upto 18 mtrs so that heavy ships and cruise vessels can also come to MPT, however dredging activity has not yet been initiated as there is a strong opposition from the local community. There are about 5 dolphin berths as well.</p>		
<b>Terminal Operations</b>			
	Terminal Operator (1): Western India Shipyard Ltd.	Terminal Operator (2): Adani Group	Terminal Operator (3): Southwest Port Ltd.
<i>Annual Capacity</i>	-	8.94	9.96
<i>Type of Cargo handled</i>	Ship Repair	Coal/coke	Coal/coke/general cargo
<i>Manpower</i>	-	25 full time and 200 contractual	60 full time and 230 contractual
<i>High Demand Job Roles</i>	-	Control room operators, Operators for equipment on board, Operating supervisors, Mechanical and electrical team, Maintenance people	Mooring gangs, dock operations
<b>Shipyards</b>			
<i>Description and key Trend</i>	<p>Currently there are around 25-30 shipyards in Goa out of which only around 10 are functional. Shipyards perform both ship building and repair activity work. Goa shipyard limited is the biggest shipyard in Goa. The key activities undertaken by GSL are:</p> <ul style="list-style-type: none"><li>• Repair &amp; overhaul</li><li>• Upgrades</li><li>• Maintenance</li><li>• Turnkey packages</li><li>• Modifications &amp; enhancements</li><li>• Technology transfer</li><li>• Manpower</li><li>• Training</li></ul> <p>Usually fitter and welder are required at these shipyard facilities. Experienced people are not easily available. Usually training is provided on the job.</p>		



### 1.1.6. Investments

The table below summarizes the investments that have been approved or are in pipeline:

**Table 1: Proposed Key Investments for the year 2016-22 in Goa<sup>20</sup>**

Sector	Proposed Investment (INR Cr)	Number of Projects	Expected Employment	Key Players
Ports & Inland waterways <sup>21</sup>	242	3	2,050 persons	<ul style="list-style-type: none"> <li>Mormugao Port Trust, Vedanta Group</li> <li>River Navigation Department</li> <li>M/s. Kargwal Construction Pvt. Ltd.</li> </ul>
Infrastructure	3,000	1	4,853 persons	<ul style="list-style-type: none"> <li>GMR Infrastructure Ltd.</li> </ul>
Urbanization (Smart City)	981	1	More than 2,000 persons	<ul style="list-style-type: none"> <li>Central/State Govt.</li> </ul>
Projects registered with DIC	1,0667.88	134	22,879 persons	<ul style="list-style-type: none"> <li>M/s MRF Limited</li> <li>M/s. Vedanta Limited</li> <li>M/s Ozone Leisure and Resorts Private Limited</li> <li>M/s. Movaj Enterprises Private Limited</li> <li>M/s. Yacht Heaven (Goa) Pvt. Ltd</li> <li>M/s. Sequeira and Daughters</li> </ul>

In the Ports sector, Vedanta group is being allocated 3 berths from April 2017. Vedanta group is supposed to bring business and generate employment opportunities. The Government, through the Captain of Ports Department, is improving infrastructure at all the minor ports. It is also installing vessel traffic and port management system (VTPMS) in Panaji port followed by the other minor ports. The Government is also adopting technology and business practices to improve efficiency of the minor ports and will provide inputs to the Mormugao Port Trust on improvements required in Mormugao Port based on feedback from industry. Lighthouse tourism is also proposed at Fort Aguada. 2 ship building and repair projects have also been sanctioned by the Govt.

Details of proposed investments in this sector are given below:

**Table 2: Details of Investments in Ports, Inland waterways and Ship building sector in Goa**

Project	Proposed Investment (INR cr)	Expected Employment	Key Players
Construction of floating jetty for water sports activity and Boat cruise in the Mandovi bay area near Dolphin bay resort at Reis Magos and facilities of five star hotel and 4 star hotel near Reis Magos Fort	270.45	1,000 persons	M/s. Spark Healthline Private Limited

<sup>20</sup> Primary Stakeholder Consultations with Govt. departments

<sup>21</sup> MPT has not disclosed the total investments although they have mentioned the proposed investment type

Project	Proposed Investment (INR cr)	Expected Employment	Key Players
Setting up of a new unit for manufacturing of ship equipment for new construction of defense vessels and requested to allotment of Plot admeasuring approx. 3000 sq.mtrs either in Panchawadi, Sanguem in South Goa and Tuem in North Goa.	3	50 persons	M/s. Geeta Engineering Works Private Limited
Setup of a manufacturing unit for manufacturing of Shipbuilding components like windows, hatch, covers, port holes, bollards etc. fitted in the interior and exterior of ships or offshore vessels and requested industrial plot admeasuring 3500 sq.mtrs at Kundaim Industrial Estate, Kundaim, Goa.	1.25	35 persons	M/s. Alcraft Marine Private Limited
Development of Marina Facilities on North Bank of Zuari River near Nauxim Village. (safe & secured parking of 200 Yacht's with 25m draft, Yacht Repair & Maintenance of Yachts including minor repairs, painting etc. (also for local Boats), Dry Docking using 600Mt travel hoist, Boat fuelling : HSHSD & Octane 97 (also for local boats), OEM Specialized Services, Environment Management Plans, Waste water treatment systems.	200	250 persons	M/s. Kargwal Construction Pvt. Ltd.
Engagement of private terminal operator for operating 3 berths	-	-	M/s. Vedanta Limited

In Goa, within the MSME sectors, hospitality, eco-tourism and manufacturing are the upcoming areas where the investments to the tune of INR 10,667.88 Cr has been proposed and is expected to create employment for approximately 22,879 persons. The details of some of the big proposed investments across these sectors are given below:

**Figure 24: Details of proposed investments across different sectors, DIC Goa**

Hospitality	Eco tourism	Pharma	Food processing	Other proposed investments
23 firms to be engaged Key players: <ul style="list-style-type: none"> <li>M/s Ozone Leisure and Resorts Private Limited</li> <li>M/s. Shine Enterprises Private Limited</li> <li>M/s West Coast Hotels Pvt. Ltd.</li> <li>M/s. Saint Michael Estates Private Limited</li> <li>M/s. Soham Leisure Ventures Private Limited</li> </ul>	16 firms to be engaged Key players: <ul style="list-style-type: none"> <li>M/s. Movaj Enterprises Private Limited</li> <li>M/s. Yacht Heaven (Goa) Pvt. Ltd.</li> <li>M/s. Sequeira and Daughters</li> <li>M/s. Ayaan Properties Private Limited</li> <li>M/s. Niraamaya Retreats Benaulim Private Limited</li> </ul>	14 firms to be engaged Key players: <ul style="list-style-type: none"> <li>M/s Cipla Limited</li> <li>M/s. Centaur Pharmaceuticals Private Limited</li> <li>M/s Cadila Healthcare Limited</li> <li>M/s. Vilman Healthcare Private Limited</li> <li>M/s. Indoco Remedies Limited</li> <li>M/s Watson Pharma Private Limited</li> </ul>	10 firms to be engaged Key players: <ul style="list-style-type: none"> <li>M/s. Barmalt Malting (India) Pvt. Ltd.</li> <li>M/s Vani Agro Farms Pvt. Ltd.</li> <li>M/s Hindustan Coca Cola Beverages Private Limited</li> <li>M/s United Breweries Limited Bethora, Ponda-Goa.</li> </ul>	73 firms to be engaged Key players: <ul style="list-style-type: none"> <li>M/s MRF Limited (Manufacturing)</li> <li>M/s. Vedanta Limited (Manufacturing)</li> <li>M/s. Fomento Resources Private Limited (Education)</li> </ul>

### 1.1.7. Existing training infrastructure

Type of training infrastructure	Total no. of institutions	No. of trades	Top 5 trades based on enrollment and seat capacity
Engineering Colleges	6	15	<ul style="list-style-type: none"> <li>Computer Engineering</li> <li>Electronics and Telecommunication</li> <li>Information Technology</li> <li>Mechanical Engineering</li> <li>Civil Engineering</li> </ul>
ITI	15	24	<ul style="list-style-type: none"> <li>Computer Operator &amp; Programming Assistant (260)</li> <li>Mechanic Diesel Engine (224)</li> <li>Electrician (224)</li> <li>Fitter (160)</li> <li>Welder (144)</li> </ul>
Polytechnic	4	13	<ul style="list-style-type: none"> <li>Mechanical Engineering (200)</li> <li>Electronics Engineering (175)</li> <li>Civil Engineering (130)</li> <li>Electrical Engineering (110)</li> <li>Computer Engineering (100)</li> </ul>
PMKK Training Centre	-	-	-
DDU GKY	-	-	-
PMKVY	1	3	<ul style="list-style-type: none"> <li>House Keeping Attendant (Manual Cleaning)</li> <li>F&amp;B Service: Steward</li> <li>Front Office Associate</li> </ul>
Other State Govt. Skill Development Centres	7	-	<ul style="list-style-type: none"> <li>Motor Vehicle</li> <li>Denting and Painting Repair</li> <li>Refrigeration and air conditioning</li> </ul>

Goa has 10 Govt. and 5 Pvt. ITIs with a combined intake capacity of 2,100. Goa also has 4 polytechnic colleges, out of which 3 are Govt. 7 private training partners are currently operating and providing short term skill development courses. 1 PMKVY training centre providing courses in hospitality management is also running in the State. In addition to this, Goa has 5 private and 1 Govt. engineering college.

### 1.1.8. Youth Aspiration – North Goa<sup>22</sup>

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

#### Respondent Profile

The table below provides an overview of the respondent profile:

Profile	Details
Total Sample Size	386
Gender Profile	Male- 67.1% Female- 32.9%

<sup>22</sup> PwC Analysis based on aspiration survey

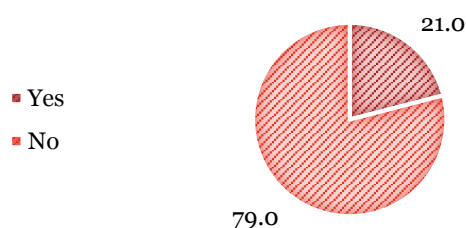
Age Group	15-34 years
Education Level (top 3)	Senior Secondary schooling(Class 9 to 10)- 21.5% Higher secondary schooling with commerce (Class 11 to 12)- 17% Higher secondary schooling with science (Class 11 to 12)- 13.8%
APL/BPL/AAY/Don't know	APL-36.3 % BPL- 56.7% Don't know- 7%
Occupational Profile (top 3)	Salary from employment (32.9%), Unemployed (29%) and Student 26.4%

## Exposure to Vocational Training and Educational Aspiration

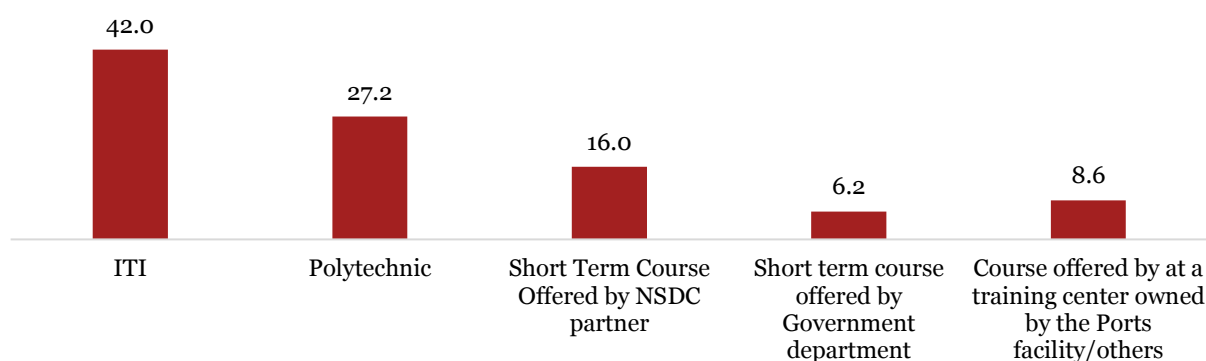
Regarding the exposure to the vocational training most respondent reported that they had not completed any vocational training course. Overall, ~79% of the respondents had not enrolled in vocational training course (Figure 25).

Of the total respondents who underwent vocational training (which is ~21%), majority were from ITI (42%) and polytechnic (27.2%). Figure 26 exhibits the percentage of respondents who completed different types of courses as part of their vocational training.

**Figure 25: Percentage of respondents who completed vocational training course – North Goa**

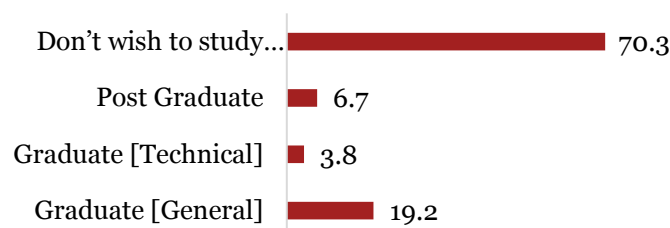


**Figure 26: Percentage of respondents completed courses in vocational training – North Goa**



Further, the respondents were asked about the level of education that they wished to attain. Nearly three-fourth of the respondents (70.3%) said that they do not wish to study further. Only 19.2% students said that they would like to become a graduate. The desire to attain higher education is relatively low with only 3.8% aspiring for graduation and 6.7% aspiring for post graduation post-graduation in technical fields (Figure 27).

**Figure 27: Desired level of education - North Goa**



## Job Aspiration

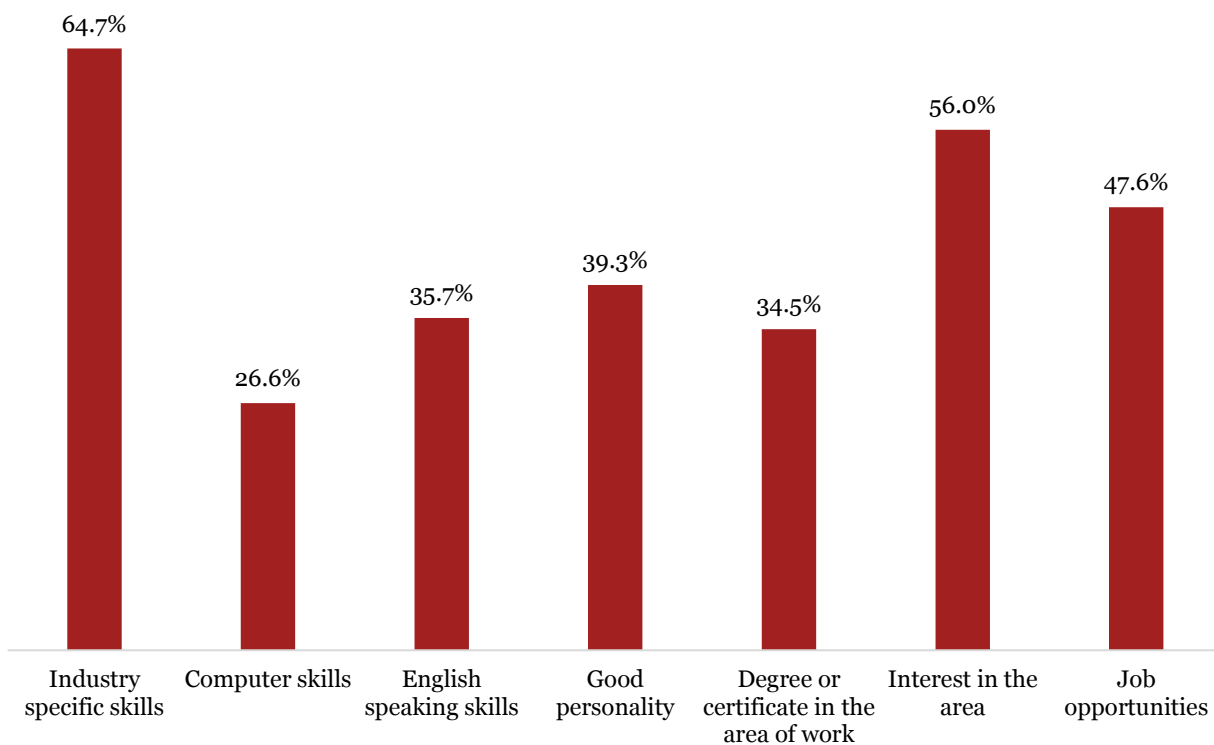
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 96.9% of the respondents reported to have preferred wage employment over self-employment (Figure 28).

The respondents were further asked to identify the factors important for securing employment in the area of interest. 64.7% of the respondents identified industry specific skills as the most important factor for securing employment followed by interest in the area (56%), job opportunities (47.6%) and good personality (39.3%) (Figure 29).

**Figure 28: Percentage of respondents aspiring for wage and self-employment - North Goa**

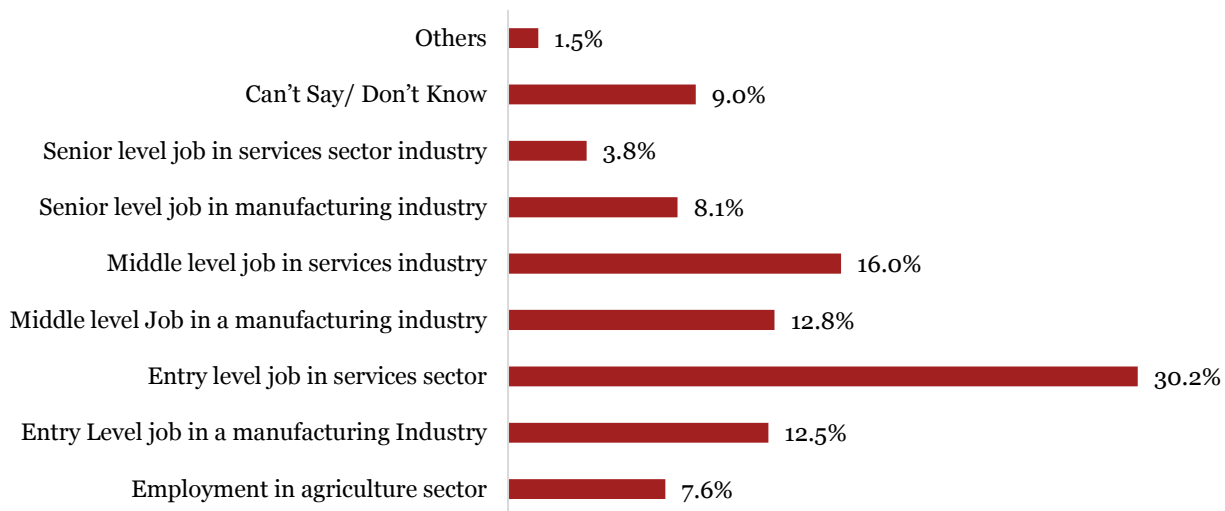


**Figure 29: Factors important for securing employment in area of interest (%) - North Goa**



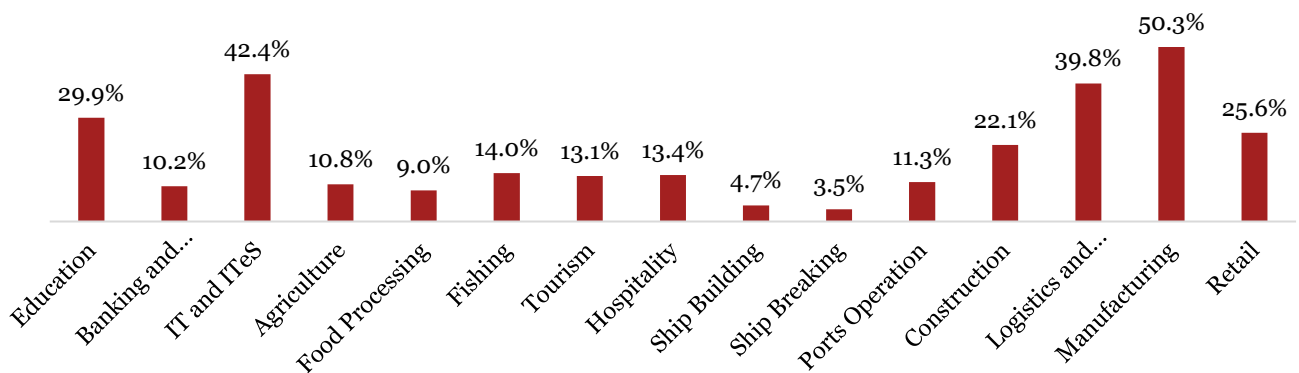
Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for services sector with 30.2% aspiring for entry level jobs and 16% aspiring for middle level jobs in services sector. This is followed by manufacturing industry with 12.5% aspiring for entry level jobs and 12.8% aspiring for middle level jobs. 8.1% aspire for senior level jobs in manufacturing industry (Figure 30)

**Figure 30: Desired job profile after completion of education/training – North Goa**



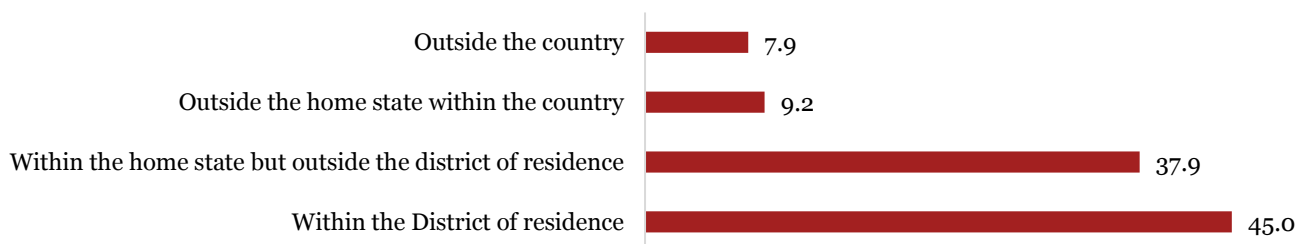
Further, Manufacturing (50.3%), IT&ITeS (42.4%), logistics and transport (39.8%) and Education (29.9%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job. The details of other sectors are mentioned in (Figure 31)

**Figure 31: Sectors in which respondents' foresee getting a desired job (%) - North Goa**

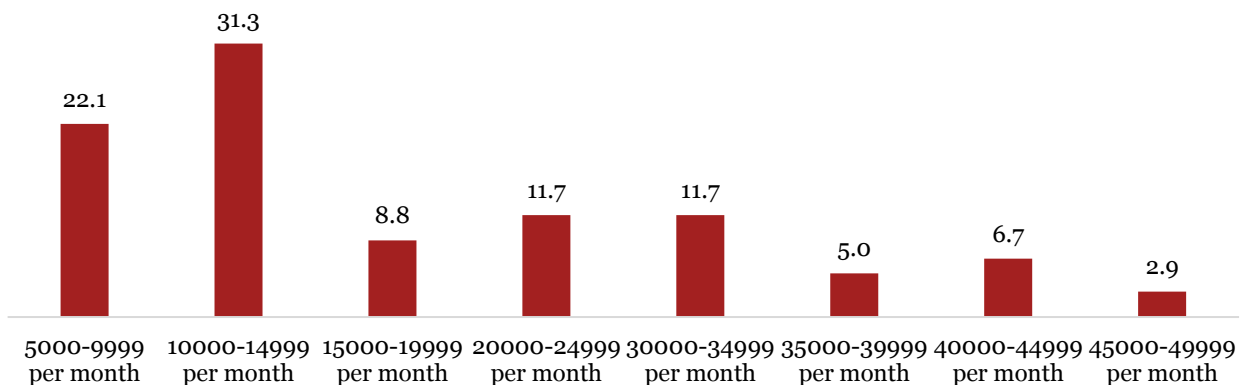


Out of total respondents, 45% preferred to work in the same state, whereas 37.9% respondents would like to work within the home state but not in the district of residence. Only 17.1 % respondents would like to go out of Goa and 7.9% respondents would like to go outside the country for work (Figure 32).

**Figure 32: Preferred work location of candidates - North Goa**



**Figure 33: Monthly salary expectation of respondents - North Goa**



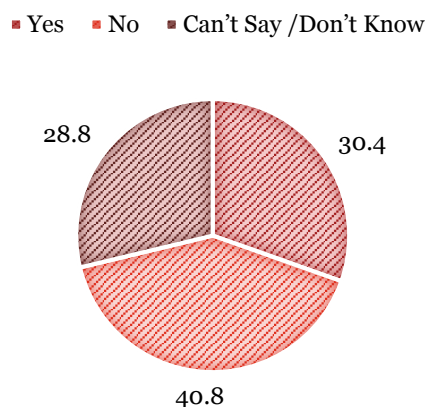
For majority of the respondents (31.3%), the monthly salary expectation was INR 10000-15000; and for 22.1% of respondents the expected salary is reported to be range in INR 5,000-10,000 per month

Figure 33).

### *Training Aspiration*

Regarding willingness of the respondents to participate in the training programme in next one year, 30.4% expressed interest whereas 40.8% expressed disinterest (Figure 34)

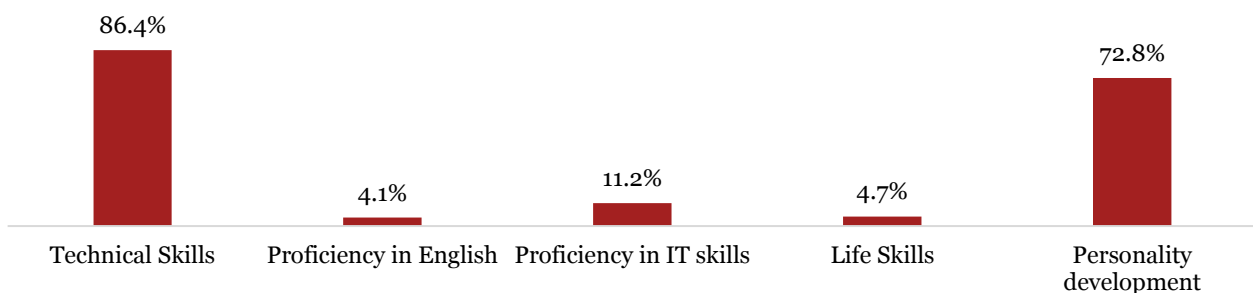
**Figure 34: Willingness to participate in trainings (%) - North Goa**



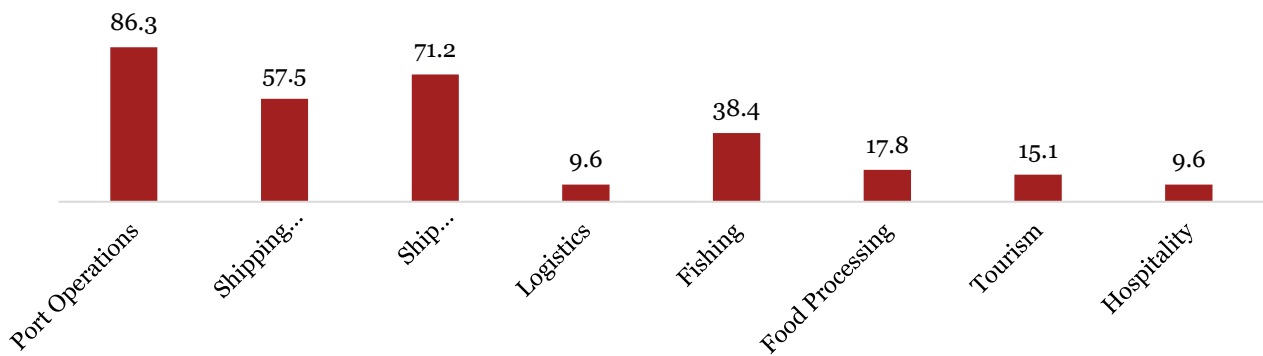
Further, when enquired about the key focus areas of skill training, 86.4% of respondents reported that emphasis must be laid on technical skills, followed by personality development (72.8%) (

Figure 35).

**Figure 35: Focus area on skills training - North Goa**



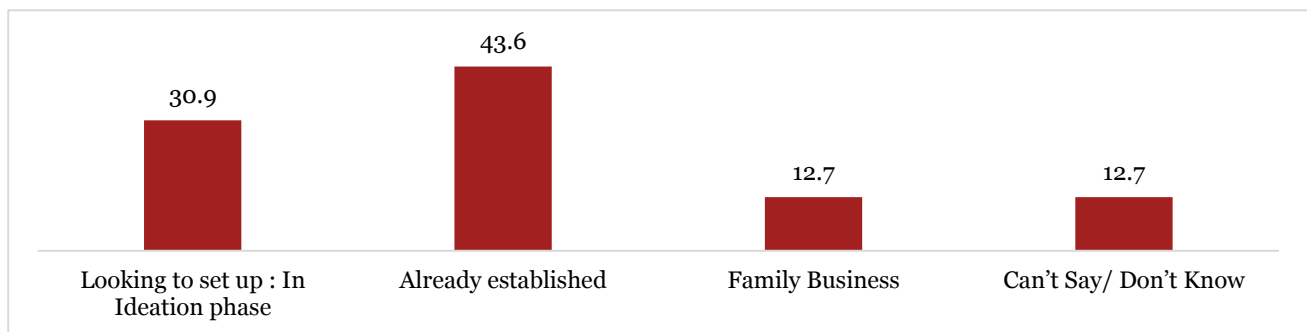
**Figure 36: Willingness of respondents to participate in trainings of different sectors - North Goa**



Overall there is demand for training in port operations (86.3%), followed by ship building/repair (71.2%), shipping operations (57.5%). Only 9.6% respondents want training in hospitality, 15.1% in tourism and 17.8% in food processing (Figure 36).

## Self-Employment

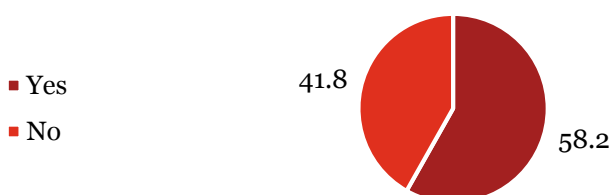
**Figure 37: Current Status of Entrepreneurial Venture (%) - North Goa**



Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, 43.6% have already established businesses, 30.9% were looking to set up the venture and 12.7% were in family business (Figure 37).

Further, 58.2% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 38).

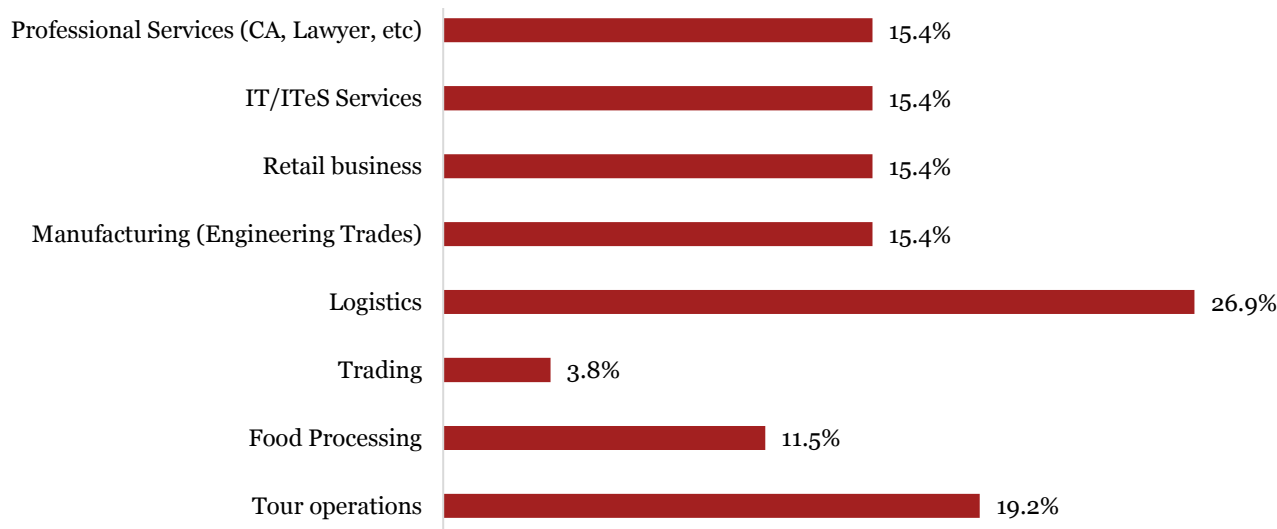
**Figure 38: Interested in skill development for enhancing entrepreneurial skills (%) - North Goa**



The sectors that have been identified as the most preferred sectors for setting up own enterprise are logistics (26.9%), followed by tour operations (19.2%), retail business (15.4%), manufacturing (engineering trades – 15.4%), IT/ITeS services (15.4%) and professional services (15.4%)



**Figure 39: Sectors for establishing enterprise (5) - North Goa**



### **1.1.9. Youth Aspiration – South Goa<sup>23</sup>**

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

#### **Respondent Profile**

The table below provides an overview of the respondent profile:

Profile	Details
Total Sample Size	386
Gender Profile	Male- 89.4% Female- 10.6%
Age Group	15-34 years
Education Level (top 3)	Higher secondary schooling with science (Class 11 to 12)- 29.8% Higher secondary schooling with arts (Class 11 to 12)- 25.1% Senior Secondary schooling(Class 9 to 10)- 18.1%
APL/BPL/AAV/Don't know	APL-1.6 % BPL- 98.2% AAV – 0.3%
Occupational Profile (top 3)	Student (35.5%), Unemployed (19.9%) and Own Business (18.7%)

<sup>23</sup> PwC Analysis based on aspiration survey

## Exposure to Vocational Training and Educational Aspiration

Regarding the exposure to the vocational training, all students reported that they had not completed any vocational training course.

Further, the respondents were asked about the level of education that they wished to attain. 36.3% said that they do not wish to study further whereas 30.7% respondents said that they would want to be graduates. 28.8% respondents aspired to be post graduates (Figure 41).

**Figure 40: Percentage of respondents who completed vocational training course – South Goa**



**Figure 41: Desired level of education - South Goa**

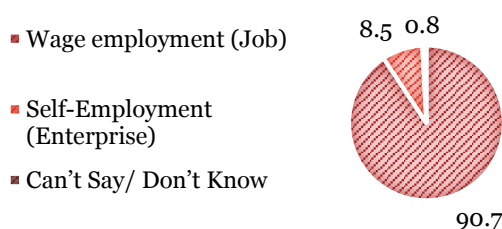


## Job Aspiration

One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 90.7% of the respondents reported to have preferred wage employment over self-employment (Figure 42).

The respondents were further asked to identify the factors important for securing employment in the area of interest. 59.8% of the respondents identified interest in the area as the most important factor for securing employment followed by industry specific skills (51.3%), good personality (35%) and English speaking skills (12%) (Figure 43).

**Figure 42: Percentage of respondents aspiring for wage and self-employment - South Goa**

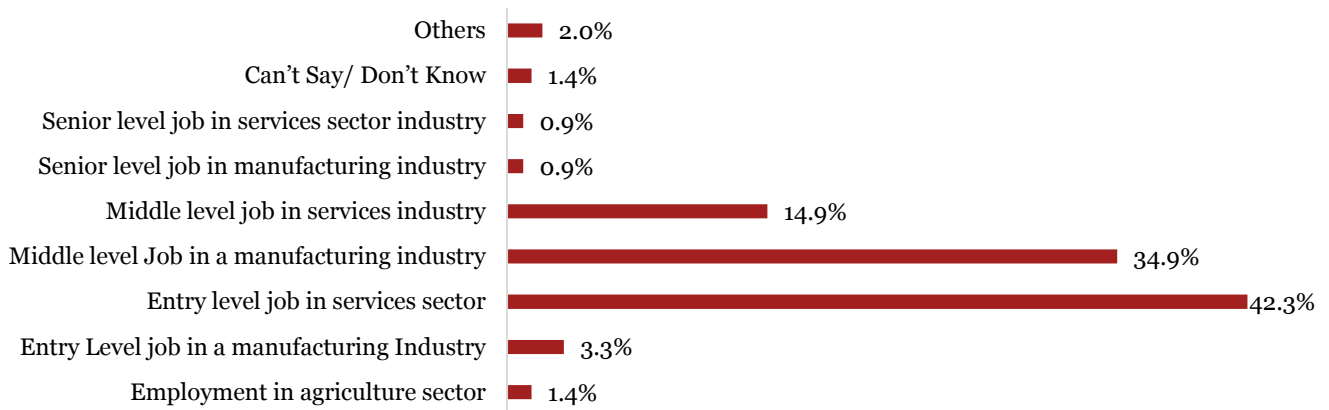


**Figure 43: Factors important for securing employment in area of interest (%) - South Goa**



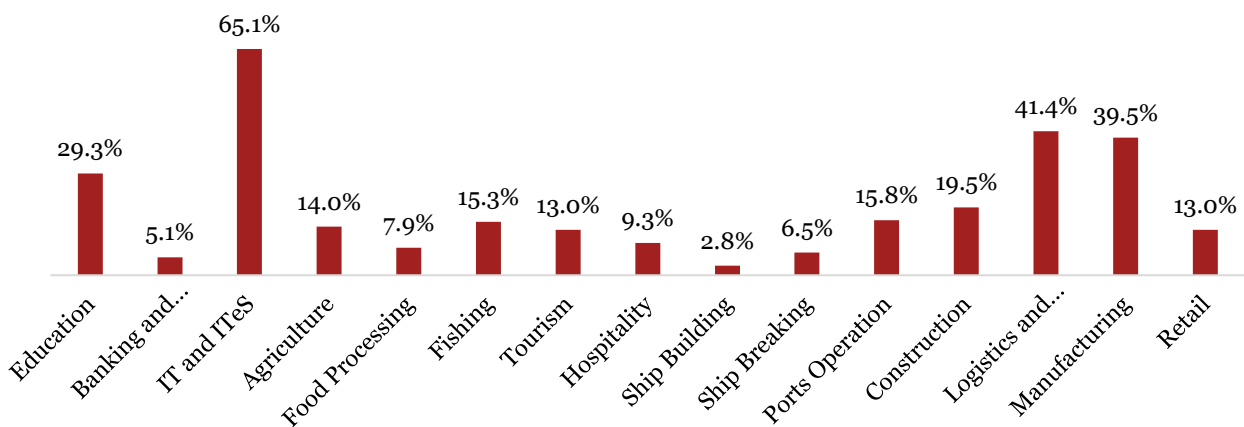
Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for entry level jobs in services sector with 42.3% respondents aspiring for the same. This is followed by 34.9% respondents aspiring for middle level jobs in manufacturing sector. Only 3.3% respondents preferred entry level jobs in manufacturing sector (Figure 44)

**Figure 44: Desired job profile after completion of education/training – South Goa**



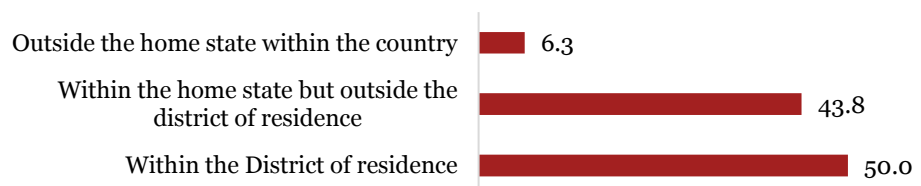
Further, IT/ITeS (65.1%), logistics and transport (41.4%), Manufacturing (39.5%) and Education (29.3%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job. The details of other sectors are mentioned in (Figure 45)

**Figure 45: Sectors in which respondents' foresee getting a desired job (%) - South Goa**

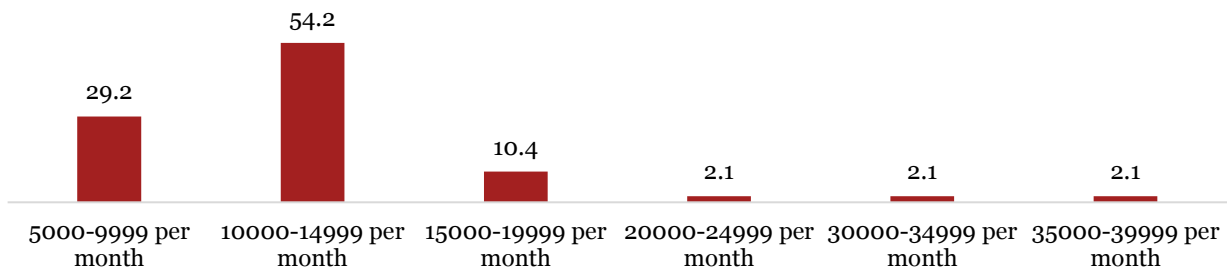


Out of total respondents, 50% preferred to work in the same district, whereas 43.8% respondents would like to work within the home state but not in the district of residence. Only 6.3 % respondents would like to go out of Goa (Figure 46).

**Figure 46: Preferred work location of candidates - South Goa**



**Figure 47: Monthly salary expectation of respondents - South Goa**



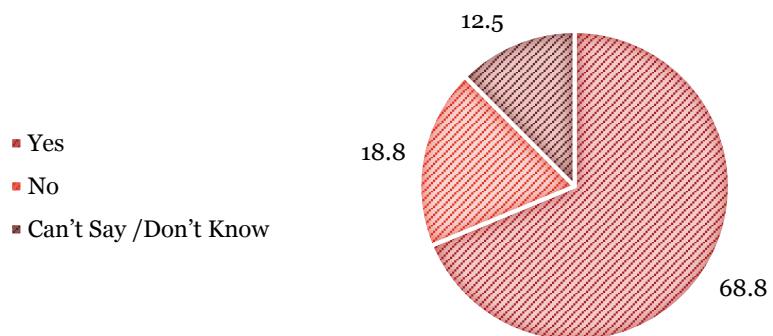
For majority of the respondents (54.2%), the monthly salary expectation was INR 10,000-15,000. And for 29.2% of respondents the expected salary is reported to be range in INR 5,000-10,000 per month (Figure 47).

### Training Aspiration

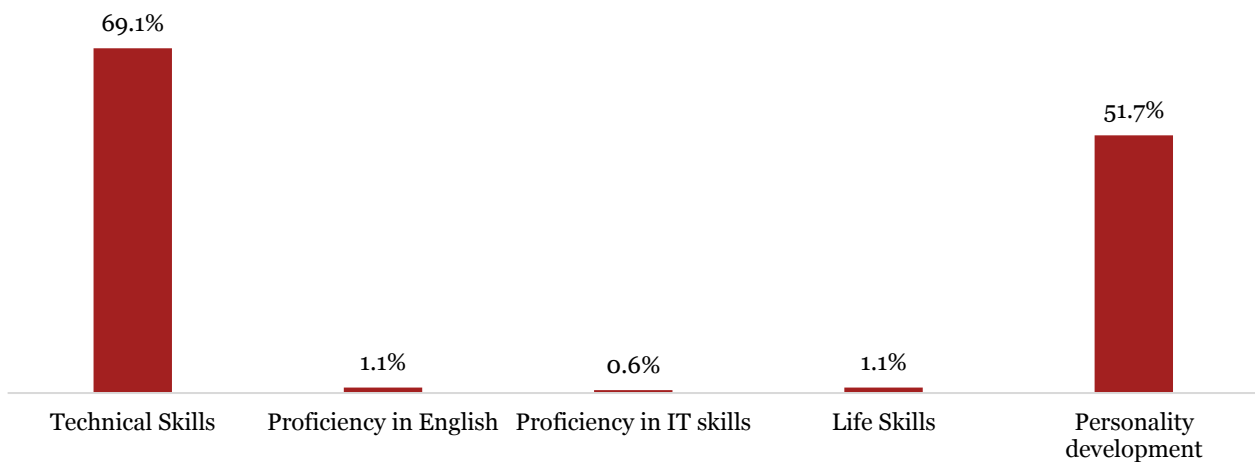
Regarding willingness of the respondents to participate in the training programme in next one year, 68.8% expressed interest whereas 18.8% expressed disinterest (Figure 48).

Further, when enquired about the key focus areas of skill training, 69.1% of respondents reported that emphasis must be laid on technical skills, followed by personality development (51.7%) (Figure 49).

**Figure 48: Willingness to participate in trainings (%) - North Goa**

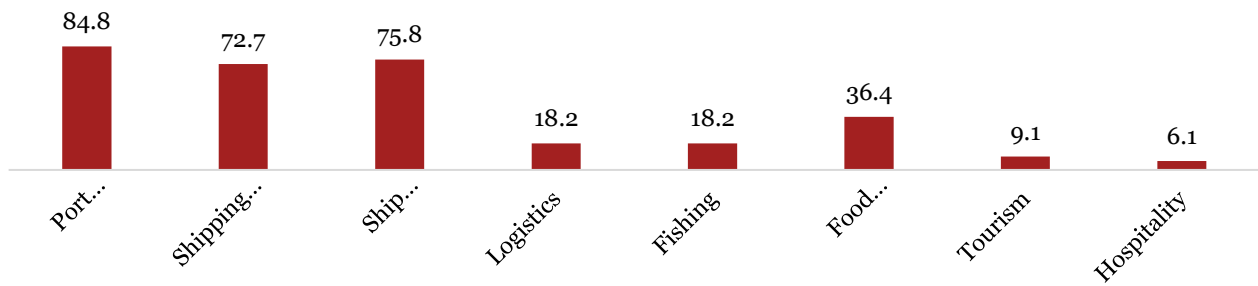


**Figure 49: Focus area on skills training - South Goa**



Overall there is demand for training in port operations (84.8%), followed by ship building/repair (75.8%), shipping operations (72.7%) and food processing (36.4%). Only 6.1% respondents want training in hospitality and 9.1% in tourism (**Error! Reference source not found.**).

**Figure 50: Willingness of respondents to participate in trainings of different sectors - South Goa**

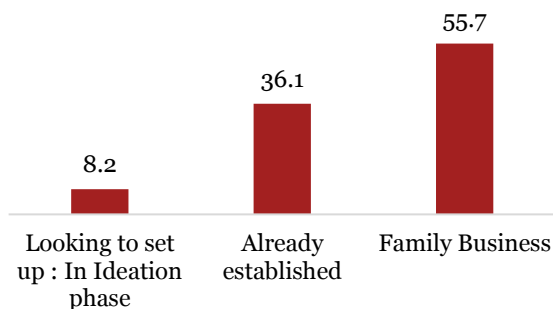


## Self-Employment

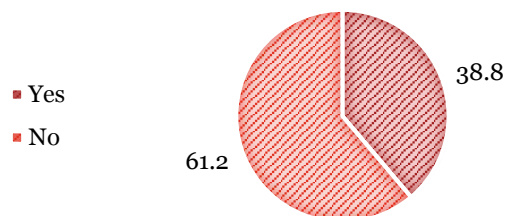
Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, 36.1% have already established businesses, 8.2% were looking to set up the venture and 55.7% were in family business.

Further, only 38.8% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills.

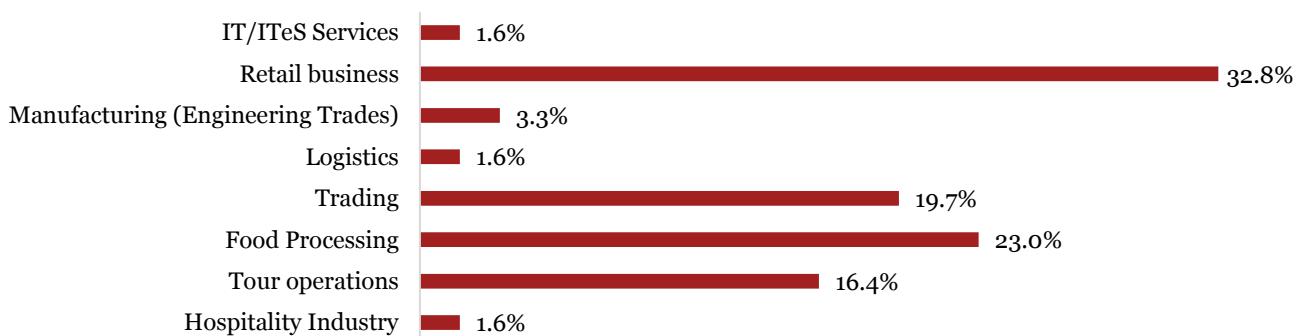
**Figure 51: Current Status of Entrepreneurial Venture (%) - South Goa**



**Figure 52: Interested in skill development for enhancing entrepreneurial skills (%) - South Goa**



**Figure 53: Sectors for establishing enterprise (%) - South Goa**



The sectors that have been identified as the most preferred sectors for setting up own enterprise are retail business (32.8%), food processing (23%), trading (19.7%) and tour operations (16.4%)

## 2. Skill Gap Assessment, Job Roles and Emerging Job Roles

### 2.1. Goa

#### 2.1.1. Incremental Demand for Skilled & Semi Skilled Manpower<sup>24</sup>

The State of Goa is witnessing a reduction in the demand for work force in the primary sector (including both agriculture and fisheries). This is evident from the negative incremental demand in the workforce required. Further, there will be high incremental demand in both manufacturing and services sector.

The incremental demand of skilled workforce in the districts as per our methodology suggests that the maximum demand will be generated in logistics sector followed by manufacturing and tourism.

**Table 3: Incremental Demand for Skilled & Semi Skilled Workers in Goa**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
Ports & Allied	417	330	347	364	382	401	2,241
Logistics	5,775	6,225	6,712	7,234	7,798	8,406	42,150
Tourism	1,378	1,440	1,503	1,571	1,642	1,715	9,249
Construction	293	299	302	307	312	316	1,829
<b>Other Dominant Sectors in the District</b>							
Manufacturing	497	2,290	3,270	3,920	2,599	2,069	14,645
Trade (Retail & Wholesale)	275	287	301	314	328	342	1,847
Agriculture	-1,676	-1,575	-1,479	-1,389	-1,304	-1,223	-8,646
<b>TOTAL</b>							63,515

#### Key trends in Core Sectors

- **Ports and allied sectors:** Goa has one major port (Mormugao Port Trust) and 5 minor ports. Out of the 11 berths at the MPT, currently 9 have been outsourced to private terminal operators. The port operations have been adversely affected since the Supreme Court had put a cap on mining activities in the State. However, the ports are slowly picking up with MPT becoming a notified port for both import and export of pharmaceutical products. Vedanta group is also starting its operations from April 2017 on 3 berths and the port activities are expected to rise once the private player comes in. A lot of investment is also proposed to increase the depth of the existing berths so as to make it feasible for cruise ships and other big ships to come to MPT.
- **Logistics:** Logistics sector is set to rise with expected increased activities in MPT, proposed new airport near Morjim beach and with Panjim being one of the proposed smart cities. Currently the sector has slowed down due to lack of port traffic.
- **Tourism & Hospitality:** The State is a major tourist hub with over 30 lakh domestic tourists and 5 lakh international tourists coming to Goa every year. There are many water sports, adventure sports and other tourist activities currently going on. A lot of investment is proposed in the tourism sector to

<sup>24</sup> 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.

promote eco-tourism in a sustainable manner. Hospitality sector is also on a rise with many 4 and 5 star properties, villas and spas being proposed in Goa.

- **Construction:** The real estate sector is stagnant in Goa but the construction sector is all set to pick up with a lot of construction projects in hospitality, eco-tourism, new airport, ship building and allied sectors being approved by the Goa Investment Promotion Board.

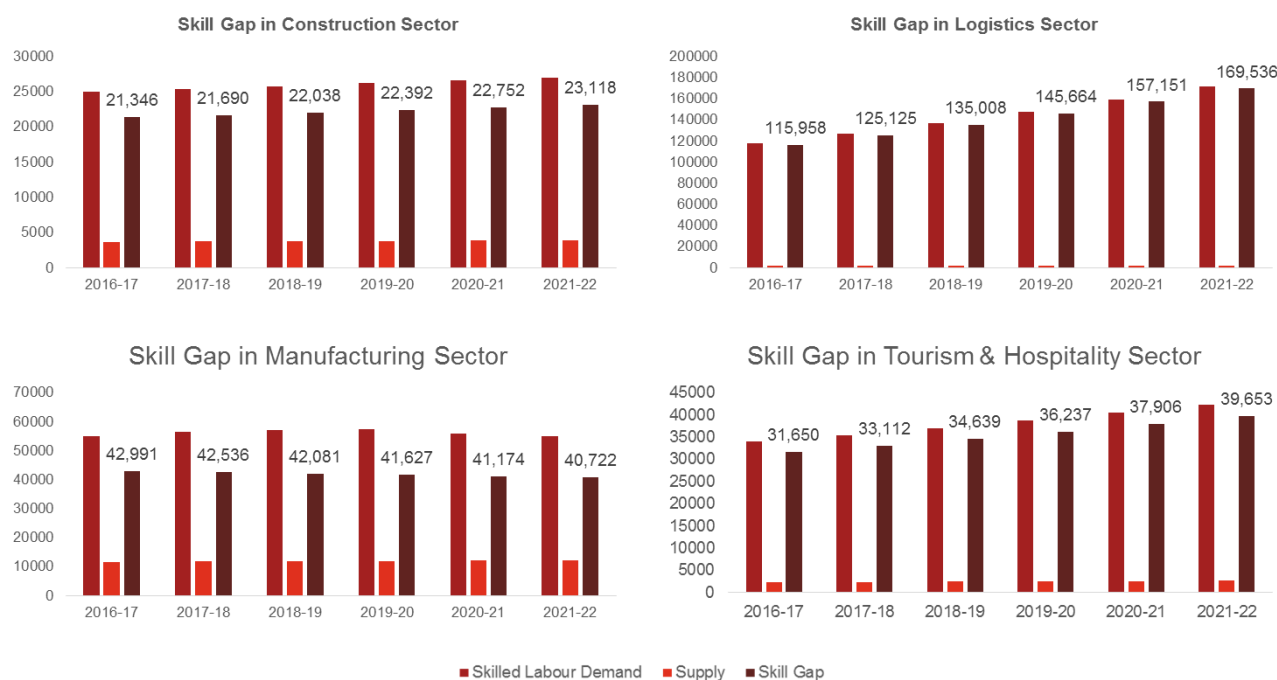
### Key trends in other Dominant Sectors in the District

- **Manufacturing:** The Goa Industrial policy puts emphasis on prominent sectors like pharmaceuticals, food processing and electronics. Multi-sectoral industrial promotion has given thrust to some major focus sectors like pharmaceuticals, food processing, and electronics & communication. A lot of investment is proposed in the manufacturing sector with some big players coming in.
- **Trade (Retail & Wholesale):** Retail & wholesale sector is supposed to pick up and provide jobs to semi-skilled and skilled workforce with the inflow of major industrial projects and tourists in Goa.
- **Agriculture & Fisheries:** Agriculture is on a decline with primary sector only contributing around 3-4% in the GSDP. Fisheries has also become stagnated with no growth. With a cap on mining by the Supreme Court order, the mining sector is also stagnated.

### 2.1.2. Gap between Total Demand and Supply for Skilled workforce in Select Sectors<sup>25</sup>

The gap in the **existing total skilled workforce** connotes the gap between the total requirement of skilled manpower and workforce in the district with recognized trainings in the said sectors

**Figure 54: Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in Goa**



<sup>25</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling

- **Construction Sector:** There is a huge requirement of trained manpower in the construction sector. Currently the people employed in the construction sector are usually non-goan. The gap is set to increase from 21,346 in 2016-17 to 23,118 in 2021-22. The demand for skilled workforce is set to increase by 1800.
- **Logistics Sector:** Logistics sector has a huge manpower requirement. The skilled labour demand is expected to grow from 2016-17 to 2021-22 with an incremental requirement of around 42,000 people. Against this, the current supply of skilled manpower is almost negligible. There are limited training and certification options available for logistics sector workforce. The incremental demand, thus, is expected to grow in the logistics sector.
- **Manufacturing Sector:** Manufacturing sector faces high skill gap owing to lack of sufficient training infrastructure in the State. The graph above shows that the supply of skilled and trained manpower is very less compared to the requirement. Around 40,722 skilled workforce will be required by 2022 in the manufacturing sector.
- **Tourism & Hospitality Sector:** Tourism and hospitality sector is on a rise in Goa but the presence of qualified and certified trained manpower is very less. By 2022, around 39,653 additional skilled workforce will be required in the sector. The requirement of initiating new trainings and recognizing prior learning is a priority for the sector.

Further, though with proximity to a port, Goa is not a homeport for any of the cruise shipping

### 2.1.3. Job Roles High in Demand

This section captures the jobs that have been reported to be high in demand in Goa. The job roles mentioned below have been identified from secondary data analysis as well as stakeholder consultations. The sub sections below identify the job roles that are high in demand across the identified sectors:

#### Port and Maritime Sector

The sector is seeing little activity owing to Supreme Court putting restrictions on mining activities and no major investment coming up in MPT. The operations are supposed to get a boost with Vedanta group taking over 3 berths from April 2017. The usual traffic handled at MPT is bulk cargo. Operations are usually outsourced to contractors and the employees are on contract based on the seasonal demand. Goa currently doesn't have a maritime board which is currently in proposal stage.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Port & Terminal operations	Findings
<ul style="list-style-type: none"> <li>• Mechanical Engineers (Engineering dept.)</li> <li>• Ship and crane operators (Refresher training)</li> <li>• Upskilling on new automations</li> <li>• Continuous Discharge Certificate</li> </ul>	<ul style="list-style-type: none"> <li>• Currently minimal operations in the port.</li> <li>• Mostly bulk cargo movement</li> <li>• Only 6 cranes present with 18 crane operators.</li> <li>• Most of the operations are outsourced by private terminal operators</li> <li>• Recruitment is on hold for last 10-15 years for entry level profiles.</li> <li>• Cruise and container ships to get trained manpower by combining firefighting, life saving and swimming courses.</li> </ul>

#### Other Priority Sectors

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like ports and maritime sector, sectors such as logistics, manufacturing, tourism, hospitality and construction will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature. Some of the sectors for which skilled manpower will be required in coming few years have been mentioned below.



## Logistics

Truckers are high in demand but the existing workforce that is engaged in trucking lack life skills. Truckers who could be equipped with skills for handling hazardous substances and bulk cargo will be greatly demanded by the manufacturing firms and the CFS.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Logistics	Findings
<ul style="list-style-type: none"><li>• Truck Driver</li><li>• Helper</li><li>• Supervisor</li></ul>	<ul style="list-style-type: none"><li>• Proposed increased volume of cargo once Vedanta starts operating in MPT</li><li>• Increased life skills training required for truckers and helpers</li><li>• Skills shortages for handling hazardous substances</li></ul>

## Construction

Considerable number of construction new properties in hospitality, industry and real estate sector or on the. Setting up of new industries, power plants, 5 star properties and resorts would necessitate skill and knowledge up-gradation. There is a deficiency in availability of trained manpower in this sector.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Construction	Findings
<ul style="list-style-type: none"><li>• Mason</li><li>• Bar bender</li><li>• Carpenter</li><li>• Plumber</li><li>• Plumbing retrofitting</li><li>• Electrician</li><li>• Solar panel technicians</li></ul>	<ul style="list-style-type: none"><li>• Requirement of trained manpower in construction sector in masonry, bar bending, carpentry, plumbing and electrician field.</li><li>• Upcoming smart city project would require retrofitting expertise</li><li>• Shortage of manpower as goan people usually don't prefer doing these jobs.</li><li>• Awareness about safety and health lacking amongst workers</li><li>• Industry is very receptive to getting trained manpower</li><li>• Plumber, electricians are required for regular maintenance.</li><li>• RPL for existing workforce</li><li>• Industry would be ready to provide training space</li><li>• Suggestion of a certificate which is renewed after certain time period so that the workforce is constantly trained on new techniques</li></ul>

## Manufacturing

Goa has a reasonable presence of manufacturing industries mainly in pharmaceutical, food processing, ship building & repair and other prominent sectors. These sub-sectors demand skilled workforce that could work in manufacturing processes. This sector will also require technological literacy among the workers.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Manufacturing	Findings
<ul style="list-style-type: none"><li>• Welder</li><li>• Fitter</li><li>• Electrician</li><li>• D. Pharma</li><li>• Lab technician</li><li>• Production assistant</li><li>• Shop floor supervisor</li></ul>	<ul style="list-style-type: none"><li>• Industrial areas in and around the district demand skilled workforce.</li><li>• Food processing industry is widespread as an MSME industry and can employ women.</li><li>• Pharma industry employs a lot of pharma graduates at entry level</li><li>• Requirement of shop floor supervisors at entry level in food processing industries.</li><li>• Investments proposed in manufacturing sector to create requirement of skilled manpower, especially in pharma, food processing and electronics sector</li></ul>

## ***Tourism & Hospitality***

Goa has a lot of potential for eco-tourism. Many projects have been sanctioned in the field of eco-tourism and hospitality. A lot of investment has been proposed in tourism sector and hospitality sector. The tourism sector is further set to develop in new areas of skill trainings.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Tourism &amp; Hospitality</b>	<b>Findings</b>
<b>Tourism</b> <ul style="list-style-type: none"> <li>• Tourist guide</li> <li>• Cab driver</li> <li>• Interpreter/Translator</li> <li>• Coordinators (Sports activities/Cruises))</li> </ul> <b>Hospitality</b> <ul style="list-style-type: none"> <li>• Housekeeping</li> <li>• Waiter</li> <li>• Attender</li> <li>• Front office executive</li> <li>• Chef</li> <li>• Shack workers</li> </ul>	<b>Tourism</b> <ul style="list-style-type: none"> <li>• Tourist guides are required. Currently they are in less numbers.</li> <li>• Cab drivers need to be trained in life skills and soft skills. More no. of cabs required in Goa.</li> <li>• Language labs can be setup to train people in foreign languages for international tourists to act as translators</li> <li>• Requirement of coordinators for water sports activities, cruise ships and other tourism related activities for tour operators and agents.</li> <li>• Lot of investment coming up in eco-tourism, sustainable tourism, sports and water tourism, light house tourism.</li> </ul> <b>Hospitality</b> <ul style="list-style-type: none"> <li>• Investment coming up with 5 star properties, villas, resorts and spas.</li> <li>• High-demand Job roles required would be attender, front office executive and housekeeping.</li> <li>• Traditionally strong sector in the State</li> <li>• Many Hotel management institutes are present but the quality of manpower is not meeting industry standards</li> <li>• Migrants from outside Goa are usually employed in the sector</li> <li>• Seasonal migrant workers working in beach shacks</li> </ul>

## ***Fisheries & Sea Food Processing***

The presence of the sensitive bio-diversity in the marine eco-system are both an opportunity and challenge in the district. Fisheries sector has reached saturation with traditional sources being used for fishing activities. The seafood processing units usually clean, wash, grade and pack the sea food products. 99% of this is exported to other countries where it is then processed and value addition done.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Fisheries &amp; Sea food processing</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Deep sea fisherman</li> <li>• Trawler Driver and Tandel</li> <li>• Grading supervisor</li> <li>• Cleaning &amp; grading worker</li> <li>• Cold storage worker</li> </ul>	<ul style="list-style-type: none"> <li>• Training required for trawler drivers (no license) and tandels (one who watches the fish)</li> <li>• Hygiene training required</li> <li>• Deep sea fishing should be promoted as existing marine life has been exhausted by excessive fishing</li> <li>• Potential for employment of women (especially from nearby Karnataka districts) in sea food processing units for cleaning, washing, grading and packing.</li> <li>• Requirement of processing units creating value addition products</li> <li>• Workers from North East usually working in cold storage facilities</li> </ul>

## *Nursing and Domestic Workers*

With a lot of senior citizen population in Goa with children settled in abroad, a serious requirement of domestic workers and nurses has come up. Usually non goan people (especially from Kerala) are engaged in the nursing occupation whereas domestic workers from North India are present.

The matrix below captures the job roles that are high in demand:

<b>Job Roles: Nursing and domestic workers</b>	<b>Findings</b>
<ul style="list-style-type: none"><li>• Nurses</li><li>• Domestic workers</li></ul>	<ul style="list-style-type: none"><li>• Nurses required for ageing senior citizens with no one to look after</li><li>• Domestic workers required as goan people don't prefer working as domestic workers</li><li>• People are ready to pay premium for services of domestic workers and nurses.</li></ul>

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## **3. District Action Plan**

### **3.1. Background**

An actionable roadmap is one of the deliverables to be submitted to MoS for implementing skill training programmes in each of the districts. To develop these District specific plans, the team has mapped the emerging skilling opportunities across the 13 districts. Further, similar training opportunities or training requirements from the same sector have been clubbed in to one programme to ensure optimal use of resources and to build economies of scale for delivery partners. This has been proposed to improve the chances of developing and proposing feasible and viable training delivery models.

Further, the team has also estimated the broad capital and operational expenditure expected to be incurred in operationalizing the training initiatives in the districts. Apart from this, critical operational aspects such as training delivery mechanisms, availability of curriculum and employers have also been explored. The current status of these critical aspects will help ascertain the feasibility of initiating these trainings immediately and assess the gaps that need to be bridged before these training can be rolled out.

### **3.2. Objective of developing the plan**

The District action plans have been developed with an overall objective of providing a step by step skill implementation plan to the Ministry of Shipping in the six coastal districts. The specific objectives include the following:

- Mapping various skilling opportunities available in the district, keeping in mind the requirements of Port led development and emergence of CEZs.
- Mapping the current status of various pre-requisites such as availability of qualifications, curriculum, funding for training, potential training delivery partners, availability of assessors and certification processes and institutions for the training programmes.
- Identify the potential/target beneficiaries for the training courses.
- Map the infrastructure and the investment that may be required to deliver the training programmes in the district.
- Provide an estimate of the investment required to create/hire the skilling infrastructure.
- Provide a step by step action plan for MoS to implement the skilling initiatives.

### **3.3. Methodology**

Stakeholder consultations<sup>26</sup> that were held at national, state and district level and that included stakeholders from government, industries, associations, and private firms. A separate plan has been prepared for each of the 13 districts. The plan has been divided into several sections and include sections on training delivery, potential partners, and investments. The investments component has been divided into two broad heads: capital expenditure and operational expenditure. Capital expenditure has only been proposed in cases in which there were very limited possibilities of using existing institutional framework for partnership and for using existing infrastructure and equipment. Operational expenditure includes the cost of the running the training programmes including the salary of the instructors. The common cost norms inform the calculation of the operational expenditure. Capital expenditure has been worked out bearing in mind the infrastructure requirements of the programme and duration of training programmes. Wherever, feasible partnership with existing programmes such as DDU-GKY and PMKVY has been suggested in the plan.

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<sup>26</sup> Roughly 300 primary consultations inform the development of this plan

### 3.4. Summary of Goa

Sl. No.	Project Name	Job Roles	Type of training	No. of people to be trained
1	Trainings in Tourism & Hospitality sector	<ul style="list-style-type: none"> <li>• Tourist guide</li> <li>• Cab driver</li> <li>• Helper/coordinator</li> <li>• Interpreter/translator</li> </ul>	<ul style="list-style-type: none"> <li>• Fresh Training</li> <li>• Upskilling</li> </ul>	<ul style="list-style-type: none"> <li>• 950 persons in 5 years</li> <li>• 1150 persons in 5 years</li> </ul>
2	Training in Nursing/Housekeeping	<ul style="list-style-type: none"> <li>• Nursing</li> <li>• Domestic worker</li> <li>• Housekeeping</li> </ul>	<ul style="list-style-type: none"> <li>• Fresh training</li> <li>• Upskilling</li> </ul>	<ul style="list-style-type: none"> <li>• 1000 persons in 5 years</li> <li>• 1200 persons in 5 years</li> </ul>
3	Skill Development centre for Logistics	<ul style="list-style-type: none"> <li>• Truck driver</li> <li>• Helper</li> </ul>	<ul style="list-style-type: none"> <li>• Upskilling</li> </ul>	<ul style="list-style-type: none"> <li>• 2500 persons in 5 years</li> </ul>
4	Training in Sea food processing	<ul style="list-style-type: none"> <li>• Grading supervisor</li> <li>• Shop floor worker</li> </ul>	<ul style="list-style-type: none"> <li>• Fresh training</li> <li>• Upskilling</li> </ul>	<ul style="list-style-type: none"> <li>• 1200 persons in 5 years</li> <li>• 1500 persons in 5 years</li> </ul>
5	Training in construction sector	<ul style="list-style-type: none"> <li>• Mason</li> <li>• Bar bender</li> <li>• Carpenter</li> <li>• Plumber</li> <li>• Electrician</li> </ul>	<ul style="list-style-type: none"> <li>• Upskilling</li> </ul>	<ul style="list-style-type: none"> <li>• 5000 persons in 5 years</li> </ul>
6	Trainings for job roles emerging in Smart City	<ul style="list-style-type: none"> <li>• Solar panel installation technician</li> <li>• Solid waste management technician</li> </ul>	<ul style="list-style-type: none"> <li>• Fresh training</li> </ul>	<ul style="list-style-type: none"> <li>• 500 persons in 5 years</li> </ul>

### 3.5. Action Plan of Goa

Project 1: Trainings in Tourism & Hospitality Sector					
Key economic drivers		<ul style="list-style-type: none"><li>39 big ticket projects proposed in tourism and hospitality coming up</li><li>Estimated proposed investment of around Rs. 4,703 Cr</li><li>Inflow of a lot of foreign tourists every year: 4.5 lakhs (2012), 4.92 lakhs (2013), 5.13 lakhs (2014), 5.41 lakhs (2015) and 3.42 lakhs (Till July 2016)</li><li>Countries from where majority of tourists came in 2016-17 – Russia (1,03,172), UK (31,135) and Ukraine (18,422)</li><li>Requirement of transport services which includes private taxis.</li></ul>			
Rationale for a Training Center		<p>Since tourism is one of the major growth drivers of Goa, therefore a lot of people come for both leisure and business travel. Also over a period of time customers are grown accustomed to high quality service not only in terms of the way of speak but also the way you handle the customers. In this regard it becomes very necessary to provide basic hygiene training to the drivers so as to improve customer satisfaction.</p> <p>A lot of foreign tourists come to Goa during the season. With time, the inflow of foreign tourists has increased in off season as well. The local goan people are not well versed in the foreign languages and this has led to many people from Russia and other countries especially bringing their translators to Goa. Thus, a need has been identified for presence of people who can speak these foreign languages and can thus act as a bridge between the international tourists and local goan. This also provides a good earning opportunity for the goan people who do not prefer doing physical activity. An opportunity to setup a language school can be explored in collaboration with already existing language schools in Goa.</p> <p>It is also important to have trained people for various kinds of adventure sports and other tourism related activities.</p>			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Interpreter/Translator	<ul style="list-style-type: none"><li>Existing tourist guides</li><li>Local goan people</li><li>Coastal community</li></ul>	Fresh Training	300 persons in 5 years
				Upskilling	200 persons in 5 years
		Tourist Guide	<ul style="list-style-type: none"><li>Existing tourist guides</li><li>Local goan people</li></ul>	Fresh Training	150 persons in 5 years
				Upskilling	150 persons in 5 years
		Cab Driver	<ul style="list-style-type: none"><li>Existing cab drivers</li></ul>	Upskilling	500 persons in 5 years
		Helper/Coordinator	<ul style="list-style-type: none"><li>Local goan people</li><li>Migrant workers</li></ul>	Fresh Training	500 persons in 5 years
				Upskilling	300 persons in 5 years
		Availability of curriculum	Job Roles	Target Groups	Available QP/NOS
Interpreter/Translator	<ul style="list-style-type: none"><li>Existing tourist guides</li><li>Local goan people</li></ul>		<ul style="list-style-type: none"><li>No course available</li></ul>	No course available	No course available

		<ul style="list-style-type: none"><li>Coastal community</li></ul>			
	Tourist Guide	<ul style="list-style-type: none"><li>Existing tourist guides</li><li>Local goan people</li></ul>	<ul style="list-style-type: none"><li>Tour guide (THC/Q450 2)</li></ul>	<ul style="list-style-type: none"><li>TRV 704 (Tour guide for international tourists)</li></ul>	<ul style="list-style-type: none"><li>Tourist Guide</li></ul>
	Cab Driver	<ul style="list-style-type: none"><li>Existing cab drivers</li></ul>	<ul style="list-style-type: none"><li>Tour vehicle driver (THC/Q420 2)</li></ul>	<ul style="list-style-type: none"><li>AUR 714 (Driver LMV)</li></ul>	No course available
	Helper/Coordinator (Adventure Sports)	<ul style="list-style-type: none"><li>Local goan people</li><li>Migrant workers</li></ul>	No course available	No course available	No course available
Investment (INR in lakhs)		Training for Interpreters/Translators			
		Operational Expenditure		58	
		Training for Tour Guides			
		Operational Expenditure		32	
		Training for Cab Drivers			
		Operational Expenditure		76	
		Training for Helpers/Coordinators (Adventure Sports)			
		Operational Expenditure		94	
		Total Operational Expenditure		260	
		Capital Expenditure for training centre <sup>27</sup>		0	
Potential Partners		Partner	Areas of Support		
		Goa State Skill Development Mission	<ul style="list-style-type: none"><li>Overall implementation and execution of the project</li></ul>		
		Private training provider	<ul style="list-style-type: none"><li>Providing training centre space</li><li>Mobilization of trainees</li></ul>		
		Language School	<ul style="list-style-type: none"><li>Guest faculty for language schools</li></ul>		
		Tourism & Hospitality SSC, Goa Tourism Development Corporation	<ul style="list-style-type: none"><li>Develop model training programs</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>		
		Travel & Tourism Association of Goa	<ul style="list-style-type: none"><li>Mobilization of trainees for Upskilling</li></ul>		
Training Delivery		<ul style="list-style-type: none"><li>Language schools to provide training to interpreters/translators</li><li>Private training partners empaneled with SSC and GSSDM to provide training to tourist guides and cab drivers</li><li>Training to helpers/coordinators to be provided by industry player already present in the field of adventure sports in collaboration with GTDC</li></ul>			

<sup>27</sup> Training centre will be setup by a private training provider

## Work Plan

Tourism & Hospitality	in Months					
	1	2	3	4	5	6
Partnership with SSC, Industry Partners and Knowledge partners						
Partnership between GTDC and SSC						
Partnership between GTDC and Adventure Sports industry						
Development of QPs						
Establishment of Training infrastructure and facility						
Furnishing of the training centre						
Purchase and installation of lab equipment						
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

Project 2: Trainings in Nursing & Housekeeping					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>23 big ticket projects worth INR 2,636 Cr have been proposed for investment in coming few years in the hospitality sector</li> <li>Requirement of nurses for elderly senior citizens and people who stay alone. Such households are willing to pay more than the minimum wage rate to these nurses/domestic workers</li> </ul>			
<b>Rationale for a Training Center</b>		Goa has more than 3.5 lakh households. Goan youth prefer going out of Goa in search of better job opportunities. The small or low level jobs are usually done by the migrant workers from Odisha, Bihar, Jharkhand and Uttar Pradesh. With nuclear families coming up and children leaving Goa for better job opportunities, it is noticed that the population of senior citizens staying alone who require either medical attention or support in household activities is increasing. This has resulted in a requirement for trained nurses and domestic workers.			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Nursing	<ul style="list-style-type: none"> <li>Workforce from Kerala</li> </ul>	Fresh Training	600 persons in 5 years
				Upskilling	300 persons in 5 years
		Domestic workers/Housekeeping	<ul style="list-style-type: none"> <li>Workforce from North India and Karnataka</li> </ul>	Fresh Training	400 persons in 5 years
				Upskilling	900 persons in 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Nursing	<ul style="list-style-type: none"> <li>Workforce from Kerala</li> </ul>	No course available	Healthcare multipurpose worker (MEDI133)	No course available
	Domestic worker/Housekeeping	<ul style="list-style-type: none"> <li>Workforce from North India and Karnataka</li> </ul>	General housekeeper (DWC/Q0102)	Housekeeper (HOS704)	No course available



<b>Investment (INR In lakhs)</b>	<b>Training for Nursing</b>	
	Operational Expenditure	110
	<b>Training for Domestic Workers/Housekeeping</b>	
	Operational Expenditure	116
	<b>Total Operational Expenditure</b>	<b>226</b>
	<b>Capital Expenditure for training centre<sup>28</sup></b>	<b>0</b>
<b>Potential Partners</b>	<b>Partner</b>	<b>Areas of Support</b>
	Goa State Skill Development Mission	<ul style="list-style-type: none"> <li>• Overall implementation and execution of the project</li> </ul>
	Private training provider	<ul style="list-style-type: none"> <li>• Providing training centre space</li> <li>• Mobilization of trainees</li> </ul>
	Domestic Worker SSC, Healthcare SSC	<ul style="list-style-type: none"> <li>• Develop model training programs</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
	Directorate of Skill Development & Entrepreneurship	<ul style="list-style-type: none"> <li>• Mobilization of trainees for Upskilling</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• Private training partners empaneled with Healthcare SSC and GSSDM to provide training to nurses</li> <li>• Private training partners empaneled with Domestic Worker SSC and GSSDM to provide training to domestic workers/housekeepers</li> <li>• Training centre to be setup by training provider</li> </ul>	

### Work Plan

<b>Nursing and Dometic Workers</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Partnership with SSC and Knowledge partners						
Development of QPs						
Establishment of Training infrastructure and facility						
Furnishing of the training centre						
Purchase and installation of lab equipment						
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

<b>Project 3: Skill Development Center for Logistics</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• One major port at MPT and 5 minor Port</li> <li>• Proposed new airport near Morjim beach</li> <li>• Vedanta group to start operations from April 2017 on 3 berths of MPT</li> <li>• Mining activity slowly picking up</li> </ul>

<sup>28</sup> Training centre will be setup by a private training provider

		<ul style="list-style-type: none"><li>Enhancing the existing road connectivity by building 2 bridges</li><li>Many big ticket projects coming up in hospitality sector and sourcing cement and other raw material from outside Goa</li></ul>			
Rationale for a Training Center		The ports and associated logistics service providers such as the CFS, logistic firms, container yards, shipping agencies are located in close proximity. The number of such firms is expected to increase with proposed new airport, enhancing road connectivity and upcoming smart city projects. Considering that there is a cluster of employers and potential beneficiaries available in close proximity in the district, training program for fresh training of truckers and helpers and RPL of existing truckers can be conducted.			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Training for Truckers	<ul style="list-style-type: none"><li>Existing Truckers</li><li>Local community members</li></ul>	Upskilling	1500 persons in 5 years
		Helpers	<ul style="list-style-type: none"><li>Existing Helpers</li><li>Local community members</li></ul>	Upskilling	1000 persons in 5 years
Availability of curriculum	Job Role	Target groups	QP/NOS	MES	CTS
	Truck Drivers	<ul style="list-style-type: none"><li>RPL – Current Truckers</li><li>Training Programmes – for potential Truckers</li></ul>	<ul style="list-style-type: none"><li>Reach Truck Operator</li></ul>	Course available for: <ul style="list-style-type: none"><li>Driver HMV</li><li>Driver LMV</li></ul>	No course available
	Helpers	<ul style="list-style-type: none"><li>Existing Helpers</li><li>Local community members</li></ul>	No course available	No course available	No course available
Investment (INR In lakhs)		Truck drivers			
		Operational Expenditure	91		
		Helpers			
		Operational Expenditure	61		
		Total operational expenditure	152		
		Capital Expenditure for training center <sup>29</sup>	0		
Potential Partners		Partner	Areas of Support		
		Goa State Skill Development Mission	<ul style="list-style-type: none"><li>Overall implementation and execution of the project</li></ul>		
		Port/CFS/Industry partner	<ul style="list-style-type: none"><li>Access to port facilities for practical training</li><li>Guest faculty</li><li>Input for designing curriculum</li><li>Provision of used equipment for training</li><li>Facilitate implementation of Upskilling for existing work force</li></ul>		

<sup>29</sup> Training centre will be setup by a private training partner

	Industry Association (Automobile Association of India)	<ul style="list-style-type: none"> <li>Facilitate implementation of Upskilling for existing workforce</li> </ul>
	Training Partner (Port/CFS/TSP)	<ul style="list-style-type: none"> <li>Training delivery and establishment of training centers</li> <li>Co-management of the training facility</li> </ul>
	Logistic Sector Skill Council	<ul style="list-style-type: none"> <li>Development of QPs for the identified job roles</li> <li>Identification and certification of Trainers</li> <li>Identification and certification of assessors</li> <li>Assessment of trainees</li> <li>Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>Private training provider to rent/develop the training facility and deliver the training programme</li> <li>Mobilization to be done by respective industry players</li> </ul>	

## Work Plan

Logistics	in Months					
	1	2	3	4	5	6
Identification of training providers						
Partnership with SSC, Industry Partners and Knowledge partners						
Development of QPs						
Establishment of Training infrastructure and facility						
Furnishing of the training centre						
Purchase and installation of lab equipment						
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

Project 4: Skill Development Training in Sea food processing				
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>Presence of 14 sea food processing units in Goa</li> <li>Upcoming processing units</li> <li>On an average one processing unit employing 250-300 workers and average turnover of INR 50-100 Cr</li> <li>Huge demand of seafood items in foreign market</li> </ul>			
<b>Rationale</b>	<p>In goa, around 14 sea food processing units are present which employ women from nearby Karnataka region and men from north east India. There is a huge demand of Indian sea food items in foreign markets especially European market. With more food processing plants coming up, the requirement of trained manpower is a must. Currently, the women employed are not trained or certified and they are provided the training once they join the processing unit. People could be trained per year by the Department of Fisheries or MPEDA and on completion of training a certificate could be issued. Such certification will help them to get loans from the banks to engage/ venture into self-employment prospects as well</p>			
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>

		Grading supervisor	<ul style="list-style-type: none"> <li>Existing workforce engaged in fishery</li> <li>Coastal communities</li> <li>Workforce from Karnataka working in sea food processing units</li> </ul>	Fresh Training	300 persons in 5 years
		Shop floor worker	<ul style="list-style-type: none"> <li>Existing workforce engaged in fishery</li> <li>Coastal communities</li> <li>Workforce from Karnataka working in sea food processing units</li> </ul>	Fresh Training	900 persons in 5 years
				Upskilling	1500 persons in 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Grading supervisor	<ul style="list-style-type: none"> <li>Existing workforce engaged in fishery</li> <li>Coastal communities</li> <li>Workforce from Karnataka working in sea food processing units</li> </ul>	No course available	No course available	No course available
	Shop floor worker	<ul style="list-style-type: none"> <li>Existing workforce engaged in fishery</li> <li>Coastal communities</li> <li>Workforce from Karnataka working in sea food processing units</li> </ul>	No course available	No course available	No course available
<b>Investment (INR In lakhs)</b>		<b>Grading supervisor</b>			
		Operational Expenditure			46
		<b>Shop floor worker</b>			
		Operational Expenditure			228
		<b>Total Operational Expenditure</b>			<b>274</b>

Capital Expenditure <sup>30</sup>		0
Potential Partners	Partner	Areas of Support
	Goa State Skill Development Mission	<ul style="list-style-type: none"> <li>Overall implementation and execution of the project</li> </ul>
	MPEDA	<ul style="list-style-type: none"> <li>Industry linkage and tie-ups</li> <li>Inputs for designing the course curriculum</li> </ul>
	Industry Partners/Private training providers	<ul style="list-style-type: none"> <li>Support in setting up/scaling up the training centre as per the required SSC norms</li> <li>Training delivery</li> <li>Provide faculty members</li> </ul>
	Food Processing SSC	<ul style="list-style-type: none"> <li>Develop model training programmes for the identified Job Roles</li> <li>Identification and certification of Trainers</li> <li>Identification and certification of assessors</li> <li>Assessment of trainees</li> <li>Certification of Trainees</li> </ul>
Training Delivery	<ul style="list-style-type: none"> <li>Food processing SSC to support in development of course curriculum</li> <li>Food processing industries to provide training space for Upskilling</li> <li>Fresh trainings to be conducted at a training centre set up by a private training institute</li> </ul>	

### Work Plan

Sea Food Processing	in Months					
	1	2	3	4	5	6
Identification of training providers and industry players						
Partnership with Food Processing SSC						
Setting up RPL training centre within industry premises						
Setting up of training centre by training provider						
Development of QP for the required course						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

Project 5: Trainings in Construction sector	
Key economic drivers	<ul style="list-style-type: none"> <li>Big ticket tourism and hospitality sector projects coming up</li> <li>Proposed new airport near Morjim beach</li> <li>Proposed smart city project of Panjim</li> <li>Investment in development of industrial and manufacturing hubs</li> </ul>
Rationale	A lot of real estate projects have been sanctioned by Goa IPB. Hospitality sector is coming up with more than 23 big ticket projects comprising of 5 star properties, resorts and recreational hubs for tourism activities. The upcoming new airport and smart city is going to provide employment opportunities for entry level jobs in construction sector.

<sup>30</sup> Training centre will be setup by a training partner

		Most of the manpower is from outside goa and migratory in nature. Goan people do not prefer doing low level jobs in construction sector. There is a huge requirement of <b>trained and certified</b> manpower in the construction sector in mason, bar bending, carpentry, plumbing and electrician trades.			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Skilling of workers in entry level jobs in construction sector	<ul style="list-style-type: none"><li>Existing workforce engaged in construction sector</li></ul>	Upskilling	5000 persons
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
	Mason, carpenter, bar bender, plumber, electrician	<ul style="list-style-type: none"><li>Existing workforce in construction sector</li></ul>	QP available for: <ul style="list-style-type: none"><li>Mason, carpenter, bar bender, plumber and electrician</li></ul>	Course available for mason, carpenter, bar bender, plumber and electrician	Course available for mason, carpenter, bar bender, plumber and electrician
Investment (INR In lakhs)		Training centre for skilling in construction sector			
		Skilling for Construction Workers of Infrastructural Facilities			
		Operational Expenditure		304	
		Total Operational Expenditure		304	
		Total Capital Expenditure <sup>31</sup>		0	
Potential Partners		Partner		Areas of Support	
		Training Partner		<ul style="list-style-type: none"><li>Provide infrastructure for training either at construction sites or setup a training centre</li><li>Training delivery</li></ul>	
		Plumbing Sector Skill Council Automotive Sector Skill Council Construction Skill Development Council of India		<ul style="list-style-type: none"><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>	
Training Delivery		<ul style="list-style-type: none"><li>Engage a TSP that is affiliated with DDU-GKY/NSDC/GSSDM to deliver the training</li><li>Training can also be conducted at the construction sites for existing workers</li></ul>			

### Work Plan

Manufacturing and construction	in Months					
	1	2	3	4	5	6
TSP empanelment						
SSC affiliation						
Training centre setup						
mobilization of prospective trainees						
Enrolment of trainees						

<sup>31</sup> Training centre will be setup by a private training partner

Manufacturing and construction	in Months					
	1	2	3	4	5	6
Roll-out of training programme						

Project 6: Trainings for job roles emerging in Smart City					
Key economic drivers		• Smart City Project: Panjim			
Rationale		Smart city that is lined up in Panjim will demand skilled workforce that will be able to use smart technologies in not only building the smart city but also maintaining them. There will be demand for workforce that could work in solar panel installation technician and solid waste management			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Solar panel installation technician	• Coastal communities	Fresh Training	250 persons in 5 years
		Solid waste management	• Coastal communities	Fresh Training	250 persons in 5 years
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
	Solar panel installation technician	• Youth interested in renewable energy domain	QP available for: <ul style="list-style-type: none"><li>Solar PV Installer - Civil</li><li>Solar PV Installer - Electrical</li></ul> Solar PV Installer (Suryamitra)	Course available for Solar electric System Installer & Service Provider, Solar Hot Water system installer, Assistant Solar PV Technician, Solar PV Technician	No course available
	Solid waste management technician	• Youth interested in waste management domain	QP available for: <ul style="list-style-type: none"><li>Wastewater Treatment Plant Helper</li></ul> Wastewater Treatment Plant Technician	No course available	No course available
Investment (INR In lakhs)		Training centre for skilling for Smart Cities			
		Solar panel installation technician			
		Operational Expenditure			38
		Solid waste management technician			
		Operational Expenditure			38
		Total Operational Expenditure			76
Total Capital Expenditure <sup>32</sup>			0		
Potential Partners		Partner		Areas of Support	
		Goa State Skill Development Mission		• Nodal agency for implementation and execution of the project	
		Training Partner		• Provide infrastructure for training	

<sup>32</sup> Training centre will be setup by a private training partner

		<ul style="list-style-type: none"> <li>• Training delivery</li> </ul>
	Industry Associations	<ul style="list-style-type: none"> <li>• Industry interface</li> <li>• Facilitate On-Job-Training</li> <li>• Facilitate in identifying the firms that could recruit the trained graduates in Raigad</li> </ul>
	Green Jobs Skill Council	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• Engage a TSP affiliated with DDU-GKY/NSDC/GSSDM to deliver the training</li> </ul>	

### Work Plan

Smart City	in Months					
	1	2	3	4	5	6
TSP empanelment						
SSC affiliation						
Training centre setup						
mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						



## 4. List of Stakeholder Consultations

### 4.1. State level consultations- Goa

Sl. No.	Stakeholder	Person	E-mail	Cell/Phone
1	Directorate of Planning, Statistics & Evaluation	Mr. Vikas S N Gaunekar (Director) - 9822153252	dir-dpse.goa@nic.in	+ 91 - 832-2417439,2417445
2		Mr. T Furtado (Statistical Officer) - 9822489710	dir-dpse.goa@nic.in	+ 91 - 832-2417439,2417445
2	Directorate of Fishing	Mr. Chandrakant D Velip (Deputy Director of Fisheries) - 9923499855	dir-fish.goa@nic.in	0832-2224838,
3	Department of Tourism	Mr. Ganesh R. Teli, Assistant Director of Tourism (Planning)	dir-tour.goa@nic.in	0832 - 2494205
		Ms. Jasmine (Assistant Planning Officer - Planning Section)	dir-tour.goa@nic.in	0832 - 2494205
4	TTAG	Mr. Savio Messias, President, TTAG	<a href="mailto:ttagoasecretariat@gmail.com">ttagoasecretariat@gmail.com</a>	0832-2437738, 9823056261
5	GTDC	Gavin Dias, Dy General Manager, Hotels & Marketing	<a href="mailto:gavindias@goa-tourism.com">gavindias@goa-tourism.com</a>	9922193395, 08322437132
6	Food and Drugs Administration	Salim Velji, Director		9822980727
7	Captain of Ports Department	Capt. James Braganza, Captain of Ports	cpt-port.goa[at]nic.in	0832-2426109 / 0832-2225070
8	Directorate of industries	Ms. R Maneka, IAS	<a href="mailto:dir-indu.goa@nic.in">dir-indu.goa@nic.in</a>	2226377/2422268 (Ext. 21)
9	Directorate Of Skill Development & Entrepreneurship	Shri Aleixo F. Da Costa, Director	dir-ct.goa@nic.in	+91 942 0975953
	The Marine Products Export Development Authority (MPEDA)	Mr. Ashok Kumar, Drputy Director	sro.goa@mpeda.gov.in	+91 832 2224283
11	River Naviation Department	Vikramsing N Rajebhosale, Senior Superintendent (Workshop & Traffic)	<a href="mailto:admn-river.goa@nic.in">admn-river.goa@nic.in</a>	8322410790
12	CREDAI, Goa	Ms. Ruby Redgar, Manager	<a href="mailto:goa.credai@gmail.com">goa.credai@gmail.com</a>	9881102295; 8326512295
13	Goa Chamber of Housing and Industries	Mr. R S Kamath, Director	<a href="mailto:dir-indu.goa@nic.in">dir-indu.goa@nic.in</a>	2226377/2422268 (Ext. 21)

## 4.2. District level consultations- South Goa

SN	Stakeholder	Person	E-mail	Cell/Phone
1	Murmagao Port Trust	Jerome Celment, Assistant Traffic Manager	tm@mptgoa.com / tmmgpt@gmail.com	+91-832- 252 1140
2	Murmagao Port Trust	S P Mohan Kumar, Sr. Secretary	secretary@mptgoa.com / secymgpt@gmail.com	+91-832- 252 1120
3	Murmagao Port Trust	Mr. Ganeshan, Chief Mechanical Engineer	ce@mptgoa.com / mgptce@gmail.com	+91-832- 252 1160
4	Adani Murmagao Port Terminal Pvt. Ltd.	Anurag Bhagauliwal, Business Head	<a href="mailto:anurag.bhagauliwal@adani.com">anurag.bhagauliwal@adani.com</a>	7659047774
5	South West Port Limited	Anthony J B Fernandes, Unit in charge	<a href="mailto:anthony.fernandes@jsw.in">anthony.fernandes@jsw.in</a>	8322523000
6	M/s Boxco Logistics India Pvt. Ltd.	Capt. Hiranand B Aghicha, General Manager	<a href="mailto:hirananda@boxcoworld.com">hirananda@boxcoworld.com</a>	8322510397/484, 08322512583
7	M/s J M Baxi and Co.	Capt. Hiranand B Aghicha, General Manager	<a href="mailto:hirananda@jmbaxi.com">hirananda@jmbaxi.com</a>	8322510397/484, 08322512583
8	NUSI Maritime Academy	Capt. Hemant	nusi@bsnl.in	0832-2773859; 2773861,2773681
9	Zeebop by the sea	Mr. Baiju, Manager	<a href="mailto:zeebopbythesea@gmail.com">zeebopbythesea@gmail.com</a>	832-2755333
10	Zuari Cement	Mr. Chidanand (AGM)	<a href="mailto:bmogoa@zcltd.com">bmogoa@zcltd.com</a>	0832 - 2730895, 09844041320

### 4.3. District level consultations- North Goa

SN	Stakeholder	Person	E-mail	Cell/Phone
1	ITI Bicholim	Principal	itibco2315@gmail.com	0832 236 2315
2	Adventure Sports (Atlantis Water Sports)	Valerian Dsouza (Tour Operator)	info@atlantiswatersports.com	180030008208, +91 9767213311 / 9767213322
3	Madgavkar Salvage/Goa Shipyard/Paradise Cruises	Anand Madgavkar		9822100002
4	Dempo Ship Building & Engineering Pvt. Ltd.	Mr. Sajiv Kanekar	contactus[at]goashipyards.com	91-832-2512152/2513954
5	Palacio De Goa (Hotel)	Allan Cunha, General Manager	<a href="mailto:palaciodegoa@gmail.com">palaciodegoa@gmail.com</a>	832-2424289, 2426742, 2421785/6
6	Milroc Good Earth Property & Developers LLP	Mr. Kantipudi Kulasekhar, Designated Partner	<a href="mailto:kkulasekhar@milroc.com">kkulasekhar@milroc.com</a>	832-2230536, 8378969395

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## *Section 5: West Bengal*

*Purba Midnapore*

*South 24 Parganas*

# 1. District Profile

## 1.1. Purba Midnapore

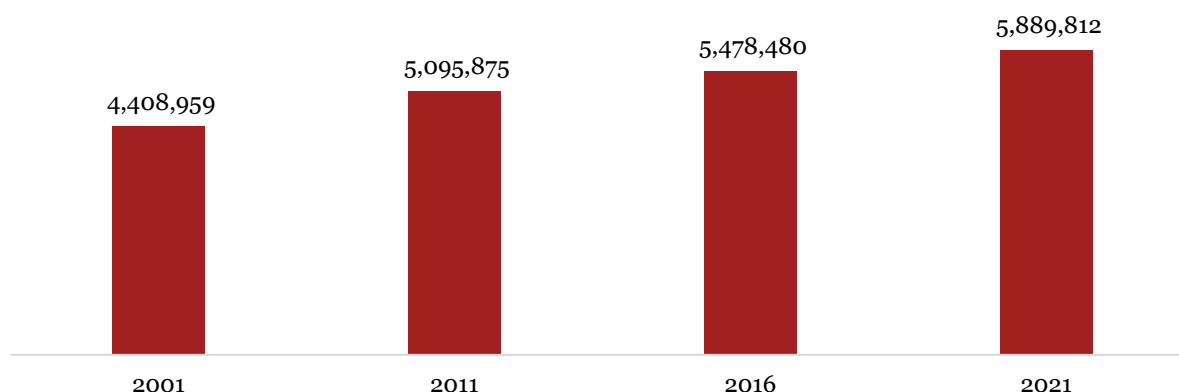
Formed after the bifurcation of the erstwhile unified Midnapore district (largest at 16% of land area), East Midnapore continues to be one of the largest districts in the state. It has a 66.5 km long coast line upon which Haldia is a major port and also an industrial center. Some of the major exportable items produced in the district are chemicals, petro chemicals, plastic, and apparel. <sup>1</sup>

### 1.1.1. Demographic Profile<sup>2</sup>

Indicator	Value
Total population	50,95,875
Decadal rate of growth of population (2001-11)	15.58%
Rural population	88.37%
Female	48%
SC population	14.63%
ST population	0.55%
Workforce participation (As % of total population)	37.49%
Main Workers (As % of total population)	22.12%
Marginal (As % of total population)	15.37%
Non-workers (As % of total population)	62.51%
*Number of people with vocational training in the age group of 15+ in the state <sup>3</sup>	75 out of 1000

### Population trends<sup>4</sup>

Figure 1: Population trends for Purba Midnapore (2001-2021)



Estimating the population, it is projected to be 5,478,480 and 5,889,812 in 2016 and 2021. The projected absolute growth in the population from 2016 to 2021 is 7%. Highest concentration of the population in the district is between 5- 19 accounting for nearly 30 % of the population, it can be expected that the Demographic Bulge and dividend will continue for the next 15 years.

<sup>1</sup> District Industrial Profile- DC, MSME

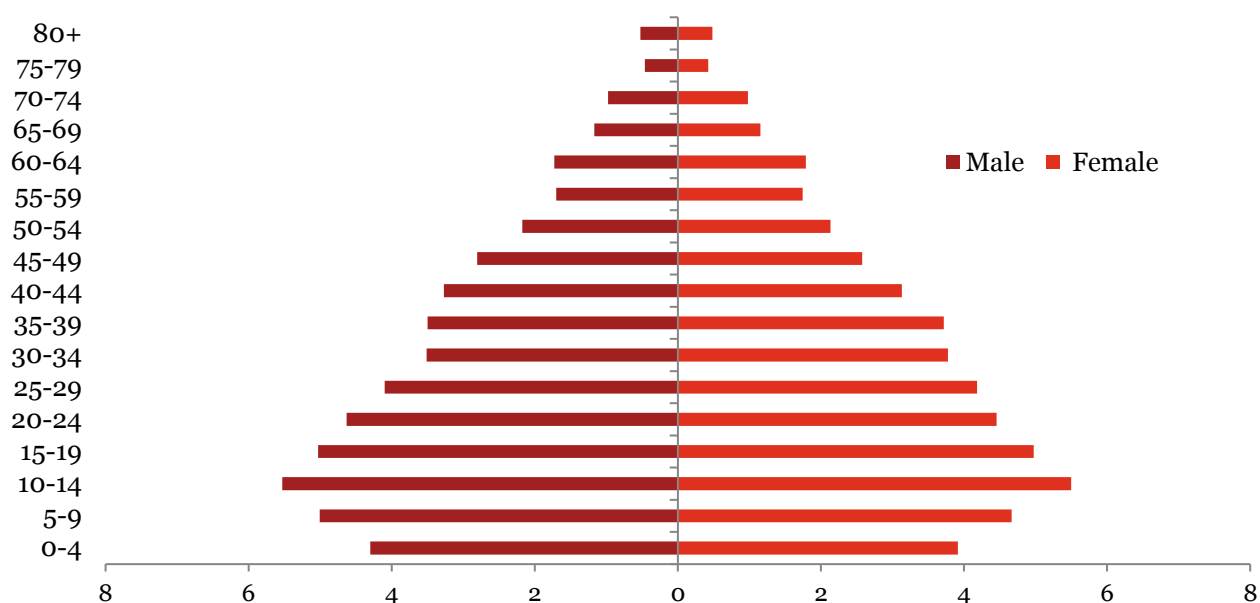
<sup>2</sup> Census 2011,

<sup>3</sup>Employment and Unemployment Survey, Vol III, Labour Bureau 2015-16,

<sup>4</sup> Based on 2001 and 2011 Census. Figure for 2001 is approximate as 2001 did not have data for East and West Midnapore separately.

Human Resource and Skill requirement study for 21 Coastal Districts of India - West Bengal: Purba Midnapore, South 24 Parganas

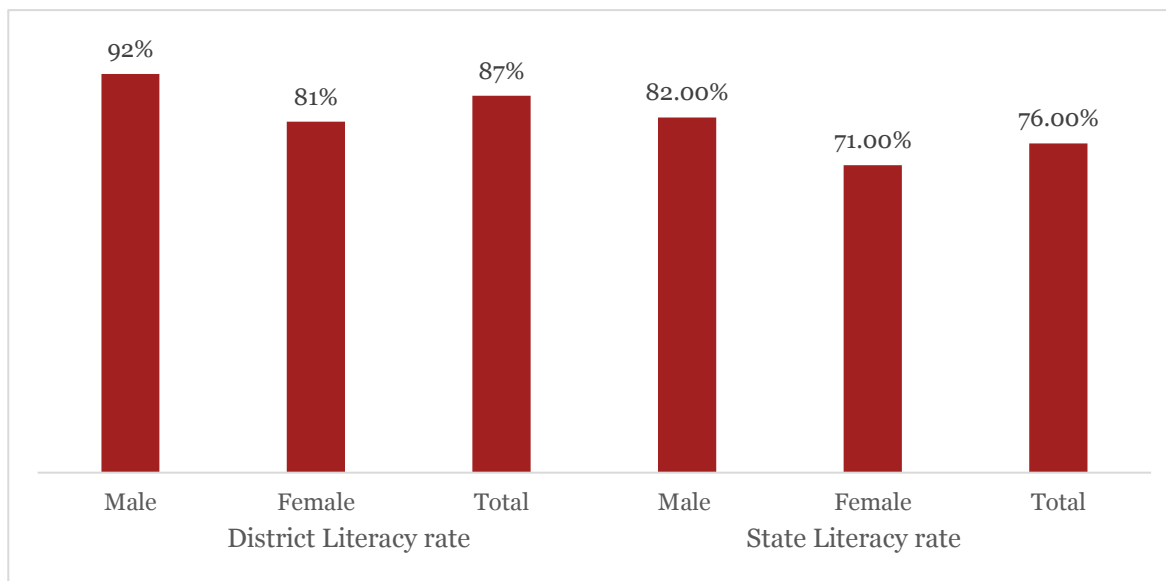
**Figure 2: Population Pyramid, East Midnapore**



### Literacy rates

Total literacy rate of Purba Midnapore, as per the Census 2011, is approximately 87%, which is much higher than the state's level literacy rate which is around 76%. The female literacy rate of Purba Midnapore (81 %) is much lower than the male literacy rate, which is 92% % in 2011.

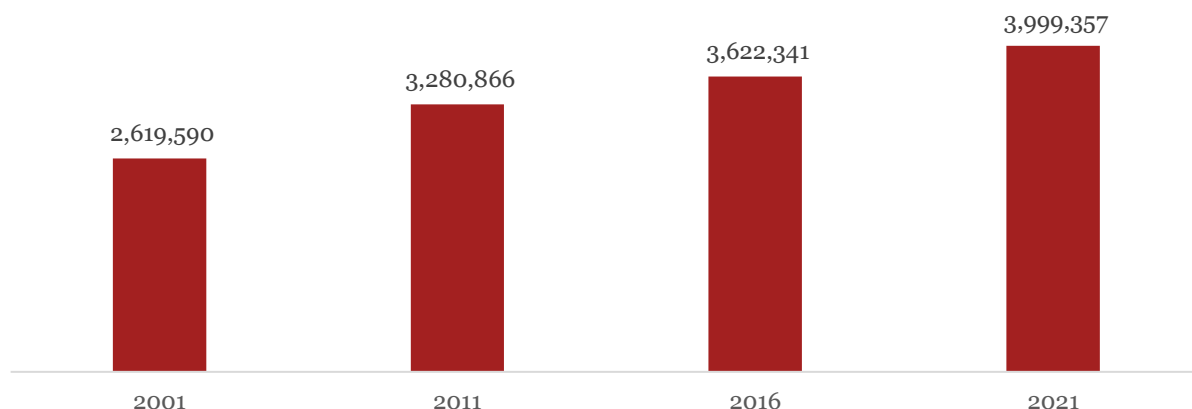
**Figure 3: Purba Midnapore vs West Bengal literacy rates (2011)**



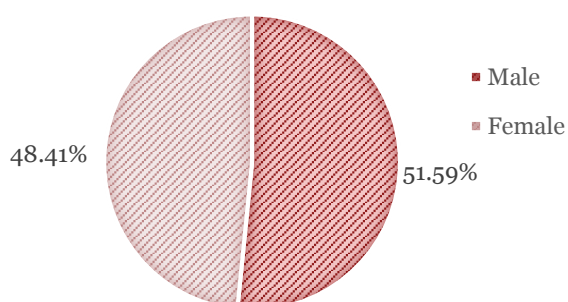
### Age specific population trends and education levels for 2011<sup>5</sup>

As per the Census 2011, the population in the age-group of 15 to 24 years was 10,31,350 (20% of the overall population). Using proportional method, the population in the age group of 15-59 years is estimated to be 36,22,341 and 39,99,357 in 2016 and 2021. The projected absolute growth in the population from 2016 to 2021 is 10%.

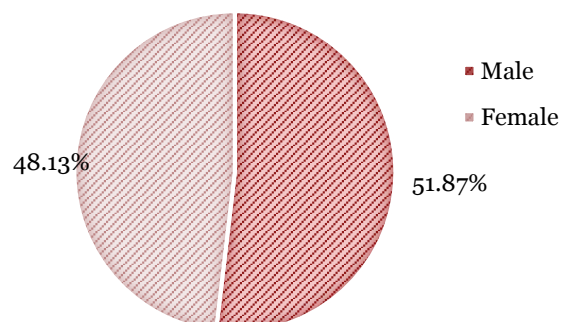
**Figure 4: Growth trend of population in the age group 15-59 years in Purba Midnapore (2001-2021)<sup>6</sup>**



**Figure 5: Age specific population in Purba Midnapore (15-24 years)**



**Figure 6: Age Specific Population in Purba Midnapore (15-59 years)**



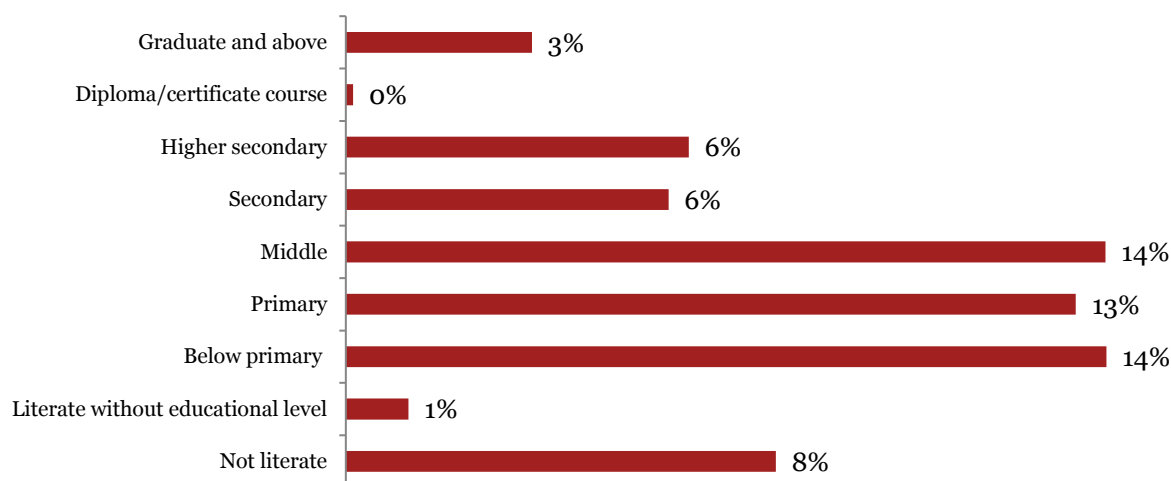
Both the age groups, 15-59 years and 15-24 years have almost equal representation of males and females with males accounting for 51.87% and 51.59% of the total population share in the 15-59 years and 15-24 years age

<sup>5</sup> Based on Census 2001 and 2011

<sup>6</sup> Figure for 2001 is approximate as Census 2001 does not provide data for Purba and Pashchim Midnapore separately. Human Resource and Skill requirement study for 21 Coastal Districts of India - West Bengal: Purba Midnapore, South 24 Parganas

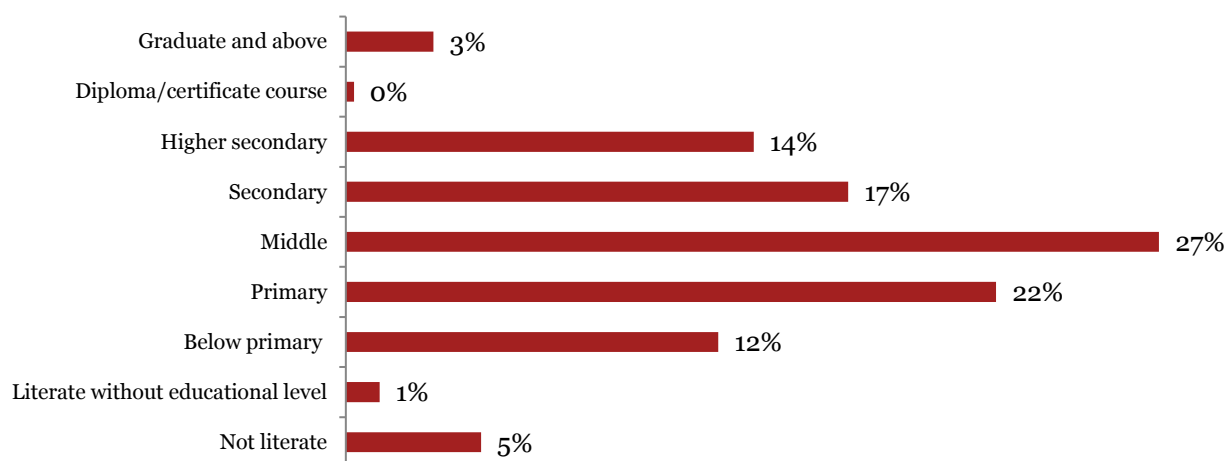
group respectively. Females account for 48.13% and 48.41% of the total population share in the 15-59 years and 15-24 years age group respectively

**Figure 7: Age specific education level in Purba Midnapore (15-59 years.)**



The Census 2011 indicates that though 92% of the population in the working age group are literate, only 9% go on to attain higher secondary education or above. Technical certificate/diploma course holders are in insignificant number and 3% have at least graduated, indicating that a graduate/post-graduate degree is more sought after than a technical certificate/diploma.

**Figure 8: Age specific education level in Purba Midnapore (15-24 yrs.)**



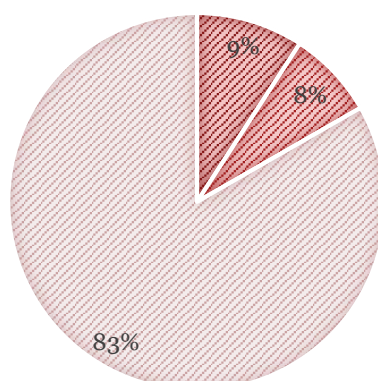
For the age category of 15-24 years, 5% of the population of Purba Midnapore is illiterate. 1% is literate without any educational qualification, 12% has attained schooling till below primary level and 22% has completed schooling only up to primary level. Roughly, 27% of the literate population has done schooling up to the middle level, whereas, around 17% of the literate population has been educated till secondary. Technical certificate/diploma course holders are in insignificant number in the district and 3% have at least completed graduation.

### *Age specific distribution of workers and educational level*



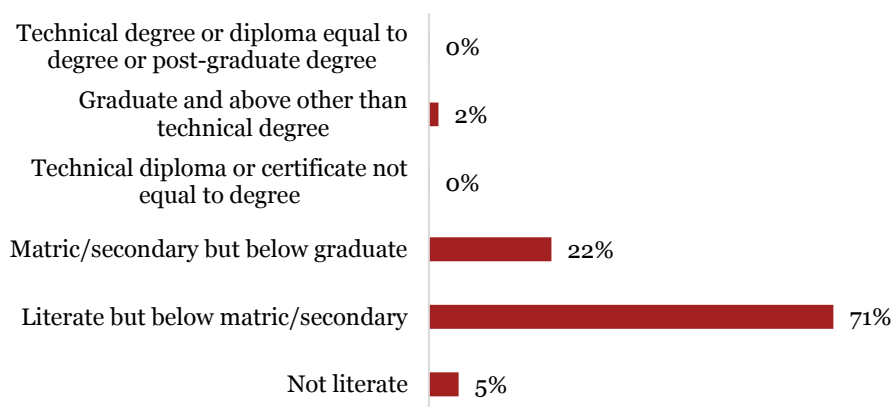
**Figure 9: Age specific distribution of workers in Purba Midnapore (15-24 years)**

■ Main workers(15-24) ■ Marginal Workers (15-24) ■ Non-workers (15-24)



83% of the population in the age group of 15-24 years are non-workers. 9% of the population are main-workers, whereas 8% are engaged in marginal work i.e. work for 3-6 months during the year.

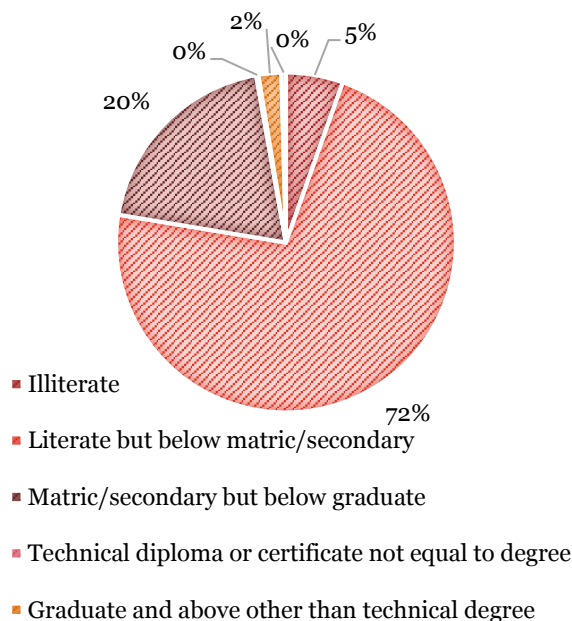
**Figure 10: Education level of marginal workers in Purba Midnapore (15-24 yrs.)**



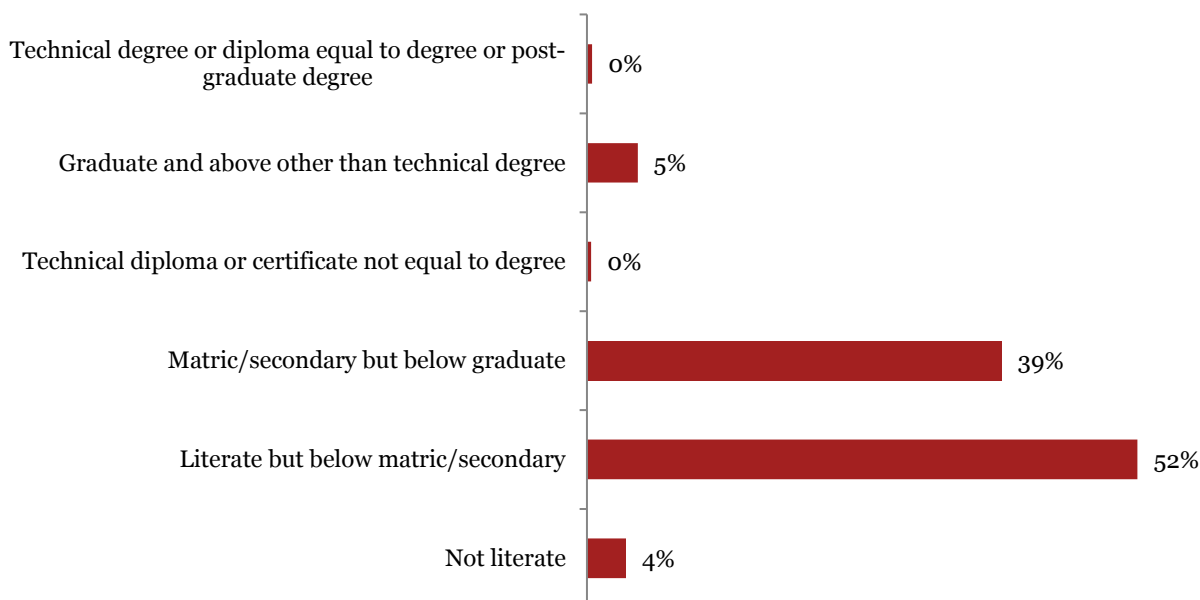
Amongst the 151469 marginal workers in the age group of 15-24 years, only 141 people (~0%) hold a technical degree or diploma equal to degree and 2% are graduate and above other than technical degree. 22% are educated up to the matric/secondary level and around 71% are literate with an educational qualification of below matric/secondary level. 5% of marginal workers in this age group are illiterate.

From Figure 11, we find that the proportion of main workers who are illiterate (in the age category 15-24 years) is same as the proportion of marginal workers and who are illiterate. We also find that the proportion of main workers who are literate but below matric/secondary (in the age category 15-24 years) is slightly more (1 percentage point difference between the two) than the proportion of marginal workers who are literate but below matric/secondary. The proportion of main workers who are matric/secondary but below graduate (in the age category 15-24 years) is slightly less (2 percentage point difference between the two) than the proportion of marginal workers who are matric/secondary but below graduate and in case of the level of Graduation and above both main and marginal workers have the same proportion. For the remaining two educational levels, we find that the population shares are more or less the same across the two worker categories.

**Figure 11: Education level of main workers in Purba Midnapore (15-24 years)**



**Figure 12: Education level of non-workers in Purba Midnapore (15-24 yrs.)**



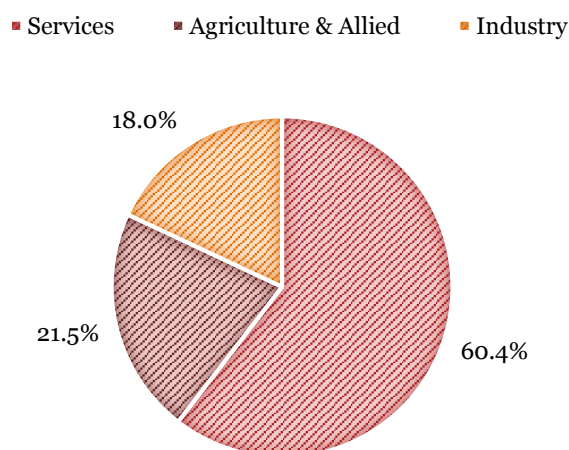
Amongst the 349074 non- workers in the age group of 15-24 years there is no technical degree or diploma equivalent to degree holder and 5% are graduate and above other than technical degree. No one has a diploma or a certificate (not equal to degree). 39% are educated up to the matric/secondary level and around 52% are literate but have attained an educational qualification of below matric/secondary level. 4% of the non-workers in this age group are not literate.

### 1.1.2. Key Economic Drivers

According to Directorate of Economics and Statistics, GoWB the Gross Domestic Product of the district (at constant prices- 2004-05) was INR 22, 44,478 crore in 2012-13 and it has steadily grown at a CAGR of 5% over the period 2004-05 to 2012-13. The sectoral break up suggests that services sector contribution to district GDP is more than half (60.4%) followed by agriculture (21.5%). Further disaggregation suggests that Trade, Hotels and Restaurants sector have a share of 32% and Agriculture and manufacturing constitute 13.5 % in the district GDP. Other sectors driving the district economy are fishing (8%) and other services (10.5%).

The key economic drivers of the district are illustrated below:

**Figure 13: Share in Purba Midnapore district economy**



#### Port & Maritime

- Deep Sea Port at Tajpur at an investment of Rs 5000 cr.
- Setting up of New Refinery at Haldia at an investment of Rs 20000 cr

#### Infrastructure Development

- West Bengal North South Corridor Project at an investment of Rs 4700 cr.
- Linkage between Industries & Haldia Port at investment of Rs 100 cr.
- Water Transportation Facility from Kolkata to Digha at investment of Rs 20 cr.

#### Industrial Development

- Haldia Industrial Park
- 2 Mega Food Processing parks at Haldia & Shankarpur

#### Tourism

- Amusement Park at an investment of Rs 40 cr
- Construction of marine Aquarium/Arrangement of Dolphin Show at an investment of Rs 20 cr
- Construction of Shopping Mall at an investment of Rs 20 cr

### 1.1.3. Priority Sectors

In Purba Midnapore, the priority sectors that have been identified are **Port and Maritime sector** and other allied sectors: **infrastructure, fisheries, construction, tourism and manufacturing**. Other sectors that have been identified as priority sectors from the point of view of their contribution to district GDP are **healthcare, apparel and logistics**.

### 1.1.4. About Port

Ports & Maritime		
<b>Major Ports:</b> 1	<b>Minor Ports:</b> Nil	<b>Shipyards:</b> Nil
<b>Details</b>		

<b>Haldia Dock Complex, Kolkata Port Trust</b>		
<i>Operations:</i>	Land Lord Port model (PPP)	<i>Capacity: 36 MTPA</i>
<i>Key Cargo</i>	Thermal Coal (60%), Petroleum Oil and Lubricants (15%)	<i>No of berths: 12</i>
		<i>Draught:</i>
<i>Description and key Trend</i>	Haldia Port is a major riverine port on the mouth of the Hooghly and is administered by the Kolkata Port. There have been challenges regarding navigability due to decreasing draughts and frequent emergence of sandbars.	

### 1.1.5. Investments

The table below provides an overview of the investments that are in pipeline in the next few years:

**Table 1: Proposed Key Investments for the year 2016-22 in East Midnapore**

<b>Sector</b>	<b>Proposed Investment (INR cr)</b>	<b>Number of Projects</b>	<b>Expected Employment</b>	<b>Key Players</b>
<b>Port &amp; Maritime</b>	27199 Cr	26	8000-10000 persons	Haldia Dock Complex, Kolkata Port Trust
<b>Infrastructure</b>	9480 Cr	7	15000 persons	West Bengal Industrial Infrastructure Development Corporation
<b>Food Processing</b>	-	2	3000-5000 persons	Haldia Development Authority, Department of Fisheries
<b>Tourism</b>	70 Cr	3	500-1000 persons	Digha Sankarpur development Authority in a PPP Model

In the port and maritime sector, Haldia Port has proposed investment for setting up of Deep Sea Port at Tajpur with an Investment of Rs 5000 Cr. Along with it, there will be an investment for industrial development in port by setting up a new refinery at Haldia with an investment of Rs 20,000 Cr. A chemical plant/plastic park will also be established at Haldia as a part of port led development.

In East Midnapore, the infrastructure industry is diverse with proposed investments in a variety of products such as construction of bridges, roads, water transportation facility etc. Details of some of the key investments proposed in the manufacturing space are:

**Figure 14: Details of proposed investments in East Midnapore, WBIIDC**

Infrastructure	Manufacturing	Power	Food Processing	Tourism
<ul style="list-style-type: none"> <li>❑ Construction of Bridge from Rajarchak to Nandigram over Haldia River; Inv: Rs 500 Cr</li> <li>❑ Repairing &amp; Resurfacing of roads surrounding Haldia; Inv: Rs 100 Cr</li> <li>❑ Water Transportation Facility from Kolkata to Digha; Inv: Rs 20 Cr</li> <li>❑ Renovation &amp; upgradation of 103 jetties over rivers of Haldia, Bhagirathi &amp; Hoogly; Inv: Rs 992 Cr</li> <li>❑ West Bengal North South Corridor Project; Inv: Rs 4700 Cr; Employment: 6000 nos.</li> <li>❑ Construction of Marine Aquarium, museum at Digha; Inv: Rs 20 Cr</li> </ul>	<ul style="list-style-type: none"> <li>❑ Haldia Industrial Park; Key Player: West Bengal Industrial Corporation</li> </ul>	<ul style="list-style-type: none"> <li>❑ Development of Thermal Power Plant in East Midnapore;</li> <li>❑ Development of Solar Park in Sagar Island</li> </ul>	<ul style="list-style-type: none"> <li>❑ Haldia Mega Food Park; Key Player: Haldia Development Authority</li> <li>❑ Shankarpur Food Processing Industry; Key Player: Fisheries Department of West Bengal</li> </ul>	<ul style="list-style-type: none"> <li>❑ Development of Amusement Park; Key Player: Digha Sankarpur Development Authority; Inv: Rs 40 Cr; Employment: 200 nos.</li> <li>❑ Construction of Marine Aquarium/Arrangement of Dolphin show; Key Player: PPP; Inv: Rs 20 Cr</li> <li>❑ Construction of Shopping Mall; Key Player: PPP; Inv: Rs 20 Cr; Employment: 250 nos</li> </ul>

### 1.1.6. Youth Aspiration

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

### Respondent Profile

The table below provides an overview of the respondent profile

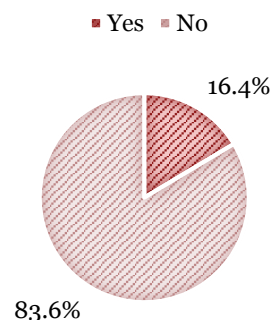
Profile	Details
<b>Total Sample Size</b>	400
<b>Gender Profile</b>	Male- 55% Female- 44%
<b>Age Group</b>	15-24 years
<b>Education Level (top 3)</b>	Senior Secondary schooling(Class 9 to 10)- 29.6 Higher secondary schooling with science (Class 11 to 12)- 7.3% Higher secondary schooling with commerce (Class 11 to 12)- 0.8%
<b>APL/BPL/AAY/Don't know (118)</b>	APL-47.5% BPL- 48.8% AAY- 2.0% Don't know- 1.8%
<b>Occupational Profile (top 3)</b>	Salary from employment (12.0%), Own Business (11.8%), Labourer (3.5%),

## Exposure to Vocational Training and Educational Aspiration

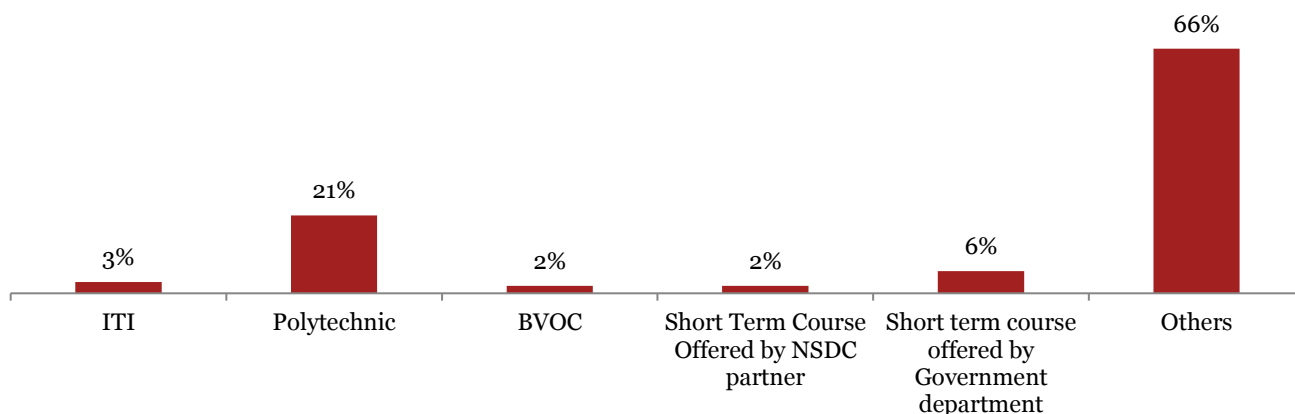
Regarding the exposure to the vocational training, most students reported that they had not completed any vocational training course. Overall, ~84% of the respondents had not enrolled in vocational training course (Figure 15).

Of the total respondents who underwent vocational training (which is ~4%), one fifth were from polytechnic (21%) and a major proportion attained training from other sources apart from ITI, NSDC partners etc. Figure 16 exhibits the percentage of respondents who completed different types of courses as part of their vocational training.

**Figure 15: Respondents who completed vocational training courses - Purba Midnapore**

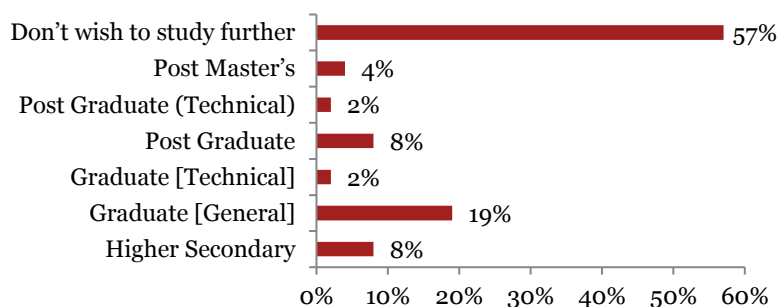


**Figure 16: Respondents who completed courses in vocational training - Purba Midnapore**



Further, the respondents were asked level about the level of education they wished to attain. 19% & 8% of the respondents aspired to attain graduation and post-graduation level of education respectively. The desire to attain technical education is relatively low with only 2% aspiring for graduation or post-graduation in technical fields (Figure 17) whereas 57% of the respondents didn't wish to study further.

**Figure 17: Desired level of education**

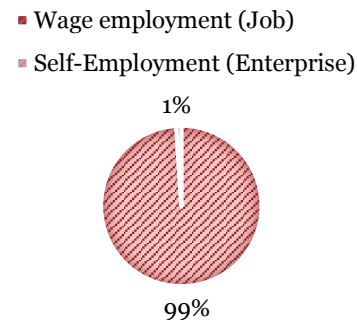


## Job Aspiration

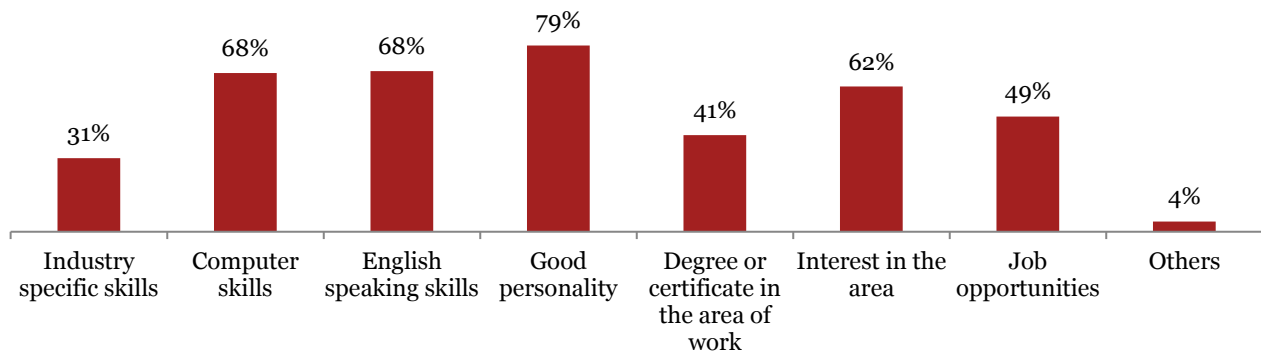
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 99% of the respondents reported to have preferred wage employment over self-employment (Figure 18).

The respondents were further asked to identify the factors important for securing employment in the area of interest. 79% of the respondents identified good personality as the most important factor for securing employment followed by English speaking and computer skills (68%) (Figure 19).

**Figure 18: Respondents aspiring for wage and self-employment - Purba Midnapore**

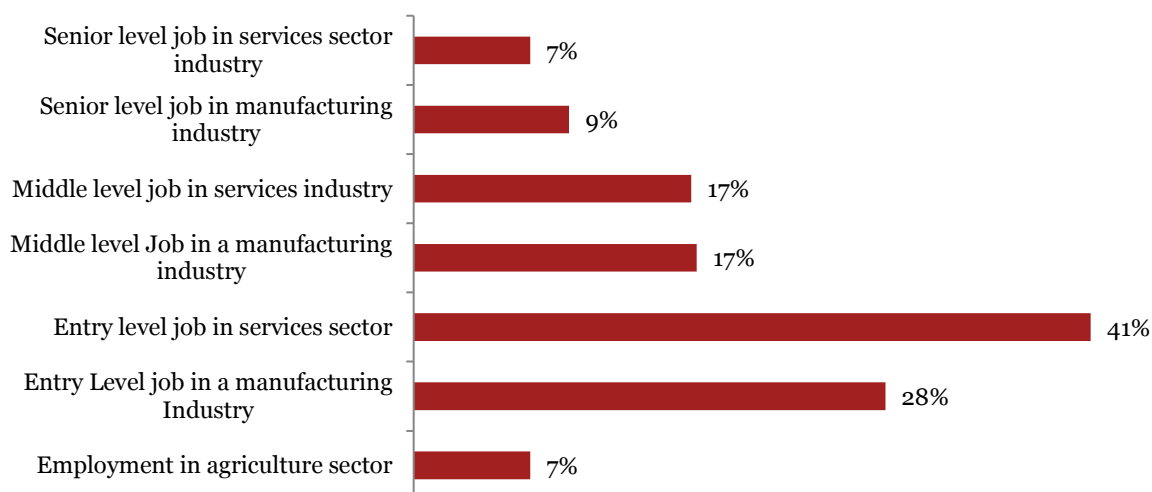


**Figure 19: Factors important for securing employment in area of interest - Purba Midnapore**



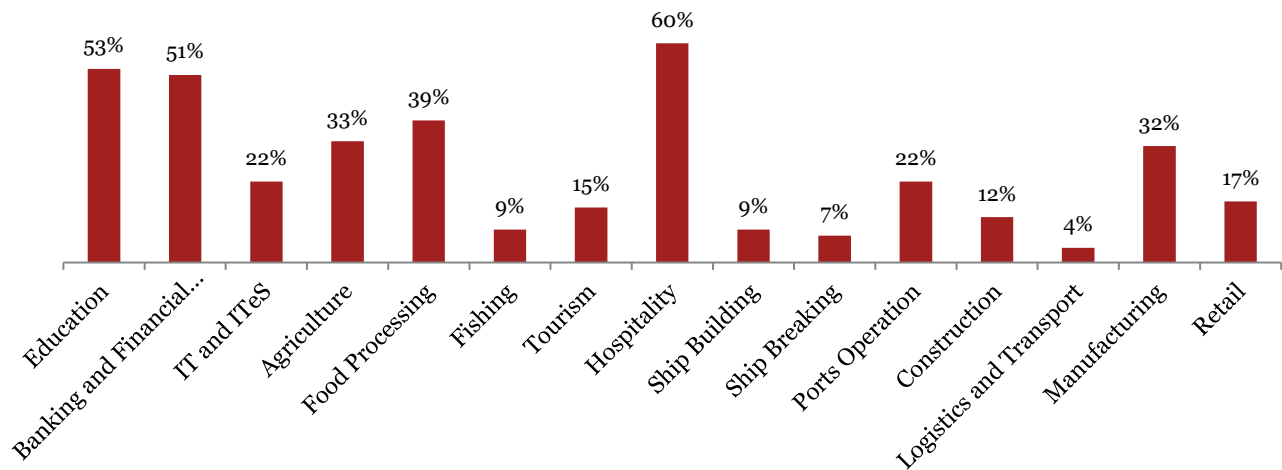
In terms of job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for services sector with 41% aspiring for entry level jobs in service sector and 28% aspiring for entry level jobs in manufacturing sector. This is followed by middle level jobs in services and manufacturing (17%) sector (Figure 20).

**Figure 20: Desired job profile after completion of education/training - Purba Midnapore**



Further, Hospitality (60%), Education (53%) & BFSI (51%) have been identified as sectors in which the respondents feel that they are mostly likely to get jobs which is in alignment with their aspiration for a job in the service sector space (Figure 21)

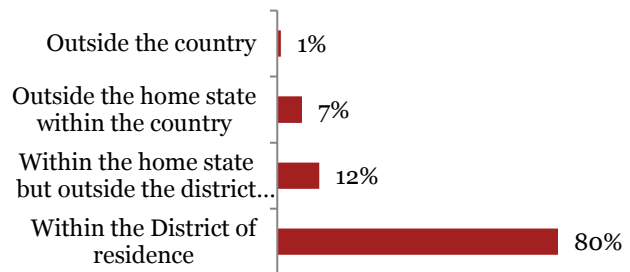
**Figure 21: Sectors in which respondents' foresee getting a desired job - Purba Midnapore**



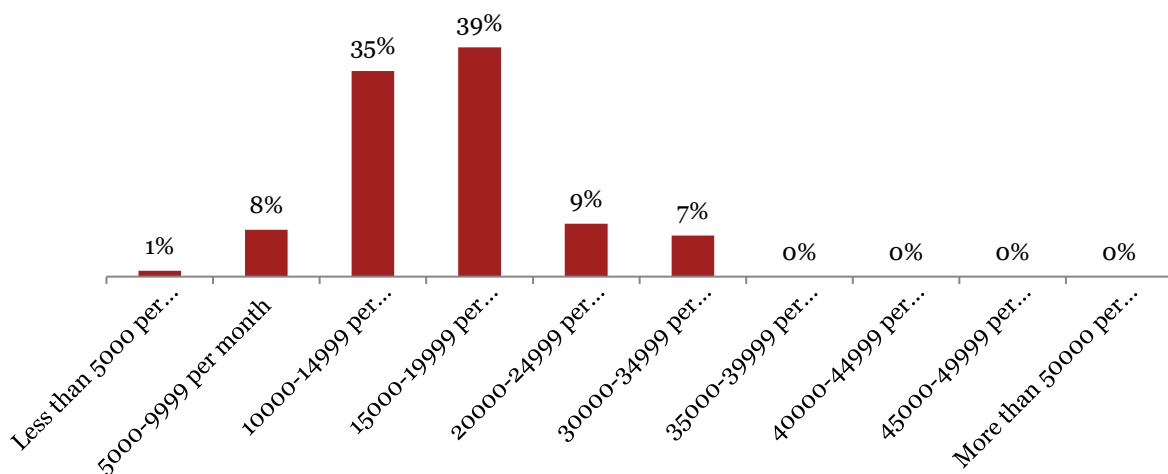
Out of total respondents, only 7% preferred to work outside West Bengal. It is important to note that 80% preferred to work in the same district and 12% expressed willingness to migrate to other districts in the same state suggesting lack of flexibility among the youth of the district (Figure 22).

For majority of the respondents (39%), the monthly salary expectation was INR 15000-20000. And for 35% of respondents, the expected salary is reported to be in the range of 10000-15000 per month (Figure 23).

**Figure 22: Preferred work location of candidate - Purba Midnapore**



**Figure 23: Monthly salary expectation of respondents - Purba Midnapore**



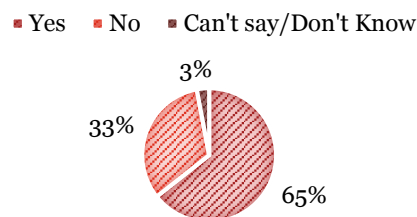


## Training Aspiration

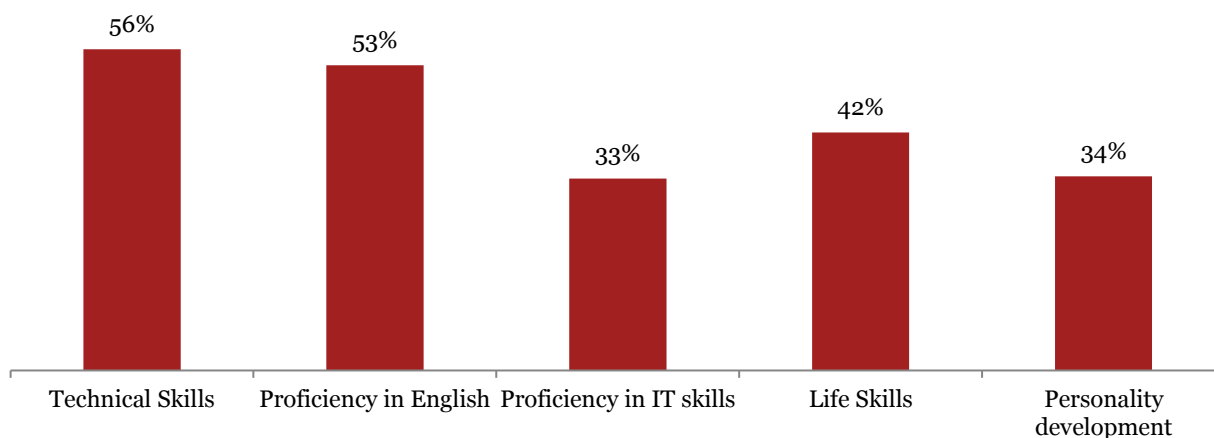
Regarding willingness of the respondents to participate in the training program in next one year, 65% expressed interest whereas 33% expressed disinterest (Figure 24).

Further, when enquired about the key focus areas of skill training, 56% of respondents reported that emphasis must be laid on technical skills followed by proficiency in English (53%), and proficiency in IT skills (33%) (Figure 25).

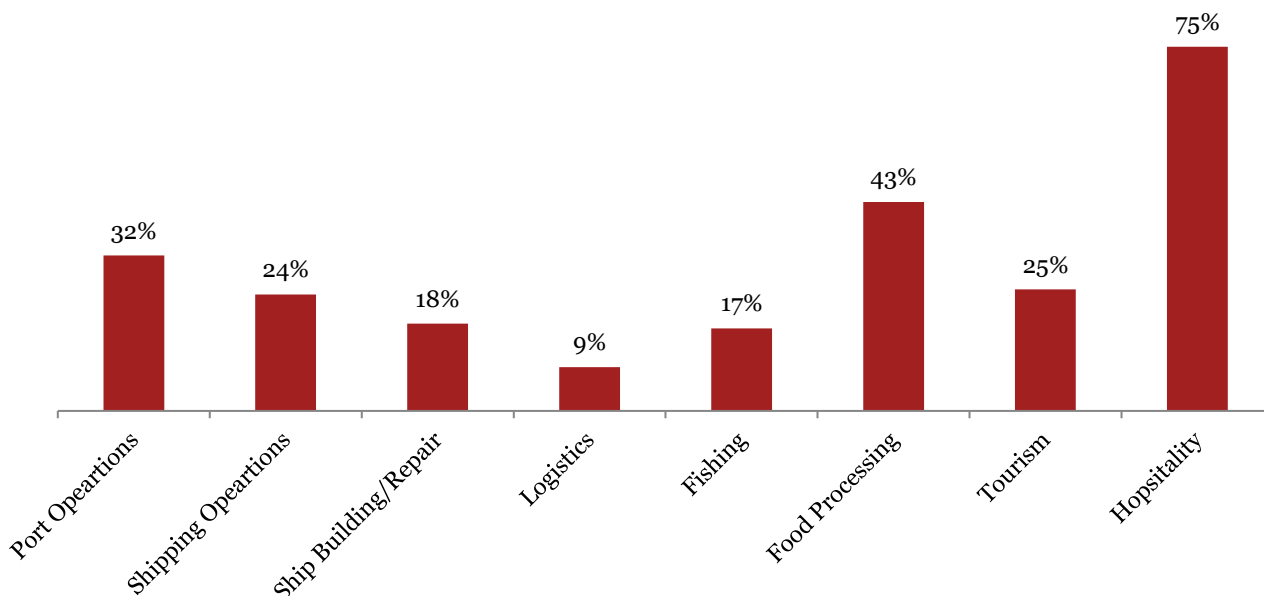
**Figure 24: Willingness to participate in trainings - Purba Midnapore**



**Figure 25: Focus area on skills training - Purba Midnapore**



**Figure 26: Willingness of respondents to participate in trainings of different sectors - Purba Midnapore**



Overall, there is demand for training in hospitality (75%), food processing (43%), tourism (25%), port operations (32%) and shipping operations (24%) (Figure 26).

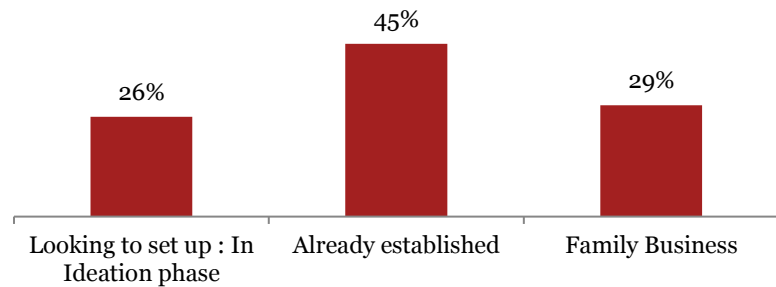
## Self-Employment

A healthy 100 out of the 384 respondents in the district are undertaking entrepreneurship opportunities. Regarding current status of the Entrepreneurial Venture of the respondents, it can be observed that 45% were already established and 29% were in family business. (Figure 27).

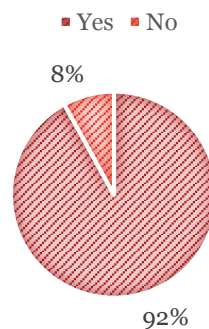
Further, 92% of the respondents expressed a desire to undergo a training program for enhancing their entrepreneurial skills (Figure 28).

Hospitality Industry (68%), Tour Operations (58%), Trading (35%) and Retail Business (32%) have been identified as most preferred sectors for setting own enterprise (Figure 29).

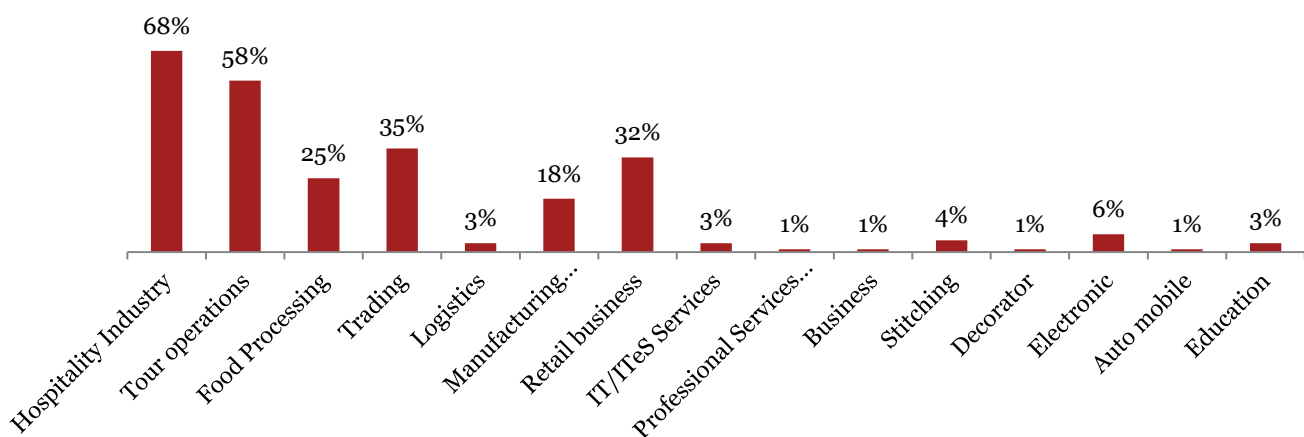
**Figure 27: Current Status of Entrepreneurial Venture - Purba Midnapore**



**Figure 28: Interested in skill development for enhancing entrepreneurial skills - Purba Midnapore**



**Figure 29: Sectors for establishing enterprise - Purba Midnapore**



### 1.1.7. Existing Training Capacity

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
ITI	7	11	Fitter, Electrician, Welder, Painter General,
Polytechnic	3	9	Mechanical, Electrical, Civil, Chemical
PMKVY	3	4	General Duty Assistant F & B Service: Steward Field Technician – Computing and Peripherals Telecom -In-store promoter
DDU GKY	1	2	BFSI, Retail

Purba Midnapore has 3 government and 4 Private ITIs which offer close to 11 trades. The most common trades are fitter, electrician, Painter (General) and Welder. Apart from the ITIs, there are only 3 polytechnic which offer approximately 9 trades, the highest demanding trades being in mechanical, electrical, civil and chemical. There is no PMKK in Purba Midnapore as of now and only one DDU-GKY center in the district.

## 1.2. South 24 Parganas

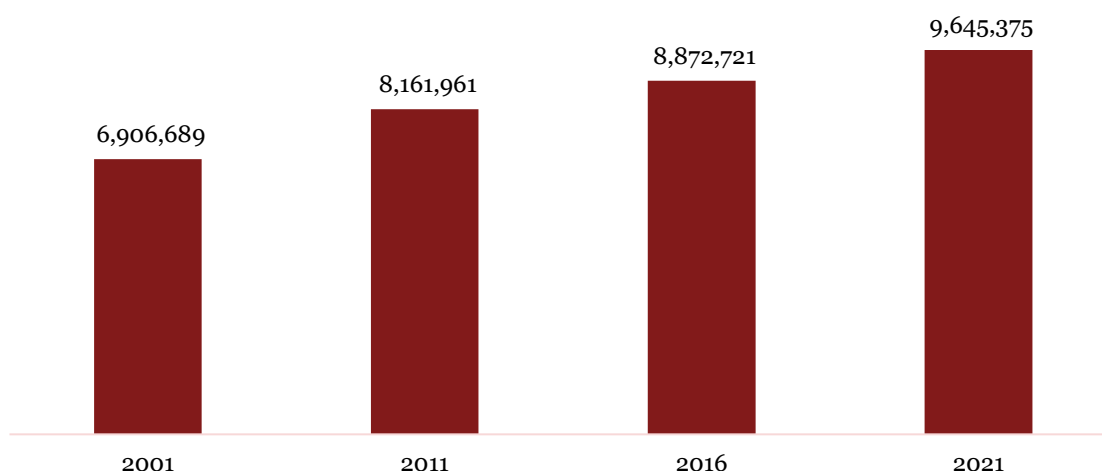
South 24 Parganas has its southern part covered with Sundarban Reserve Forest and has proximity to Kolkata on the eastern side. The district can be broadly categorized into three different parts viz. the marshy riverine land of Sundarban, the non-Sundarban rural areas and the urban areas part of the Kolkata metropolitan area. The major exportable item produced in the district is leather products along with other items such as jute diversified products, hosiery and garments, plastic products, machinery & arts etc. Services sector dominates the economy with 60.1 % share. Despite being home to industries around Kolkata, the river Hooghly and its fertile banks ensure that Agriculture and Fisheries contribute to 20.1 % of the economy over Industries (18.3%).

### 1.2.1. Demographic Profile<sup>7</sup>

Indicator	Value
<b>Total population</b>	81,61,961
<b>Decadal rate of growth of population (2001-11)</b>	18.17%
<b>Rural population</b>	74.42%
<b>Female</b>	48.86%
<b>SC population</b>	30.2%
<b>ST population</b>	1.2%
<b>Workforce participation (As % of total population)</b>	36.32%
<b>Main Workers (As % of total population)</b>	24.55%
<b>Marginal (As % of total population)</b>	11.77%
<b>Non-workers (As % of total population)</b>	63.68%
<b>*Number of people with vocational training in the age group of 15 + in the state<sup>8</sup></b>	75 out of 1000

### Population trends<sup>9</sup>

**Figure 30: Population trend in South 24 Parganas (2001-2021)**



The demographic dividend bulge in the district will remain intact for the coming next 15 years. Estimating the population for the period 2001-11 (10 years), the population is estimated to be 8,872,721 and 9,645,375 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 8.7%.

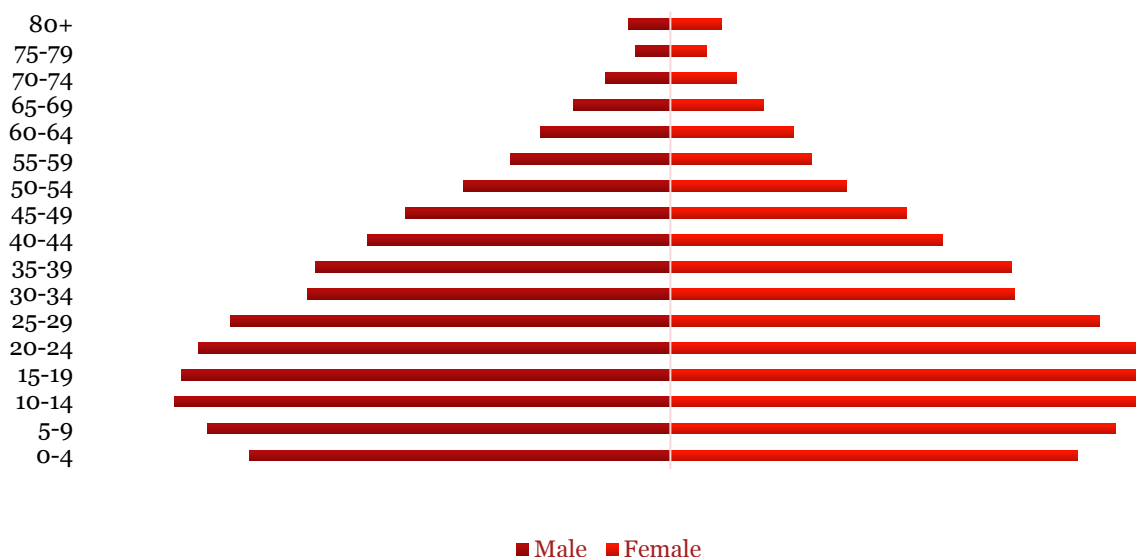
**Figure 31: Population Pyramid South 24 Parganas - 2011**

<sup>7</sup> Census, 2011

<sup>8</sup> Employment and Unemployment Survey, Vol III, Labour Bureau 2015-16,

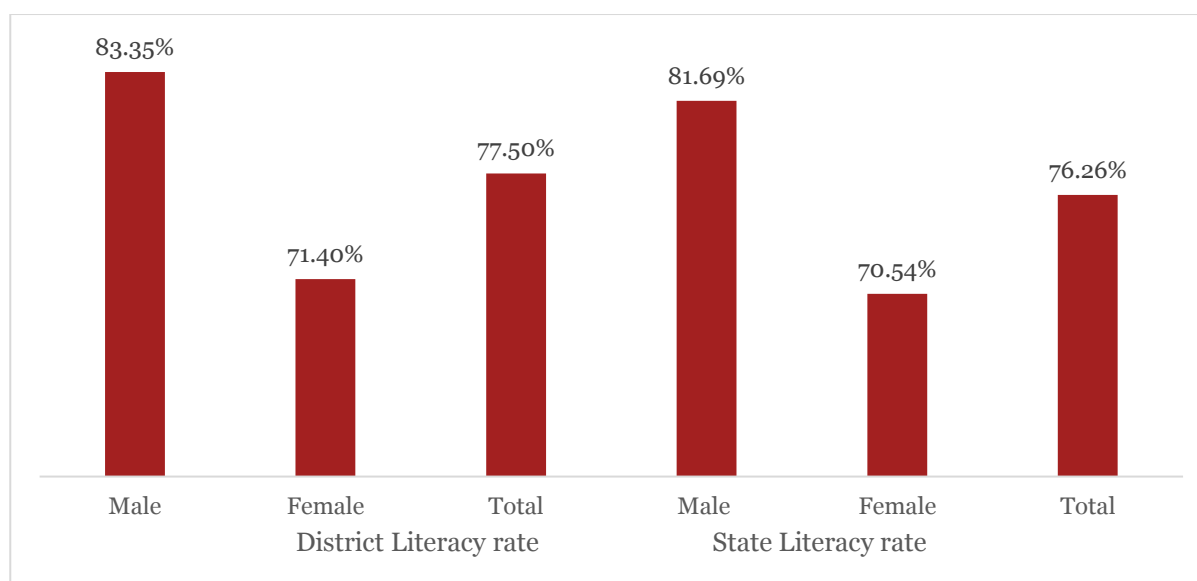
<sup>9</sup> Based on Census 2001 and 2011

Human Resource and Skill requirement study for 21 Coastal Districts of India- West Bengal: Purba Midnapore, South 24 Parganas



## Literacy rates

**Figure 32: District vs state literacy rates (2011)**



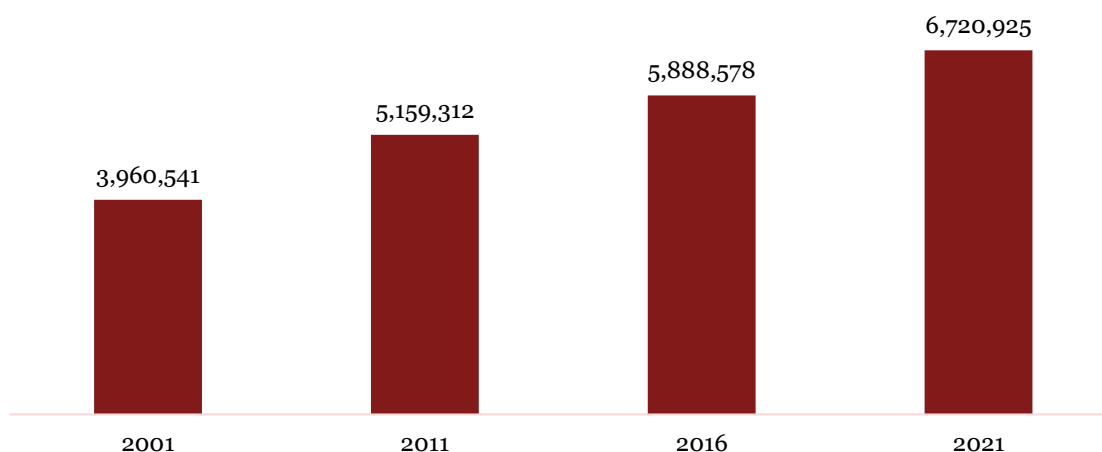
Total literacy rate of South 24 Parganas, as per the Census 2011, is approximately 77.5%, which is greater than the State's literacy rate of 76.26%. Also, the performance of the district in case of female and male literacy rates is better than the state. But the female literacy rate of South 24 Parganas is 71.40% which is substantially lower than the male literacy rate of 83.35% in 2011.

## Age specific population trends and education levels for 2011<sup>10</sup>

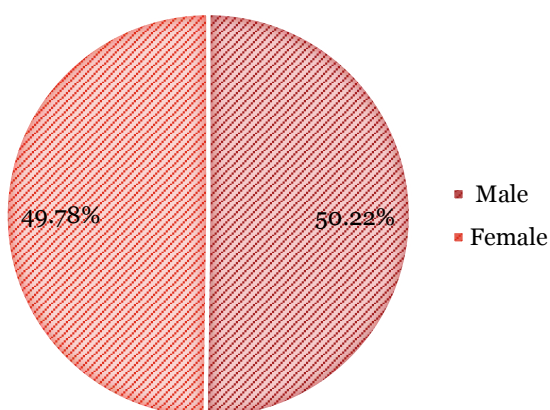
As per the Census 2011, the population in the age-group of 15 to 24 years was 16, 60,049 (20.3% of the overall population). The population in the age group of 15-59 years is estimated to be 58, 88,578 and 67, 20,925 in 2016 and 2021. The projected absolute growth in the population from 2016 to 2021 is 3%.

<sup>10</sup> Based on Census 2001 and 2011

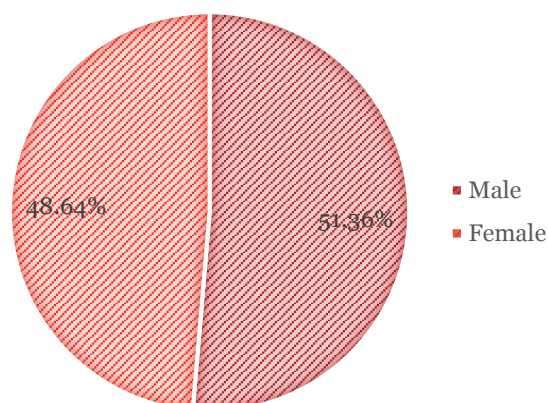
**Figure 33: Growth trend of population in the age group 15-59 yrs. (2001-2021)**



**Figure 35: Age specific population 15-24 years.**

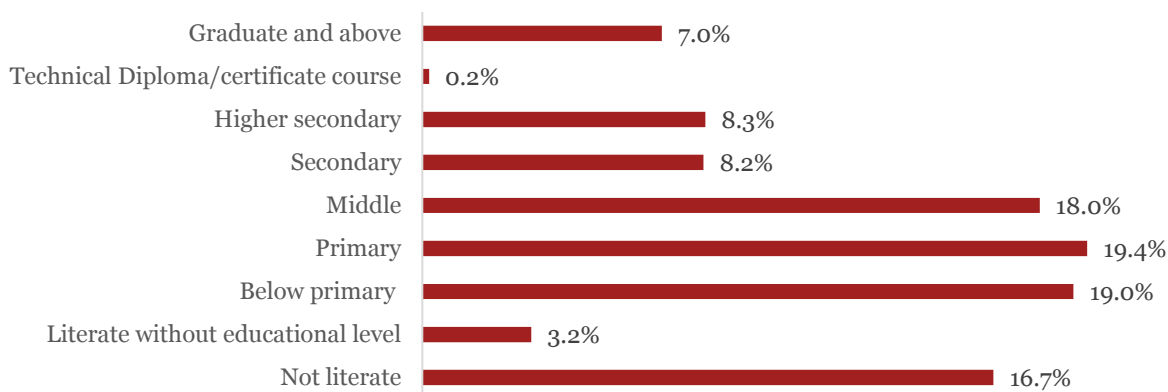


**Figure 34: Age specific population 15-59 years**



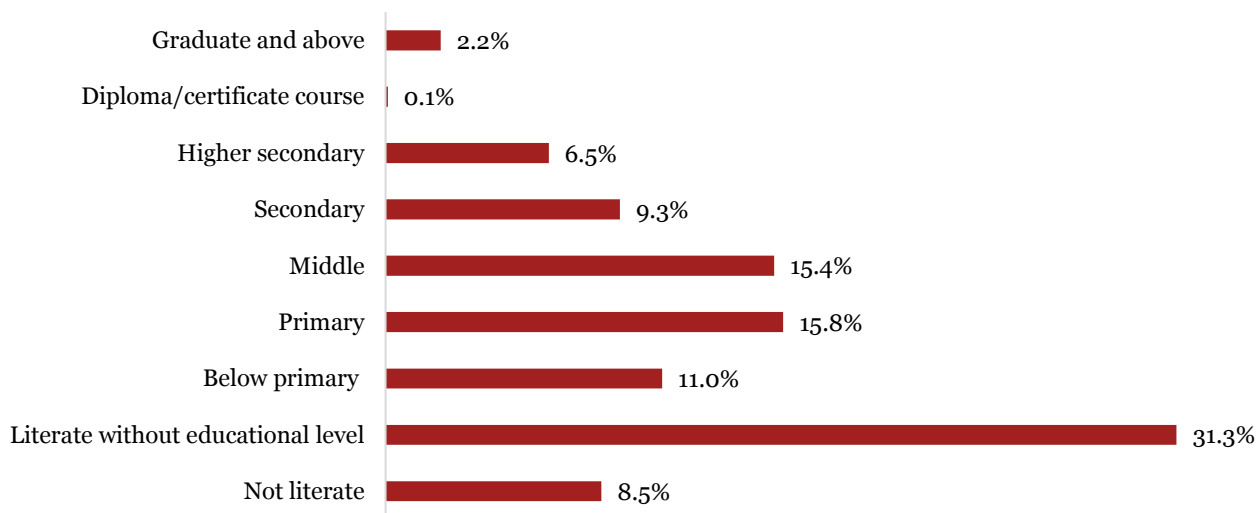
Both the age groups, 15-59 years and 15-24 years have almost equal representation of males and females with males accounting for 51.36% and 50.22% of the total population share in the 15-59 years and 15-24 years age group respectively. Females account for 48.64% and 49.78% of the total population share in the 15-59 years and 15-24 years age group respectively

**Figure 36: Age specific education level 15-59 years.**



According to Census 2011 data, 83.3% of the district are literate. However only 15.5% of the population has received education above the higher secondary level. The proportion of population with education level at Primary or below stands at 41%.

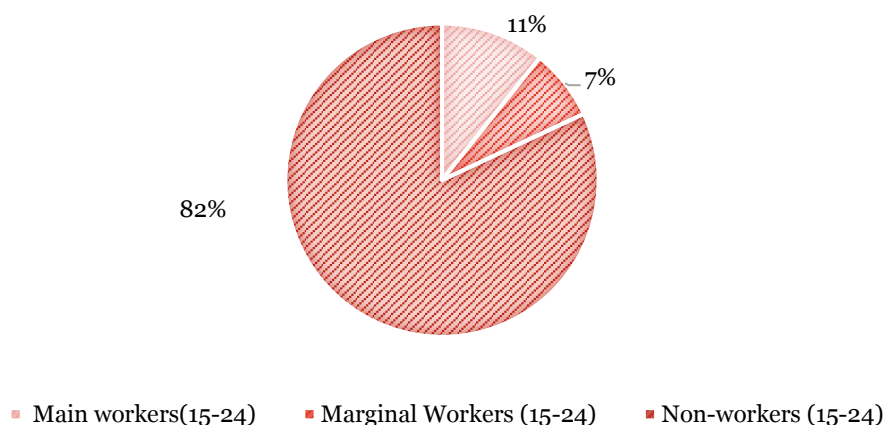
**Figure 37: Age specific education level 15-24 years.**



For the age category of 15-24 years, 8.5% of the population of South 24 Parganas are not literate. 31.3% are literate without any educational qualification, 11% have attended school till below primary level and 15.8% have completed schooling only up to primary level. Roughly, 15.4% of the population have attended school up to the middle level, whereas, around 9.3% of the population have been educated till secondary. Only .1% of the population of this district have done a technical certificate/diploma course and 2.2% have at least completed graduation. Less than half the population in the age group 15-24 is either illiterate or literate without educational level, which poses a challenge to convert the demographic dividend into a demographic disadvantage.

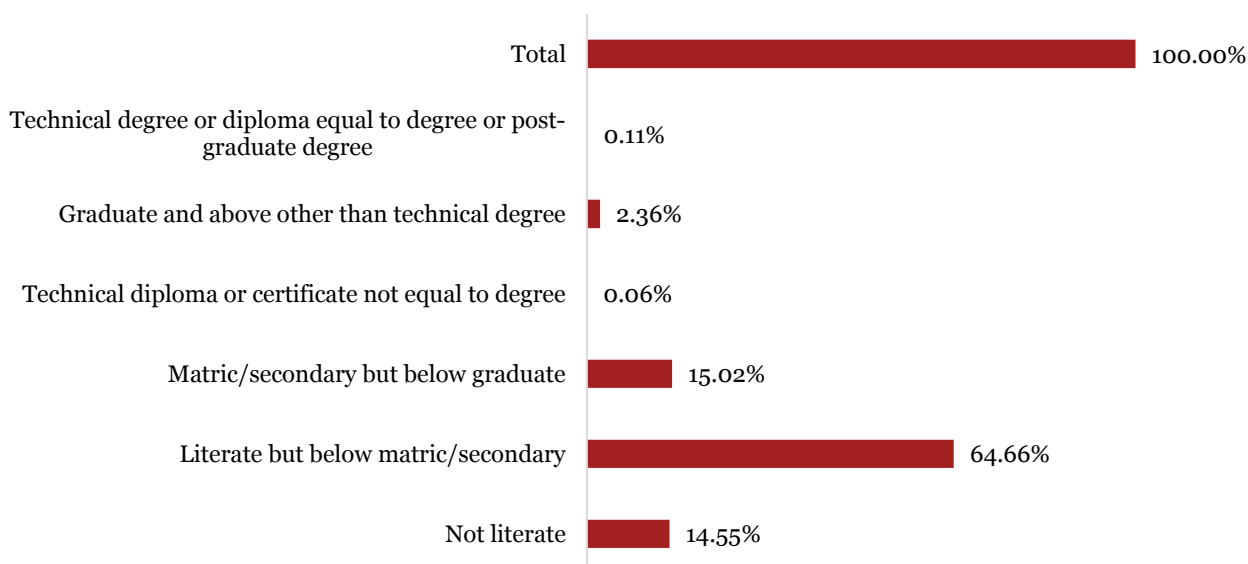
### *Age specific distribution of workers and educational level*

**Figure 38: Age specific distribution of workers (15-24 yrs.)**



The total workforce participation rate for this district, according to census 2011, is 36.32% and 82% of the population in the age group of 15-24 years are reported as non-workers. 11% of the population are main workers, whereas 7% are engaged in marginal work i.e. work for 3-6 months during the year.

**Figure 39: Education level of marginal workers 15-24 yrs.**



Amongst the 2,10,957 marginal workers in the age group of 15-24 years, 230 (0.11%) hold a technical degree or diploma equal to degree and 4,823 (2.36%) are graduate and above other than technical degree. 119 (0.06%) have a diploma or a certificate (not equal to degree). 31,678 (15.02%) are educated up to the matric/secondary level and around 1,36,411 (64.66%) are literate with an educational qualification of below matric/secondary level. 30,699 (14.55%) marginal workers in this age group are not literate.



From the census depicted in the figure, the proportion of main workers who are illiterate is 15% (in the age category 15-24 years) and almost the same as compared to the proportion of marginal workers who are illiterate. 67% of the marginal workers are literate marginally lower than the 60% of main workers.

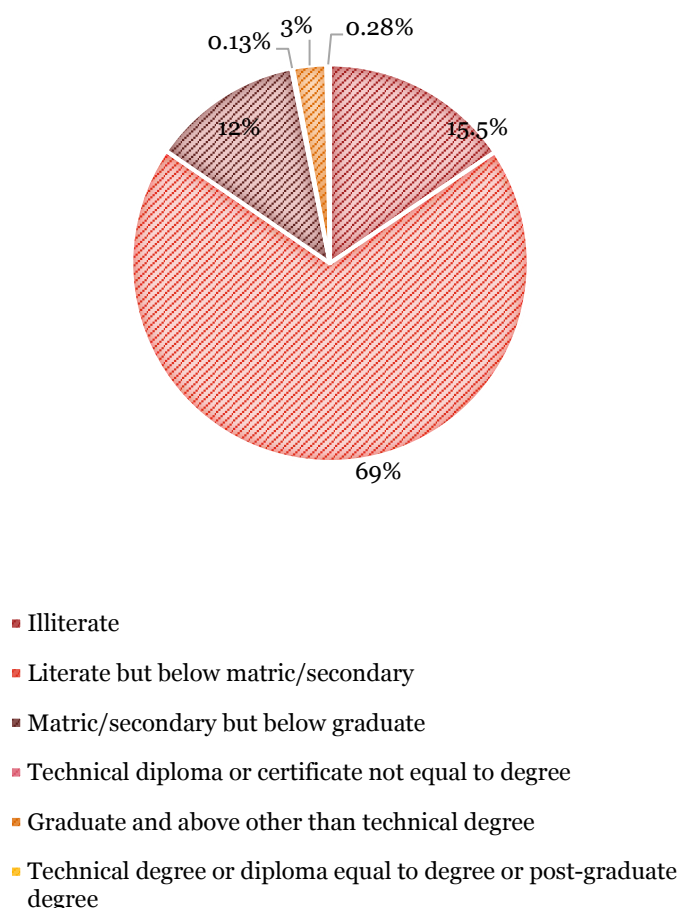
The proportion of main workers who are matric/secondary level but below graduate (in the age category 15-24 years) is slightly more than (2 percentage difference point between the two) the proportion of marginal workers who are matric/secondary level but below graduate.

The proportion of main workers who are graduate and above other than technical degree (in the age category 15-24 years) is slightly lesser than (3.5 percentage difference point between the two) the proportion of marginal workers who are graduate and above other than technical degree.

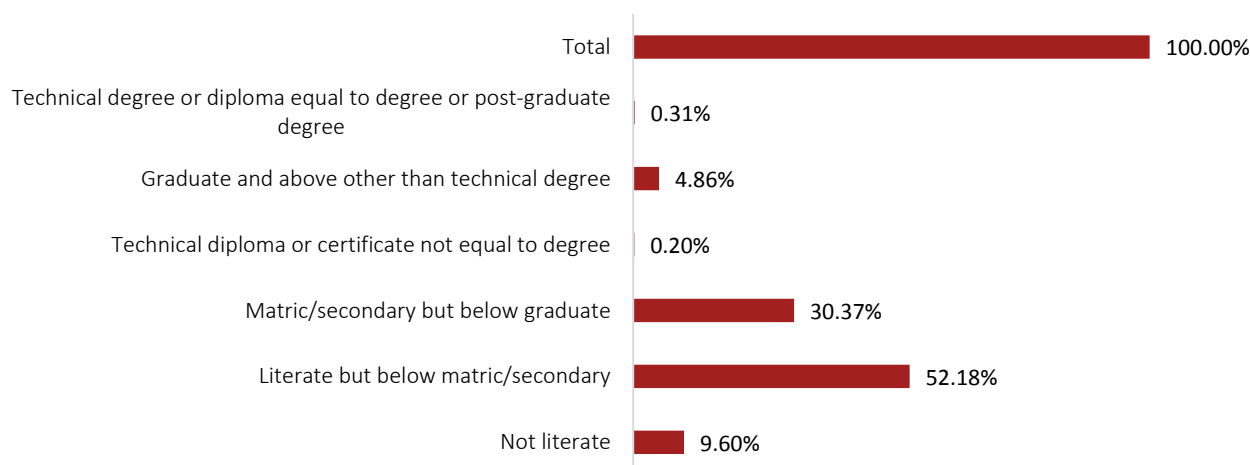
For the remaining one educational level, we find that the population shares are more or less the same across the two worker categories.

Amongst the 5,46,665 non- workers in the age group of 15-24 years, 1,717 (0.31%) hold a technical degree or diploma equal to degree and 26,575 (~5%) are graduate and above other than technical degree. 1,086 have a diploma (0.20) or a certificate (not equal to degree). 1,66,014 are educated up to the matric/secondary level and around 2,85,264 (52.18%) are literate but have attained an educational qualification of below matric/secondary level. 52,521 non-workers in this age group are not literate (9.60%)

**Figure 40: Education level for main workers 15-24 yrs.**



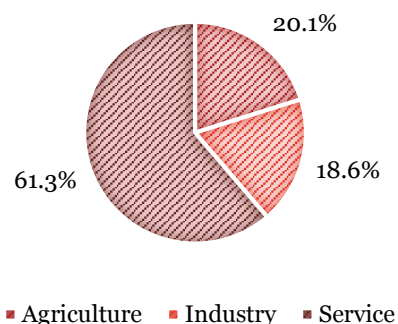
**Figure 41: Education level of non-workers (15-24 yrs.)**



### 1.2.2. Key Economic Drivers

According to Directorate of Economics & Statistics, GoWB, South 24 Parganas, the Gross Domestic Product of the district (at constant prices- 2004-05) was INR 24,019.28 crore in 2012-13 and it has steadily grown at a CAGR of 9.5% over the period 2004-05 to 2012-13. The sectoral break up suggests that service sector contribution to district GDP is more than half (61.3%) followed by agriculture sector (20.1%). Further disaggregation suggests that manufacturing sector has a share of 10.8% and hotels and restaurants have a share of 19.8% in the district GDP. Other sectors driving the district economy are Real Estate, ownership and Business Legal (7.6%), construction sector (7.1%) and banking and insurance (6.4%).

**Figure 42: Sectoral breakup of district GDP at constant (2004-05) prices**



The key economic drivers of the district are illustrated below:

<b>Port &amp; Maritime</b>	<ul style="list-style-type: none"> <li>Development of a new port named Sagar Port at Sagar island</li> <li>Improved road connectivity (Sagar port to Kakdwip)</li> <li>Rail connectivity from Sagar Port to Kashinagar</li> </ul>
<b>Industrial Development</b>	<ul style="list-style-type: none"> <li>Upcoming Footwear Park in Bantala Leather Complex with an expected investment of around 1000 Crores</li> <li>Development of various clusters including Zari embroidery, silver filigree and surgical instruments as per the West Bengal MSME policy 2013-18</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>Replete with natural beauty, South 24 Parganas with its beaches, Sundarbans Tiger Reserve, Diamond Harbour, Kakdwip, Raichak, Gadiara etc.</li> <li>Government investments for eco-tourism and Ganga Sagal Mela</li> </ul>

### 1.2.3. Priority Sectors

In South 24 Parganas, the priority sectors that have been identified are **Port and Maritime sector** and other sectors: **logistics, agriculture, fisheries, tourism & hospitality and construction**. Other sectors that have been identified as priority sectors from the point of view of their contribution to district GDP are **manufacturing and banking and finance**.

### 1.2.4. About Port

Ports & Maritime			
Major Ports: 1		Minor Ports: Nil	Shipyards: Nil
Details			
Kolkata Dock System			
Operations:	Manpower and equipment sourcing from Bharat Kolkata Container Terminals Pvt. Ltd.	Capacity	14.13 MN tonnes P.A
Key Cargo		No of berths	18

	Containers (97%), Cargo (3%)	Draft	Less than 11 M
Description and key Trend	The Kolkata Dock System is the only riverine major port in India and is managed by the Kolkata Port Trust (KoPT).  KoPT commands a vast hinterland that comprises the whole of the eastern and north-eastern regions and the two land locked countries of Nepal and Bhutan. KDS has seen close to 10% increase in container traffic which is slated to further increase with the proposed Inland Waterway and dredging operations from Farakka to Varanasi.		
Dry Docks			
Description and key Trend	KDS has five dry docks (three in Kidderpore Dock and two in Netaji Subhas Dock), which cater to the repair and maintenance needs of the vessels calling on the port. The dry docks also house shipbuilding facilities. Kolkata Port has dry docks to cater diverse repair and maintenance needs of the vessels calling on the Eastern Ports of India. In addition, shipbuilding facilities are also available in these dry docks.		
High Demand Job Roles	Painter, Blaster, Mechanical/steel fitter, Brazers, machinists for lathe, Drilling and cutting, Dock rigger, Painter, Electrician, Welder		

### 1.2.5. Investments

The table below summarizes the investments are that are in the pipeline in next few years:

**Table 2: Proposed Key Investments for the year 2016-22**

Sector	Proposed Investment (INR cr)	Number of Projects	Expected Employment	Key Players
Port & Maritime	18,000	10	40,000 persons	Apeejay Group, H-energy, Kolkata Dock system, KoPT
Fisheries	150	5	10,000 persons	BENFISH, private players including Spencer etc.
Leather	1000	1	25,000 persons	

Details of proposed investments in this sector are given below:

**Table 3: Details of Investments in Port and Maritime sector under**

Project	Proposed Investment (INR cr)	Expected Employment	Key Players
Development of Marine Industrial cluster at Kulpi	4000	1,500 persons	Bengal Shipyard Limited (subsidiary of Apeejay Shipping Limited)
Development of Sagar Port at Sagar Island	1464	-	
Handling Bulk Cement	500	-	M/a Penna Cement Limited
Handling and storage bulk pulse/ food grain and setting up a processing unit	250	-	M/s ETC Agro

Setting up CFS	3.65 (per annum)	-	M/s Allcargo Logistics Limited
Setting up CFS	1.40 (per annum)	-	M/s Transworld Terminals Private Limited
Handle break bulk with MGT Offered- 265000 (2.65 lakh tonnes) including coal non coking- 205000 tonnes and lime stone- 60000)	39 lakh (per annum) plus MGT	-	M/s Sona Ship Management

**Table 4: Details of Investments in Fisheries sector in South 24 Parganas**

Project	Proposed Investment (INR cr)	Expected Employment	Key Players
Aquaculture farming/ Value Addition	15	125 persons	S.A Exports
Processing & Value Addition	2	30 persons	Naturo Virgin Agro Farms Private Limited
Cold chain infrastructure with farm level collection centre and processing and distribution hub	30	400 persons	Megaa Moda Private Limited
Integrated project on Eco-tourism, Aquaculture and Cold Chain	30.3	370 person	Easel Advertising Private Limited
Ornamental Fish Production Unit and Farming	20	-	Kesharia Agriculture Private Limited
Ornamental Fish Unit	30	-	Aquamarine International
Value addition and Food Processing	10	-	Spencer Group
Aquafarming in East Kolkata Westlands with Fisheries Co-operatives Society	6.58	-	Monalisha Enterprise
Prawn Seed Production and Organic Aquafarming	2	-	Rama Shrimp Hatchery
Aqua Health Products	1.5	-	Biotech Systems
Fish Seed Hatchery, GIFT Tilapia	2	-	Kolay Agro
Retail Chain	1	-	Bhojohari Manna Restaurants India Private Limited

In South 24 Parganas, with the MSME sectors, manufacturing, tourism, logistics, food processing are upcoming areas with proposed investments to the tune of INR 1069 Cr and is expected to create employment for approximately 3000 individuals. The details of proposed investments across these sectors are given below:

**Table 5: Details of Investments in Infrastructure sector in South 24 Parganas**

Project	Proposed Investment (INR cr)	Expected Employment	Key Players
Improvement of existing road connecting Kolkata Port to NH6 and Kolkata Port to nearby Industrial Clusters	24	-	Ministry of Road Transport & Highways
Rail connectivity between proposed Port at Sagar Island and Kashinagar Rail station.	270	-	Kolkata Port Trust
Construction of RoB cum flyover at Ranichak level crossing at Kolkata Port	208	-	Ministry of Road Transport & Highways
Development of an integrated export based leather and footwear cluster in Kolkata ( Bantala)	1880	-	
Road connectivity between proposed Port at Sagar Island and Muriganga bridge & between Muringanga bridge and proposed Rail yard at Kashinagar	171	-	Ministry of Road Transport & Highways

### 1.2.6. Youth Aspiration

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

### Respondent Profile

The table below provides an overview of the respondent profile:

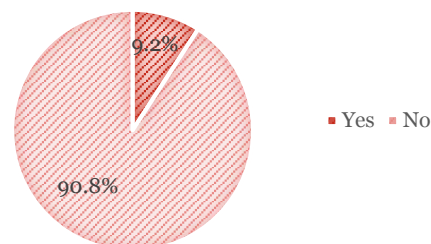
Profile	Details
<b>Total Sample Size</b>	482
<b>Gender Profile</b>	Male- 52.8% Female- 47.2%
<b>Age Group</b>	15-24 years
<b>Education Level (top 3)</b>	Senior Secondary schooling(Class 9 to 10)- 30.3% Higher secondary schooling with science (Class 11 to 12)- 5.8% Higher secondary schooling with commerce (Class 11 to 12)- 3.2%
<b>APL/BPL/AAY/Don't know</b>	APL- 59.6 % BPL- 36.7% AAY- 2.6% Don't know- 1.2%
<b>Occupational Profile (top 3)</b>	Salary from employment (13.1%), Own business (9.6%), Agriculture (1.4%)

## Exposure to Vocational Training and Educational Aspiration

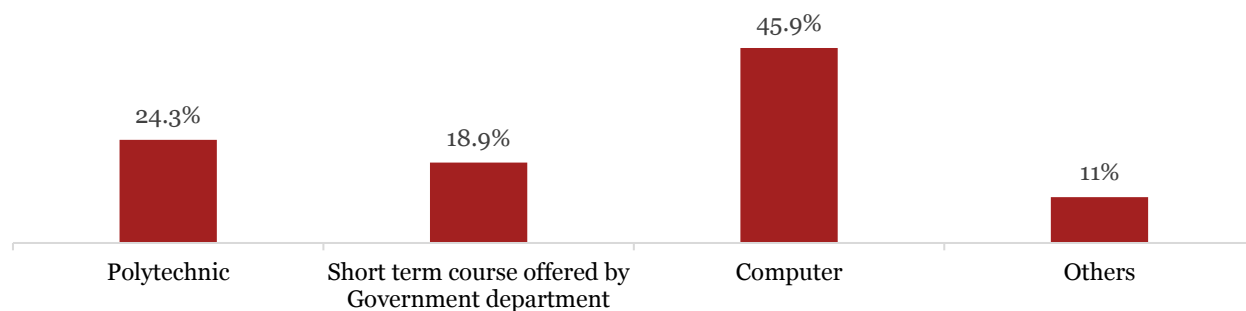
Regarding the exposure to the vocational training, most students reported that they had not completed any vocational training course. Overall, ~91% of the respondents had not enrolled in vocational training course (Figure 43).

Of the total respondents who underwent vocational training (which is ~9.2%), majority were from ITI (45.9%) and polytechnic (24.3%). Figure 44 exhibits the percentage of respondents who completed different types of courses as part of their vocational training (Figure 44)

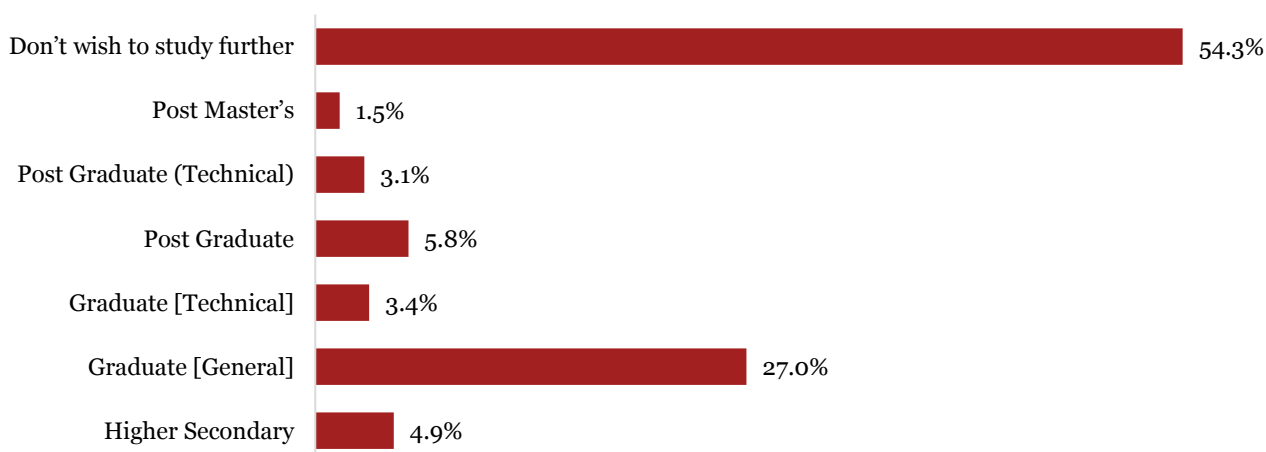
**Figure 43: Respondents who completed vocational training course**



**Figure 44: Respondents who completed courses in vocational training**



**Figure 45: Desired level of education**



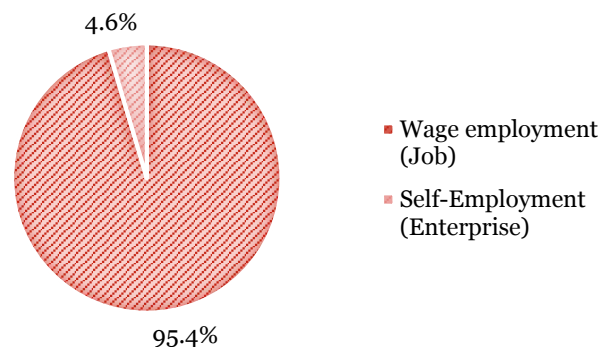
Further, the respondents were asked about the level of education they wished to attain. 54.3% of the respondents didn't aspire to attain any level of education. The desire to attain technical education is extremely low with only 3.1% and 3.4% aspiring for post-graduation and graduation in technical fields (Figure 45: Desired level of education).

## Job Aspiration

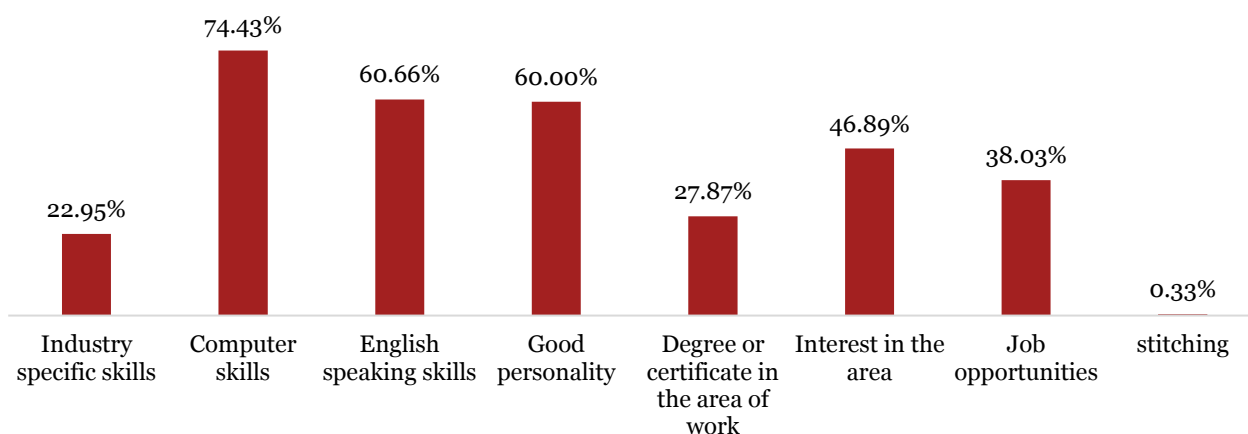
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 95.4% of the respondents reported to have preferred wage employment over self-employment (Figure 46: Respondents aspiring for wage and self-employment).

The respondents were further asked to identify the factors important for securing employment in the area of interest. 60.66% of the respondents identified English speaking skills as the most important factor for securing employment followed by good personality (60%), interest in the area of work (46.89%) and job opportunities (38.03%) (Figure 47).

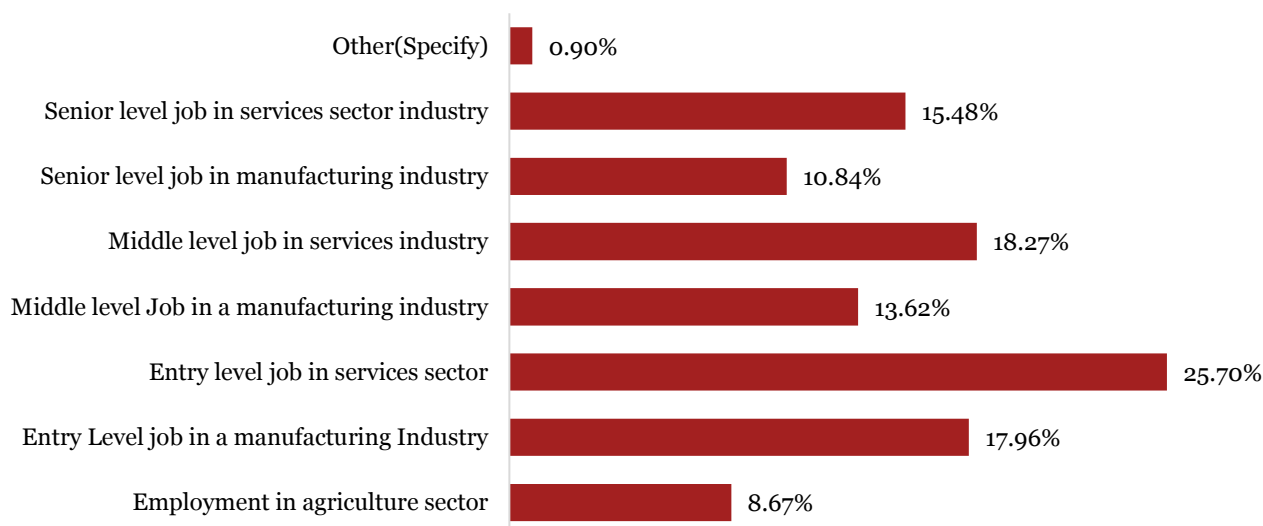
**Figure 46: Respondents aspiring for wage and self-employment**



**Figure 47: Factors important for securing employment in area of interest**



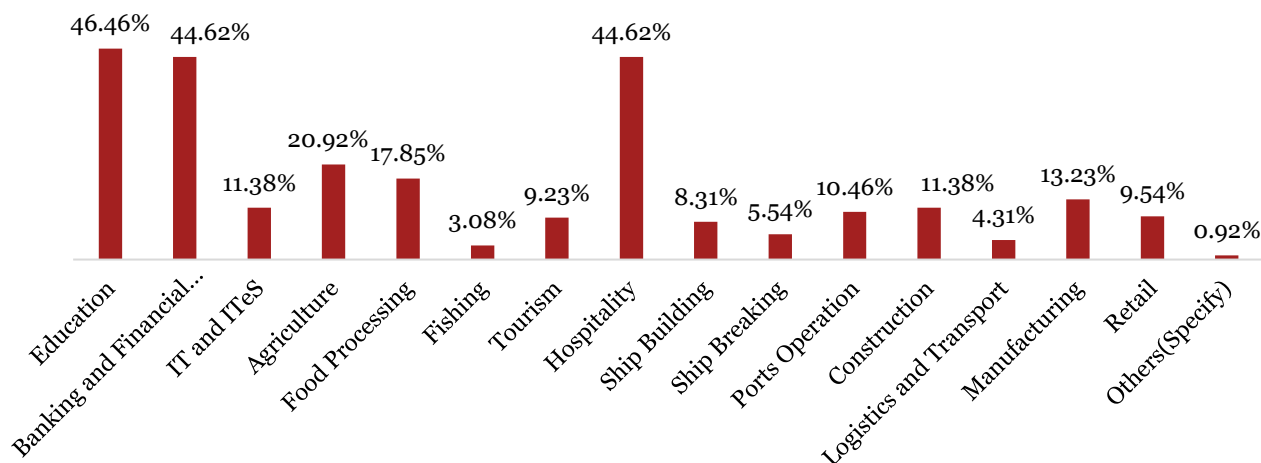
**Figure 48: Desired job profile after completion of education/training**



Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for the services sector with 25.70% aspiring for entry level jobs and 18.27% aspiring for middle level jobs in services sector. This is followed by entry level jobs in the manufacturing industry (17.96%) and senior level jobs in services sector (15.48%) (Figure 48).

Further, Education (46%), hospitality (44%) and BFSI (44%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job in the service sector space. The details of other sectors are mentioned in (Figure 49).

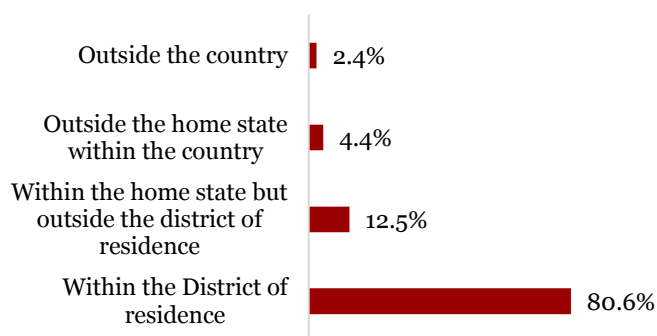
**Figure 49: Sectors in which respondents' foresee getting a desired job**



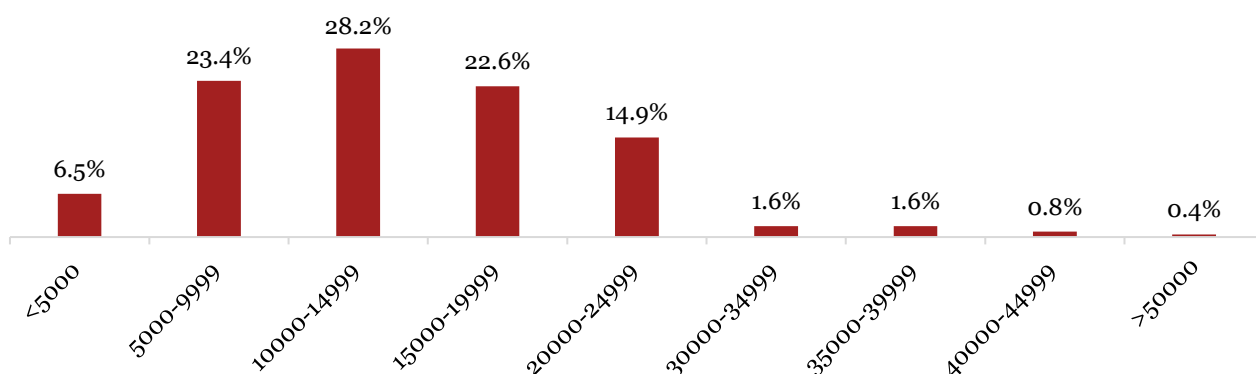
Out of total respondents, 93% preferred to work in the same state. It is important to note that more than three-fourth of the of the respondents (80.6%) preferred to work in the same district and 12.5% expressed willingness to migrate to other districts in the same state suggesting lack of flexibility among the youth of the district.(Figure 50)

For majority of the respondents (28.2%), the monthly salary expectation was in the range of INR 10000-15000. And for 23.4% of respondents the expected salary is reported to be range in the range of INR 5000-10000 per month (Figure 51).

**Figure 50: Preferred work location of candidates**



**Figure 51: Monthly salary expectation of respondents**

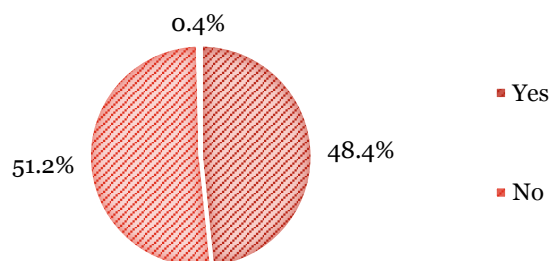


## Training Aspiration



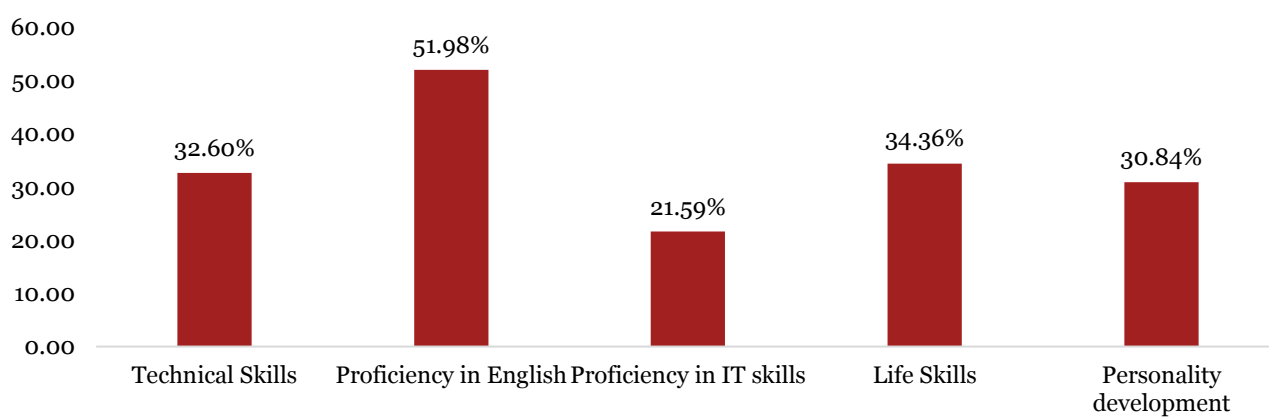
Regarding willingness of the respondents to participate in the training programme in next one year, 48.4% expressed interest whereas 51.2% expressed dis-interest (Figure 52)

**Figure 52: Willingness to participate in trainings**



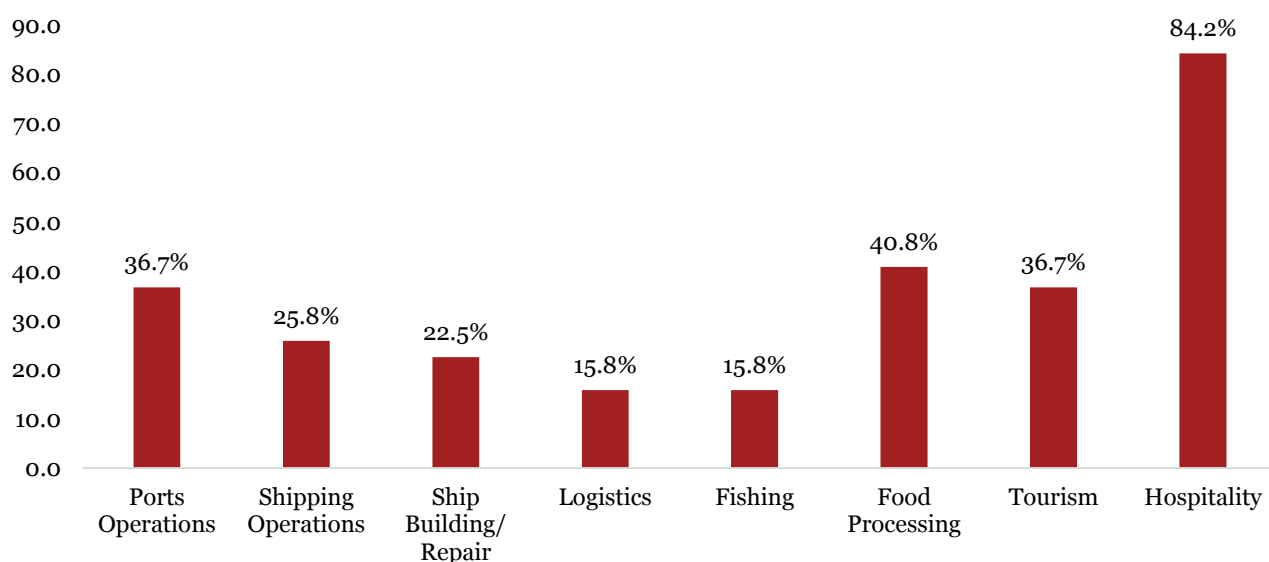
Further, when enquired about the key focus areas of skill training, 51.98% of respondents reported that emphasis must be laid on developing proficiency in English, followed by life skills (34.36%) and technical skills (32.60%) (Figure 53).

**Figure 53: Focus area on skills training**



Overall, there is high demand for training in hospitality (84.2%), food processing (40.8%), port operations and tourism (36.7%) (Figure 54)

**Figure 54: Willingness of respondents to participate in trainings of different sectors**



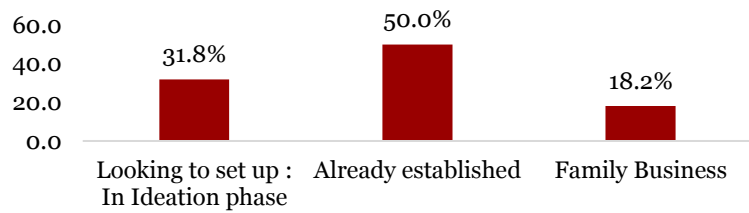
## Self-Employment

Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, 18.2% were in family business and 31.8% were in their ideation stage (Figure 55).

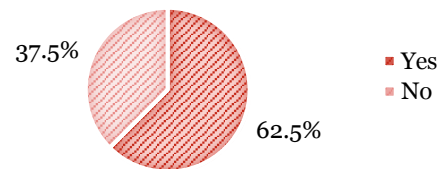
Further, 62.5% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 56).

Tour operations (67.05%), hospitality (59.09%), trading (43.18%), Retail business (30.68%), manufacturing (engineering trades) (11.36%) and food processing (10.23%) have been identified as most preferred sectors for setting own enterprise (Figure 57).

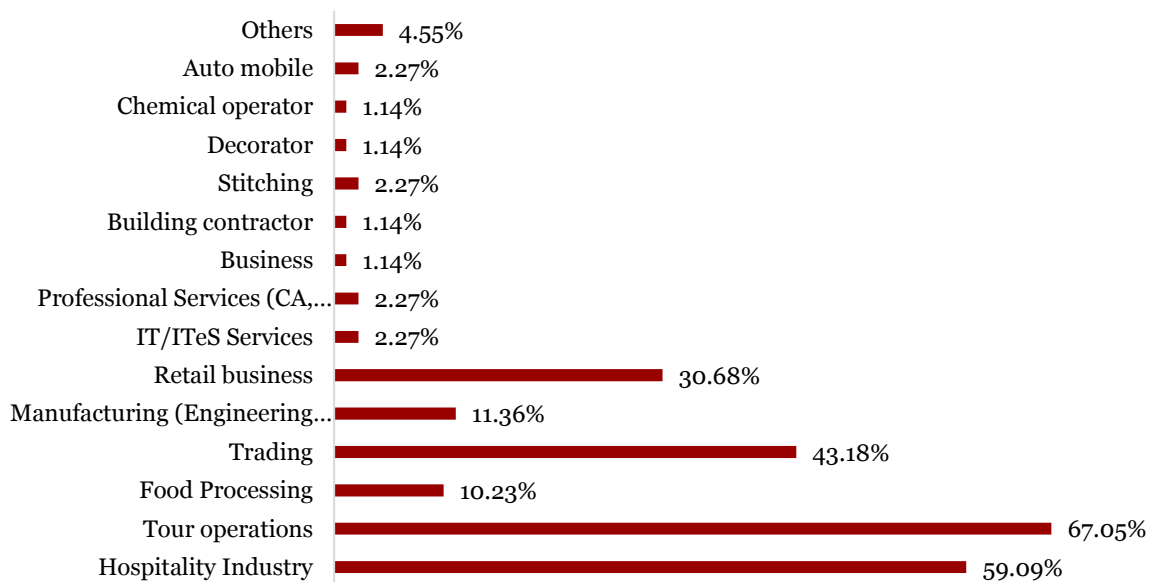
**Figure 55: Current Status of Entrepreneurial Venture**



**Figure 56: Interested in skill development for enhancing entrepreneurial skills**



**Figure 57: Sectors for establishing enterprise**



### 1.2.7. Training Infrastructure

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
<b>ITI</b>	19	20	Fitter, Electrician, Surveyor, Welder, Computer Operator and Programming Assistant
<b>Polytechnic</b>	7	9	Mechanical Engineering, Electrical Engineering, Civil Engineering, Electronics & Telecommunication Engineering, Computer Science & Technology
<b>PMKVY</b>	5	7	Field Technician – Computing and Peripherals, DTH Set Top Box Installation & Service Technician, Mobile Phone Hardware Repair Technician, General Duty Assistant, Retail Sales Associate
<b>PMKK</b>	1	5	Sewing Machine Operator, Customer Care Executive – (Telecom Call Centre), F & B Service: Steward Field Technician – Computing and Peripherals, Assistant Electrician
<b>DDU GKY</b>	2	Not Available	Not Available

The Training infrastructure in the district is dominated by the ITIs and Polytechnics. However, the trades are largely focussed on technical and engineering trades.

- ITIs: There are 19 ITIs providing training in 20 different trades. However according to NCVT MIS, in the Private ITIs of the sanctioned seats there is an average of 44% vacancy across all trades.
- Polytechnics: There is a dominance for core engineering courses like Civil, Mechanical and Electrical Engineering.
- PMKVY & PMKK: The trades are focussed on Electronics, Apparel and Telecom sectors. One PMKK has been allotted that is offering courses in Hospitality, Apparel, Telecom, Electronics and Construction sectors.

## 2. Skill Gap Assessment, Job Roles and Emerging Job Roles

### 2.1. Purba Midnapore

#### 2.1.1. Incremental Demand<sup>11</sup> for Skilled & Semi Skilled Manpower

The district of Purba Midnapore is witnessing increased industrialization as a major destination of trade with the Port being an engine. The incremental demand of skilled workforce in the district where as per our methodology, Trade, Manufacturing and Port and Logistics are going to generate the maximum demand for skilled and semi-skilled workers. Agriculture is set to witness a massive loss of jobs due to decreasing output.

**Table 6: Incremental Demand for Skilled & Semi Skilled Workers in Purba Midnapore**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
Ports & Allied	603	639	678	718	761	807	4,206
Logistics	858	886	918	948	980	1013	5,603
Tourism	638	657	675	695	714	735	4,114
Construction	250	252	255	257	259	263	1,536
<b>Other Dominant Sectors in the District</b>							
Manufacturing	1,820	1,835	1,850	1,865	1,881	1,894	11,145
BFSI	384	404	425	445	467	490	2,615
Trade (Retail & Wholesale)	2,509	2,580	2,654	2,730	2,808	2,888	16,169
Agriculture	-3,844	-3,748	-3,654	-3,564	-3,474	-3,388	-21,672
<b>TOTAL</b>							23,716

#### Key trends in Core Sectors

- **Ports and Allied Sectors:** Haldia Port is a major port and industrial belt in the district of Purba Midnapore. It is intended to handle mainly the bulk cargos. The Port has a number of expansion plans which would involve setting up of riverine barge jetty, trans loading facilities for handling dry bulk cargo.
- **Logistics:** The expansion of ports and the presence of port based industries will lead to increase in transportation of goods from ports to the manufacturing units. This would be a key to increase demand for workforce in the logistics sector.
- **Tourism & Hospitality:** Purba Midnapore is home to number of beaches in Digha, Mandarmoni, and Tamluk etc. which attracts large number of tourists to the place. Hotel Industries have started booming up in these areas and this trend intends towards requirement of workforce in this sector
- **Construction:** The infrastructure sector with number of upcoming projects like that of North South Corridors, construction of bridges, construction of water transportation facility etc. would also demand skilled workforce in this sector

<sup>11</sup> 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.

### Key trends in other Dominant Sectors in the District

- **Manufacturing & Industry:** Haldia is the industrial belt of Purba Midnapore which has a number of port based industries, petro chemical and chemical industries, food processing industries.
- **Trade:** Trade will be boosted by the proposed industrialization and port operations. There is a trend of formalization with the opening up of several apparel chains, fast food chains etc.
- **Agriculture & Fisheries:** Urbanization has made agriculture a sector with lower returns, this in turn has affected employment prospects. However, fisheries have seen continuous increase in output and will be boosting employment in the sector.

### 2.1.2. Gap between Total Demand<sup>12</sup> and Supply for Skilled workforce in Select Sectors

The gap in the existing total skilled workforce connotes the gap between the total requirement of skilled manpower and workforce in the district with recognized trainings in the said sectors

**Figure 58: Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in East Midnapore**



- **Construction Sector:** The percentage of total skill availability is still low. The gap is set to increase from 27,290 to 28,667 assuming present rates of growth of population and demand for skilled workforce.
- **Logistics Sector:** The skill gap is set to increase from 31,890 to 37,952 assuming present rates of growth of population and demand for skilled workforce.
- **Manufacturing Sector:** The manufacturing sector faces high skill gap owing to lack of sufficient training infrastructure in the district, with the gap nearing fifty thousand.

<sup>12</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling

- **Tourism and Hospitality:** Given the present trends of increased formalization and requirement of skilled workers in the sector the gap between the **total requirement of skilled manpower** and **availability of workforce with recognized trainings** is set to increase to nearly 50% by 2022.

### 2.1.3. Job Roles High in Demand

This sections captures the jobs that have been reported to be high in demand in Purba Midnapore. The job roles that are listed below have been identified by the stakeholders. Across the sectors, few of job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describe the job roles that are high in demand across the sectors.

#### Port and Maritime Sector

The Port has been developed as a major port and a support to the Kolkata Port to balance the cargo traffic. The expansion of Haldia Port will require immense workforce in the entry-level.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Port & Terminal operations	Findings
<ul style="list-style-type: none"> <li>• <b>Forklift Operator</b></li> <li>• <b>Reach Stacker Operator</b></li> <li>• <b>Crane Mechanic</b></li> <li>• <b>Pay Loader</b></li> <li>• <b>Surveyors</b></li> <li>• <b>Tug Operator</b></li> <li>• <b>Dredging Machine Operators/ Mechanics</b></li> <li>• <b>Dumper Driver</b></li> <li>• <b>Signaling</b></li> <li>• <b>Shipyards Maintenance</b></li> <li>• <b>Container Handling Operator</b></li> </ul>	<ul style="list-style-type: none"> <li>• Currently there is a requirement for the ship/barge maintenance operator</li> <li>• No training institute in the area to provide training on marine related trades</li> <li>• Huge movement of cargo, hence demand for shipyard maintenance staff</li> </ul>

#### Other Priority Sectors

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like port and maritime sector, sectors such as logistics, manufacturing, and construction will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature.

#### Logistics

Truckers are high in demand but the existing workforce that is engaged in trucking lack life skills. Truckers who could be equipped with skills for handling hazardous substances will be greatly demanded by the manufacturing firms and the CFS.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Logistics	Findings
<ul style="list-style-type: none"> <li>• <b>Surveyors</b></li> <li>• <b>Fork lift operators</b></li> <li>• <b>Supervisors</b></li> <li>• <b>Truck Driver</b></li> <li>• <b>Helper</b></li> </ul>	<ul style="list-style-type: none"> <li>• Increasing volumes of cargo from port operations and Manufacturing units at Haldia</li> <li>• Skills shortages for handling hazardous substances</li> <li>• Life skills and attitudinal skills training required for truckers</li> </ul>

## Construction

Large number of infrastructure projects are being proposed to be started in the district which will require huge amount of skilled workforce in the sector

The matrix below captures the jobs roles that are high in demand:

Job Roles: Construction	Findings
<ul style="list-style-type: none"><li>• <b>Supervisor - Electrical Works</b></li><li>• <b>Painter</b></li><li>• <b>Plumbers</b></li><li>• <b>Sanitation Technicians</b></li><li>• <b>Electrician</b></li><li>• <b>Mason</b></li><li>• <b>Supervisors</b></li></ul>	<ul style="list-style-type: none"><li>• Demand expected from Industrialization, Urbanization and Smart City Projects</li><li>• Safety is a key area of requirement. Awareness of safety equipment requires adequate orientation.</li><li>• Demand for new age installation and maintenance skills especially in renewable energy sector</li><li>• Retrofitting may be required in the Smart City projects</li></ul>

## Manufacturing

Purba Midnapore has reasonable presence of industries like Port based industries, Petro chemicals, Plastics, Food Processing etc. These sub-sectors demand skilled workforce that could work in manufacturing processes. This sector will also require technological literacy among the workers.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Manufacturing	Findings
<ul style="list-style-type: none"><li>• <b>Production Assistants</b></li><li>• <b>Welder</b></li><li>• <b>Fitter</b></li><li>• <b>Mechanic</b></li><li>• <b>Plumber</b></li><li>• <b>Electrician</b></li><li>• <b>Turner</b></li><li>• <b>Motor Binding</b></li><li>• <b>Tailoring</b></li><li>• <b>Quality Assurance</b></li><li>• <b>Plastic Processing</b></li><li>• <b>Oil Extraction &amp; Processing</b></li></ul>	<ul style="list-style-type: none"><li>• Industrial areas in and around the district demand skilled workforce.</li><li>• Food processing industry is widespread as an MSME industry and can employ women.</li><li>• Industry associations design custom trainings as add on s for the sector.</li><li>• Oil Extraction &amp; Processing for industries like Adani Wilmar is a major requirement</li><li>• Plastic based industries booming up in the district thus requiring demand for skilled workforce in this sector</li></ul>

## Tourism & Trade

Tourism sector is set to further develop on new areas of skill trainings, viz. Light House Tourism, Eco Tourism in the beaches like Digha, Mandarmoni etc.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Tourism	Findings
--------------------	----------

<ul style="list-style-type: none"> <li>• <b>Front Office Executive</b></li> <li>• <b>Chef</b></li> <li>• <b>Kitchen Steward</b></li> <li>• <b>Housekeeping Supervisor</b></li> <li>• <b>Tour guide</b></li> <li>• <b>Facility Store Keeper</b></li> <li>• <b>Billing Executive</b></li> <li>• <b>Boatman</b></li> <li>• <b>Lifeguards</b></li> <li>• <b>Food and Beverage Executive</b></li> <li>• <b>Tour Guide</b></li> <li>• <b>Tour Operator</b></li> </ul>	<ul style="list-style-type: none"> <li>• Traditionally strong sector in the District</li> <li>• Large number of Hotel Industry booming up in the area</li> <li>• Proposed projects for Light house tourism, a n unique initiative in expansion of the tourism sector</li> <li>• Less number of institutes offering courses in the area of tourism &amp; hospitality</li> </ul>
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## 2.2. South 24 Parganas

### 2.2.1. Incremental Demand<sup>13</sup> for Skilled & Semi Skilled Manpower

The district of South 24 Parganas is witnessing increased industrialization and urbanization. These are affecting the incremental demand of skilled workforce in the district where as per our methodology, manufacturing, Banking, Financial Services, and Insurance are going to generate the maximum demand for skilled and semi-skilled workers after factoring in future investments and technological changes.

**Table: Incremental Demand for Skilled & Semi Skilled Workers**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
Ports & Allied	302	320	339	360	381	404	2,106
Logistics	-742	-729	-718	-706	-696	-683	-4,274
Tourism	226	226	226	228	230	230	1,366
Construction	9,480	10,274	11,134	12,068	13,078	14,174	70,208
<b>Other Dominant Sectors in the District</b>							
Manufacturing	4,391	4,483	4,576	4,673	4,771	4,870	27,764
Trade (Retail & Wholesale)	490	493	495	498	501	502	2,979
Agriculture	9,857	10,013	10,174	10,336	10,501	10,670	61,551
<b>TOTAL</b>							1,61,700

#### Key trends in Core Sectors

- **Ports and Allied Sectors:** Expected increase in the throughput at KDS is a key driver of the skilled labour requirement in the Ports & Allied Sector. There has been a gradual increase in container traffic at the Kolkata Dock system which is expected to push further the labour requirements. The development of the Inland Waterway is set to expand further with dredging from Farakka to Varanasi.
- **Logistics:** The logistics movement in the district is witnessing a steady decline due to the slowdown of industries and sluggishness of total traffic in the ports. Many firms are downsizing in recent times. Future requirements may arise depending on the development of the Sagar Island port and the inland waterways system.
- **Tourism & Hospitality:** The proposed investment of the State Govt. for eco-tourism in Sundarbans and an increasing trend in migration and tourists are key drivers of the incremental demand in the sector. The sector is increasingly demanding skilled workers, especially in Hospitality segment.
- **Construction:** There has been an increase in urbanization with the boundaries of Kolkata extending, major infrastructure projects in Sagarmala are also on the anvil. Thus there is going to be a considerable construction activity in the district.
- **Fisheries:** The region has a large fishermen community consisting of over 40,000 fishing families. The poverty rate is around 65% according to the Fishing census. Urgent intervention is required to improve the conditions of the communities. The promotion of deep line fishing, freshwater fishing in the Hooghly delta etc. and promotion of fish sea food processing are expected to drive requirement of skilled workers in the fishing industry.

<sup>13</sup> 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.

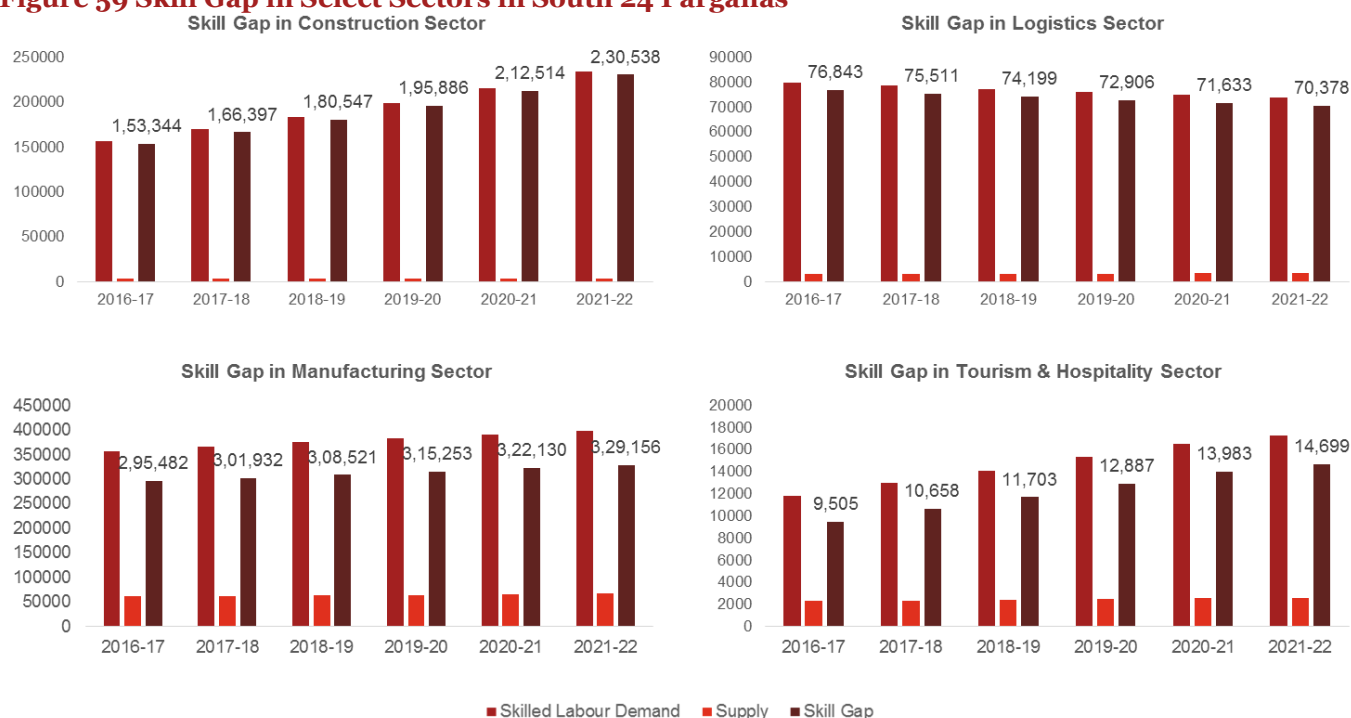
### Key trends in other Dominant Sectors in the District

- **Manufacturing:** Investments are in the pipeline, mostly driven by WBDIC. A leather manufacturing park is expected to come in Bantala along with investments in Fish Sea Food processing. South 24 Parganas is one of the districts with high concentration of craftsmen with a total of 12000 artisans engaged in zari embroidery and 1700 artisans engaged in silver filigree work.
- **Trade:** The sector is expected to generate medium amount of jobs because of the upcoming investments. Gradual consolidation of industry and increased formalization can expect to create a demand of reorganization and up-skilling of existing workforce.
- **Agriculture:** The sector has seen strong output growth. In addition to the pull factor, the lack of alternatives is gradually pushing workforce back to the sector in the district.

### 2.2.2. Gap between Total Demand<sup>14</sup> and Supply for Skilled workforce in Select Sectors

The gap in the existing total skilled workforce between the **total requirement of skilled manpower and workforce in district with recognized trainings in the said sectors**, reflects the national scenario with minimal availability of such workers, given present factors holding constant.

**Figure 59 Skill Gap in Select Sectors in South 24 Parganas**



- **Construction Sector:** The percentage of total skill availability is very low and does not match the demand. The gap is set to increase from 1, 53,344 to 2, 30,538 assuming present rates of growth of population and demand for skilled workforce resulting in a jump of 80,000.

<sup>14</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling

- **Logistics Sector:** With the demand for skilled labor set to gradually decrease, the gap is to fall by 6,000, from 76,843 to 70,378. The condition is exacerbated by the limited available options of recognized trainings and certificates in the sector.
- **Manufacturing Sector:** The manufacturing sector faces high skill gap owing to lack of sufficient training infrastructure in the district, with the gap proposed to increase from 2, 95,482 to 3, 29,156 in 2021-22.
- **Tourism and Hospitality:** Given the present trends of increased formalization and requirement of skilled workers in the sector, the gap between the **total requirement of skilled manpower** and **availability of workforce with recognized trainings** is set to increase by over 5000. The requirement for initiating new trainings and recognizing prior learning in the sector is thus a priority.

### 2.2.3. Job Roles High in Demand

This sections captures the jobs that have been reported to be high in demand in South 24 Parganas. The job roles that are listed below have been identified by the stakeholders. Across the sectors, few of job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describes the job roles that are high in demand across the sectors.

#### Port and Maritime Sector

The port and maritime sector has reported high demand for crane operators and other skilled workers such as welders, and blasters. Safety has been underpinned as one of the areas that could be focused on for training workforce in the port and maritime sector. With increasing technological disruptions that are happening in the sector, there is a need for upskilling of the workforce.

The matrix below captures the jobs roles that are high in demand:

Onshore and On- vessel	Findings
<ul style="list-style-type: none"> <li>• Rail Mounted Quay Crane Operator</li> <li>• Rail Mounted Gantry Crane Operator</li> <li>• Reach Stacker Operator</li> <li>• Crane Mechanic</li> <li>• Pilot (Inland waterways)</li> <li>• Mechanic ( Inland Waterways)</li> <li>• Welders</li> </ul>	<ul style="list-style-type: none"> <li>• Well trained crane operators are difficult to find in the job market</li> <li>• Port operators and CFSs have to train the crane operators for at least three months</li> <li>• The certification examinations conducted by the Maritime board is not sufficient to meet local requirements.</li> <li>• Retired personnel make up sizable amount of workforce due to supply side constraints.</li> </ul>
Ship building and repairs	Findings
<ul style="list-style-type: none"> <li>• Painter</li> <li>• Blaster</li> <li>• Mechanical/steel fitter</li> <li>• Brazers, machinists for lathe</li> <li>• Drilling and cutting</li> <li>• Dock rigger</li> <li>• Painter</li> <li>• Electrician</li> <li>• Welder</li> </ul>	<ul style="list-style-type: none"> <li>• The small pool of local skilled workers contributes directly to shortages of qualified workforce</li> <li>• Stakeholders indicated preference for hiring ITI graduates</li> <li>• Requirement expected to grow with increasing inland waterways usage.</li> </ul>

## Other Priority Sectors

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like port and maritime sector, sectors such as logistics, manufacturing, and construction will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature.

### Logistics

Truckers are high in demand but the existing workforce that is engaged in trucking lack life skills. Truckers, Fork lift operators, who could be equipped with skills for handling hazardous substances will be greatly demanded by the manufacturing firms that are located in industrial areas such as Behala and Bantala.

The matrix below captures the jobs roles that are high in demand:

Logistics	Findings
<ul style="list-style-type: none"><li>• <b>Surveyors</b></li><li>• <b>Fork Lift Operators</b></li><li>• <b>Hydraulic Axle Operator</b></li><li>• <b>Truck Driver</b></li><li>• <b>Helper</b></li></ul>	<ul style="list-style-type: none"><li>• CFSs demand a skilled workforce</li><li>• Internal requirements from emerging industrial hubs.</li><li>• Skills shortages for handling hazardous substances</li><li>• Life skills training required for truckers</li><li>• Increased use of ICT and automation in work processes will impact the manual jobs</li></ul>

### Construction

The sector in Kolkata is seeing emerging trends like transport infrastructure, expressways, flyovers, ports etc. Moreover, there is increased use of renewable and sustainable energy, increase in use of flexible designs for office spaces, building of high rises etc.

The matrix below captures the jobs roles that are high in demand:

Construction	Findings
<ul style="list-style-type: none"><li>• <b>Solar PV installer (Civil)</b></li><li>• <b>Fabricator</b></li><li>• <b>Supervisor-Structure</b></li><li>• <b>Supervisor-Finishes</b></li><li>• <b>Supervisor - Electrical Works</b></li><li>• <b>Supervisor - Roads &amp; Runways</b></li><li>• <b>Façade/ Office Fitting Installations</b></li></ul>	<ul style="list-style-type: none"><li>• Smart city projects and other infrastructural development projects such as the smart ports, green airports require solar panel installation and maintenance.</li><li>• Structural and Finishing supervisors with adequate understanding of Safety measures.</li><li>• Office spaces increasingly use false ceiling / facades to make a flexible, cheap and quick to design technologies.</li></ul>

### Manufacturing

South 24 Parganas is an industrial and manufacturing hub that caters to sectors such as Engineering goods, plastic based items, Jute & Jute diversified products, Foods. These sectors demand skilled workforce that could work in manufacturing processes. This sector will also require technological literacy among the workers.

The matrix below captures the jobs roles that are high in demand:

<b>Manufacturing</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• <b>Production Assistants</b></li> <li>• <b>Quality Assurance Technician</b></li> <li>• <b>Fitter</b></li> <li>• <b>Mechanic</b></li> <li>• <b>Cutter ( Leather)</b></li> <li>• <b>Stitcher ( Leather)</b></li> <li>• <b>Fleshing Operator ( Leather)</b></li> <li>• <b>Electrician</b></li> <li>• <b>Turner</b></li> <li>• <b>Motor Binding</b></li> </ul>	<ul style="list-style-type: none"> <li>• Industrial areas such Bantala demand skilled workforce</li> <li>• Supervisory skills are also needed in the roles of foremen, leading hands and supervisors</li> <li>• Limited apprenticeship arrangement exists, combining formal training off-the-job with on-the-job training</li> <li>• Stakeholders indicated preference for hiring ITI graduates</li> <li>• Additive manufacturing or 3D printing will impact the manufacturing processes</li> <li>• There will be a general need for medium to high technology literacy throughout the sector</li> </ul>

## ***Tourism***

Tourism sector in South 24 Parganas is dominated by the Sundarbans, a UNESCO designated World Heritage Site. The tourism department has a bigger focus on developing the eco-tourism sector which will also include developing 8 major projects in the district including development of Lodges at Diamond Harbour, Gangasagar, and development of infrastructure at Gangasagar and Kachuberia. River Cruises are on the anvil. A mixed pool of local workforce as well as migrant workforce is working to support the tourism sector. The government is also working on the final phase of developing Henry Island in South 24 Parganas district. Training in this sector will require focus on English language skills.

The matrix below captures the jobs roles that are high in demand:

<b>Tourism</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• <b>Front Office Executive</b></li> <li>• <b>Chef</b></li> <li>• <b>Kitchen Steward</b></li> <li>• <b>Housekeeping Supervisor</b></li> <li>• <b>Tour guide</b></li> <li>• <b>Facility Store Keeper</b></li> <li>• <b>Billing Executive</b></li> <li>• <b>Cruise/Boat/Jetty in charge</b></li> </ul>	<ul style="list-style-type: none"> <li>• Small pool of adequately skilled personnel at the skilled worker level results in a small pool of people from which to draw for higher positions</li> <li>• Workforce is trained, but it generally lacks skills and experience required in the workplace</li> <li>• Focus required on communication skills/public relations; reporting skills; administration skills and financial skills</li> </ul>

## ***Fisheries***

In South 24 Parganas, there is tremendous prospect for ornamental fish farming especially after the introduction of ornamental fish scheme under F.F.D.A from the 2000-2001 by Fisheries Department. In the year 2015-16, South 24 Parganas received a total of 30.44 ha sanctioned area under FFDA. Under this scheme, around 16080 people were engaged for different activities. There are a total of 19 Block Level Fishery Laboratory and Training Centres in the district up to 2015-16. Trainings in marine fish farming and brackish fish is necessary to make the fish farmers aware about the scientific procedure of fish farming and thereby improving on the traditional practices.

The matrix below captures the jobs roles that are high in demand:

<b>Fisheries</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• <b>Cold Storage Technician</b></li> <li>• <b>Warehouse Manager</b></li> <li>• <b>Mechanic</b></li> <li>• <b>Glass/Tunnel/Trolley Freezer Operator</b></li> <li>• <b>Grading supervisor</b></li> </ul>	<ul style="list-style-type: none"> <li>• South 24 Parganas can hugely benefit from improved fisheries practices</li> <li>• Export potential for shrimps</li> <li>• Unused land parcels can be used for aquaculture and mariculture</li> </ul>

<b>Fisheries</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• <b>De-heading supervisor</b></li> <li>• <b>Aquaculture Technician</b></li> <li>• <b>Mari-culture Technician</b></li> <li>• <b>Aquaculture technician</b></li> <li>• <b>Ornamental fish technician</b></li> <li>• <b>Seed processing plant technician</b></li> </ul>	<ul style="list-style-type: none"> <li>• Improved skills are particularly needed for aquaculture and mariculture</li> <li>• Requirement of technical know-how and qualified people for undertaking organic aquafarming</li> <li>• Promote diversification in coastal aquaculture by adoption of cage culture farming initiatives</li> </ul>

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## **3. District Action Plan**

### **3.1. Background**

An actionable roadmap is one of the deliverables to be submitted to MoS for implementing skill training programmes in each of the districts. To develop these District specific plans, the team has mapped the emerging skilling opportunities across the 13 districts. Further, similar training opportunities or training requirements from the same sector have been clubbed into one programme to ensure optimal use of resources and to build economies of scale for delivery partners. This has been proposed to improve the chances of developing and proposing feasible and viable training delivery models.

Further, the team has also estimated the broad capital and operational expenditure expected to be incurred in operationalizing the training initiatives in the districts. Apart from this, critical operational aspects such as training delivery mechanisms, availability of curriculum and employers have also been explored. The current status of these critical aspects will help ascertain the feasibility of initiating these trainings immediately and assessing the gaps that need to be bridged before these trainings can be rolled out.

### **3.2. Objective of developing the plan**

The District action plans have been developed with an overall objective of providing a step by step skill implementation plan to the Ministry of Shipping in the 21 coastal districts. The specific objectives include the following:

- Mapping various skilling opportunities available in the district, keeping in mind the requirements of Port led developments and emergence of CEZs.
- Mapping the current status of various pre-requisites such as availability of qualifications, curriculum, funding for training, potential training delivery partners, availability of assessors and certification processes and institutions for the training programmes.
- Identifying the potential/target beneficiaries for the training courses.
- Mapping the infrastructure and the investments that may be required to deliver the training programmes in the district.
- Providing an estimate of the investment required to create/hire the skilling infrastructure.
- Providing a step by step action plan for MoS to implement the skilling initiatives.

### **3.3. Methodology**

Stakeholder consultations<sup>15</sup> were held at national, state and district level and that included stakeholders from government, industries, associations, and private firms. A separate plan has been prepared for each of the 21 districts. The plan has been divided into several sections and includes sections on training delivery, potential partners, and investments. The investments component has been divided into two broad heads: capital expenditure and operational expenditure. Capital expenditure has only been proposed in cases in which there were very limited possibilities of using existing institutional framework for partnership and for using existing infrastructure and equipment. Operational expenditure includes the cost of the running the training programmes including the salary of the instructors. The common cost norms are the basis of calculating the operational expenditure. Capital expenditure has been worked out bearing in mind the infrastructure requirements of the programme and duration of training programmes. Wherever feasible, partnership with existing programmes such as DDU-GKY and PMKVY has been suggested in the plan.

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<sup>15</sup> Roughly 700 primary consultations informed the development of these plans for 21 districts

### 3.1. Summary for Purba Midnapore

SN	Project Name	Job Roles	Type of training	No. of people to be trained
1	Construction	Mason, Labour, Supervisor,	Upskilling (120 Hours) Fresh	5,000 in next 5 years 2,500 in next 5 years
2	Manufacturing	Plastic Moulding Assistant, Oil extraction & refining Technician	Fresh	4,000 in next 5 years
3	Tourism	Travel Consultant, House Keeping trainee, Tourist Guide, Sales Associate, Chef,	Fresh	4,750 in next 5 years
4	Port Activities	Shipyards Maintenance Technician, Truck Driver, Helper,	Upskilling (120 Hours) Fresh	500 in next 5 years 400 in next 5 years
5	Aquaculture	Aquaculture technician, Aquaculture worker, Brackish water aquaculture farmer, Mariculture operator, Freshwater aquaculture farmer, Shrimp farmer	Fresh / Up-Skilling	5,000 in next 5 years
6	Training for Food Technicians in Sea Food Processing	Food Dehydration Technician, Quality assurance Manager/Lab Technician, Food microbiologist/ Food Processing Worker, Fish Value Added Products, Processed Food Entrepreneur	Fresh / Up-Skilling	3,000 in next 5 years



### 3.2. Action Plan for Purba Midnapore

<b>Project 1: Construction</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Presence of Haldia Port</li> <li>• Prominence of Chemical &amp; Steel based industries like IOCL, Exide Industries Limited, Hindustan Unilever etc.</li> <li>• Upcoming projects like West Bengal North South Corridor Project</li> </ul>			
<b>Rationale for a Training Center</b>		<p>Purba Midnapore is an industrial belt with the presence of number of industries in Haldia. Apart from this, there are number of upcoming projects which involve huge construction works such as expansion of Ports, North South Corridor project. However, it has been evident that the migration trend among the construction workers is high. Thus, in order to check the migration rate, the workers need to be upskilled in the sector they have expertise on. Hence, there is requirement for a training center in the construction sector.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Bar Bender	<ul style="list-style-type: none"> <li>• Local Youth with a minimum qualification of Class 12</li> </ul>	Fresh Training	1500 in next 5 years
		Masonry	<ul style="list-style-type: none"> <li>• Local Youth with a minimum qualification of Class 12</li> </ul>	Fresh Training  Upskilling (120 Hours)	1000 in next 5 years  5000 in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Bar Bender	Local Youth with a minimum qualification of Class 12	Helper Bar Bender & fixer Level 1  Helper Carpenter, Shuttering & Scaffolding	Assistant Mason  Assistant Bar Bender & steel Fixer  Assistant Shuttering, Carpenter & Scaffolder	No course available
	Mason	Local Community	<ul style="list-style-type: none"> <li>• Layout for foundation, walls, soak pit &amp; monitor earthwork activities</li> <li>• Build brick/block masonry</li> <li>• Build structure using random rubble masonry</li> <li>• Carry out IPS flooring</li> </ul>	Assistant Mason	No course available

			<ul style="list-style-type: none"><li>Carry out reinforcement structure for RCC structure</li></ul>		
Investment (INR In lakhs)	Bar Bender				
	Operational Expenditure			108	
	Mason				
	Operational Expenditure			130	
	Total Operational Expenditure			238	
Potential Partners	Partner		Areas of Support		
	Directorate General of Employment & Training		<ul style="list-style-type: none"><li>Space and infrastructure for establishing the training center</li><li>Guest faculty</li><li>Input for designing curriculum</li><li>Provision of used equipment for training</li><li>Facilitate implementation of Upskilling (120 Hours) for existing work force</li><li>Provide guest faculty and facilitate on the job training</li></ul>		
	Industries, Department of Energy		<ul style="list-style-type: none"><li>Industry interface</li><li>On the job training</li><li>Facilitate implementation of Upskilling (120 Hours) for existing workforce</li></ul>		
	Government ITI/ Private Training partners		<ul style="list-style-type: none"><li>Training delivery</li><li>Management of the training facility</li></ul>		
	NSDC		<ul style="list-style-type: none"><li>Development of QPs for the identified job roles</li><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>		
Training Delivery		<b>Option 1</b> <ul style="list-style-type: none"><li>DGET creates the training facility</li><li>Training facility to be managed and maintained by the Government</li><li>Govt. department/Industries/ITIs to deliver the training and provide qualified trainers and mobilize trainees</li></ul> <b>Option 2</b> <ul style="list-style-type: none"><li>Private training provider to rent/develop the training facility and deliver the training programme</li></ul>			

### Work Plan

Construction	in Months								
	1	2	3	4	5	6	7	8	9
Partnership with SSC, Industry Partners and Knowledge partners									
Development of QPs									
Establishment of Training infrastructure and facility									

Construction	in Months								
	1	2	3	4	5	6	7	8	9
Furnishing of the training centre									
Purchase and installation of lab equipment									
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)									
Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

Project 2: Manufacturing				
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Presence of large manufacturing industries like plastic processing, chemical industries etc.</li> <li>• Presence of Haldia Industrial Growth Centre with large number of industries therein</li> <li>• Upcoming Haldia Industrial Park</li> </ul>			
<b>Rationale</b>	<p>East Midnapore is among the industrially advanced districts in West Bengal, especially the Haldia port city which has potential industries. Petro and Petro Chemical Industries, Port Based Industries, Chemical and Fertiliser Industries are the most prominent industries found in the area. Apart from the present industries, the upcoming industrial projects in this district are Plastic Processing industry and Food Processing Industry.</p> <p>Thus, the requirement of the operators in the chemical plant is essential for most of the industries. It has been found that though there are a number of private training institutes present in the district but very few offer training in such course which is also not in high demand among the youths opting for the training.</p> <p>Along with it, the food industries like that of Adani Wilmar are into oil extraction and refining such as Rice Bran Oil for which they require technicians.. However, there is a shortage of trained manpower in this field, thus the industries have to arrange for their own training programme which sometimes become inconvenient in terms of time and money for the industries.</p> <p>Thus, training for the trades mentioned below will be useful for the industries in meeting the existing demand.</p>			
Trainings	Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
	Plastic Processing	<ul style="list-style-type: none"> <li>• Local youth with a minimum qualification of class 8</li> </ul>	Upskilling (120 Hours)	1,000 in next 5 years
			Fresh	1,000 in next 5 years
	Oil Extraction & Refining	<ul style="list-style-type: none"> <li>• Local youth with a minimum qualification of class 8</li> </ul>	Fresh	1,000 in next 5 years
	Chemical Plant Operator	<ul style="list-style-type: none"> <li>• Local youth with a minimum qualification of class 8</li> </ul>	Fresh	1,000 in next 5 years

Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
	Plastic Moulder, Plastic Processing Technician	Local youth with a minimum qualification of class 8	<ul style="list-style-type: none"><li>Plastic Moulding Assistant/Helper</li></ul>	No course available	No course available
	Oil Extraction & Refining Technician	Local youth with a minimum qualification of class 8	<ul style="list-style-type: none"><li>Oil Extraction</li><li>Oil Refining</li><li>Ensure food safety, hygiene and sanitation for processing food products</li></ul>	No course available	No course available
	Chemical Plant Operator	Local youth with a minimum qualification of class 8	<ul style="list-style-type: none"><li>No course available</li></ul>	No course available	No course available
Investment (INR In lakhs)		Manufacturing			
		Plastic Processing			
		Operational Expenditure			131
		Oil Extraction & Refining			
		Operational Expenditure			64
		Chemical Plant Operator			
		Operational Expenditure			64
Potential Partners		Total Operational Expenditure			259
		Capital Expenditure <sup>16</sup>			211
		Partner		Areas of Support	
		Skill Development Department		<ul style="list-style-type: none"><li>Space and infrastructure for establishing the incubation and training center</li><li>Management of the incubation centre</li><li>Guest faculty</li><li>Provision of used equipment for training</li></ul>	
		Government ITI/Private Training Partners		<ul style="list-style-type: none"><li>Input for designing curriculum for integrated farming</li><li>Training delivery</li><li>Co-management of the training facility</li></ul>	
Industry		<ul style="list-style-type: none"><li>Facilitate On Job Training</li><li>Assist in designing course curriculum</li></ul>			
Food Industry Capacity & Skill Initiative,		<ul style="list-style-type: none"><li>Develop model training programmes for the identified job roles</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of trainees</li></ul>			
Training Delivery		<ul style="list-style-type: none"><li>Training can be facilitated either through regular courses in it is or through skill development schemes like that of DDU-GKY, PMKVY etc.</li></ul>			

<sup>16</sup> Includes the cost of building the incubation centre

## Work Plan

Manufacturing	in Months					
	1	2	3	4	5	6
TSP Affiliation						
Incubation centre setup						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of incubation centre and training programme						

Project 3: Tourism					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Presence of number of beaches like Digha, Mandarmoni, Junput, Sankarpur which has maximum inflow of tourists</li> <li>• Presence of number of historical sites</li> </ul>			
<b>Rationale</b>		Purba Midnapore is home to number of beaches in Digha, Mandarmoni, and Tamluk etc. which attracts large number of tourists to the place. Hotel Industries have started booming up in these areas and this trend intends towards requirement of workforce in this sector.			
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>	
	Lighthouse Tourism	Local Youths	Fresh Training	1000 in next 5 years	
	Eco Tourism	Local Youths	Fresh Training	1000 in next 5 Years	
	Bamboo Crafting	Local Youths, Local Community	Upskilling (120 Hours)	750 in next 5 years	
			Fresh Training	500 in net 5 years	
	Entrepreneurship Development	Local Youths, Local Community	Upskilling (120 Hours)	1000 in next 5 years	
			Fresh Training	500 in next 5 years	
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<b>Tour Operator</b>	Local Youths	<ul style="list-style-type: none"> <li>• Tour Guide</li> </ul>	No course available	No course available
	<b>House Keeping trainee, Chef</b>	Local Youths	<ul style="list-style-type: none"> <li>• House Cleaning</li> <li>• Chef</li> </ul>		
	<b>Tour Escort</b>	Local Youths	<ul style="list-style-type: none"> <li>• Tour Escort</li> </ul>		
	<b>Front office trainee</b>	Local Youths	<ul style="list-style-type: none"> <li>• Front Office Trainee</li> </ul>		
<b>Investment (INR In lakhs)</b>		<b>Training in Tourism</b>			
		<b>Lighthouse Tourism</b>			
		Operational Expenditure			109

	<b>Eco Tourism</b>	
	Operational Expenditure	109
	<b>Bamboo Crafting</b>	
	Operational Expenditure	126
	<b>Entrepreneurship Development</b>	
	Operational Expenditure	109
	<b>Total Operational Expenditure</b>	<b>486</b>
<b>Potential Partners</b>	Capital Expenditure <sup>17</sup>	
	<b>Partner</b>	<b>Areas of Support</b>
	Tourism Department	<ul style="list-style-type: none"> <li>• Provide infrastructure for training</li> <li>• Training delivery</li> <li>• Support in setting up/scaling up the training centre as per the required SSC norms</li> <li>• Provide faculty members</li> <li>• Integrate the proposed trainings in its training plan</li> </ul>
	ITI, Polytechnic, Private Training Partners	<ul style="list-style-type: none"> <li>• Imparting Training to youths</li> </ul>
	Tourism & Hospitality Skill Council	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• Tourism Department/Government ITI, Polytechnic/Private Training Partners will provide the infrastructure and deliver the training programmes</li> <li>• Automotive Tourism &amp; Hospitality Skill Council will certify the training programmes</li> </ul> <p><b>Option 1</b></p> <ul style="list-style-type: none"> <li>• Build the residential facility for the trainees</li> </ul> <p><b>Option 2</b></p> <ul style="list-style-type: none"> <li>• Lease the residential facility for the trainees</li> </ul>	

## Work Plan

<b>Tourism</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Upgradation of training centre						
Affiliation of Training centre with ASCI						
Initiation of residential facility construction work						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of students						

<sup>17</sup> The cost of building the residential facility

<b>Tourism</b>	<b>in Months</b>					
Roll-out of training programme						

<b>Project 4: Trainings in Port Related Activities</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Presence of Haldia Port</li> <li>• Presence of a large number of Port based industries, Petro chemical Industries</li> </ul>			
<b>Rationale</b>		<p>The presence of Haldia Port, which is into huge number of exports and imports of goods, involves daily incoming and outgoing of Ships and vessels. However, there is an acute shortage of manpower for repair &amp; maintenance of the ships and barges. Thus, either the Port has to hire people from other states or has to compromise on the quality of people engaged in the repair &amp; maintenance from the local pool which might be a safety concern for the movement of ships. Also, the presence of large number of manufacturing industries involve daily movement of goods from Port to the industries and to the industrial areas. Thus, there is a requirement of training in shipyard maintenance and in logistics sector wherein the local demand by the port can be met ensuring the quality of the workforce.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Shipyard Maintenance	<ul style="list-style-type: none"> <li>• Existing Operators</li> <li>• Local Youths</li> </ul>	Upskilling (120 Hours)	200 in next 5 years
				Fresh Training	200 in next 5 years
		Logistics	<ul style="list-style-type: none"> <li>• Existing Operators</li> <li>• Local Youths</li> </ul>	Upskilling (120 Hours)	300 in next 5 years
				Fresh Training	200 in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Crane Operator, Forklift Operator	<ul style="list-style-type: none"> <li>• Existing Operators</li> <li>• Local Youths</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>• Crawler crane operator</li> <li>• Hydra crane operator</li> <li>• Tyre mounted crane operator</li> <li>• Junior crane operator</li> <li>• Overhead crane operator</li> </ul>	Course available for: <ul style="list-style-type: none"> <li>• Truck Mounted/Crawler/</li> <li>• Rough Terrain Crane Operator</li> </ul>	No course available
	Truck Driver cum	<ul style="list-style-type: none"> <li>• Existing Operators</li> </ul>	<ul style="list-style-type: none"> <li>• Course not available</li> </ul>	Course not available	Course not available

	Hazardous Material Handler, Helper	<ul style="list-style-type: none"><li>Local Youths</li></ul>			
	Shipyard Maintenance Technician	<ul style="list-style-type: none"><li>Existing Operators</li><li>Local Youths</li></ul>	<ul style="list-style-type: none"><li>Pipe Fitter</li></ul>	Course not available	Course not available
Investment (INR In lakhs)	Training centre for skilling in Port related Activities				
	Shipyard Maintenance				
	Operational Expenditure			43	
	Skilling in Logistics				
	Operational Expenditure			65	
	Total Operational Expenditure			117	
Potential Partners	Partner		Areas of Support		
	Haldia Dock Complex		<ul style="list-style-type: none"><li>Space and infrastructure for establishing the training center</li><li>Access to port facilities for practical training</li><li>Guest faculty</li><li>Input for designing curriculum</li><li>Provision of used equipment for training</li><li>Facilitate implementation of upskilling (120 HOURS) for existing work force</li><li>Provide guest faculty and facilitate on the job training</li></ul>		
	Industry partner		<ul style="list-style-type: none"><li>Industry interface</li><li>On the job training</li></ul> Facilitate implementation of upskilling (120 HOURS) for existing workforce		
	Training Partner (Gopalpur Port)		<ul style="list-style-type: none"><li>Training delivery</li><li>Co-management of the training facility</li></ul>		
	Logistic Sector Skill Council, Automotive Sector Skill Council		<ul style="list-style-type: none"><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>		
Training Delivery		<ul style="list-style-type: none"><li>Engage a TSP that is affiliated with DDU-GKY and PMKVY to deliver the training</li></ul>			

### Work Plan

Training in Port Related Activities	in Months					
	1	2	3	4	5	6
TSP empanelment						
SSC affiliation						
Training centre setup						
mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						



<b>Project 5: Aquaculture</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Huge demand for brackish water and ornamental fish</li> <li>• Processing and exports of shrimps</li> <li>• Introduction of cage farming and deep sea fishing</li> <li>• Abundant availability of both fresh and brackish water.</li> </ul>			
<b>Rationale</b>		<p>There are around 48,000, people in the district involved in fishing and related activities in 23,000 fishing families<sup>18</sup>. The poverty rate is around 50% according to the Fisheries census. Urgent intervention is required to improve the conditions of the communities. Fishing contributes 1/12<sup>th</sup> of the District GDP. Trainings imparted in aquaculture could help in providing the fishing community an insight into a more profitable way of doing business and also to make proper utilization of unused land parcels that are unfit for agriculture. There is a huge demand for shrimps and crabs; and high quality produce could be exported. People could be trained per year by the Department of Fisheries and on completion of training, a certificate could be issued. Such certification will help them to get loans from the banks to engage/ venture into self-employment prospects.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Aquaculture & Mariculture	<ul style="list-style-type: none"> <li>• Existing workforce engaged in fishery</li> <li>• Coastal communities</li> </ul>	Fresh Training (240 Hours)	1000 in next 5 years
				Upskilling (120 Hours)	600 in next 5 years
		Ornamental fish culture	<ul style="list-style-type: none"> <li>• Existing workforce engaged in fishery</li> <li>• Coastal communities</li> </ul>	Fresh Training (240 Hours)	1400 in next 5 years
		Shrimp / Crab Farming	• Agriculturalists	Fresh Training (240 Hours)	2000 in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<b>Aquaculture/ Mariculture Technicians</b>	Fishermen community Unemployed youth	QP available for: <ul style="list-style-type: none"> <li>• Aquaculture technician</li> <li>• Aquaculture worker</li> <li>• Brackish water aquaculture farmer</li> <li>• Mariculture operator</li> </ul>	No course available	No course available
	<b>Ornamental fish culture</b>	Fishermen community Unemployed youth	QP available for: <ul style="list-style-type: none"> <li>• Aquaculture technician</li> <li>• Aquaculture worker</li> </ul>	No course available	No course available

<sup>18</sup> Fisheries Census, 2010

			• Freshwater aquaculture farmer		
	Shrimp Farmer	Agriculturalists	QP available for: • Shrimp Farmer	No course available	No course available
Investment (INR In lakhs)	Incubation and training centre				
	Aquaculture & Mariculture				
	Operational Expenditure			132	
	Ornamental fish culture				
	Operational Expenditure			136	
	Shrimp Farmer				
	Operational Expenditure			196	
	Total Operational Expenditure			464	
	Capital Expenditure			80	
Potential Partners	Partner		Areas of Support		
	Marine Training Centre, Namkhana		• Provide infrastructure for training • Training delivery • Support in setting up/scaling up the training centre as per the required SSC norms • Provide faculty members • Integrate the proposed trainings in its training plan		
	Central Inland Fisheries Research Institute		• Input for designing the curriculum • Guest faculty		
	Industry Associations		• Industry interface • Facilitate sourcing of shrimps to different export houses		
	Agriculture Sector Skill Council		• Develop model training programmes for the identified Job Roles • Identification and certification of Trainers • Identification and certification of assessors • Assessment of trainees • Certification of Trainees		
Training Delivery		• BENFISH will facilitate the provision of the infrastructure and deliver the training programmes • Agriculture Sector Skill Council will certify the training programmes • Department of Fisheries and MoS could fund the training			

### Work Plan

Fisheries	in Months					
	1	2	3	4	5	6
Upgradation of training centre						
Affiliation of Training centre with ASCI						
Initiation of residential facility construction work						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of students						

<b>Fisheries</b>	<b>in Months</b>					
Roll-out of training programme						

<b>Project 6: Training for Food Technicians in Sea Food Processing</b>					
<b>Key economic drivers</b>	• Presence of a huge market in nearby cities and towns				
<b>Rationale for Training</b>	There are around 48,000, people in the district involved in fishing and related activities in 23,000 fishing families. The poverty rate is around 50% according to the Fishing census. Urgent intervention is required to improve the condition of the communities. Fishing contributes 1/12 <sup>th</sup> of the District GDP. There will be potential demand in the upcoming years for food technicians in the next 2-3 years. Small entrepreneurs could work as suppliers to larger industries in food processing in the district. Trainings at the entrepreneurial level have to be made NOS-based.				
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>	
	Industrial Production Worker	• Local youth • SHGs	Fresh Training (240 Hours)	3000 in next 5 years	
	Quality assurance Manager/Lab Technician	• Local youth • Agriculturalists • SHGs			
	Processed Food Entrepreneur	• Local youth • Agriculturalists • SHGs	Upskilling (120 Hours)		
<b>Availability of curriculum</b>	<b>Job Role</b>	<b>Target Group</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Food Dehydration	Graduates in the district, women entrepreneurs, SHGs	• Fish and Sea Food Processing Technician	• Meat and Meat Products Processing	• Craftsman – Fruits and Vegetables • Agro Processing
	Quality assurance Manager/Lab Technician	Graduates in the district, women entrepreneurs, SHGs	• Quality Assurance Manager	Meat and Meat Products Processing	No course available
	Food microbiologist/ Food Processing Worker	Graduates in the district, women entrepreneurs, SHGs	• Food microbiologist	Meat and Meat Products Processing	No course available
	Processed Food Entrepreneur	Existing and Potential Food Processing Workers, SHGs	• Industrial Production Worker – Food Processing	Meat and Meat Products Processing	No course available
<b>Investment (INR In lakhs)</b>		<b>Incubation and training center</b>			
		Operational Expenditure	128		

	Capital Expenditure	28
<b>Potential Partners</b>	<b>Partner</b>	<b>Areas of Support</b>
	Industries/ MSME	<ul style="list-style-type: none"> <li>• Classification of Food processing Cluster in South Purba Midnapore</li> </ul>
	Industry Associations (Food Processing)	<ul style="list-style-type: none"> <li>• Industry interface</li> <li>• Facilitate recruitment</li> </ul>
	Training Partner	<ul style="list-style-type: none"> <li>• Training delivery</li> <li>• Co-management of the training facility</li> </ul>
	Food Processing Sector Skill Council	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
	PMKVY, TNSDC	<ul style="list-style-type: none"> <li>• Funding</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• The training center will be setup by a training provider in an existing and underutilized infrastructure in South 24 Parganas. The TSP has to be empaneled with FICSI and provide trainings under DDU-GKY/ PMKVY/ Schemes.</li> </ul>	

### Work Plan

Training for Food Technicians in Sea Food Processing	in Months					
	1	2	3	4	5	6
TSP empanelment						
SSC affiliation						
Training centre setup						
mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

### 3.3. Summary for South 24 Parganas

SN	Project Name	Job Roles	Type of training	No. of people to be trained
1	Skill Development Centre for Ports and Logistics	Truck and heavy vehicle operators, Crane operators, Truck Drivers-cum-Hazardous Materials Handler, Surveyors, Pilot, Deckhands	Fresh / Up-Skilling	4,800 in next 5 years
2	Aquaculture	Aquaculture technician, Aquaculture worker, Brackish water aquaculture farmer, Mariculture operator, Freshwater aquaculture farmer, Shrimp farmer	Fresh / Up-Skilling	5,000 in next 5 years
3	Training for Food Technicians in Sea Food Processing	Food Dehydration Technician, Quality assurance Manager/Lab Technician, Food microbiologist/ Food Processing Worker, Fish Value Added Products, Processed Food Entrepreneur	Fresh / Up-Skilling	3,000 in next 5 years
4	Training for the upcoming Footwear Park in Bantala	Post Tanning machine Operator, Cutter- Footwear, Finishing Operator (Footwear), Stitching Operator, Heel Attacher (Ladies Shoe), Heel Builder	Fresh / Up-Skilling	2,000 in next 5 years
5	Incubation and training centre for artisans (with focus on entrepreneurial development)	Mud Mirror, Wood work, leather, handloom, metal bell, embroidery etc.), Agarbatti Perfume Applicator, Computer Designing for embroidery	Fresh / Up-Skilling	1200 in next 5 years

SN	Project Name	Job Roles	Type of training	No. of people to be trained
		and filigree designs, Entrepreneur		
6	Training Centre for Agriculture	Floriculture, Organic Farming	Fresh/ Up Skilling	6000 in next 5 Years

### 3.4. Action Plan for South 24 Parganas

<b>Project 1: Skill Development Center for Shipping, Ports and Logistics</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Development of Sagar Port at Sagar Island</li> <li>• Improving the level of mechanization at the ports</li> <li>• Improving the road connectivity (Sagar port to Kakdwip- 26.2km)</li> <li>• Rail connectivity from Sagar Port to Kashinagar</li> <li>• Construction of 4 lane road (existing 2 lane road) from Joka to Kakdwip</li> <li>• Promotion of National Waterway 1 and 2 (through Protocol route with Bangladesh)</li> </ul>			
<b>Rationale for a Training Center</b>		<p>With around 11% increase in the volume of containerized cargo at KDS from 2014-15 to 2015-16, the port authorities believe that this number would increase. Further, the port and the allied service providers have been provided with land by KoPT to start the operations.</p> <p>Also, a number of port led development activities have been planned in the Sagar Port along with improving connectivity which will require the engagement of a huge worker population in different job roles. Hence, the CFS and other operators have to offer employment to the project affected communities. Considering that there is a cluster of employers and potential beneficiaries available in close proximity in the district, MoS can explore the opportunity for establishing a Center for Excellence in Ports and Maritime sector.</p> <p>There is also a considerable expectation on increased traffic in the Inland Waterways in the district with development of NW-1 till Allahabad and increased traffic through Bangladesh Protocol Route. The inland waterways players employ retired hands due to lack of certified resources from West Bengal Maritime Board. However, considering the existing sluggish growth of the sector in general, care should be taken to ensure that there is no oversupply of resources in the short run.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Truck and heavy vehicle operators	<ul style="list-style-type: none"> <li>• Existing Truckers</li> <li>• Coastal communities</li> </ul>	Up-skilling (120 Hours)	1,000 in next 5 years
		Crane operators	<ul style="list-style-type: none"> <li>• Existing Truckers</li> <li>• Coastal communities</li> </ul>	Fresh Training (240 Hours)	200 in next 5 years
		Handling hazardous cargo	<ul style="list-style-type: none"> <li>• Existing crane operators</li> <li>• Project Affected People</li> <li>• Coastal communities</li> </ul>	Up-skilling (120)	2,000 in next 5 years
		Pilot	<ul style="list-style-type: none"> <li>• Local Youth</li> </ul>	Fresh Training (720)	200 in next 5 years
		Deck-hands and Cruise Operations	<ul style="list-style-type: none"> <li>• Local Youth</li> </ul>	Fresh Training (480)	1400 in next 5 years
	<b>Job Roles</b>	<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>

Availability of curriculum	Truck and heavy vehicle operators	<ul style="list-style-type: none"><li>Existing Truckers</li></ul> Coastal communities	<ul style="list-style-type: none"><li>Reach Truck Operator</li></ul>	Course available for: <ul style="list-style-type: none"><li>Driver HMV</li><li>Driver LMV</li></ul>	No course available
	Crane operators	<ul style="list-style-type: none"><li>Existing Truckers</li></ul> Coastal communities	QP available for: <ul style="list-style-type: none"><li>Crawler crane operator</li><li>Hydra crane operator</li><li>Tyre mounted crane operator</li><li>Junior crane operator</li><li>Overhead crane operator</li></ul>	Course available for: <ul style="list-style-type: none"><li>Truck Mounted/Crawler/</li><li>Rough Terrain Crane Operator</li></ul>	No course available
	Handling hazardous cargo	<ul style="list-style-type: none"><li>Existing crane operators</li><li>Project Affected People</li></ul> Coastal communities	<ul style="list-style-type: none"><li>QP does not exist</li></ul>	No course available	No course available
	Pilot / Captain	<ul style="list-style-type: none"><li>Local Youth</li></ul>	<ul style="list-style-type: none"><li>QP does not exist</li></ul>	No course available	No course available
	Deck Hands	<ul style="list-style-type: none"><li>Local Youth</li></ul>	<ul style="list-style-type: none"><li>QP does not exist</li></ul>	No course available	No course available
Investment (INR In lakhs)		Truck and heavy vehicle operators			
		Operational Expenditure		6	
		Crane operators			
		Operational Expenditure		21	
		Handling hazardous cargo			
		Operational Expenditure		684	
		Pilot / Captain			
		Operational Expenditure		33	
		Deck-hands			
		Operational Expenditure		160	
		Total Operational Expenditure		293	
		Capital Expenditure for training centre		194	
Potential Partners		Areas of Support			
		Partner			
		Kolkata Port Trust		<ul style="list-style-type: none"><li>Space and infrastructure for establishing the training center</li><li>Access to port facilities for practical training</li><li>Guest faculty</li><li>Input for designing curriculum</li><li>Provision of used equipment for training</li><li>Facilitate implementation of UPSKILING (120 HOURS) for existing work force</li><li>Provide guest faculty and facilitate on the job training</li></ul>	
		Training Partner (TSP)		<ul style="list-style-type: none"><li>Training delivery</li><li>Co-management of the training facility</li></ul>	
		Logistic Sector Skill Council		<ul style="list-style-type: none"><li>Development of QPs for the identified job roles</li></ul>	



	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<p>Similar models in other ports like JNPT, Ennore, Kandla, may be initiated initially and depending on their success, a centre could be established in Kolkata. However, courses on the Inland Waterways (Pilot and Deck hands) could be initiated</p> <p><b>Option 1</b></p> <ul style="list-style-type: none"> <li>• MoS creates the training facility</li> <li>• Training facility to be managed and maintained by MoS</li> <li>• KoPT to deliver the training and provide qualified trainers and mobilize trainees</li> </ul> <p><b>Option 2</b></p> <ul style="list-style-type: none"> <li>• Private training provider to rent/develop the training facility and deliver the training programme</li> </ul>

### Work Plan

Port and Logistics	in Months								
	1-6	7	8	9	10	11	12	13	14
Partnership with SSC, Industry Partners and Knowledge partners									
Development of QPs									
Establishment of Training infrastructure and facility									
Furnishing of the training centre									
Purchase and installation of lab equipment									
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)									
Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

<b>Project 2: Aquaculture</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Huge demand for brackish water and ornamental fish</li> <li>• Processing and exports of shrimps</li> <li>• Introduction of cage farming and deep sea fishing</li> <li>• Abundant availability of both fresh and brackish water.</li> </ul>
<b>Rationale</b>	<p>There are around 77,000 people in the district involved in fishing and related activities in 40,000 fishing families. The poverty rate is around 65% according to the Fishing census. Urgent intervention is required to improve the conditions of the communities. Trainings imparted in aquaculture could help in providing the fishing community an insight into a more profitable way of doing business and also to make proper utilization of unused land parcels that are unfit for agriculture. There is a huge demand for shrimps</p>

		and crabs; and high quality produce could be exported. People could be trained per year by the Department of Fisheries and on completion of training, a certificate could be issued. Such certification will help them to get loans from the banks to engage/ venture into self-employment prospects.			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Aquaculture & Mariculture	• Existing workforce engaged in fishery • Coastal communities	Upskilling Fresh training (240 Hours)	1,000 in next 5 years
				Fresh Training (120 Hours)	600 in next 5 years
		Ornamental fish culture	• Existing workforce engaged in fishery • Coastal communities	Fresh Training (240 Hours)	1,400 in next 5 years
		Shrimp / Crab Farming	• Agriculturalists	Fresh Training (240 Hours)	2,000 in next 5 years
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
	Aquaculture/ Mariculture Technicians	Fishermen community Unemployed youth	QP available for: • Aquaculture technician • Aquaculture worker • Brackish water aquaculture farmer • Mariculture operator	No course available	No course available
	Ornamental fish culture	Fishermen community Unemployed youth	QP available for: • Aquaculture technician • Aquaculture worker • Freshwater aquaculture farmer	No course available	No course available
	Shrimp Farmer	Agriculturalists	QP available for: • Shrimp Farmer	No course available	No course available
Investment (INR In lakhs)		Incubation and training centre			
		Aquaculture & Mariculture			
		Operational Expenditure		132	
		Ornamental fish culture			
		Operational Expenditure		136	
		Shrimp Farmer			
		Operational Expenditure		196	
		Total Operational Expenditure		466	
		Capital Expenditure		80	
Potential Partners		Partner		Areas of Support	

	PBSSD	<ul style="list-style-type: none"> <li>• Program Management</li> <li>• Quality Assurance</li> </ul>
	Marine Training Centre, Namkhana	<ul style="list-style-type: none"> <li>• Provide infrastructure for training</li> <li>• Training delivery</li> <li>• Support in setting up/scaling up the training centre as per the required SSC norms</li> <li>• Provide faculty members</li> <li>• Integrate the proposed trainings in its training plan</li> </ul>
	Central Inland Fisheries Research Institute	<ul style="list-style-type: none"> <li>• Input for designing the curriculum</li> <li>• Guest faculty</li> </ul>
	Industry Associations	<ul style="list-style-type: none"> <li>• Industry interface</li> <li>• Facilitate sourcing of shrimps to different export houses</li> </ul>
	Agriculture Sector Skill Council	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• BENFISH will facilitate the provision of the infrastructure and deliver the training programmes</li> <li>• Agriculture Sector Skill Council will certify the training programmes</li> <li>• Department of Fisheries and MoS could fund the training</li> </ul>	

### Work Plan

<b>Fisheries</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Upgradation of training centre						
Affiliation of Training centre with ASCI						
Initiation of residential facility construction work						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

<b>Project 3: Training for Food Technicians in Sea Food Processing</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Presence of a huge market in nearby cities and towns</li> </ul>
<b>Rationale for Training</b>	There are around 77000, people in the district involved in fishing and related activities in 40,000 fishing families. The poverty rate is around 65% according to the Fishing census. Urgent intervention is required to improve the conditions of the communities. Sea food processing is taking shape with INR 150 crore investments in the sector. There will be potential demand for food technicians in the next 2-3 years. Small entrepreneurs could work as

		suppliers to larger industries in food processing in the district. Trainings at the entrepreneurial level have to be made NOS-based.			
<b>Trainings</b>	<b>Training courses</b>		<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
	Industrial Production Worker		• Local youth • SHGs	Fresh Training (240 Hours)	3,000 in next 5 years
	Quality assurance Manager/Lab Technician		• Local youth • Agriculturalists • SHGs		
	Processed Food Entrepreneur		• Local youth • Agriculturalists • SHGs	Upskilling (120 Hours)	
<b>Availability of curriculum</b>	<b>Job Role</b>	<b>Target Group</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Food Dehydration	Graduates in the district, women entrepreneurs, SHGs	• Fish and Sea Food Processing Technician	• Meat and Meat Products Processing	• Craftsman – Fruits and Vegetables • Agro Processing
	Quality assurance Manager/Lab Technician	Graduates in the district, women entrepreneurs, SHGs	• Quality Assurance Manger	Meat and Meat Products Processing	No course available
	Food microbiologist/ Food Processing Worker	Graduates in the district, women entrepreneurs, SHGs	• Food microbiologist	Meat and Meat Products Processing	No course available
	Processed Food Entrepreneur	Existing and Potential Food Processing Workers, SHGs	• Industrial Production Worker – Food Processing	Meat and Meat Products Processing	No course available
<b>Investment (INR In lakhs)</b>		<b>Incubation and training center</b>			
		Operational Expenditure	128		
		Capital Expenditure	28		
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		Industries/ MSME	• Classification of Food processing Cluster in South 24 Parganas		
		Industry Associations (Food Processing)	• Industry interface • Facilitate recruitment		
		Training Partner	• Training delivery • Co-management of the training facility		
		Food Processing Sector Skill Council	• Develop model training programmes for the identified Job Roles • Identification and certification of Trainers • Identification and certification of assessors • Assessment of trainees		

		• Certification of Trainees
	PMKVY, PBSSDC	• Funding, Program Management
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• The training center will be setup by a training provider in an existing and underutilized infrastructure in South 24 Parganas. The TSP has to be empaneled with FICSI and provide trainings under DDU-GKY/ PMKVY/ Schemes.</li> </ul>	

### Work Plan

<b>Training for Food Technicians in Sea Food Processing</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
TSP empanelment						
SSC affiliation						
Training centre setup						
mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

<b>Project 4: Training for the upcoming Footwear Park in Bantala</b>				
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Initiatives by the Government to place South 24 Parganas as an attractive destination for footwear products</li> <li>• Construction of Technical Training and Service Centre at an investment of Rs 14 crore to boost up the sector including installation of Italian machinery worth \$2 million</li> <li>• Construction including repair and maintenance of major and arterial roads</li> </ul>			
<b>Rationale</b>	<p>The Government of West Bengal has decided to develop West Bengal as an essential export hub for leather products. Bantala, in South 24 Parganas, consists of around 200 tanneries with around 2000-4000 people working in different job roles. Trainings imparted in footwear could help in providing the tannery workers an insight into making proper utilization of the technology and modern machinery. With the Govt. aiming at increasing the export of leather goods, there will be huge demand for technically sound workers to produce high quality footwear which could be exported. People could be trained per year by the WBDIC and on completion of training, a certificate could be issued.</p>			
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
	<ul style="list-style-type: none"> <li>• Post Tanning machine Operator</li> <li>• Cutter- Footwear</li> <li>• Finishing Operator (Footwear)</li> <li>• Stitching Operator</li> </ul>	<ul style="list-style-type: none"> <li>• Youth</li> </ul>	Fresh Trainings (240 Hours)	800 in next 5 years
			Up Skilling (120 Hours)	1200 in next 5 years

		<ul style="list-style-type: none"><li>•Heel Attacher (Ladies Shoe)</li><li>•Heel Builder</li></ul>			
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
		Unemployed youth Existing workers in tanneries	QP available for: <ul style="list-style-type: none"><li>•Post Tanning machine Operator</li><li>•Cutter- Footwear</li><li>•Finishing Operator (Footwear)</li><li>•Stitching Operator</li><li>•Heel Attacher (Ladies Shoe)</li><li>• Heel Builder</li></ul>	No course available	No course available
Investment (INR In lakhs)		<b>Training Centre</b>			
		<b>Total Operational Expenditure</b>			
		Capital Expenditure		2800	
Potential Partners		Partner	Areas of Support		
		FDDI	<ul style="list-style-type: none"><li>• Provide infrastructure for training</li><li>• Training delivery</li><li>• Support in setting up/scaling up the training centre as per the required SSC norms</li><li>• Provide faculty members</li><li>• Integrate the proposed trainings in its training plan</li><li>• Input for designing the curriculum</li><li>• Guest faculty</li></ul>		
		Industry Associations	<ul style="list-style-type: none"><li>• Industry interface</li><li>• Facilitate sourcing of shrimps to different export houses</li></ul>		
		NSDC / PBSSDM	<ul style="list-style-type: none"><li>• Funding for Training</li><li>• Program Management</li></ul>		
		Leather Sector Skill Council	<ul style="list-style-type: none"><li>• Develop model training programmes for the identified Job Roles</li><li>• Identification and certification of Trainers</li><li>• Identification and certification of assessors</li><li>• Assessment of trainees</li><li>• Certification of Trainees</li></ul>		
Training Delivery		<b>Provide Training under PMKVY or PBSSDM</b>			

### Work Plan

	in Months				
	1	2	3	4	5
TSP Affiliation					
Center setup					
Selection of Beneficiaries					
Appointment of additional staff members					

Mobilization of prospective trainees					
Enrolment of trainees					
Roll-out of training programme					

<b>Project 5: Incubation and training centre for artisans (with focus on entrepreneurial development)</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• South 24 Parganas is home to around 14000 artisans</li> <li>• The various identified clusters under MSME include Zari embroidery, silver filigree and surgical instruments</li> <li>• Export potential of handicrafts</li> </ul>			
<b>Rationale for the project</b>		<p>South 24 Parganas is one of the craft concentrated district of the state with a total of 12000 artisans engaged in zari embroidery and 1700 artisans engaged in silver filigree work. The district is home to artisans spread across 4000 villages. The variety of art and craftwork present in the district is immense and includes Chikon, Embroidery, Kantha, Zari, Block/Batik/Tie &amp; Dye/Screen/Fabric to name a few. While most artisans have a home-based business, they are often faced with the issue of sufficient market linkage opportunities or lack the ability to identify and pursue such opportunities. For this reason, entrepreneurship development for these artisans will enable them to understand the market beyond the local, establish strong forward linkages and thus reduce dependence on intermittent wage labour. An incubation centre will have common facility centers, laboratories for product testing, provision of design input, marketing support, and support for patents etc. It will essentially support artisans and young entrepreneurs to devise business plans, provide an infrastructure to kick-start their enterprise and facilitate links that are congenial for their survival and growth. An important component within the incubation centre will be to provide skilling to enhance the entrepreneurial abilities of the artisans as it is an immediate requirement for them and majority of them depend on exhibitions/expos alone, for selling their produce which results in inconsistent source of income. Thus, support in the form of market linkages as well as development of entrepreneurial skills will enable establishment of self-run businesses and hence provide financial stability.</p>			
<b>Job roles in demand</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Handicrafts and Handloom Artisans	<ul style="list-style-type: none"> <li>• Local artisans</li> <li>• Local youth and young entrepreneurs</li> </ul>	Fresh Training / Upskilling 240 Hours (Residential)	600 in next 5 years
		Computer Designer	<ul style="list-style-type: none"> <li>• Young entrepreneurs</li> </ul>	Fresh Training 240 Hours (Residential)	600 in next 5 years
<b>Availability of curriculum</b>	<b>Job roles</b>	<b>Target Group</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Mud Mirror, Wood work, leather, handloom, metal bell,	<ul style="list-style-type: none"> <li>• Handicraft and Handloom artisan</li> <li>• Project affected people</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>• Artisans</li> </ul>	No course available	No course available

	embroidery etc.)				
	Agarbatti Perfume Applicator	<ul style="list-style-type: none"><li>SHG workers</li></ul>			
	Computer Designing for embroidery and filigree designs	<ul style="list-style-type: none"><li>Local youth and young entrepreneurs</li></ul>			
	Entrepreneurial Skills	Entrepreneur	QP does not exist	No course available	No course available
<b>Investment (INR In lakhs)</b>		<b>Incubation and training centre</b>			
		Operational Expenditure		260	
		Capital Expenditure		100	
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		MoSDE (through one of its scheme on Entrepreneurship) and PBSSD	<ul style="list-style-type: none"><li>Space and infrastructure for establishing the incubation and training center</li><li>Program Management</li></ul>		
		Entrepreneurship development Institute	<ul style="list-style-type: none"><li>Inputs in designing curriculum on entrepreneurship skill development</li><li>Guest faculty</li></ul>		
		NID	<ul style="list-style-type: none"><li>Input for designing curriculum for various art crafts</li><li>Guest faculty</li></ul>		
		Industry Associations	<ul style="list-style-type: none"><li>Industry interface</li><li>Facilitate sourcing of crafts to retails chains</li><li>Facilitate exports of crafts</li></ul>		
		Training Partner	<ul style="list-style-type: none"><li>Training delivery</li><li>Co-management of the training facility</li></ul>		
		Handicraft Sector Skill Council	<ul style="list-style-type: none"><li>Development of QPs for the identified job roles</li><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>		
<b>Training Delivery</b>		<b>Option 1</b> <ul style="list-style-type: none"><li>The incubation centre to be set up and run by MoSDE</li></ul> <b>Option 2</b> <ul style="list-style-type: none"><li>The incubation centre to be set up by MSME but run by empaneled TSP</li></ul>			

### Work Plan

Handicraft	in Months					
	1	2	3	4	5	6
TSP Empanelment						
SSC affiliation						



QP development						
Training centre setup						
Incubation centre setup						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of incubation centre and training programme						

Project 6: Training for New Agriculture Practices					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>Relative high growth of Agriculture</li> <li>Presence of perennial river and highly fertile soil</li> <li>Export potential of flowers, organic products</li> </ul>			
<b>Rationale for the project</b>		<p>South 24 Parganas lies on the banks of the Hooghly and houses the Gangetic Delta. Though West Bengal is one of the leaders in cut flower production in the country, the yield rates of South 24 Parganas is 50% of the state average<sup>19</sup>. In addition, the state recognises the increasing demand for organic products. With ample water and fertile land, organic farming is being considered as one of the options for farmers to increase their income. The State Skill Development Mission has identified these as an area of focus and intends to initiate training courses as per the requirements of the National Programme on Organic Production. There is also a requirement of considerable Entrepreneurship skills to be added on, to tap into the vast markets, especially using online business platforms.</p>			
<b>Job roles in demand</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Floriculture	<ul style="list-style-type: none"> <li>Farmers</li> <li>Floriculturists</li> </ul>	Upskilling	3,000 in next 5 years
		Organic Farmer	<ul style="list-style-type: none"> <li>Young entrepreneurs/ Farmers</li> </ul>	Fresh Training 240 Hours (Non-Residential)	3,000 in next 5 years
<b>Availability of curriculum</b>	<b>Job roles</b>	<b>Target Group</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Floriculture	<ul style="list-style-type: none"> <li>Farmers</li> <li>Floriculturists</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>QP-Floriculturist-Open Cultivation</li> <li>QP-Floriculturist-Protected Cultivation</li> </ul>	No course available	No course available
	Organic Farmer	<ul style="list-style-type: none"> <li>Young entrepreneurs/ Farmers</li> </ul>	Organic Grower	No course available	No course available
<b>Investment (INR In lakhs)</b>		<b>Floriculture</b>			
		Operational Expenditure			180
		<b>Organic Farming</b>			
		Operational Expenditure			272

<sup>19</sup> <http://www.horticulturewb.gov.in/South%2024%20Pargans.html>

	<b>Total Operational Expenditure</b>	352
	<b>Capital Expenditure</b>	20
<b>Potential Partners</b>	<b>Partner</b>	<b>Areas of Support</b>
	MoS and PBSSD	• Funding and Program Management
	Department of Agriculture / Horticulture	• Identification of beneficiaries • Identification of infrastructure
	TSP	• Training Service Delivery
	Entrepreneurship development Institute	• Inputs in designing curriculum on entrepreneurship skill development • Guest faculty
	National Centre of Organic Farming	• Knowledge partnership • Information Dissemination
	Agriculture Skill Council of India	• Development of QPs for the identified job roles • Develop model training programmes for the identified Job Roles • Identification and certification of Trainers • Identification and certification of assessors • Assessment of trainees • Certification of Trainees
<b>Training Delivery</b>	The trainings can be conducted by an empaneled TSP with an infrastructure provided by the Dept. of Agriculture. Practical trainings will be necessary.	

### Work Plan

Handicraft	in Months				
	1	2	3	4	5
TSP Empanelment					
SSC affiliation					
Training centre setup					
Appointment of additional staff members					
Mobilization of prospective trainees					
Enrolment of trainees					
Roll-out of incubation centre and training programme					

## 3.5. Additional Training Courses

During the interaction with the State Skill Development mission, some additional training courses were also suggested with an objective to cater female candidates. Further, most of these programmes offer opportunities for self-employment.

The training courses have been offered traditionally by various TSPs under different schemes and programmes and have been listed in the table below.

S. No	Sector	Trade - QP	Qualification
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1.	Food Processing	Helper – Asst. Baker, Baking Technician etc.	Literate
2.	Catering	Food & Beverage Executive	Literate
3.	Beauty & Wellness	Beauty (Salon Services)	Higher Secondary
4.	Healthcare	Home Health Aid	Secondary

## 4. List of Stakeholders Consultations

### 4.1. State level consultations – West Bengal

Sl. No.	Stakeholders	Person	E-mail	Cell/Phone
1	Dept. of Technical Education, Training & Skill Development, West Bengal	Sri Hirdyesh Mohan, IAS, Principal Secretary, Dept. of Technical Education, Training & Skill Development, West Bengal	<a href="mailto:tetsecwb@gmail.com">tetsecwb@gmail.com</a>	23244799
2	Kolkata Port Trust	Mr. Balaji Arunkumar, Dy. Chairman	Dy.chairman.jkds@kolkataporttrust.gov.in	2230-9164, 22303451, Extn. 202  Mob : 8334880004
3	Kolkata Port Trust	Mr. P. K. Chattapadhyay, Secretary-in-charge	Sr.po@kolkataporttrust.gov.in	Mobile : 98362-98665 (91-033) 2230-6234
4	West Bengal Industrial Development Corporation Limited	Dr. Krishna Gupta, IAS, Principal Secretary	secci@wb.gov.in	033-22820791
5	West Bengal Industrial Development Corporation Limited	Mr. P. Kamalakanth, IFS, Executive Director	p.kamalakanth@wbidc.com	033-22553802
6	Department of Fisheries	Sri Sumanta Chowdhury, IAS, Addl. Chief Secretary, Fisheries Department		
7	Department of Fisheries	Smt. Suktisita Bhattacharya Appellate Authority(AA)	suktisita@gmail.com  nodalfish@gmail.com	2357-0043
8	Department of Fisheries	Mr. Amal Roy, Assistant Project Manager, BENFISH		
9	Department of Fisheries	Mr. Monojit Mondal, GM, BENFISH		
10	Sundarban Affairs Department	Dr. M.V. Rao, IAS. Principal Secretary, Sundarban Affairs Department	sdboard@vsnl.net, official.sunderbanaffairs@gmail.com	23349769

## 4.2. District level consultations- Purba Midnapur

Sl. No.	Stakeholder	Person	E-mail	Cell/Phone
1	DIC	Mr. Samit Chatterjee	gmdic.prbmdn@gmail.com samit14jc@gmail.com	98312-37362/ 03228-263442/ 269500
2	Haldia Industrial Growth Centre	Executive Engineer (Civil)		03222 233732
3	Haldia Port	Capt. S Choubey, GM Marine	NA	9434052449
4		Mr SK Saha Roy, GM Traffic	NA	9434063719
5		Mr. Abhay Kumar Mahapatra, Senopr Deputy Manager, Operations	NA	9434063416
6		Mr. Partha Pratim Halder, Deputy Manager, Traffic	NA	9434735698
7	Universal Sea Port Private Limited {Terminal Operator}	Mr. D. Ranjan Kumar, General Manager, Operations & Maintenance	NA	9677127121
8	S. S Enterprises	Mr. Kalipada Bhuyan, Owner	NA	9434236148
9	Directorate of Fisheries	Dr. Somnath Chakraborty	somnath.wbss@gmail.com	8337060502
10	Fish Farmer Development Agency	Mr. Ram Krishna Sardar, ADF, Marine, Contai	ceopurbamedini@gmail.com	9831503230
11	Tamluk ITI	Mr. Chandan Kumar, Principal	NA	9434230269
12	Royal ITI	Mr. Varun Kumar Jana, Principal	NA	7585019933
13	ITI Haldia	Mr. Jawaharlal Murmu, Principal	NA	03224-274220
14	Hotel Sonar Bangla	Mr. Kanhaiya G Mishra, General Manager	NA	
15	Hotel Rose Valley	General Manager	NA	
16	Technopak Advisors Private Limited	Mr. Amit Guhani	NA	01244541111
17	Indian Oil Corporation Limited	Mr. Shantanu Gayen	NA	9434035998
18	Emami Biotech Limited	Ms. Debjani Ghosh	debjani@emamiagrotech.com	8170045613
19	Exide Industries Limited	Mr. Abhijit Basu Mr. Sunil Anand	AbhijitBasu@exide.co.in SunilA@exide.co.in	9800230023 9002386188
20	Adani Wilmar	Mr. Ashish Mitra, Manager Mr Amitava Ghosh, Plant Head	amitava.ghosh@adaniwilmar.in	9800230023 7872101008

21	RDB Rasayans Limited	Mr. Sandeep Jain, Production Manager	marketing@rdbgroup.in	9800230023 9002386188
22	Directorate of Fisheries, Marine	ADF, Brackish & CEO FFDA	NA	0322-4277088

### 4.3. District level consultations- South 24 Parganas

Sl. No.	Stakeholder	Person	E-mail	Cell/Phone
1	District Magistrate	Dr. P. B. Salim, IAS		2479-3713, 2479-1774, 9674297555
2	Additional District Magistrate	Joyoshi Dasgupta, IAS		2479-1469 8334982555
3	Vivada Corporation Private Limited	S.K Pal Vice President (Technical)	vivadakolkata@yahoo.co.in	24631990, 9903000271
4	District Agriculture Dept.	Murari Mohan Barkandaz (Deputy Director Agriculture)		033-2479-3844
5	CFS (Phonex Group)	Vidyanand Singh (Executive Director)	vidyanand@phoenixgroup.com	9830520429
6	Inland Waterways Authority of India Kolkata	Laxmikant Rajak (Director)		033 2439 5570, 033 - 24395570,24395577,24396055,24391710
7	DIC, South 24 Parganas	Gautam Das		
8	DIC, South 24 Parganas	Deepak Kundu (Sr. Manager)		
9	Treebo Saini Inn	Gurbindar Singh (Operational Manager)		09322800100
10	Krishna Super Bazaar	Pawan Shah (Manager)		
11	Kolkata Retail Regional Office at Hindustan Petroleum Corporation Ltd.	Ashish (Manager)		
12	Dominoz Alipore	Riya (Manager)		
13	Kolkata Port Trust	S Pradhan, Secretary	secretary@kolkataporttrust.gov.in	(91-033) 2230-6349 Mobile : 98362-98639
14	Kolkata Port Trust	Gautam Mondal (Chief Engineer)		
15	Kolkata Port Trust	Kaushik Chatterjee		
16	Kolkata Port Trust	Suman Chakraborty (Sr. Assistant Secy, FSRU unit)		
17	Kolkata Port Trust	Kaberi Chattopadhyay Officer on Special Duty (Labour & IR)	Kaberi.c@kopt.in	9836298684
18	Kesharia Agriculture Private Limited	Sanjeev Bhalotia, Director	Sanjeevbhalotia1971@gmail.com	033-22436683 9831014030
19	Aquamarine International	Md. Ariff, Partner		9836445572
20	Spencer Group	Mr. Dharm Chaturvedi, Chief Marketing Manager	Dharm.chaturvedi@rp.sg.in	9748029129
21	Monalisha Enterprise	Mr. S D Ghosh, Partner	Ghosh1955india@gmail.com	9433004738
22	Rama Shrimp Hatchery	Mr. N Kalyan Chakravarthi	iangranbiotech@yahoo.com	09849136333

23	Alpha Chemicals	Pratap Pattnaik		
24	Nathra Enterprise (Leather industry, Bantala)	Vishwanathan Pillai	Pillaiv62@gmail .com	9831401739
25	FDDI (Footwear Design & Development Institute)	Ramesh Sahoo ( HOD, Footwear)	Rc.sahoo@fddi ndia.com	9007222113



## *Section 6: Kerala*

*Ernakulam*

*Kozhikode*

# 1. District Profile

## 1.1. Ernakulam

Ernakulam houses one major port – the Cochin Port Trust (CoPT), and also includes the largest metropolitan region of the State-Greater Cochin. It is the highest revenue yielding district in the State and is also known as the commercial capital of Kerala. Of the total state GDP, Ernakulam contributes 14.4% making it the highest contributor to the State GDP among all districts<sup>1</sup>.

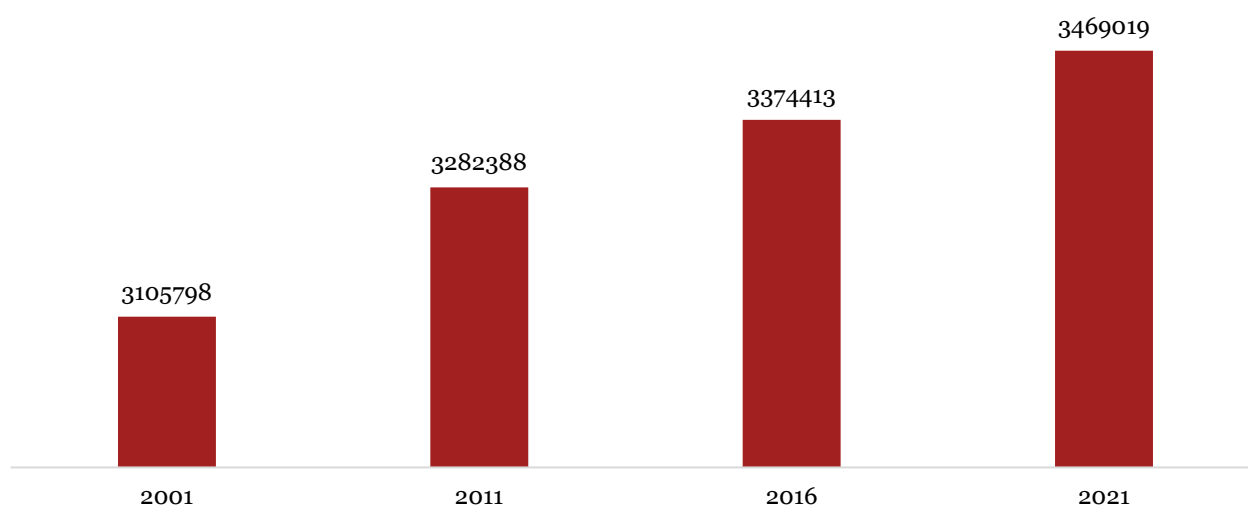
### 1.1.1. Demographic Profile<sup>2</sup>

Indicator	Value
Total population	32,82,388
Decadal rate of growth of population (2001-11)	5.7%
Rural population	32%
Female	51%
SC population	8%
ST population	1%
Workforce participation	38%
Main Workers (As % of total population)	32%
Marginal (As % of total population)	6%
Non-workers (As % of total population)	62%
Share of population in state undergone vocational training <sup>3</sup>	85 out of 1000

### Population trends<sup>4</sup>

The population of Ernakulam has been almost stagnant with a very little growth rate over the last one decade. The population is expected to grow to 33.7 lakhs by 2016 and 34.6 lakh by 2021.

**Figure 1: Population trend in Ernakulam (2001-2021)**



<sup>1</sup> Brief Industrial profile of Ernakulam, MSME

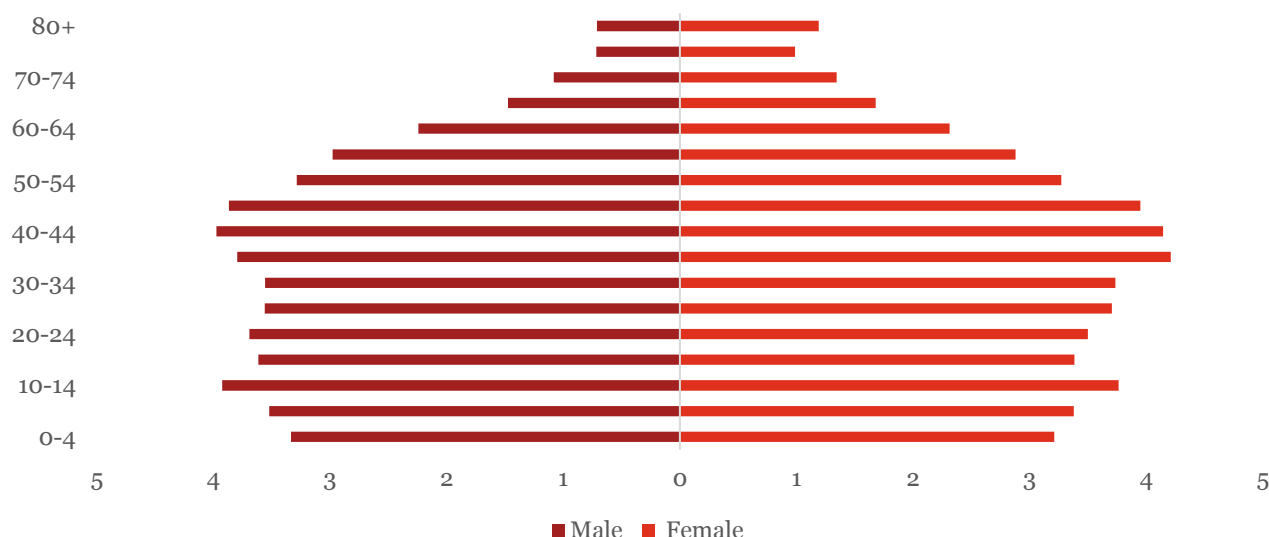
<sup>2</sup> Census 2011

<sup>3</sup> Employment and Unemployment Survey, Vol III Labour Bureau, 2015-16

<sup>4</sup> (Census of India, 2001 and 2011), PwC Analysis

The demographic dividend bulge in Ernakulam will remain intact for the coming next 10 years. Using the CAGR<sup>5</sup> method, the population is estimated to be 33, 74,413 and 34, 69,019 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 3%.

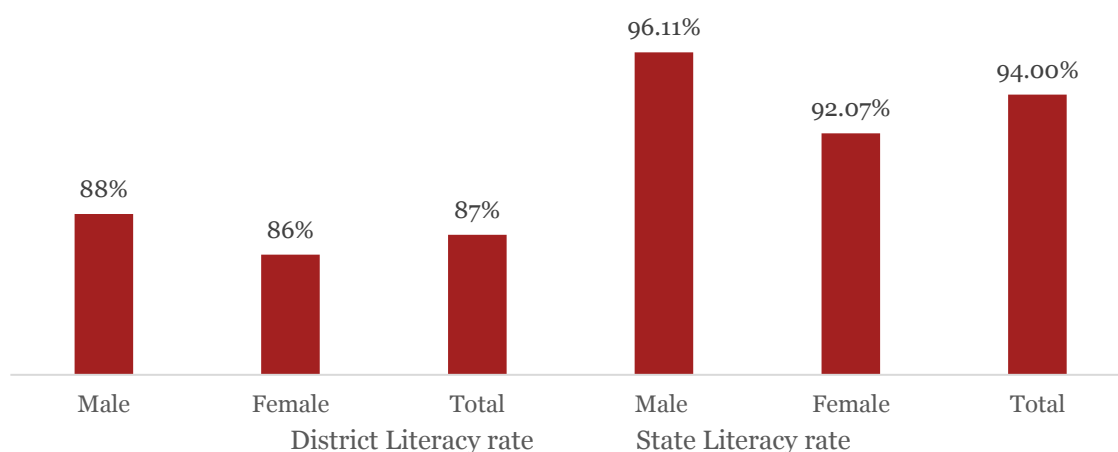
**Figure 2: Population Pyramid for Ernakulam (2011)**



### Literacy rates<sup>6</sup>

Total literacy rate<sup>7</sup> of Ernakulam, as per the Census 2011, is approximately 96%, which is slightly more than the State's literacy rate of around 94%. Also, the female literacy rate of Ernakulam is 95.8% which is marginally lower than the male literacy rate of 97.3% in 2011.

**Figure 3: Ernakulam vs Kerala literacy rates (2011)**



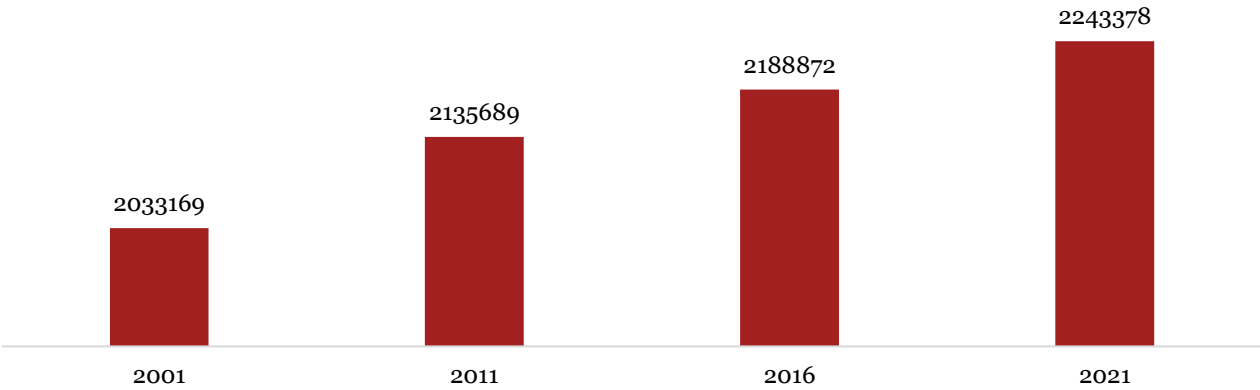
<sup>5</sup> Assuming population grows at a CAGR of 0.55%.

<sup>6</sup> Based on Census 2001 and 2011

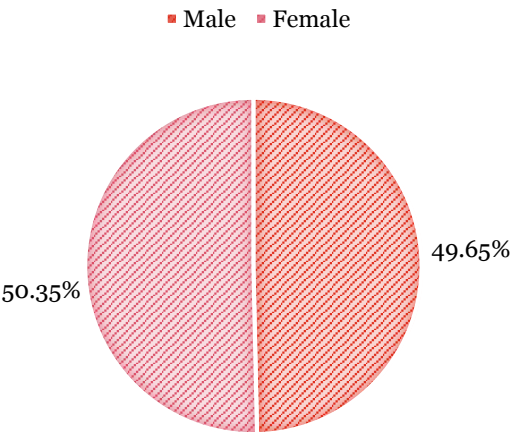
*Age specific population trends and education level for 2011<sup>8</sup>*

As per the Census 2011, the population in the age-group of 15 to 24 years was 4, 65,428 (14.1% of the overall district population). Using proportional method, the population in the age group of 15-59 years is estimated to be 21, 88,872 and 22, 43,378 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 2%.

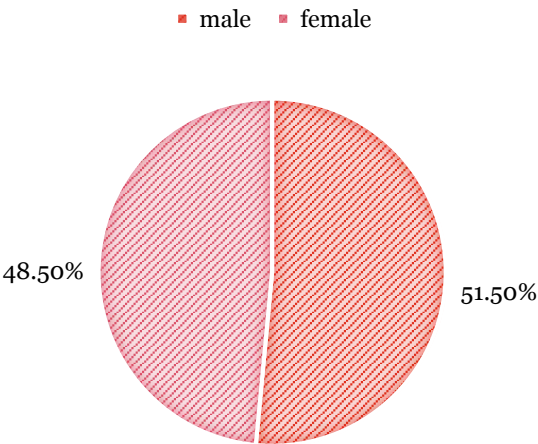
**Figure 4: Growth trend of population in the age group 15-59 year in Ernakulam (2001-2021)**



**Figure 5: Age Specific Population in Ernakulam (15-59 years)**



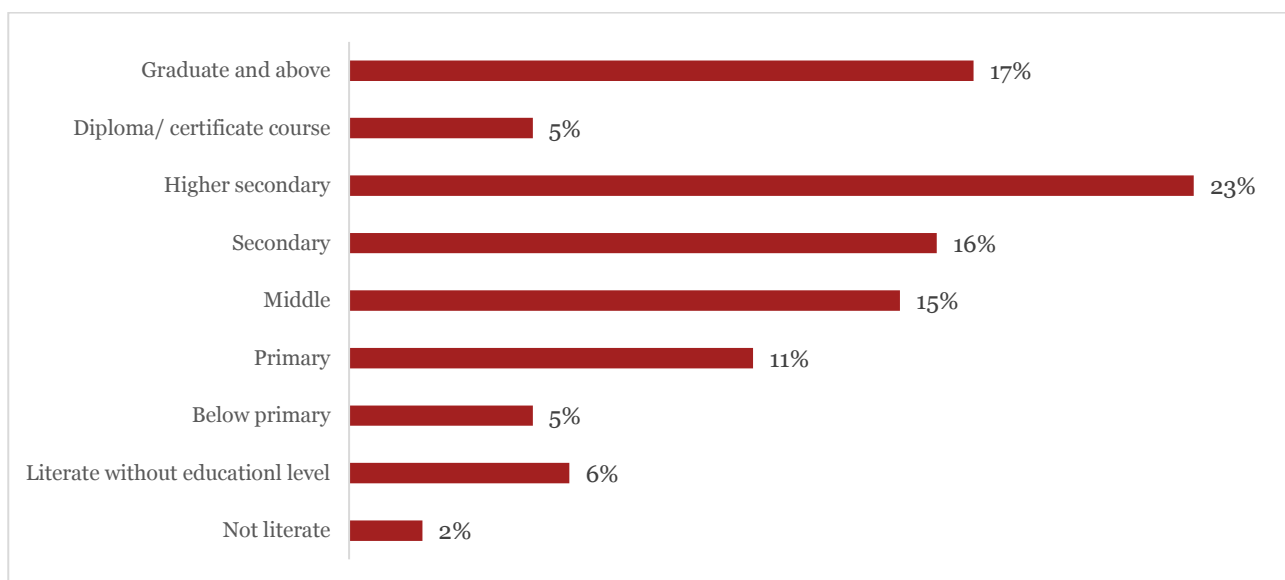
**Figure 6: Age Specific Population in Ernakulam (15-24 years)**



While in the age group of 15-59 years, the share of population of females and males in total population of Ernakulam is around 50.35% and 49.65% respectively, the share of population of females and males in the age group of 15-24 years is 48.50% and 51.50% respectively.

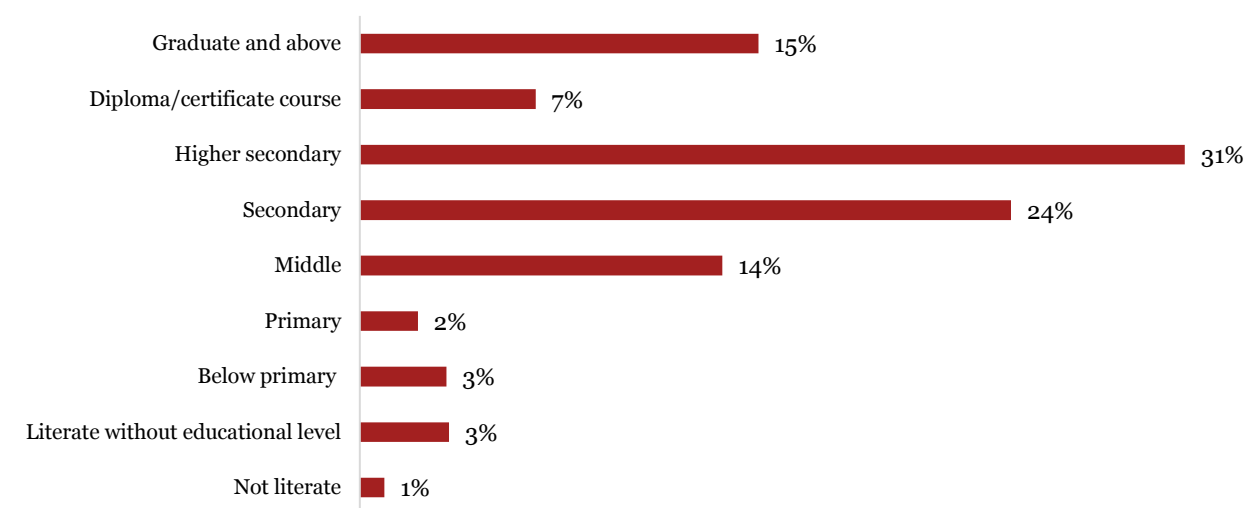
<sup>8</sup> Census 2011

**Figure 7: Age Specific educational level in Ernakulam (15-59 years)**



From the Census it is seen that for the age category of 15-59 years, 2% of the population is illiterate. Over 6% of the population in the working age category is literate without any educational qualification, 5% has attended school till below primary level and 11% has completed schooling only up to primary level. Roughly, 15% of the literate population has completed schooling up to the middle level, whereas around 16% of the literate population has been educated till secondary. Only 5% of the population of this district has done a certificate/diploma course and 17% has at least graduated, indicating that a graduate/post-graduate degree is more sought after than a certificate/diploma.

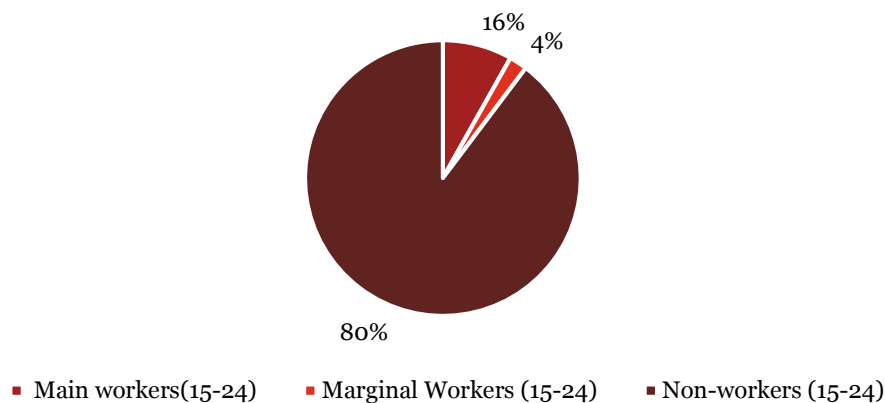
**Figure 8: Age specific education level in Ernakulam (15-24 years)**



For the age category of 15-24 years, about 31% of the population has attended higher secondary level of education and about one-fourth of the population in the same category has attended secondary level of education. Nearly 15% of the population in the same age category is graduate and above and 7% has attended diploma or certificate course.

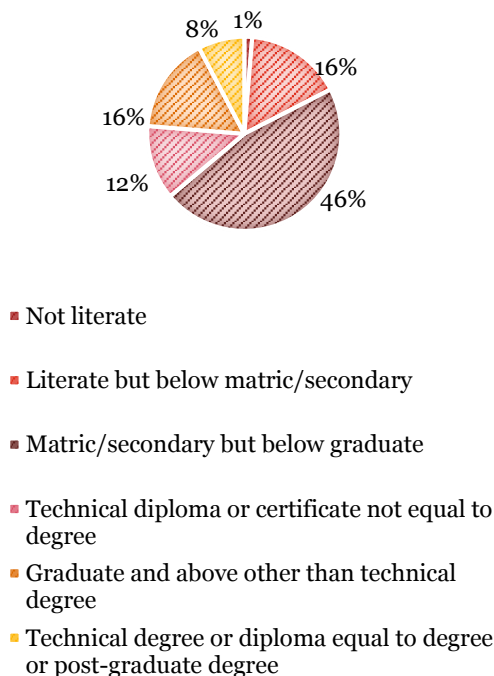
## Age specific distribution of workers and educational level<sup>9</sup>

**Figure 9: Age specific distribution of workers in Ernakulam (15-24 year)**

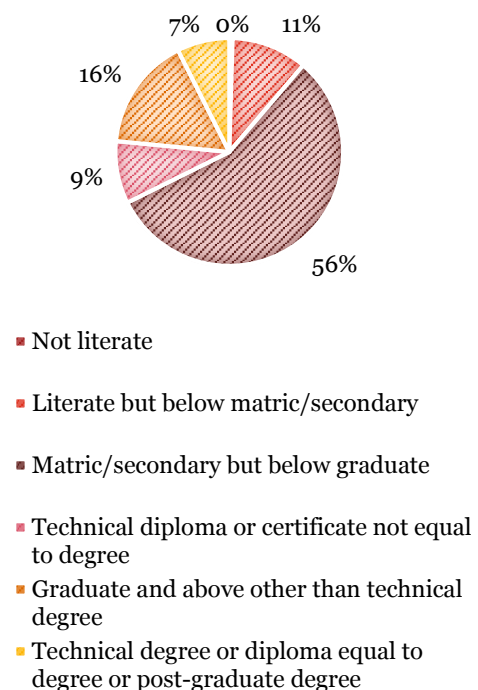


Over 80% of the population in the age group of 15-24 years are non-workers, 16% of the population are main-workers, and 4% are engaged in marginal work i.e. work for 3-6 months during the year.

**Figure 11: Education level for non-workers available for work in Ernakulam (15-24 years)**



**Figure 10: Educational level for marginal workers available for work in Ernakulam (15-24 year)**



<sup>9</sup> Census 2011

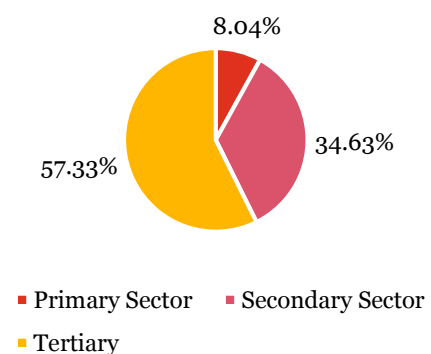
From the charts given above, it is clear that there is not much difference in the education level of marginal workers and non-workers available for work in Ernakulam. The proportion of non-workers who are illiterate (*in the age category 15-24 years*) is only 0% and the corresponding figure for marginal workers is 1%. We also observe that the proportion of marginal workers available for work who are literate but below matric/secondary (*in the age category 15-24 years*) is more than (*by 5 percentage points*) the proportion of non-workers who are available for work and are literate but below matric/secondary. Also, the proportion of non-workers available for work who are matric/secondary level but below graduate (*in the age category 15-24 years*) is more than (*10 percentage points*) the proportion of marginal workers who are available for work and are matric/secondary level but below graduate. We also observe that the proportion of marginal workers available for work who have technical diploma or certificate not equal to degree (*in the age category 15-24 years*) is 16% and the corresponding figure for non-workers available for work in the same age category is 9%. For the remaining education level, we find that the population shares are more or less the same across the two worker categories.

### 1.1.2. Key Economic Drivers

According to District Economy Survey, Ernakulam, the Gross Domestic Product of the district (at constant prices- 2004-05) was INR 32,645.09 crores in 2013-14 and it has steadily grown at a CAGR of 7.75% over the period 2004-05 to 2013-14. The sectoral break up suggests that tertiary sector contribution to district GDP is more than half (57%) followed by secondary sector (~35%). Further disaggregation suggests that trade hotels and restaurants have 17.1% and manufacturing has a share of 17.6% in the district GDP. Other sectors driving the district economy are construction (15.8%) and transport storage and communication (15.2%). Banking and insurance in the district has witnessed an impressive growth of 13.5% over the years 2004-13.

The key economic drivers of the district are illustrated below:

**Figure 12: Sectoral Share of GDP of Ernakulam (2004-05 to 2013-14) at constant prices (2004-05)**



### Port, maritime and logistics

- Presence of Cochin Port Trust: Amongst all major Indian ports, CoPT is the closest to the International East West Shipping routes.
- CoPT has proposed projects worth Rs 3000 Cr for the next 10 years for harbor development, mechanisation, enhancement of terminal facilities etc.

### Fisheries

- Annual fish production of Ernakulam constituted about 16% of the states's production
- Presence of multiple research and training institutions CIFT, CMFRI, MPEDA etc provides strategic advantage for skilling interventions

### Tourism

- Over 29,000 foreign tourists and 20,39,633 domestic tourists visited Ernakulam (between Jan-Sep 2016) making it the most popular district among tourists
- District Tourism Department proposes to invest in beach corridor development for 9 beaches in the district worth Rs 400 Cr

### Manufacturing

- Around 23,382 units are registered with the DIC with total investment of Rs. 5353.21 Cr generating employment for 202635 individuals (as on 31<sup>st</sup> Oct 2016)
- Major export items include-spices, marine products, coconut based products etc. with a total Presence of CoPT supports exports to Middle East, US, UK etc. Annual
- Presence of infrastructural development agencies such as KINFRA (land &infra), SIDCO (land, marketing assistance), KITCO (technical know-how & training), CSEZ (land &infra, Infopark (land &infra), INKEL (built-up area)

### Urbanisation and Infrastructure Development

- Cochin Smart City Mission has been appointed as a SPV by Kochi Metro Rail Ltd. (KMRL) to implement the smart city projects
- Smart City projects worth Rs 200 lakhs are proposed for development include projects for inclusive urban development, integrated transport and mobility facilities etc.

## 1.1.3. Priority Sectors

In Ernakulam, the priority sectors that have been identified are **Port and Maritime sector, fisheries, tourism and construction**. Other sectors that have been identified as priority sectors from the point of view of their contribution to district GDP are **manufacturing and banking and finance**.

## 1.1.4. About the Ports

Ports & Maritime			
Major Ports: 1		Minor Ports: 0	Shipyards: 1
<b>Details:</b> Ernakulam district has one major port- Cochin Port Trust and no minor ports. Cochin Port Trust is one of the largest major ports in the country and it is located on the Laccadive sea-Indian Ocean sea route. It is an all-weather natural port. The modern port was established in 1926 and it has completed over 90 years of active service. Cochin Shipyard, a public sector undertaking located in the district is the largest shipbuilding and maintenance facility in India			
Cochin Port Trust			
Operations:	Managed by Port Trust- a Govt. of India establishment	Cargo handled	220 lakh tonnes (2015-16)
Key Cargo	Bulk, Liquid, Dry Bulk, Break Bulk , Container	No of berths:	19 Berths 1 SPM
		Draft	9-22.5M
Description and key Trend	The total traffic handled by the Port during the year 2015-16 was 220 lakh tonnes. Different types of cargo handled during the year 2015-16 was in the		



	following proportion: Liquid cargo-66%, dry cargo-7%, break bulk cargo-0.63% and container cargo-26%. An increase of 3.81% was recorded in the dry bulk and 35.35% in the break bulk as compared to the preceding year (2014-15). Operations at the port are managed by Captive Port Operators. Some of the important captive port operators are: DP World, Fertilizers And Chemicals Travancore Limited(FACT) , UltraTech Cement, Zuari Cement, Ambuja Cement, BPCL, IOCL			
Terminal Operations				
	Petronet LNG Ltd.	Ambuja Cement	FACT Ltd.	BPCL
Annual Capacity	5 million tonnes	3 lakh tonnes	More than 2.5 lakh tonnes	10.2 MMT
Type of Cargo handled	LNG	Cement	Ammonia, Phosphoric acid, Sulphur etc.	Crude oil and petroleum products
Manpower	~230	~100-120	~105	2000
High Demand Job Roles	Security Staff, pipeline mechanic, fitters	Crane operators, operator, Cargo handling	Hazardous material handling, cargo handling	Crane operators, welders , electricians,
Shipyards				
Description and key Trend	Cochin Shipyard Ltd. (CSL) is a Mini Ratna Company under the Ministry of Shipping. Services offered by CSL include ship building, ship repair and marine engineering training. CSL can build and repair the largest vessels in India. It can build ships up to 1,10,000 DWT and repair ships up to 1,25,000 DWT. CSL has posted excellent financial performance for the last several years. The turnover increased by nearly five times from Rs 374 crores in 2005-06 to Rs 1629 crores in 2013-14.			

### 1.1.5. Investments

The table below summarizes the investments are that are in the pipeline for next few years:

**Table 1: Proposed Key Investments for the year 2016-25 in Ernakulam**

<b>Sector</b>	<b>Proposed Investment (INR Cr)</b>	<b>Number of Projects</b>	<b>Expected Employment</b>	<b>Key Players</b>
Port & Maritime	3,690	7	-	Cochin Port Trust
Smart City	2,076.25	14	-	Cochin Smart City Mission Ltd.
Tourism	484	4	Over 300 persons	District Tourism Department, GoK
Projects registered with DIC (between 2006-16)	5,253.21	23,382 MSME Units	2,02,635 persons	District Industries Centre together with KINFRA, SIDCO, CSEZ, KSIDC, NORKA etc.

In the port and maritime sector, upgradation and repair work in the existing Cochin Port, port mechanization, and port development have been identified as key focus areas for future investments. Details of proposed investments in this sector are given below:

**Table 2: Details of Investments (proposed and ongoing projects) in Port and Maritime sector in Ernakulam**

Project	Proposed Investment (INR Cr)	Project Status	Key Players
Sand Mining Project	150	Proposed to be undertaken during FY 2019-20 and FY 2024-25	KITCO, CoPT
Development of Cochin Outer Harbour	3,050	Obtaining Environment clearance for the project is underway	IIT, Madras, Central Water & Power Research Station and CoPT
Berth Mechanization of Q7 Berth (Malabar Cement)	160	Expected to commission in January 2018	Malabar Cement and CoPT
Automated Food Grain Terminal	120	EoI invited for setting up of Automated Grain Terminal in PPP mode	CoPT
Edible Oil Terminal	10	Information not available	CoPT
Cryogenic Warehousing		PLL has proposed to set up cold chain hub, Cryogenic Warehouse	Petronet LNG Ltd (PLL), CoPT, Ministry of Agriculture
Construction of RoB includes modifications to GIDA Bridge No. d2 at Vallarpadam	30	To be completed	CoPT
Construction of Flyover at Vallarpadam	30	Physical progress achieved is 93.5%	CoPT
Refurbishment and Capacity Enhancement of Coastal Liquid Terminal in Cochin Port	19.95	Physical progress achieved is 70%	BPCL, CoPT
Construction of Multi-user Liquid Terminal at Puthuvypeen SEZ	240	Physical progress achieved is 29%	IOCL, DCI, CoPT

With highest number of domestic and foreign tourists visiting Ernakulam, the district tourism department has proposed to undertake a wide range of initiatives for tourism development. These include development of new destinations, renovating existing tourist spots, improving transport and accommodation facilities for tourists and other infrastructure developments that promote tourism.

**Table 3: Details of tourism projects (Proposed and on-going) in Ernakulam**

Project	Proposed Investment (INR Cr)	Project Status	Key Players
<b>Infrastructural Development</b>			
Road Landscaping	10	Proposed	Kerala Highways Department
Construction of Boat jetty complex building, Ernakulam	1.59	Proposed	CPWD
<b>Sub Total</b>	<b>11.59</b>		
<b>Renovation of existing tourist spots</b>			
Development of 8 beaches (Cherai Circuit)	10.8	Proposed	Tourism Department

Development of Bhoothathankettu as Tourist Destination	4.25	On going	PVIP, KTDC
Development and alignment of sea groins	3	Proposed	Tourism Department
Museum of Cultural mosaic at Mattanchery	4.92	On-going	KITCO
Project-Renovation at Prakrithigramam Ezhattumugham	0.49	Proposed	DTPC- KEL
Modernization and Branding of Kerala Tourist Information Office, Fort Kochi	0.79	Proposed	KITCO
Different components of Muziris Heritage	26.79	On-going	KITCO, KTIL, KCHR, Stark Communication
<b>Sub Total</b>	<b>51.04</b>		
<b>New Sites</b>			
Oceanarium in Puthuvype	450	Proposed	State Fisheries Department
Nehru Park and Food Court at Fort Kochi	4.17	On-going	FIT
Parunthuranchi Island Ecotourism Development	0.66	Proposed	DTPC- Eco tourism Dept.
<b>Sub Total</b>	<b>454.83</b>		
<b>Grand Total</b>	<b>517.46</b>		

The details of proposed investments in various manufacturing and services sector identified by DIC are given below.

**Figure 13: Details of proposed investments across different sectors, DIC Ernakulam (2015-16)**

Wood based	Fruits, Food and agro based	Engineering	Chemical	Other Mfg Projects
3 units registered with DIC	26 units registered with DIC	6 units registered with DIC	12 units registered with DIC	44 units registered with DIC
• Investment: INR 0.25 Cr	• Investment: INR 32.07 Cr	Department	Department	• Investment: INR 52.71 cr
• Expected Employment: 37	• Expected Employment : 721	• Investment: INR 4.35 Cr	• Investment: INR 10.10 Cr	• Expected Employment: 750
		• Expected Employment: 72	• Expected Employment: 159	

Given that Cochin has been identified as one of the Smart cities, the Kochi Metro Rail Corporation has appointed a Special Purpose Vehicle (SPV) by the name of Cochin Smart City Mission. The idea behind setting up the SPV is to identify relevant and appropriate projects for developing Cochin as a Smart City and ensure effective implementation of the same. Over INR 2,000 Cr. has been proposed to be invested under the Smart City projects with INR 1,385 Cr proposed to be invested in area development plan and around INR 691 Cr for pan city solution.

#### Details of Cochin Smart City Projects

- ✓ Intelligent Transport and Seamless Mobility worth INR 308.27 Cr
- ✓ Reconstitution of Urban Form worth INR 119.20 Cr
- ✓ Inclusive Urban Planning worth INR 836.95 Cr
- ✓ Revival of multi-cultural pluralistic and commercial identity worth INR 30 Cr

### 1.1.6. Youth Aspiration<sup>10</sup>

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

#### Respondent Profile

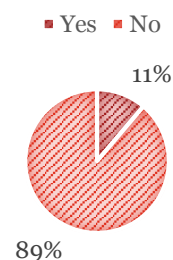
The table below provides an overview of the respondent profile:

Profile	Details
<b>Total Sample Size</b>	384
<b>Gender Profile</b>	Male- 41% Female- 59%
<b>Age Group</b>	15-34 years
<b>Education Level (top 3)</b>	Senior Secondary schooling(Class 9 to 10)- 31.5% Higher secondary schooling with science (Class 11 to 12)- 17.6% Higher secondary schooling with commerce (Class 11 to 12)- 10.4%
<b>APL/BPL/AAY/Don't know</b>	APL-50 % BPL- 36% AAY- 1% Don't know- 13%
<b>Occupational Profile (top 3)</b>	Student (23%), Salary from employment (20.6%), Self-employed (11.5%),

### Exposure to Vocational Training and Educational Aspiration

Regarding the exposure to vocational training, a large majority of the respondents had not completed any vocational training course. Only 11% of the respondents reported to have completed vocational training (Figure 14). The survey also attempted to understand the types of vocational training that respondent had undergone. Of the total respondents who underwent vocational training, majority had completed ITI (51%) and polytechnic (33%) courses. Figure 15 exhibits the

**Figure 14: Respondents who completed vocational training course - Ernakulam**

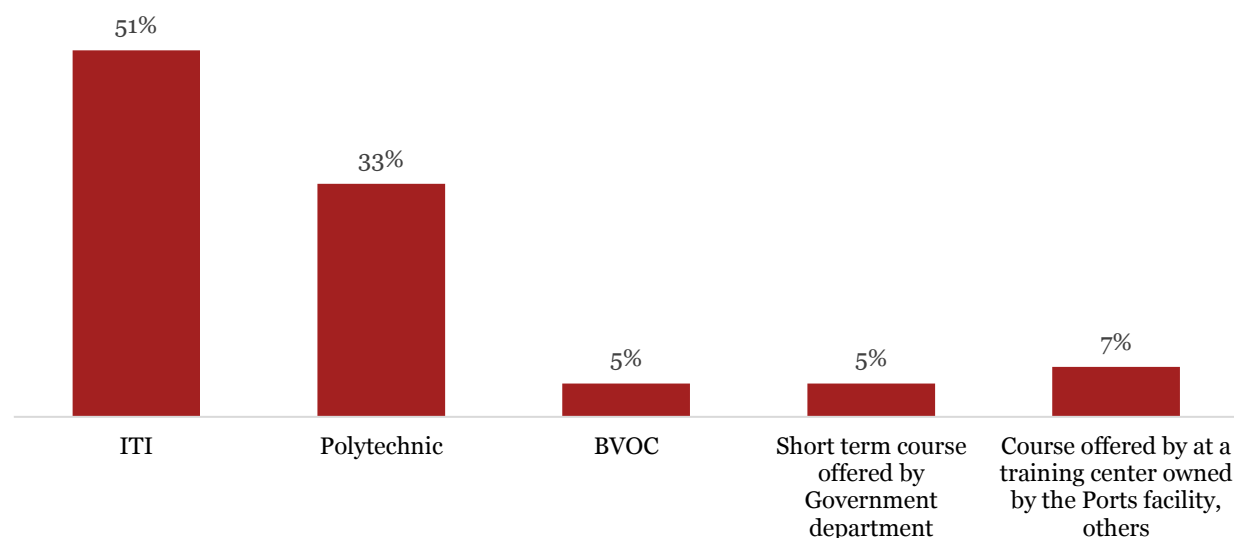


<sup>10</sup> PwC Analysis based on aspiration survey

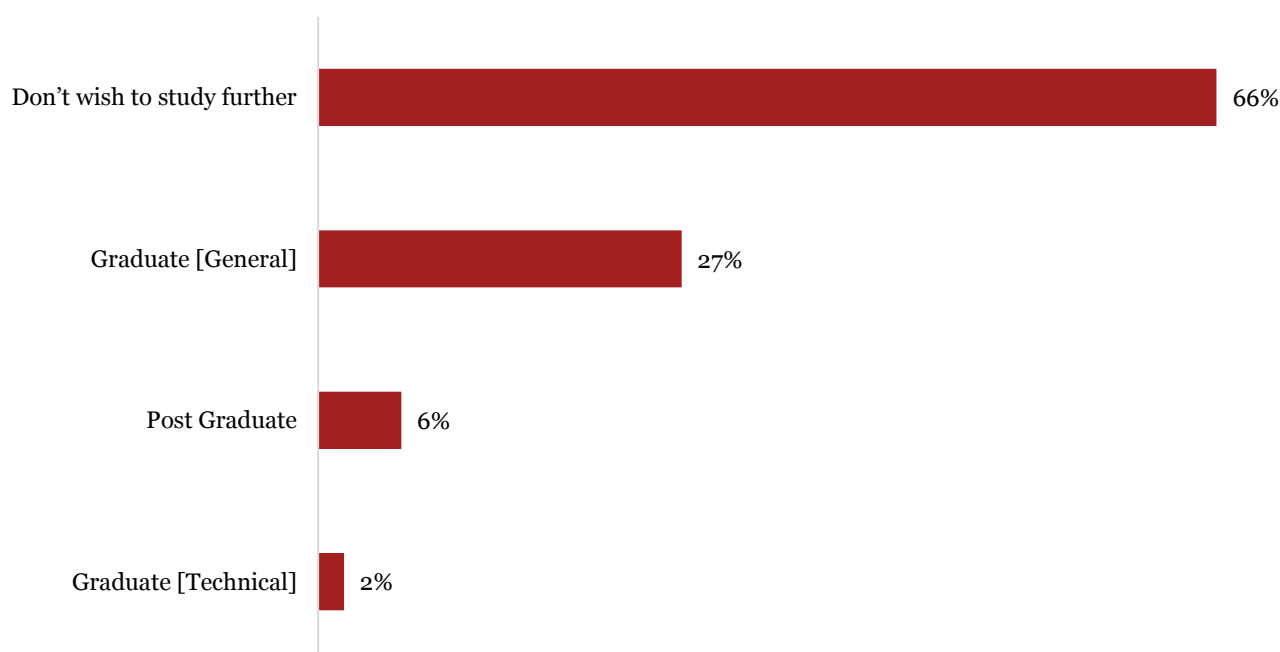
percentage of respondents who completed different types of courses as part of their vocational training.

Further, the respondents were asked about the level of education they wished to attain. Two-third of the respondents (66%) didn't wish to study further. About one-third of the respondents aspired to attain graduation or post-graduation level of education. The desire to attain technical education is relatively low with only 2% aspiring for graduation or post-graduation in technical fields. (Figure 16)

**Figure 15: Respondent completing different types of vocational courses-Ernakulam**



**Figure 16: Desired level of education-Ernakulam**



## Job Aspiration

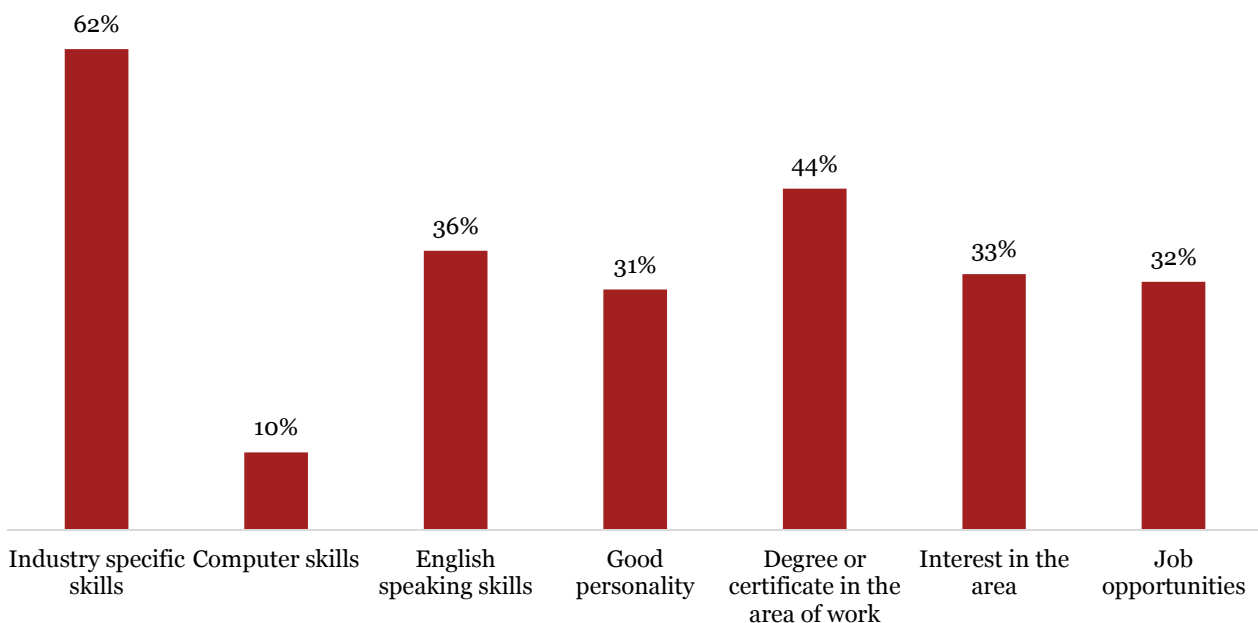
The respondents were asked to reveal their choice of employment. The finding suggests high preference for wage employment over self-employment among the youth of the district. About 91% of the respondents reported to have preferred wage employment over self-employment (Figure 17).

The respondents were further asked to identify the factors important for securing employment in the area of interest. 62% of the respondents identified industry specific skills as the most important factor for securing employment followed by degree or certificate in area of work (44%) and English speaking skills (36%) (Figure 18).

**Figure 17: Respondents aspiring for wage and self-employment-Ernakulam**



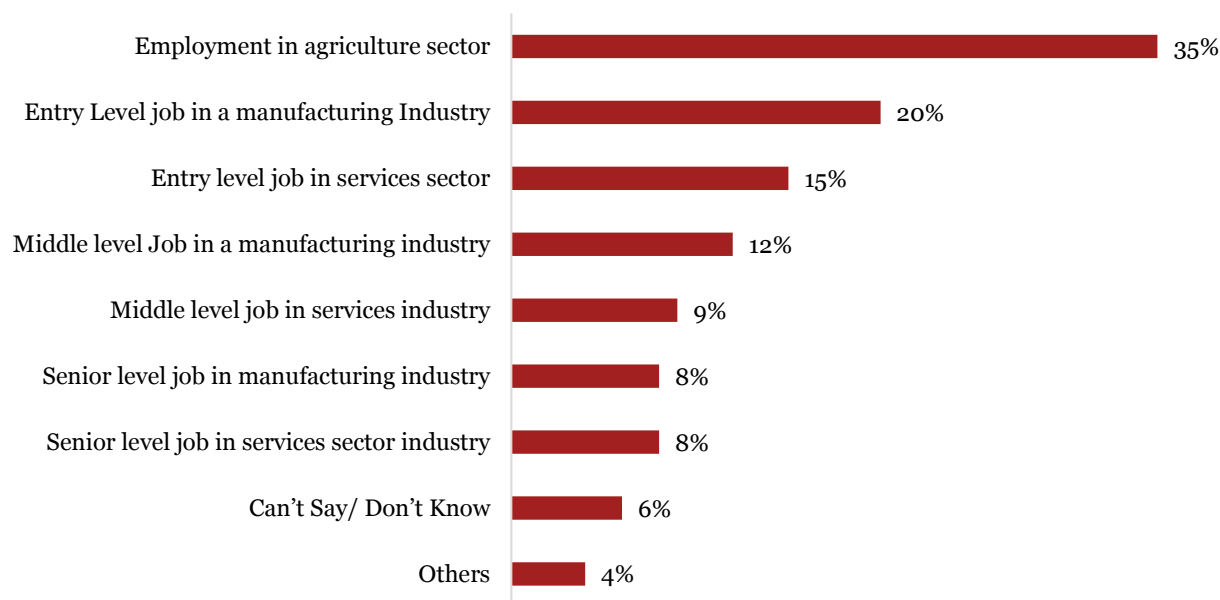
**Figure 18: Factors important for securing employment in area of interest-Ernakulam**



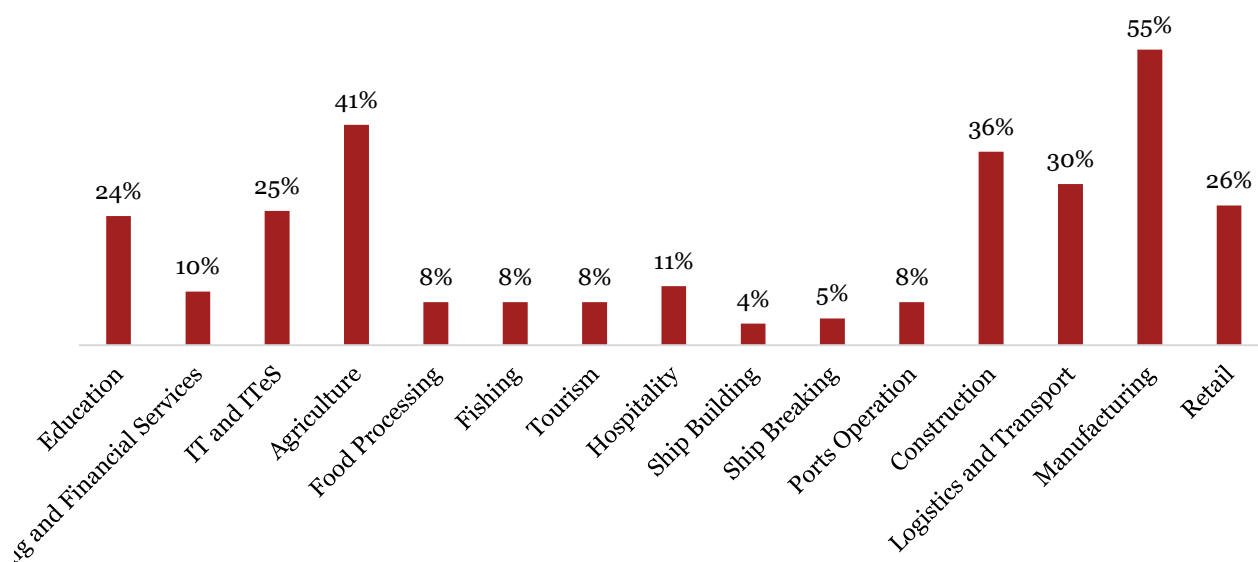
Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for jobs in manufacturing, agriculture, and service sectors. About 40% respondents aspired to get employed in manufacturing sector with majority of them expecting entry or middle level jobs. This is followed by agriculture and service sectors with 35% and 32% respondents reporting to get a job in these sectors respectively (Figure 19).

Further, Manufacturing (55%), Agriculture (41%), Construction (36%), and Logistics and Transports (30%) have been identified as sectors in which the respondents reported that they are mostly likely to get job which is in alignment with their aspiration for a job in the manufacturing, agriculture and service sectors. The details of other sectors are mentioned (Figure 20).

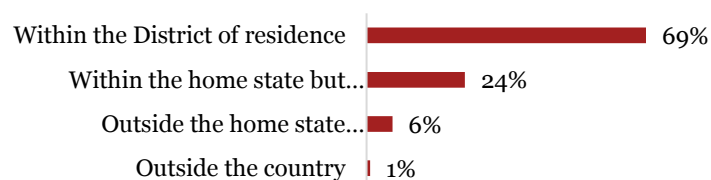
**Figure 19: Desired job profile after completion of job/training –Ernakulam**



**Figure 20: Sectors in which respondents' foresee getting a desired job -Ernakulam**



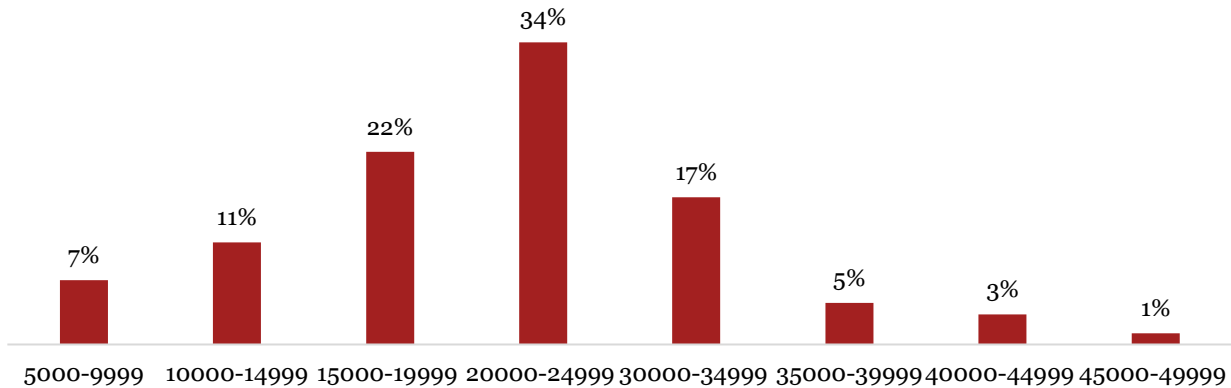
**Figure 21: Preferred work location of candidates- Ernakulam**



Out of total respondents, 93% preferred to work in the same state. It is important to note that more than two-third of the of the respondents (69%) preferred to work in the same district and 24% expressed willingness to migrate to other districts in the same state suggesting strong preference to get a job in the State (Figure 21).

The respondents were asked to indicate their expected monthly salary from the job after completion of the training programme. As indicated in Figure 22, majority of the respondents (34%) expect a monthly salary in the range of INR 20,000-25,000. Around one-fourth of the respondents reported their expected monthly salary to be in the range of INR 15,000-20,000. It is also important to note that a significant proportion (17%) of the respondents expect to earn a monthly salary of INR 35,000 to 40,000.

**Figure 22: Respondents expected monthly salary -Ernakulam**

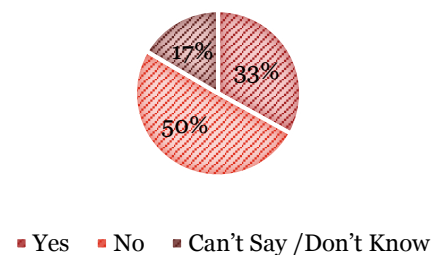


### Training Aspiration

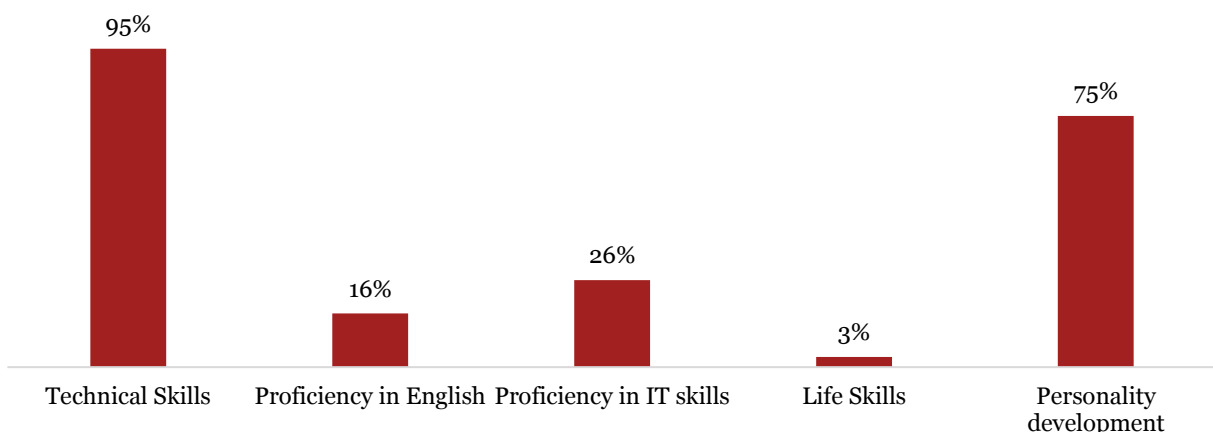
Regarding willingness of the respondents to participate in the training programme in immediate year ahead, one-third of the respondents expressed their interest to undergo vocational training course while 17% were unsure about joining a vocational training programme in the immediate year ahead (Figure 23).

Further, when enquired about the key focus areas of skill training, 95% of respondents reported that emphasis must be laid on technical skills followed by personality development (75%) and proficiency in IT skills (26%)

**Figure 23: Willingness to participate in training in the next one year -Ernakulam**



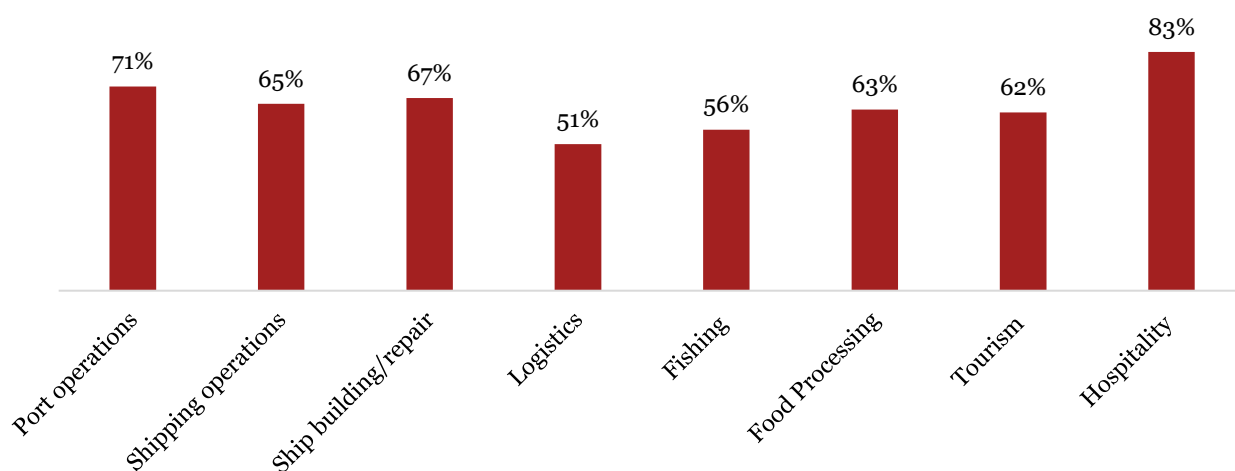
**Figure 24: Focus areas for skill training- Ernakulam**





The respondents who reported to undergo vocational training programme in the next one year were asked to mention the sectors of their choice for the training. The finding suggests that overall there is demand for training in hospitality (83%), port operations (71%), Ship building/repair (67%) and food processing (63%) (Figure 25).

**Figure 25: Willingness of respondents to participate in trainings of different sectors - Ernakulam**



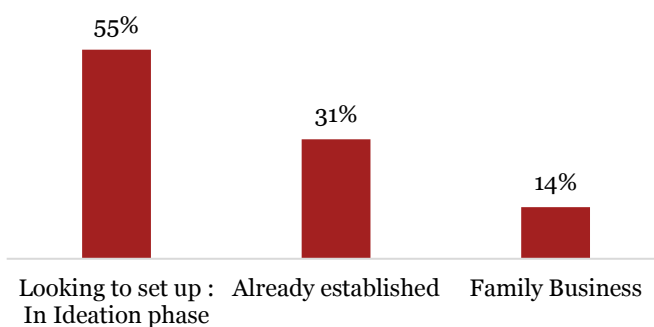
## Self-Employment

Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, majority (55%) of them reported to be looking to set up an entrepreneurial venture. A significant proportion (31%) of the respondents had already established the venture. (Figure 26)

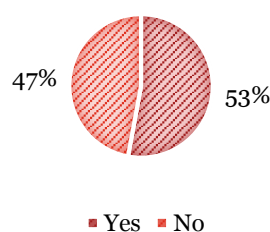
The respondents who were interested in self-employment or had established an entrepreneurial venture were asked if they would like to undergo a vocational training programme. Over 53% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 27). They were further probed for preferred sector for the training.

Manufacturing (25%), food processing (23%), Logistics (20%), Retail business (18%), and tour operations (16%) have been identified as most preferred sectors for setting up own enterprises (Figure 28).

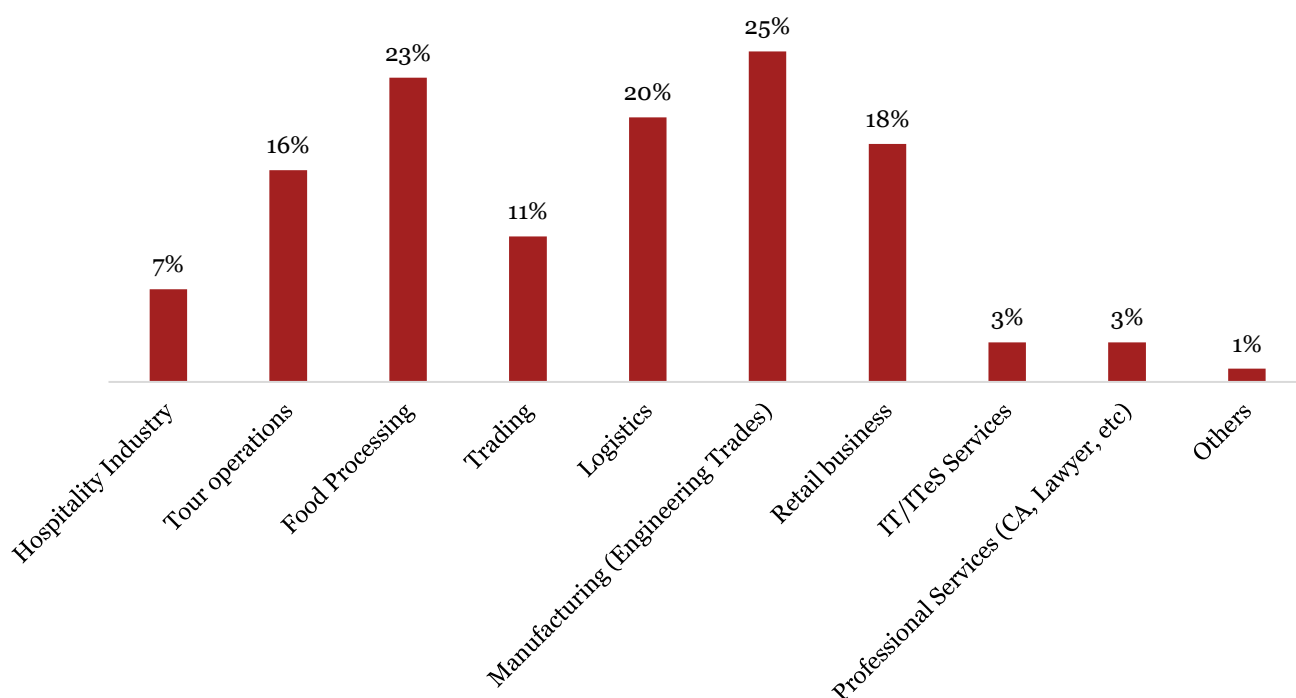
**Figure 26: Current Status of Entrepreneurial Venture-Ernakulam**



**Figure 27: Interested in skill development for enhancing entrepreneurial skills – Ernakulam**



**Figure 28: Sector for training -Ernakulam**



### 1.1.7. Training Infrastructure

The existing training infrastructure in the district is tabulated below:

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
ITI	Govt.: 3 Private: 59	Govt.: 25 Private: 33	Fitter, Electrician, Draughtsman, Mechanical (Motor Vehicle) Welder
Polytechnic	Govt.: 4 Self-financing: 2	11 5	Civil Engineering, Electrical And Electronics Engineering, Mechanical Engineering, Civil Engineering Electronics & Communication Engineering
PMKVY	9	20	Retail Sales Associate, Mobile Phone Hardware Repair Technician, Field Technician-Network and Storage, Field Technician – Computing and Peripherals, Junior Mechanic-Hydraulics, Manual Metal Arc Welding/ Shielded Metal Arc Welding Welder
DDUGKY	17	25	F&B Service, Retail Sales Associate, Customer Care Executive, General Duty Assistant

The Training infrastructure in the district is dominated by the ITIs and DDUGKY. The trades are largely focussed on technical and engineering trades.

- ITI-s -There are 62 ITIs providing training in 58 different trades mainly focussed on electronician, fitter, draughtsman etc.

- 
- Polytechnics – Core engineering sectors like Civil, Electrical & Electronics, Electronics & Communication and Mechanical remain the most dominant trades.
  - PMKVY– The Trades are focussed on retail sales associate, field technician, mobile phone hardware repair technician, etc.
  - DDUGKY: There are 17 DDUGKY providing training across 25 different trades and these trades are mainly focussed on F&B service, retail sales associate, General Duty Assistant, etc.

## 1.2. Kozhikode

Kozhikode has a land area of 2344 sq. km and a coastline of about 71 kms which is about 12% of the state's total coast line. It is one of the main commercial districts of Kerala and the economy is mainly business oriented. Between 2004-05 and 2013-14, the district GDP (at constant prices-base year 2004-05) has grown at a CAGR of 7.4%.<sup>11</sup>

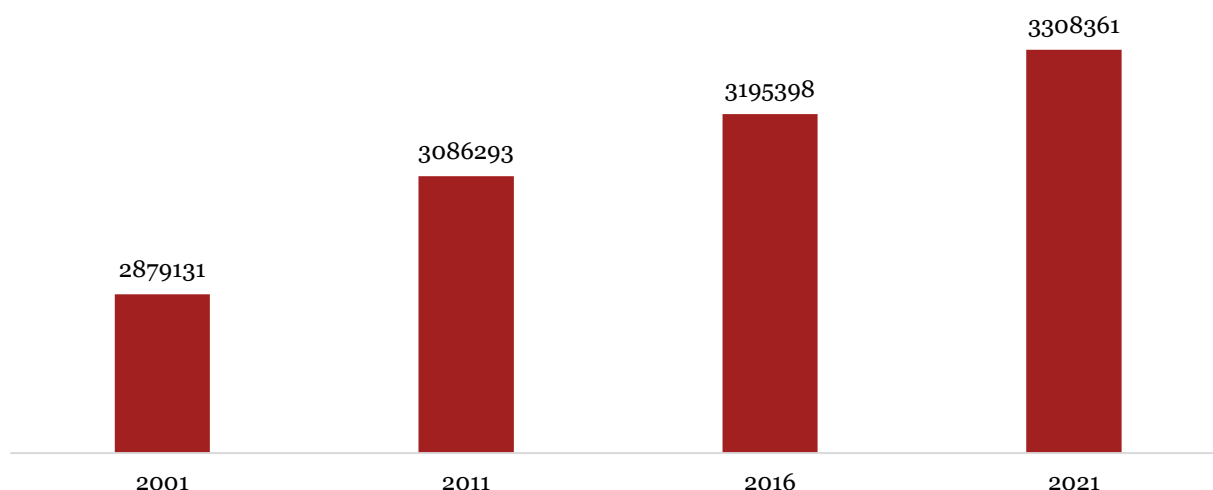
### 1.2.1. Demographic Profile<sup>12</sup>

Indicator	Value
Total population	3,086,293
Decadal rate of growth of population (2001-11)	7.2%
Rural population	33%
Female	52%
SC population	6%
ST population	0.5%
Workforce participation	31%
Main Workers (As % of total population)	24%
Marginal (As % of total population)	6%
Non-workers (As % of total population)	69%
Share of population in state undergone vocational training <sup>13</sup>	85 out of 1000

### Population trends<sup>14</sup>

The population in Kozhikode has been stagnant for almost last one decade. It has been rising steadily. As per Census 2011, the total population of Kozhikode was 30.86 lakh and it is expected to 33.08 lakh by 2021.

**Figure 29: Population trend in Kozhikode (2001-2021)**



<sup>11</sup> Brief Industrial Profile of Kozhikode, MSME

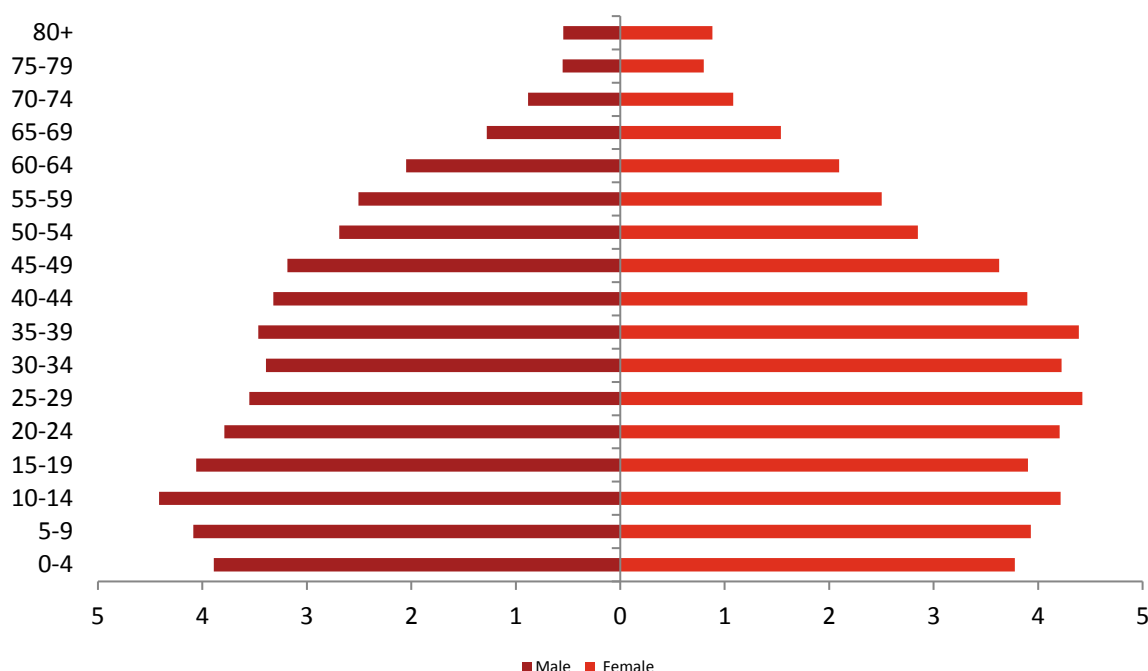
<sup>12</sup> Census 2011

<sup>13</sup> Employment and Unemployment Survey, Vol III Labour Bureau, 2015-16

<sup>14</sup> Census 2011

The demographic dividend bulge in Kozhikode will remain intact for the coming 10 years. Using CAGR<sup>15</sup> method, the population is estimated to be 3,195,398 and 3,308,361 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 3%.

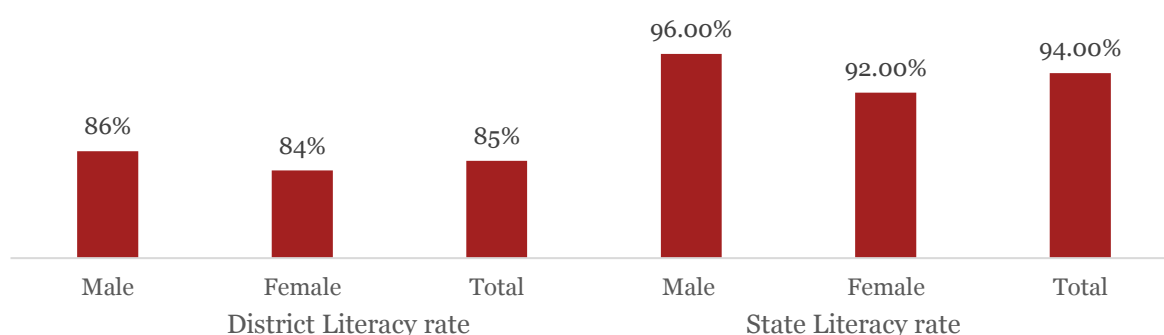
**Figure 30: Population Pyramid for Kozhikode (2011)**



### *Literacy rates<sup>16</sup>*

Total literacy rate of Kozhikode<sup>17</sup>, as per the Census 2011, is approximately 95%, which is at par with the State's literacy rate of around 94%. Also, the female literacy rate of Kozhikode is 93% which is lower than the male literacy rate by 4% points.

**Figure 31: Kozhikode vs Kerala literacy rates (2011)**



<sup>15</sup> Assuming population grows at CAGR of 0.7%

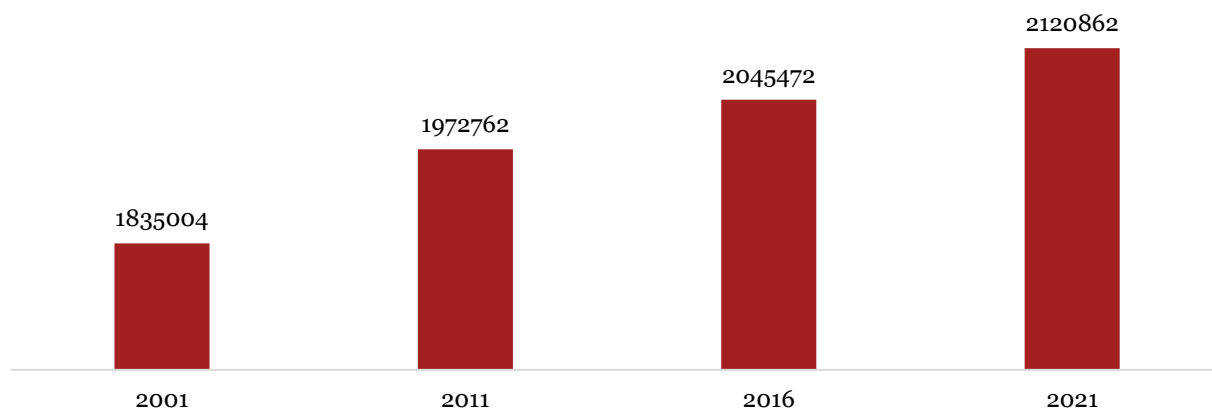
<sup>16</sup> Based on Census 2001 and 2011

<sup>17</sup> <http://www.census2011.co.in/census/district/274-kozhikode.html>. Last accessed on 3<sup>rd</sup> March 2017  
Human Resource and Skill requirement study for 21 Coastal Districts of India - Kerala: Ernakulam, Kozhikode

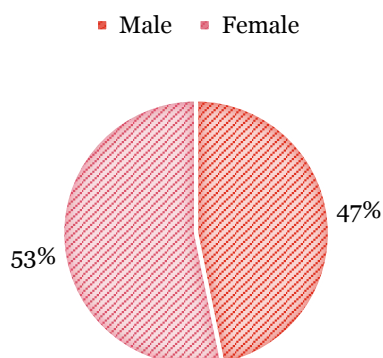
### Age specific population trends and education level for 2011<sup>18</sup>

As per the Census 2011, the population in the age-group of 15 to 24 years was 492,062 (16% of the overall district population). Using CAGR<sup>19</sup>, the population in the age group of 15-59 years is estimated to be 2,045,472 and 21,20,862 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 3%.

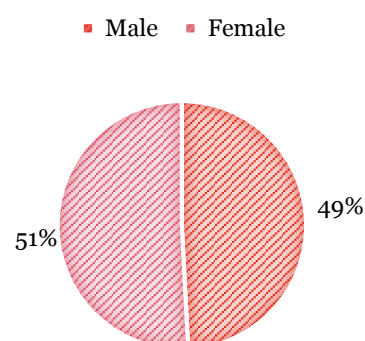
**Figure 32: Growth trend of population in the age group 15-59 year in Kozhikode (2001-2021)**



**Figure 34: Age Specific Population in Kozhikode (15-59 years)**



**Figure 33: Age Specific Population in Kozhikode (15-24 years)**



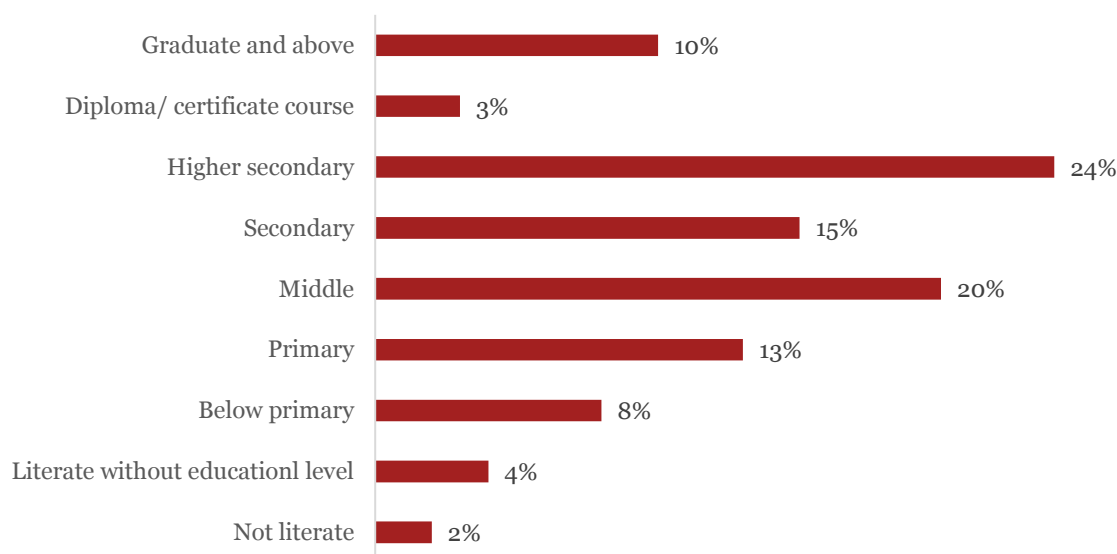
Both the age groups, 15-59 years and 15-24 years have almost equal representation of males and females with males accounting for 47% and 49% of the total population share in the 15-59 years and 15-24 years age group

<sup>18</sup> Census 2011

<sup>19</sup> Assuming population in the age group 15-59 years grows at a CAGR of 0.73%  
Human Resource and Skill requirement study for 21 Coastal Districts of India - Kerala: Ernakulam, Kozhikode

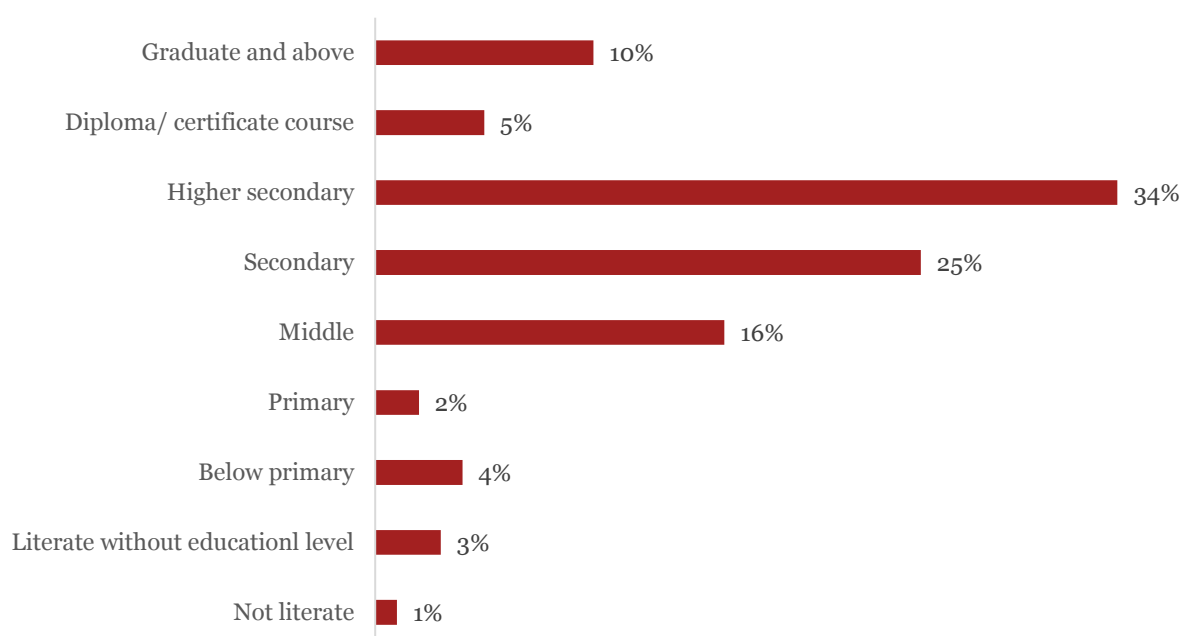
respectively. Females account for 53% and 51% of the total population share in the 15-59 years and 15-24 years age group respectively.

**Figure 35: Age Specific educational level in Kozhikode (15-59 years)**



The chart indicates that for the age category of 15-59 years, nearly one-fourth (24%) of the population has attained higher secondary level of education, about one-fifth (20%) has attained middle school level of education and about 15% has attained secondary level of education. It is important to note that about 10% of the population in the age category of 15-59 years is graduate and above. Only 2% of the population in the given age category is not literate.

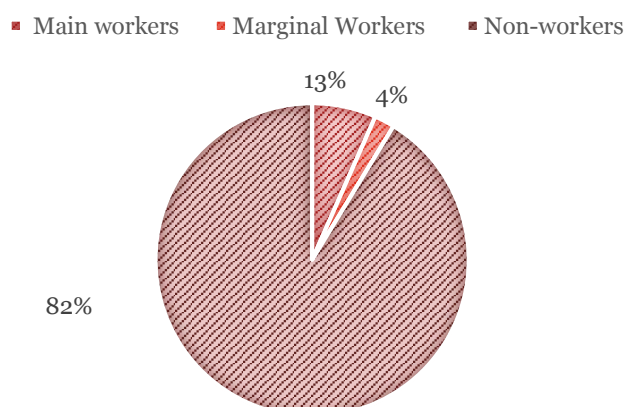
**Figure 36: Age specific education level in Kozhikode (15-24 years)**



For the age category of 15-24 years, 1% of the population of Kozhikode is Illiterate. 3% is literate without any educational qualification, 4% has attended school till below primary level and 2% has completed schooling only up to primary level. Roughly, 16% of the literate population has done schooling up to the middle level, whereas, around 25% of the literate population has been educated till secondary. Only 5% of the population of this district has done a certificate/diploma course and 10% has at least completed graduation.

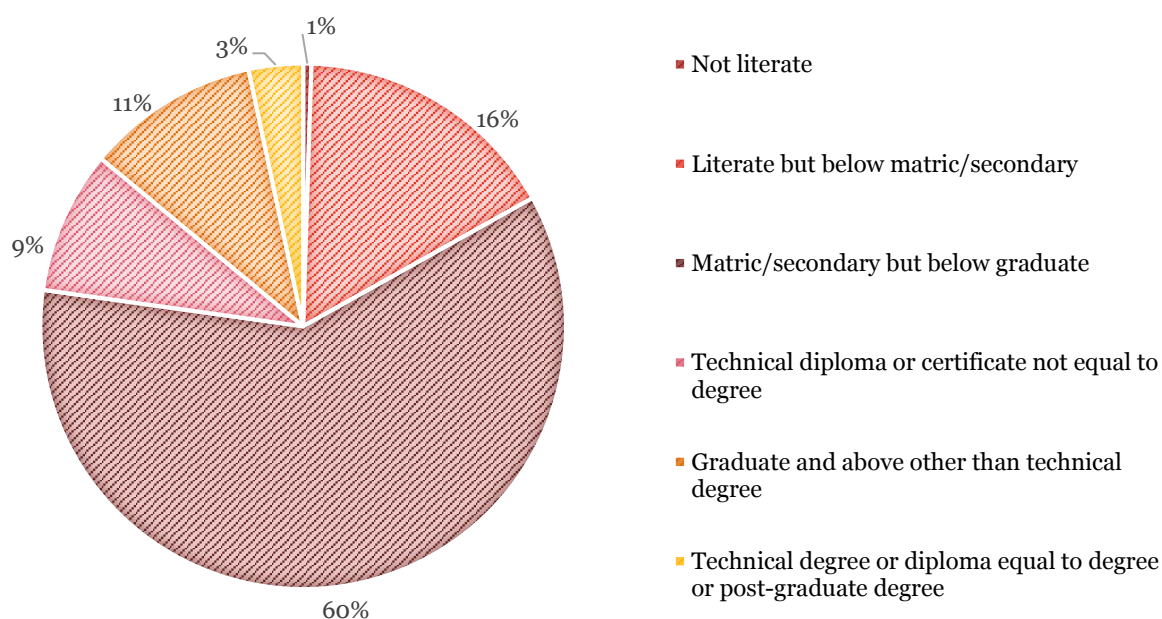
### *Age specific distribution of workers and educational level*

**Figure 37: Age specific distribution of workers in Kozhikode (15-24 years)**



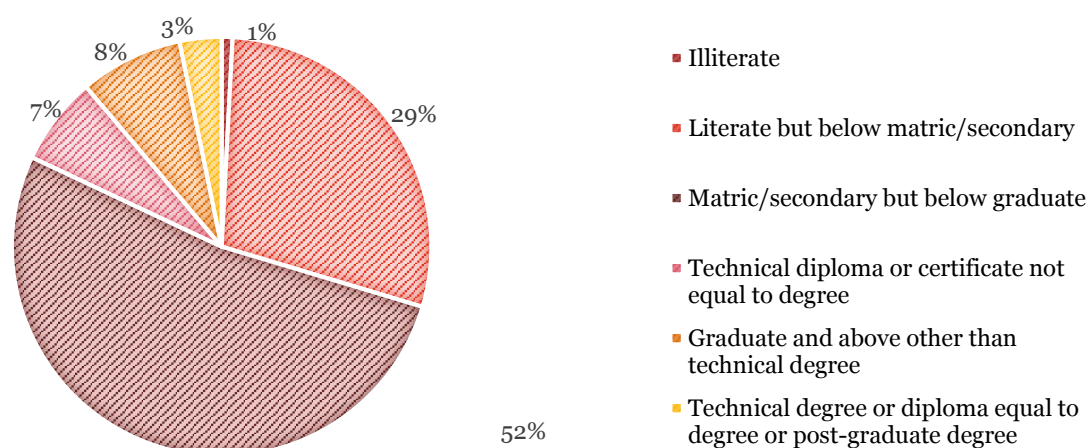
82% of the population in the age group of 15-24 years are non-workers. 13% of the population are main-workers, whereas 4% are engaged in marginal work i.e. work for 3-6 months during the year.

**Figure 38: Educational level for marginal workers available for work in Kozhikode (15-24 year)**





**Figure 39: Education level for main workers available for work in Kozhikode (15-24 year)**

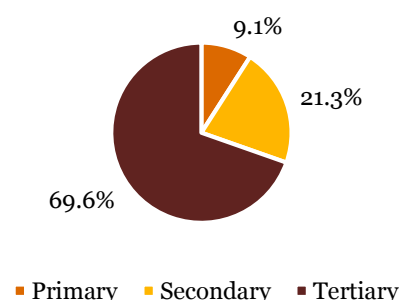


From the charts above, we find that the proportion of main workers who are illiterate (in the age category 15-24 years) is slightly more (0.4 percentage point difference between the two) than the proportion of marginal workers available for work and who are illiterate. We also find that the proportion of main workers who are literate but below matric/secondary (in the age category 15-24 years) is slightly more (5.6 percentage point difference between the two) than the proportion of marginal workers who are available for work and are literate but below matric/secondary. The proportion of main workers who are matric/secondary but below graduate (in the age category 15-24 years) is slightly less (4.3 percentage point difference between the two) than the proportion of marginal workers who are available for work and are matric/secondary but below graduate. For the remaining three educational levels, we find that the population shares are more or less the same across the two worker categories.

### 1.2.2. Key Economic Drivers

According to District Economy Survey, Kozhikode, the Gross Domestic Product of the district (at constant prices- 2004-05) was INR 19,544.14crores in 2013-14 and it has steadily grown at a CAGR of 7.4% over the period 2004-05 to 2013-14. The sectoral break up of suggests that tertiary sector contribution to district GDP has been the highest (~70%) followed by secondary sector (~21%). Further disaggregation suggests that over the decade, trade, hotels and restaurants have had a share of 24.1% and construction has had a share of 15.6% in the district GDP. Other sectors driving the district economy are transport, storage and communication (13.6%). Banking and insurance in the district has witnessed an impressive growth of 13.5% over the years 2004-13

**Figure 40: Sectoral Share of GDP of Ernakulam (2004-05 to 2013-14) at constant prices (2004-05)**



The key economic drivers of the district are illustrated below:

<b>Port, maritime and logistics</b>	<ul style="list-style-type: none"> <li>• Bepore Port is a midway between 2 major ports Cochin and Mangalore</li> <li>• Bepore port handles traffic mostly to and from Lakshadweep islands</li> <li>• GoK has approved development of port facilities at existing wharf and a proposal for construction of wharf extending upto Bepore Fishery Harbour-expected to increase cargo potential upto 3351 MT by 2025</li> </ul>
<b>Fisheries</b>	<ul style="list-style-type: none"> <li>• Annual fish production of Kozhikode constituted about 14% of the states's production</li> <li>• Several State and Central level schemes promote innovative practices for fishing</li> <li>• Fishermen training centre proposed to be set up worth investment of INR 199.74 lakhs by Kerala State Coastal Area Development Corporation</li> </ul>
<b>Tourism and hospitality</b>	<ul style="list-style-type: none"> <li>• Over 8000 foreign tourists and 6,59,133 domestic tourists visited Kozhikode (between Jan-Sep 2016)</li> <li>• District Tourism Department currently invests more than INR 800 lakhs in various projects-eco-tourism projects, renovation of existing sites, beach development etc.</li> </ul>
<b>Manufacturing</b>	<ul style="list-style-type: none"> <li>• Between 2009-2015 ,over 5000 units are registered with DIC with an approximate investment of INR 840Cr generating employment for 35,000 persons</li> <li>• DIC under its Intensive Industrialization Drive witnessed registration from around 110 manufacturing units with investments worth INR 9467.77 Lakhs between April-December 2016. It is expected to create over 1200 jobs</li> <li>• Prominent Industrial estates include DP West Hill, SIDCO West Hill, Nallalam DP which house about 120 manufacturing units (as per DIC data, 2014)</li> </ul>

### 1.2.3. Priority Sectors

In Kozhikode, the priority sectors that have been identified are **Port and Maritime sector, fisheries, tourism and construction**. Other sectors that have been identified as priority sectors from the point of view of their contribution to district

to GDP are **manufacturing and banking and finance**.

### 1.2.4. About the ports

Ports & Maritime			
Major Ports: Nil		Minor Ports: 1	Shipyards: Nil
Details			
Beypore Port			
<b>Operations:</b>	State Government	<b>Capacity</b>	0.2 million tonnes
<b>Key Cargo</b>	POL products, Containers	<b>No of berths:</b>	1
		<b>High demand job roles</b>	Crane operators, fork lift operator, tug operators/masters, drivers
<b>Description and key Trend</b>	Beypore Port handles cement, break bulk and containers. As on 2015-16, 1,26,015 MT of cargoes were handled by the port. Majority of the cargoes are exported to Lakshadweep. There are two wharves for handling cargoes and passengers.		

### 1.2.5. Investments

The district is known for textiles, footwear, wood products and sea food processing. The district is famous for building wooden ships that supplies majorly to Arab nations. Kozhikode beach and Mananchira Square are the popular destinations among the tourists. The district is known for folk arts and folk songs and has an art gallery and a planetarium which is also an attraction among the tourists.

The table below summarizes the investments are that are in the pipeline in next few years:

**Table 4: Proposed Key Investments for the year 2016-20 in Kozhikode**

Sector	Proposed Investment (INR cr)	Number of Projects	Expected Employment	Key Players
Port & Maritime	2.64	14	-	Beypore Port
	50	1		Harbour Engineering Department
Tourism	~3.1	6	-	District Tourism Department, GoK
Projects registered with DIC (between April-December 2016)	94.67	110 MSME Units	1237	District Industries Centre together with SIDCO

In the port and maritime sector, upgradation and repair work in the existing Beypore Port are key focus areas for future investments by the Port authorities. Details of proposed investments in this sector are given below:

**Table 5: Details of Investments (proposed and ongoing projects) in Port and Maritime sector in Kozhikode (Beypore Port)**

Project	Proposed Investment (INR Cr)	Project Status
Maintenance and repairs to the open godowns at the Port wharf at Beypore Port	0.08	Proposed to be undertaken during FY 2016-17
Construction of new port gate at Beypore Port	0.23	Proposed to be undertaken during FY 2016-17
Raising the floor of the open godown at Beypore port	0.06	Proposed to be undertaken during FY 2016-17
Maintenance and repair to Transit shed at Beypore	0.08	Proposed to be undertaken during FY 2016-17
Resurfacing the yard behind the old port wharf at Beypore port	0.12	Proposed to be undertaken during FY 2016-17
Resurfacing the yard behind the transit shed at Beypore port	0.28	Proposed to be undertaken during FY 2016-17
Construction of locker rooms and toilets to port labours	0.31	Proposed to be undertaken during FY 2016-17
Development of port staff quarters	0.35	Proposed to be undertaken during FY 2016-17
Special repairs of port office building, Beypore	0.13	Proposed to be undertaken during FY 2016-17
Special repairs to the port staff quarters	0.28	Proposed to be undertaken during FY 2016-17
Constriction of ground level RCC slumpwell of 100 lakh litre capacity at Port office	0.14	Proposed to be undertaken during FY 2016-17
Renovation and Maintenance of the office of Port Conservator	0.13	Proposed to be undertaken during FY 2016-17
Repairs and Maintenance works of the Port office, Ponnani	0.04	Proposed to be undertaken during FY 2016-17
Development of Port Bungalow Compound at Kozhikode Beach	0.38	Proposed to be undertaken during FY 2016-17
<b>Final Total</b>	<b>2.61</b>	

The district tourism department has proposed to undertake a wide range of initiatives for tourism development. These include development of new destinations, renovating existing tourist spots, improving transport and accommodation facilities for tourists and other infrastructure developments that promote tourism.

**Table 6: Details of tourism projects (Proposed and on-going) in Kozhikode**

Project	Proposed Investment (INR Cr)	Project Status	Key Players
<b>Infrastructural Development</b>			
Setting up of Handicraft Training Academy , Craft Village Irringal	2.75	On-going	ULCCS
Wayside amenity Centre at Kakkayam	0.95	On-going	DTPC Kozhikode through KITCO
Children's Park at Changaroth Panchayath	0.25	On-going	DTPC Kozhikode through Harbour Engineering Department

Balusserry Tourism Corridor-Development of Kanayakode	0.66	Proposed	DTPC
Special repairs to Project Components Beypore	0.47	Proposed	Harbour Engineering Department
<b>Sub Total</b>	<b>5.08</b>		
<b>Renovation of existing tourist spots</b>			
Additional works to Thushagiri Eco-tourism	0.9	On-going	DTPC Kozhikode through SIDCO
Development of Arippara waterfalls at Thiruvampadi	0.49	On-going	DTPC Kozhikode through SIDCO
Tourism Development of Kozhikode South Beach	3.85	Proposed	DTPC Kozhikode through Harbour Engineering Department
Project for Beautification of Maithayitheruvu, Kozhikode	2.65	Proposed	DTPC Kozhikode
Development of Peruvannamuzhi and Kakkayam dam sites	1.9	Proposed	Harbour Engineering Department
Pilgrim Tourism Development of Ayyarvattam Mahasudarshana Kshetram	0.30	On-going	DTPC Kozhikode/ULCC
Repair and Renovation of Kappad, Thuvappara Beach	0.36	Proposed	SILK Ltd.
Repair and Renovation of Sarivaram Bio Park Kozhikode	0.57	Proposed	
<b>Sub Total</b>	<b>11.02</b>		
<b>New Sites</b>			
Preparation of Master Plan for Kakkayam- Peruvannamuzhy	0.42	Proposed	IEISL/IL&FS
Take-a –break project at Thamarassery	0.45	Proposed	DTPC Kozhikode/FRBL
<b>Sub Total</b>	<b>0.87</b>		
<b>Grand Total</b>	<b>16.97</b>		

DIC, Kozhikode undertook an Intensive Industrialization Drive in 2016. Under this initiative, around 110 manufacturing units were registered with the DIC with total investment of 94.67 crores. The details of proposed investments in various manufacturing and services are given below:

**Figure 41: Details of proposed investments across different sectors, DIC Kozhikode**

Fruits, Food and agro based	Footwear	Construction	Wood based	Other Mfg Projects
39 units registered with DIC	4 units registered with DIC	12 units registered with DIC	4 units registered with DIC	44 units registered with DIC
• Investment: INR 20.04 Cr	• Investment: INR 4.05 Cr	• Investment: INR 7.11 Cr	• Investment: INR 1.75 Cr	• Investment: INR 61.72 cr
• Expected Employment : 324	• Expected Employment: 110	• Expected Employment: 68	• Expected Employment: 25	• Expected Employment: 710

### 1.2.6. Training Infrastructure

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
ITI	Govt.: 5 Private: 39	Govt.: 28 Private: 24	Electrician, Surveyor, Computer Operator and Programming Assistant, Draughtsman (Civil), Architectural Assistant, Electronics Mechanic
Polytechnic	Govt.: 2 Self-financing: 4	9 13	Mechanical Engineering, Automobile Engineering, Computer Engineering, Chemical Engineering, Electrical and Electronics Engineering
PMKVY	4	10	Retail Sales Associate, Mobile Phone Hardware Repair Technician, Field Technician-
DDUGKY	14	22	F&B Service, Retail Sales Associate, Customer Care Executive, General Duty Assistant

The Training infrastructure in the district is dominated by the ITIs and DDUGKY. However, the trades are largely focussed on technical and engineering trades.

- ITI-s -There are 44 ITIs providing training in 52 different trades, mainly focussed on Electrician, Surveyour, Draughtsman (Civil) etc.
- Polytechnics – Core engineering sectors like Mechanica, Automobile, Chemical, Electrical and Electronics remain the most dominant trades.
- PMKVY– The Trades are focussed on retail sales associate, field technician, mobile phone hardware repair technician, etc.
- DDUGKY: There are 14 DDUGKY providing training across 22 different trades and these trades are mainly focussed on F&B service, retail sales associate, General Duty Assistant, etc.

### 1.2.7. Youth Aspiration<sup>20</sup>

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

#### Respondent Profile

The table below provides an overview of the respondent profile:

Profile	Details
<b>Total Sample Size</b>	384
<b>Gender Profile</b>	Male- 44.3% Female- 55.7%
<b>Age Group</b>	15-34 years
<b>Education Level (top 3)</b>	Senior Secondary schooling(Class 9 to 10)- 17.6% Higher secondary schooling with science (Class 11 to 12)- 16.2% Higher secondary schooling with commerce (Class 11 to 12)- 15.1%
<b>APL/BPL/AAY/Don't know</b>	APL-15.9 %

<sup>20</sup> PwC Analysis based on aspiration survey

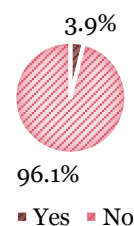
	BPL- 76% AAY- 1.6% Don't know- 6.5%
<b>Occupational Profile (top 3)</b>	Self-employed (16.7%), Own business (9.6%), Fisheries (6.3%)

## Exposure to Vocational Training and Educational Aspiration

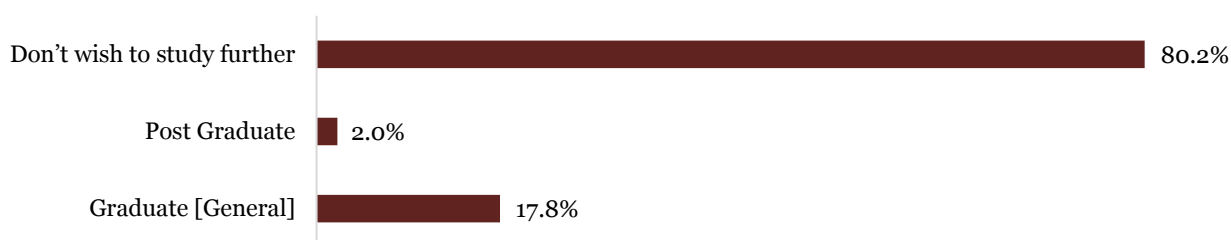
Regarding the exposure to the vocational training, most students reported that they had not completed any vocational training course. Overall, ~96% of the respondents had not enrolled in vocational training course (Figure 42).

Further, the respondents were asked about the level of education they wished to attain. Majority of the respondents (80%) reported that they did not wish to study further. Only 18% reported that they wished to attain graduation level of education (Figure 43: Desired level of education).

**Figure 42: Respondents who completed vocational training course - Kozhikode**

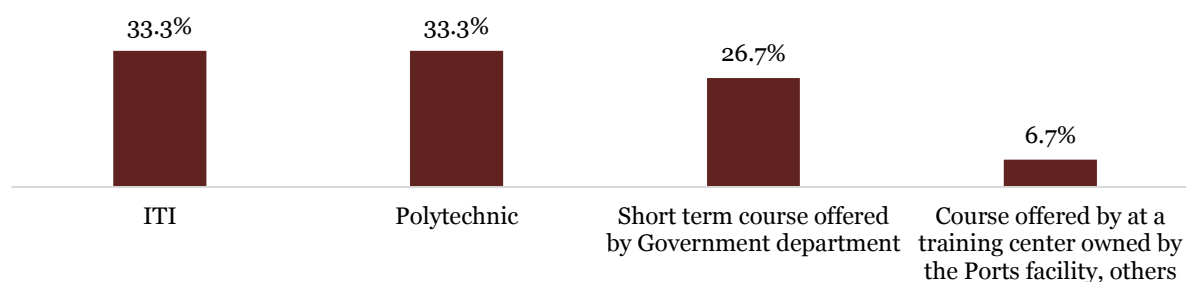


**Figure 43: Desired level of education -Kozhikode**



Of the total respondents who underwent vocational training (which is ~7%), majority were from ITI (33%) and polytechnic (33%). Figure 44 exhibits the percentage of respondents who completed different types of courses as part of their vocational training.

**Figure 44: Respondents who completed courses in vocational training -Kozhikode**

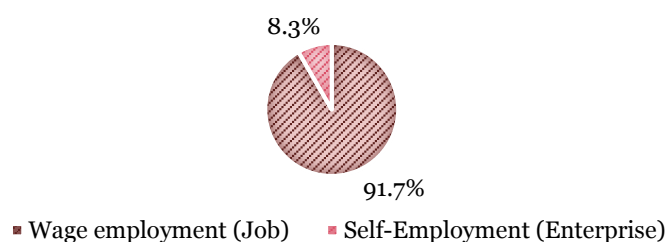


## Job Aspiration

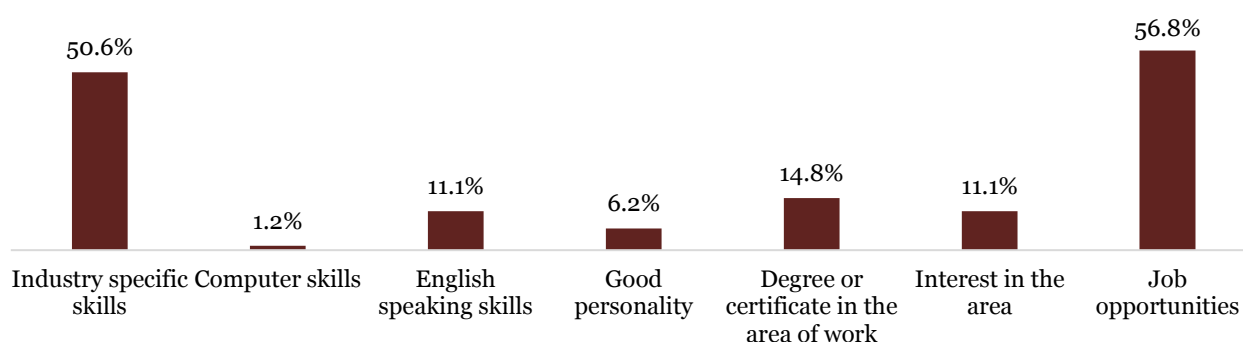
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 92% of the respondents reported to have preferred wage employment over self-employment (Figure 45 )

The respondents were further asked to identify the factors important for securing employment in the area of interest. 56.8 % of the respondents identified job opportunities as the most important factor for securing employment followed by industry specific skills (50.6%), degree or certificate in area of work (15%) and English speaking skills as well as interest in the area (11% each) (Figure 46).

**Figure 45: Respondents aspiring for wage and self-employment - Kozhikode**

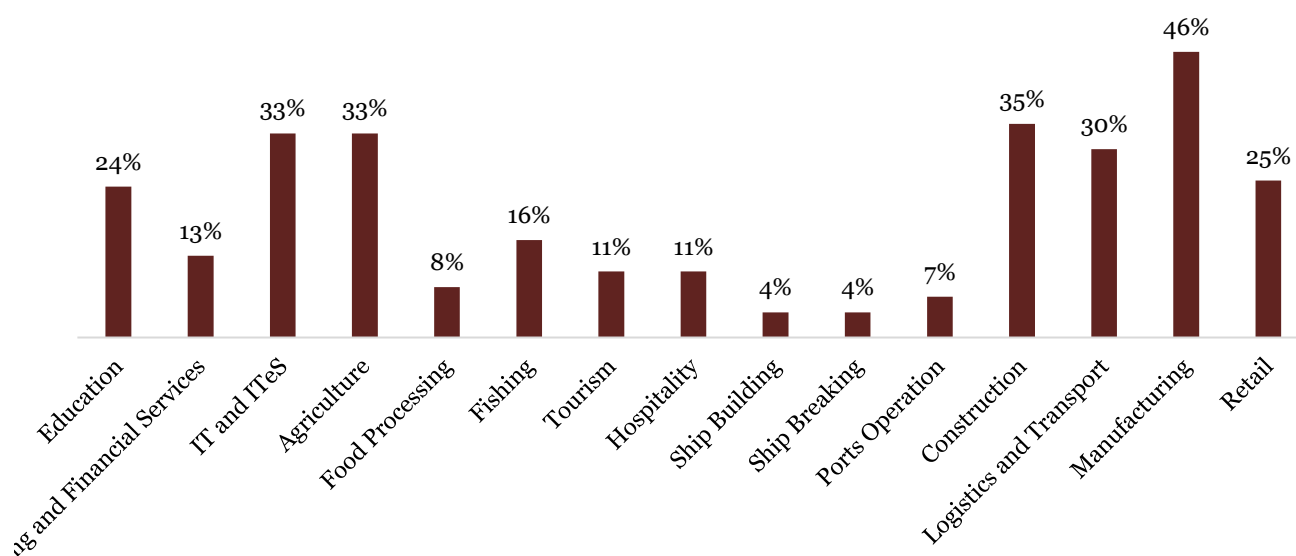


**Figure 46: Factors important for securing employment in area of interest - Kozhikode**



Further, Manufacturing (46%), construction (35%), IT&ITES (33%) and agriculture (33%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job in the manufacturing sector space. The details of other sectors are mentioned in Figure 47.

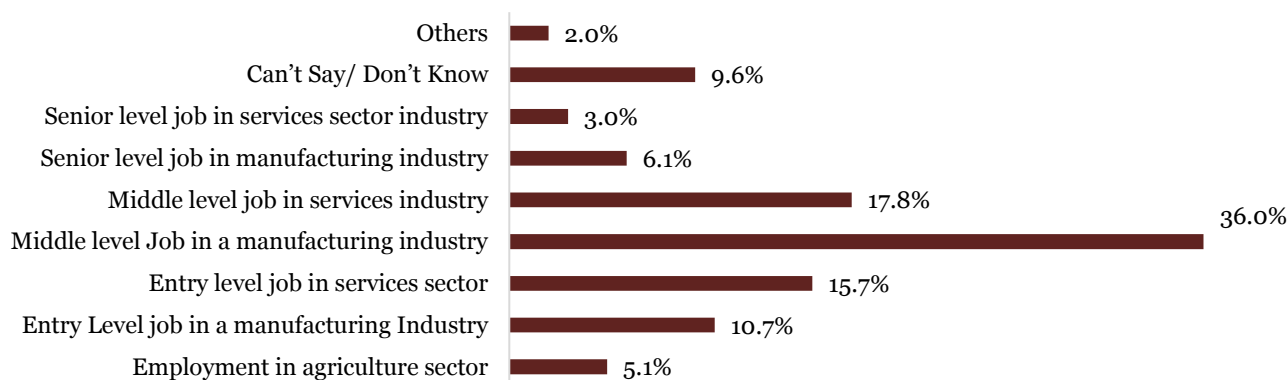
**Figure 47: Sectors in which respondents' foresee getting a desired job- Kozhikode**



Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for jobs in manufacturing industry with 36% aspiring for middle level jobs and 18% aspiring for middle level jobs in services sector. This is followed by entry level jobs in services sector (15.7%) and manufacturing industry (10.7%) (Figure 48).

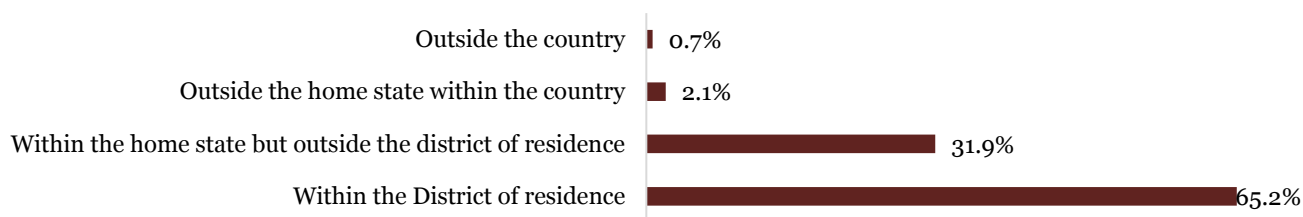


**Figure 48: Desired job profile after completion of education/training - Kozhikode**



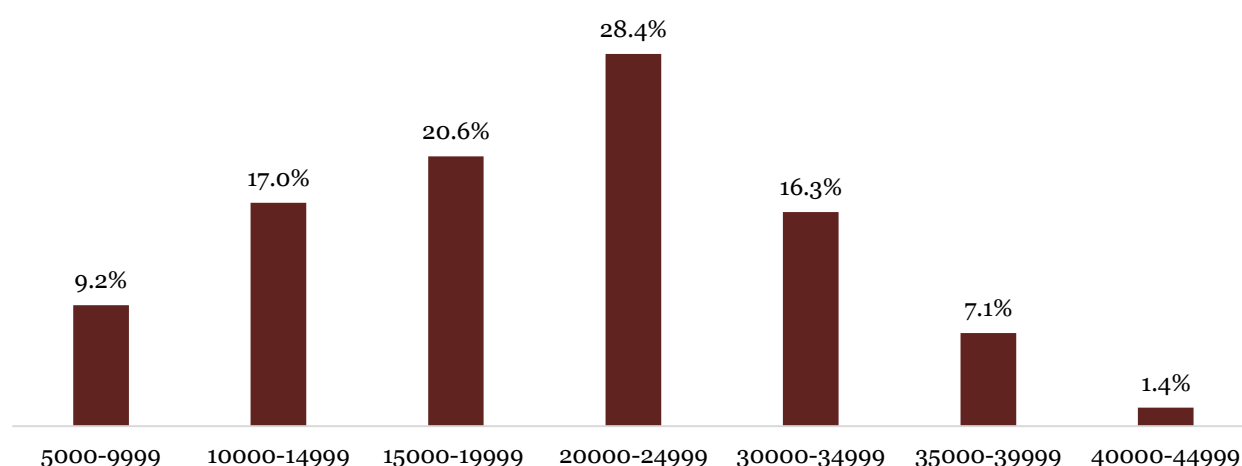
Out of total respondents, 65.2% preferred to work in the same district and 32%% expressed willingness to migrate to other districts in the same state suggesting lack of flexibility among the youth of the district. (Figure 49)

**Figure 49: Preference for work location**



For more than one fourth (28%) of the respondents, the monthly salary expectation was in the range of INR 20000-24999. And for 21% of respondents the expected salary is reported to be range in 15000-19999 per month (Figure 50).

**Figure 50: Monthly salary expectation of respondents - Kozhikode**

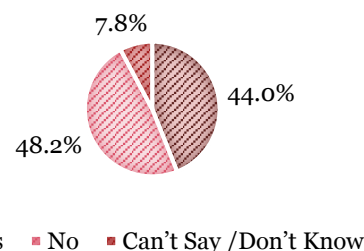


## Training Aspiration

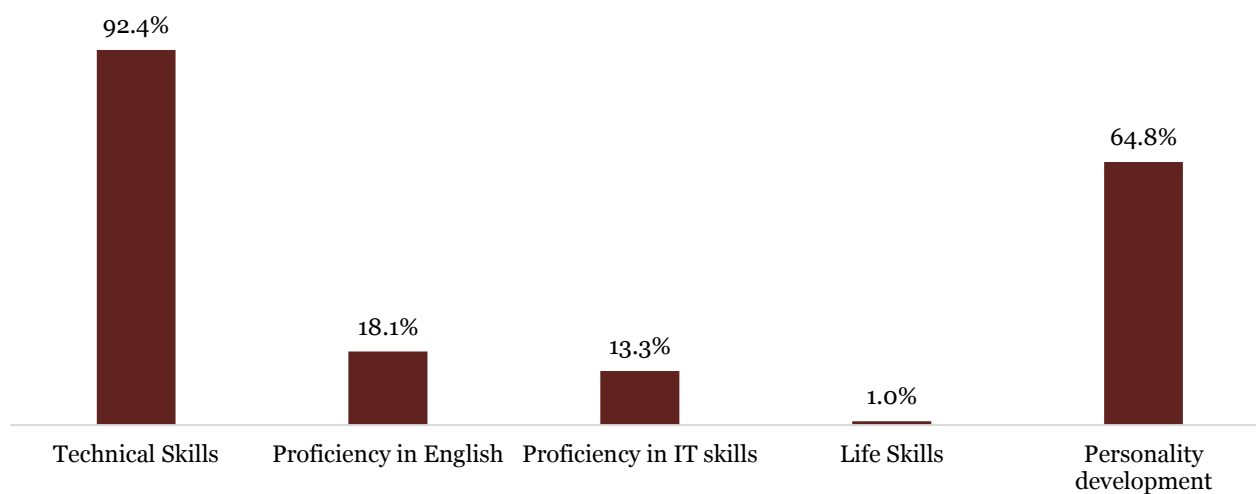
Regarding willingness of the respondents to participate in the training programme in next one year, 44% expressed interest whereas 48% expressed dis-interest (Figure 51)

Further, when enquired about the key focus areas of skill training, 92% of respondents reported that emphasis must be laid on technical skills, followed by personality development (65%) and proficiency in English (18%) (Figure 52).

**Figure 51: Willingness to participate in trainings - Kozhikode**

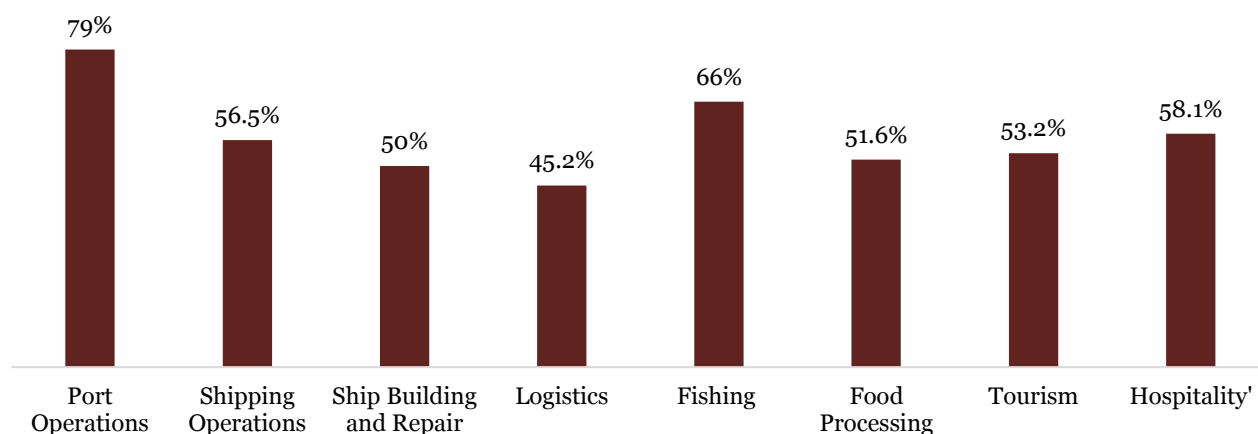


**Figure 52: Focus area on skills training - Kozhikode**



Overall, there is demand for training in port operations (79%), fishing (66%), Hospitality (58%) and Shipping Operations (56.5%) (Figure 54)

**Figure 54: Willingness of respondents to participate in trainings of different sectors - Kozhikode**



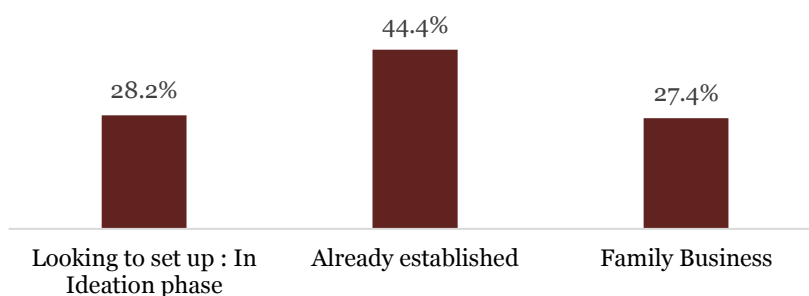
## Self-Employment

Regarding current status of the Entrepreneurial Venture of the respondents, 44% had already established their own ventures, 28% were in their ideation stage while 27% were in family business (Figure 55).

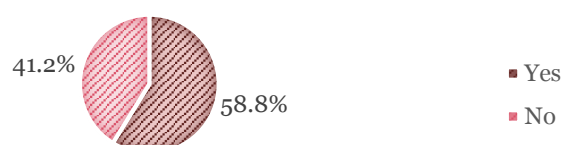
Further, 58.8% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 56).

Trading (31%), food processing (21%), retail business (16%), tour operations (15%) and manufacturing (engineering trades) (14%) have been identified as most preferred sectors for setting up own enterprise (Figure 57).

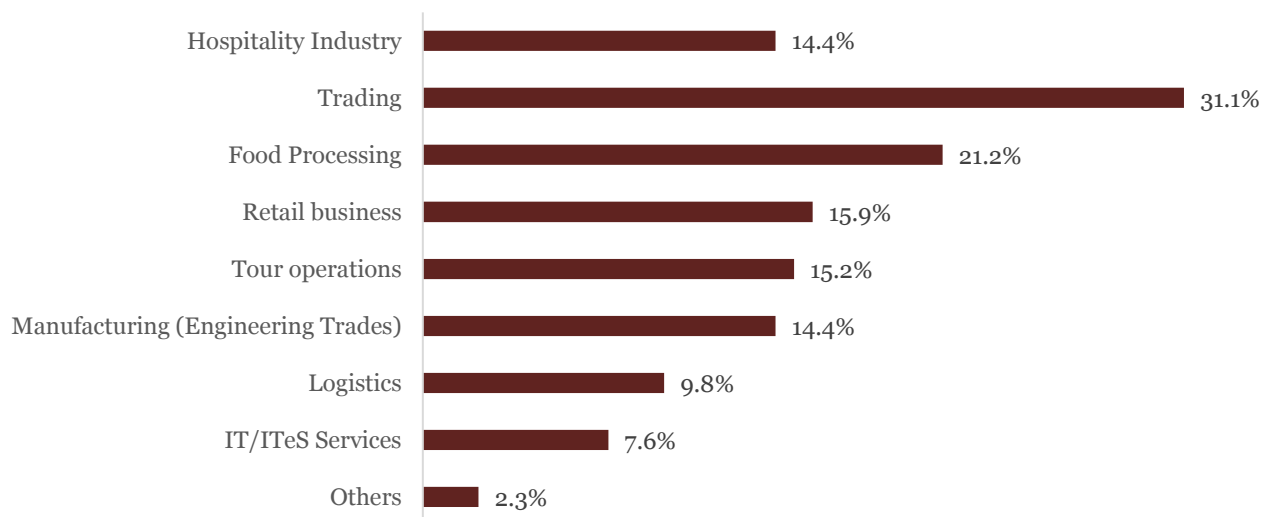
**Figure 55: Current Status of Entrepreneurial Venture - Kozhikode**



**Figure 56: Interested in skill development for enhancing entrepreneurial skills - Kozhikode**



**Figure 57: Sectors for establishing enterprise - Kozhikode**



## 2. Skill Gap Assessment, Job Roles and Emerging Job Roles

### 2.1. Ernakulam

#### 2.1.1. Incremental Demand for Skilled & Semi Skilled Manpower<sup>21</sup>

The district of Ernakulam is witnessing increased industrialization as a major destination of trade with the Port being an engine. As per our methodology, the incremental demand for skilled workforce is maximum for the manufacturing sector as the sector is expected to generate employment to the tune of 24,000 in the next 5 years.

**Table 7: Incremental Demand for Skilled & Semi Skilled Workers in Ernakulam**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
Ports & Allied	292	304	317	331	345	360	1,949
Logistics	1,370	1,413	1,458	1,503	1,549	1,600	8,893
Tourism	199	201	204	208	208	213	1,233
Construction	3,792	3,922	4,057	4,199	4,344	4,494	24,808
<b>Other Dominant Sectors in the District</b>							
Manufacturing	1,820	1,835	1,850	1,865	1,881	1,894	11,145
Trade (Retail & Wholesale)	578	586	594	602	610	619	3,589
Agriculture	-2,187	-2,142	-2,098	-2,054	-2,011	-1,969	-12,461
<b>TOTAL</b>							39,156

#### Key trends in Core Sectors

- **Ports and Allied Sectors:** With the proposition to make investments worth INR 3000 Cr, the Cochin Port Trust is expected to experience increased demand for skilled workforce with an average increase of 300 skilled/semi-skilled workers each year for the next 5 years.
- **Logistics:** Increased port activities together with the development of Kochi Metro Rail, the district is set to witness a boost in the requirement of the skilled workers in the logistics sector. The incremental demand for skilled and semi-skilled workforce is about 1300 each year.
- **Tourism & Hospitality:** With highest inflow of domestic and foreign tourists, the district is a traditional tourist destination. The district is witnessing development of beaches, renovation of existing sites and development of new sites for tourism development.
- **Construction:** The increased construction activities in both residential and non-residential set buildings, together with the Smart City related urban development projects in transportation, water supply and sanitation are expected drivers.

<sup>21</sup> 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.

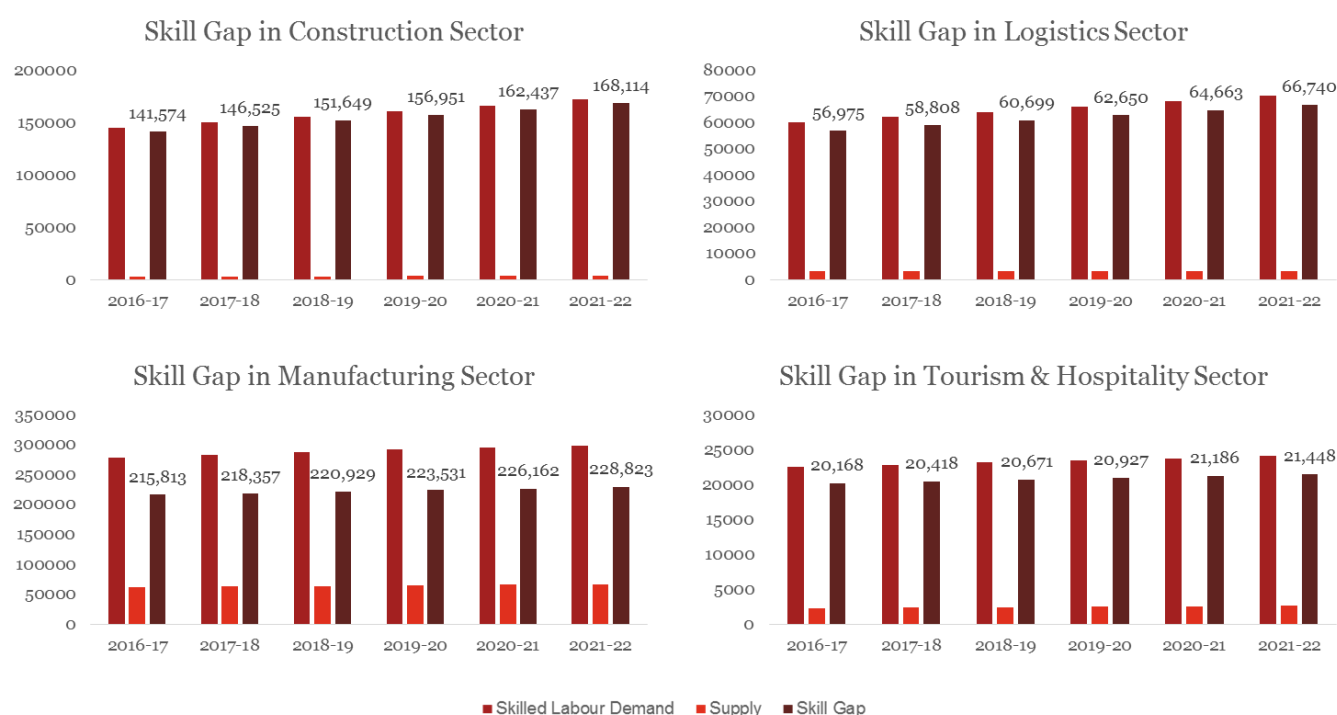
## Key trends in other Dominant Sectors in the District

- **Manufacturing & Industry:** The sectors that are expected to generate increased workforce requirement in the manufacturing sector are essentially food and agro based processing, engineering units, chemical industries and wood-based manufacturing units.
- **Trade:** Trade will be boosted by the proposed industrialization and port operations. The key driver for incremental demand of workforce is the fact that Kochi is a shopping hub for the central Kerala.
- **Agriculture & Fisheries:** Urbanization has made agriculture a sector with lower returns, which has in turn affected employment prospects in the agriculture. However, the district is focused on integrating sustainable fishing methods as wells as promoting fish farming through the multiple schemes executed by the Fish Farmers Development Agency (FFDA)

### 2.1.2. Gap between Total Demand and Supply for Skilled workforce in Select Sectors<sup>22</sup>

The gap in the existing total skilled workforce connotes the gap between the total requirement of skilled manpower and workforce in the district with recognized trainings in the said sectors

**Figure 58: Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in Ernakulam**



- **Construction Sector:** The percentage of total skill availability is still low. Assuming present rates of growth of population and demand for skilled workforce, the gap in skilled workforce is expected to increase by 19% between 2016-17 and 2021-22 (from 1,41,574 persons to 1,68,114 persons).

<sup>22</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling

- **Logistics Sector:** Less than 4,000 skilled workers are available to meet the **total requirement of skilled manpower** of 60,000. These are very exacerbated by the limited options available for recognized trainings and certificates in the sector. Also, the incremental requirement for workforce in the district is expected to increase the gap further by nearly 17% between 2016-17 and 2021-22.
- **Manufacturing Sector:** With the gap nearing 2 lakhs, the manufacturing sector faces high level of skill gap owing to lack of sufficient training infrastructure in the district.
- **Tourism and Hospitality:** Given the present trends of increased formalization and requirement of skilled workers in the sector, the gap between the total requirement of skilled manpower and availability of workforce with recognized trainings is set to increase by 6% by 2022.

### 2.1.3. Job roles in high demand

This sections captures the jobs that have been reported to be high in demand in Ernakulam by the key stakeholders interviewed during the study, and have been established through the secondary analysis. Across the sectors, few of job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describes the job roles that are high in demand across the sectors.

#### Port and Maritime Sector

Cochin Port is home to the International Container Transshipment Terminal, a 14.5 meter draft Transshipment Terminal, operated by DP World. Apart from this, there are various captive port operators handling different terminals like Petronet LNG Ltd., FACT, IOCL, Ultratech Cement, and Ambuja Cement among others. While the Cochin Port has an internal training division which manages the skilling requirement of port officials, the various captive port operators also provide skill training specific to their requirement. Presence of training institutes approved by DG Shipping such as Marine Engineering Training Institute (METI) by Cochin Shipyard, Institute of Marine Engineers, Univan Maritime Training Academy and Indian Maritime University (IMU) in the district support the skilling requirement of the sector.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Port operations	Findings
<ul style="list-style-type: none"> <li>• Mobile Crane Operator</li> <li>• Gantry Crane Operator</li> <li>• Forklift Operator</li> <li>• Reach Stacker Operator</li> <li>• Crane Mechanic</li> <li>• Tug operator</li> </ul>	<ul style="list-style-type: none"> <li>• Well trained crane operators are in high demand</li> <li>• No specific training institutes for forklift operators and material handling</li> <li>• In-house training division imparts safety training.</li> </ul>
Job Roles: Ship Building and Repairs	Findings
<ul style="list-style-type: none"> <li>• Ship wright- Mechanic</li> <li>• Design Engineer- Marine</li> <li>• Piping and engineering</li> <li>• Marine Painter</li> <li>• QC Inspector ship (Mechanical)</li> <li>• Scaffolder- Ship</li> <li>• Structural fabricator</li> <li>• Fitter maintenance- Marine</li> <li>• Fitter Pipe- Marine</li> <li>• Welder- Marine equipment- TIG and Plasma Arc welding</li> <li>• General Purpose Rating courses</li> <li>• Under water welding and cutting course</li> </ul>	<ul style="list-style-type: none"> <li>• The small pool of local skilled workers contributes directly to shortages of qualified workforce</li> <li>• The more complex the skill, the more likely the shortage of suitably qualified local community members</li> <li>• Well trained riggers are difficult to find in the job market</li> <li>• Multiple specialized training institutions are located in the district and can be capitalized upon</li> <li>• Shipping</li> <li>• Indian Maritime University could be engaged for providing training on specialized skills</li> </ul>

## Other Priority Sectors

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like port and maritime sector, sectors such tourism, fisheries, construction and manufacturing will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature.

## Construction

Projects such as smart cities will demand skilled workforce that will be able to use smart technologies in not only building the smart cities but also maintaining them. As part of the Smart City Project, Ernakulam is expected to witness investments to the tune of INR 2000 Crores. The key areas of investments include construction roads and allied infrastructure, redevelopment of urban slums, energy, septage, social infrastructure etc. There will be demand for workforce that could work in construction activities. Other infrastructure projects will require skilled workforce in structure design and maintenance, finishes, and electrical works for building huge infrastructural facilities.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Construction	Findings
<ul style="list-style-type: none"><li>• Bar benders</li><li>• Piling Works</li><li>• Masons</li><li>• Steel Fixer</li><li>• Electricians</li><li>• Plumbers</li><li>• Fitters</li><li>• Solar Panel installations</li><li>• Foreman Wet Finishing and Flooring</li><li>• Supervisor - Electrical Works</li><li>• Supervisor - Roads &amp; Runways</li></ul>	<ul style="list-style-type: none"><li>• Smart city projects and other infrastructural development projects such as Cochin Metro Rail will require skilled workforce that could work with sophisticated technology</li><li>• Site workers will require skills to use new, innovative technological devices and smart systems</li><li>• Investment in energy sector within the Smart City project is proposed to INR 152 Cr suggesting demand for skilled workers in the energy sector.</li></ul>

## Manufacturing

Ernakulam is a manufacturing hub that has at least 20,000 units catering to sectors such as Wood-based Engineering, Food and Agro-based, chemical industries, maintenance and repair services. These sectors demand skilled workforce that could work in manufacturing processes. Fast growth of Cochin as a commercial hub intermittently helped in the development of infrastructural facilities for pushing the growth of the manufacturing industries.

The matrix below captures the jobs roles that are high in demand:

Job Roles:	Findings
<ul style="list-style-type: none"><li>• Furniture designers</li><li>• Mechanical Operators</li><li>• CAD designers</li><li>• Carpenters</li><li>• Repair and Maintenance staff</li><li>• Welders</li><li>• Gas cutters</li><li>• Technicians</li><li>• Helpers (loading/unloading)</li><li>• Plant operators</li></ul>	<ul style="list-style-type: none"><li>• KINFRA proposes to develop an Electronic Manufacturing Cluster (EMC) in an area of 66.87 acres of land at Kakkanad, Kochi with proximity to Info Park and Smart City.</li><li>• Stakeholders indicated preference for hiring ITI graduates</li><li>• There will be a general need for medium to high technology literacy throughout the sector</li><li>• Migrant labor engaged in this sector</li></ul>

## Tourism

The District is inviting investments up to the tune of INR 500 Crores in Beach development & Cultural Heritage tourism. Other key focus areas include road landscaping, renovation of existing tourist spots, development of new tourist sites etc. Training in the sector will require focus on English language and communication skills. Kerala, has long been marketed as a health destination mainly for its Ayurveda packages. Major hospitals in Kerala have joined hands with Government to promote medical tourism. Treatment of tourists in world class leisure places is becoming very attractive in Kerala and is all set to boom in the near future.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Tourism	Findings
<ul style="list-style-type: none"> <li>Life Guards</li> <li>Boat Jetty Operator</li> <li>Cook/Chef</li> <li>Housekeeping staff</li> <li>Front office staff</li> <li>Oceanarium staff</li> <li>Tour Guides</li> <li>Divers</li> <li>Ayurvedic Treatment counselors</li> <li>Dietician/Yoga therapist</li> </ul>	<ul style="list-style-type: none"> <li>Development of 9 beaches within the district is expected to increase the footfall at those beaches which will in turn increases the requirement of professional life guards to prevent accidents</li> <li>The Beach Corridor development project envisages to set up restaurants, hotels, tree houses etc. in the beach area which is expected to create jobs in the hospitality sector</li> <li>Limited on job training opportunities</li> <li>Need for focus on communication skills and English language skills which will support tourist interactions</li> <li>Potential of Kerala to develop as a hub for medical tourism</li> </ul>

## Fisheries

In the light of reducing marine fish production between 2014-15 and 2015-16, training on sustainable management of fish stock or sustainable aquaculture will be critical. Ernakulam houses various fish processing units. Some of the prominent ones are Baby Marine Pvt. Ltd, Ruby Marine Pvt. Ltd amongst others. These marine processing units demand skilled manpower to undertake production of value-added products in fisheries, quality control, inspection activities and packaging of fishery products.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Fisheries	Findings
<ul style="list-style-type: none"> <li>Production Assistants</li> <li>Quality Control assistants</li> <li>Lab assistants</li> <li>Supervisors in value added fishery products manufacturing units</li> <li>Cold Storage Technician</li> <li>Warehouse Manager</li> <li>Glass/Tunnel/Trolley Freezer Operator</li> <li>Grading supervisor</li> </ul>	<ul style="list-style-type: none"> <li>Scope for aquaponics is immense in Ernakulam and thus training in aquaponics for increasing the produce of fish farmers will be important</li> <li>Ernakulam can hugely benefit from existing research and training institutes –CIFT, MPEDA, CMFRI and NIFPHATT etc.</li> <li>Export potential for shrimps and fish</li> <li>Demand for value added products in fisheries particularly shrimps, prawns and mussels</li> <li>Lack of trained personnel for production of value added products</li> <li>One of the challenge faced by training partners is that fishermen community are reluctant to attend training programmes as the compensation provided is often insufficient</li> <li>Training for disease diagnosis will be helpful for the fishermen community.</li> </ul>



## 2.2. Kozhikode

### 2.2.1. Incremental Demand<sup>23</sup> for Skilled & Semi Skilled Manpower

The district of Kozhikode is witnessing growth in infrastructure development with the upcoming projects in Greater Kozhikode area. The incremental demand of skilled workforce in the district, where as per our methodology has been calculated to be highest in construction and logistics sector.

**Table 8: Incremental Demand for Skilled & Semi Skilled Workers in Kozhikode**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
<i>Ports &amp; Allied</i>							
<i>Logistics</i>	2,575	2,711	2,855	3,005	3,164	3,331	17,641
<i>Tourism</i>	845	883	923	965	1,009	1,054	5,679
<i>Construction</i>	4,888	5,103	5,326	5,560	5,803	6,058	32,738
<b>Other Dominant Sectors in the District</b>							
<i>Manufacturing</i>	727	742	756	771	786	801	4,583
<i>Trade (Retail &amp; Wholesale)</i>	2,465	2,576	2,692	2,814	2,940	3,073	16,560
<i>BFSI</i>	299	311	326	341	357	374	2,008
<i>Agriculture</i>	-4,417	-4,134	-3,868	-3,622	-3,388	-3,172	-22,601
<b>TOTAL</b>							56,608

#### Key trends in Core Sectors.

- **Tourism & Hospitality:** Apart from Ernakulam and Trivandrum, Kozhikode is a popular destination among domestic and foreign tourists. Concerted efforts are being made by the department of Tourism to renovate existing tourist spots. Between 2017 and 2022, on an average, the incremental demand for skilled and semi-skilled workforce in the sector is 945.
- **Construction:** With more than INR 1300 Crores proposed to be invested in the district through the development of enterprises, commercial institutions as wells as residential buildings, it is expected that there will be requirement for skilled professionals in the construction sector.
- **Fisheries:** The fisheries department of the district is focused on promoting sustainable fishing practices as well as enhancing the capacities of the fisher folks to explore deep-sea fishing, to increase their fish catch. Since the incremental demand for the overall agricultural sector is negative, focus must be on upskilling.

#### Key trends in other Dominant Sectors in the District

- **Manufacturing & Industry:** The sector continues to experience growth with huge investments from KSIDC for establishment of Food Parks and Hi-Tech Park, Industrial drives by DIC, Revival of Malabar Spinning Mill and SAIL-Steel complex amongst others. These upcoming investments are reflective of the growth in skilled workforce in the sector.

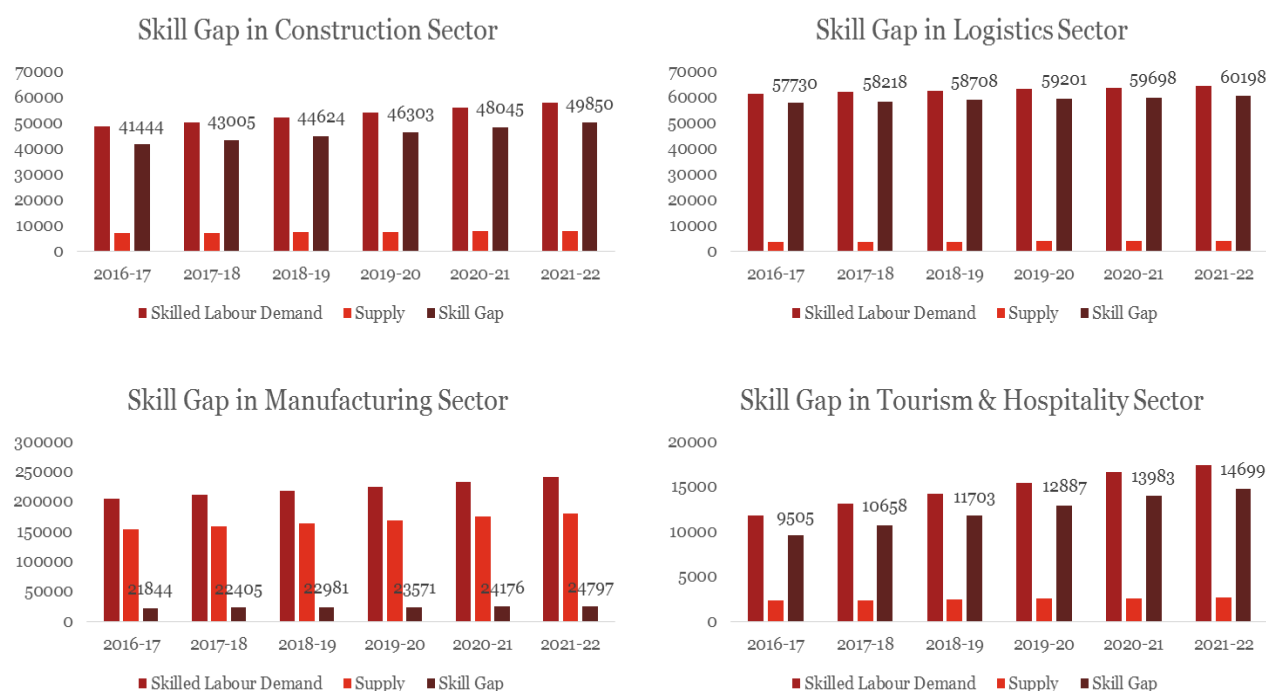
<sup>23</sup> Incremental Demand Estimates the additional stock of workforce that are to be created given the expected Economic Conditions in the period of study. This may help in estimating requirement for fresh trainings.

- 
- **Trade:** Kozhikode is one of the key commercial cities of Kerala and a trade hub. The economy is essentially business oriented and the growth in retail and wholesale trade is expected to continue indicating a need for skilled workforce in the sector.
  - **Agriculture & Fisheries:** Urbanization has made agriculture a sector with lower returns and it has affected employment prospects. Fisheries has remained stagnant as the contribution of fisheries in the district GDP has declined by 1% in the last 10 years (2004-05 and 2013-14).

## 2.2.2. Gap between Total Demand<sup>24</sup> and Supply for Skilled workforce in Select Sectors

The gap in the existing total skilled workforce connotes the gap between the total requirement of skilled manpower and workforce in the district with recognized trainings in the said sectors.

**Figure 59: Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in Raigad**



- **Construction Sector:** The availability of the skilled workforce is minimal with an estimate of less than 1% possessing any recognition in the sector to meet the **total requirement of skilled manpower** (1, 48,369 in 2016-22). The gap is set to increase by 24% between 2016 and 2022, assuming present rates of growth of population and demand for skilled workforce. The requirement for initiating new trainings and recognizing prior learning in the sector is thus a priority.
- **Logistics Sector:** As given above, the supply of available skilled workforce with formal recognition is estimated to be only 1% of the total **requirement of skilled manpower of 68,000 to 88,000 between 2016 and 2022**. The prominent skill gap is reflective of the informal nature of the sector and the lack of formal trainings and certification in the sector. Assuming present rates of growth of population and demand for skilled workforce, the gap is expected to remain the same over the 5 year period.
- **Manufacturing Sector:** The skill gap in the sector is relatively less when compared with the skill gap in other sectors. The supply of skilled workforce with formal training is over 50% of the overall requirement of skilled manpower. This is reflective of the availability of training infrastructure in this space. The gap is not expected to vary between 2016 and 2022, assuming present rates of growth of population and demand for skilled workforce.

<sup>24</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling

- **Tourism and Hospitality:** The supply of skilled workforce with formal training is estimated to be around 10-11% of the overall requirement of skilled manpower between 2016- 22. As given above, the gap between the total requirement of skilled manpower and availability of workforce with recognized trainings is set to increase by 27% by 2022.

### 2.2.3. Job roles in high demand

This sections captures the jobs that have been reported to be high in demand in Calicut by the key stakeholders interviewed during the study, and have been established through the secondary analysis. Across the sectors, few of job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describes the job roles that are high in demand across the sectors.

#### Port and Maritime Sector

The port and maritime sector has reported high demand for skilled crane operators, forklift operator, tug master and drivers. Beypore Port handles container and other petroleum products. Majority of the cargoes are exported to Lakshadweep.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Port operations	Findings
<ul style="list-style-type: none"> <li>• Crane Operator</li> <li>• Forklift Operator</li> <li>• Tug staff/master</li> <li>• Seaman</li> <li>• Drivers</li> </ul>	<ul style="list-style-type: none"> <li>• Well trained crane operators, forklift operators, tug masters are in high demand</li> <li>• No specific training institutes for forklift operators and material handling</li> <li>• Mobile crane operator is the emerging job role which requires skilled workforce to operate.</li> <li>• The port is facing a challenge in hiring the skilled workforce as the skilled workers are not readily available in the job market.</li> </ul>

#### Tourism and Hospitality

KINFRA Techno Industrial Park in Calicut has 19 food processing units and agro based industries employing more than 500 workers.

Job Roles: Tourism & Hospitality	Findings
<ul style="list-style-type: none"> <li>• Front Office Executive/Manager</li> <li>• House keeping</li> <li>• Bell boy</li> <li>• Chef</li> <li>• Supervisor</li> <li>• Guest Service Associate</li> <li>• Gardner</li> <li>• Waiters</li> <li>• Dietician/yoga therapists</li> </ul>	<ul style="list-style-type: none"> <li>• The sector hires graduates/experienced staffs for front end process, F &amp; B services and in housekeeping.</li> <li>• Stakeholders indicated preference for hiring ITI graduates in the maintenance department</li> <li>• Need for focus on communication skills and English language skills</li> </ul>

#### Other Priority Sectors

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like port and maritime sector, sectors such as manufacturing, construction and logistics will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature.

## Construction

The district is inviting investments up to INR. 1300 Crores. There will be a demand for workforce in job roles such as bar benders, masons, steel fixers etc.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Construction	Findings
<ul style="list-style-type: none"><li>• Mason</li><li>• Machinery operator</li><li>• Electrician</li><li>• Roofing technician</li><li>• Supervisor- Electrical works</li><li>• Bar benders</li><li>• Site Supervisor</li></ul>	<ul style="list-style-type: none"><li>• No specific training institute in the district</li><li>• Migrant labor engaged in this sector</li><li>• Electrician, masons and bar benders are high in demand</li></ul>

## Manufacturing

Calicut is a manufacturing hub that has at least 2,000 units catering to sectors such as Wood-based, Engineering, leather, Food and Agro-based. Footwear and Marine Products are the major exportable items in the district. The district is the largest footwear manufacturer which employs skilled manpower for various job roles. KINFRA proposes to set up a footwear park in the district with an expected investment of INR 110 crore that will generate more employment in the near future.

The matrix below captures the jobs roles that are high in demand:

Job Roles	Findings
<ul style="list-style-type: none"><li>• Electrician</li><li>• Welder</li><li>• Technician</li><li>• Machine Operators</li><li>• Carpenters</li></ul>	<ul style="list-style-type: none"><li>• Migrant labourers exist in manufacturing sector</li><li>• Cleaning, loading and unloading of goods are handled by unskilled labourers/migrant workers</li><li>• Stakeholders indicated preference for hiring ITI graduates</li><li>• Workers are hired on contract basis.</li><li>• Electricians, Fitters, Machine operators are high in demand</li></ul>

## 3. District Action Plan

### 3.1. Summary for Ernakulam

SN	Project Name	Job Roles	Type of training	No. of people to be trained
1	Skill Development Centre for Port	Crane Operators (mobile harbour crane, wharf cranes, reach stacker, quay side gantry crane, rubber tyre gantry crane, mobile cranes, forklift operators); Cargo handling and material handling; Underwater welding, general purpose rating and electric arc welding	Fresh and Upskilling	500 persons in next 5 years
2	Upskilling/training for tourism sector	Lifeguards Restaurant Cook, Chef, Housekeeping Staff, Front Office Staff	Fresh and Upskilling	1500 persons in next 5 years
3	Training in fisheries and marine processing	Aquaponics Technician, Fish and Sea food processing technician	Fresh and Upskilling	1000 persons in next 5 years
4	Training for skilled job roles in Construction Sector	Piling workers, Bar Bender and Steel Fixer	Fresh and Upskilling	1500 persons in next 5 years
5	Value addition courses in furniture design courses	Furniture designer	Fresh and Upskilling	600 persons in next 5 years
6	Trainings for job roles emerging in Smart City	Solar panel installation technician and Solar panel maintenance technician, Solid waste management technician	Fresh	300 persons in next 5 years
7	Medical Tourism	Dietician, Yoga therapist, Ayurveda counselor	Fresh	600 persons in next 5 years

## 3.2. Action Plan for Ernakulam

Project 1: Skill Development training for Port and Maritime sector					
Key economic drivers		<ul style="list-style-type: none"><li>One major port – CPT</li><li>India’s First International Container Transshipment Terminal at CPT</li><li>Total traffic handled at CPT expected to rise to 41-43 MTPA by 2025 and 52-60 MTPA by 2035</li><li>Presence of Cochin Shipyard</li></ul>			
Rationale for a Training Center		<p>Efficiency of port operations largely depend on the extent of use of high end equipment and cargo handling activities which in turn affects the cargo handling equipment productivity. The main objective of any port with regard to cargo handling equipment is to give cost-effective services to the port users through optimum performance. The total cargo handled in 2015-16 by the Cochin Port Trust (CPT) was 22,098 million tonnes and the average turn-around time (TAT-the duration taken to load or unload a vessel) for all types of cargo was 2.18 days. While the TAT of Cochin Port is at par with the average TAT of all major ports in the country, it is higher than other better performing major ports in the southern region such as the Chennai Port which recorded a TAT of 1.71 (port account) in Dec 2016. While TAT may be influenced by multiple factors, improvement in cargo handling operations would positively influence the operational efficiency of the port. This instils a need for providing <b>trainings to the existing manpower on usage of different types of cranes</b> such as – mobile harbour crane, wharf cranes, reach stacker, quay side gantry crane, rubber tyre gantry crane, mobile cranes, forklift operators as well as trainings on cargo handling or material handling operations so as to improve the operational efficiency of the port. Additionally, training on handling hazardous material must be provided to ensure safety at port.</p> <p>Apart from this, there is demand for specialised skills such as marine fitter, rigger, underwater welding, electric arc welding general purpose rating courses</p>			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Crane operators (Gantry cranes, mobile cranes, fork-lift operator, tyre mounted crane)	<ul style="list-style-type: none"><li>Existing crane operators at CPT</li><li>Employees of Dock Labour Board</li></ul>	Fresh Training	100 persons in next 5 years
				Up-skilling	50 persons in next 5 years
		Cargo handling/material handling/ Handling hazardous cargo	<ul style="list-style-type: none"><li>Cargo handling workers and shore workers employed with CPT and those from the Dock Labour Board</li></ul>	Fresh Training	100 persons in next 5 years
				Up-skilling	50 persons in next 5 years
		Marine fitter, rigger, General Purpose Rating Course, Under water welding, electric arc welding	<ul style="list-style-type: none"><li>Unemployed youth from coastal communities</li></ul>	Fresh Training	200 persons in next 5 years
	Job Roles	Target Groups	Available OP/NOS	MES	CTS

<b>Availability of curriculum</b>	Crane operators	Crane operators	QP available for: <ul style="list-style-type: none"> <li>Hydra Crane</li> <li>Fork-Lift Operator</li> <li>Tyre-mounted crane</li> </ul>	Course available for: <ul style="list-style-type: none"> <li>Crane Operator</li> </ul>	No course available
	Cargo handling/material handling/ Handling hazardous cargo	Cargo handling workers and shore workers	QP available for: <ul style="list-style-type: none"> <li>Loader/Unloader And Material Handling Equipment Technician (However Port related components may need to be added)</li> </ul>	No course available	No course available
	Marine fitter, Rigger, General Purpose Rating Course, Under water welding, electric arc welding	Unemployed youth from coastal communities	QP available for: Fitter (Marine)	No course available	No course available
<b>Investment (INR In lakhs)</b>					
		<b>Crane Operators</b>			
		Operational Expenditure			72
		<b>Cargo handling</b>			
		Operational Expenditure			72
		<b>General Purpose Rating, Underwater arc welding</b>			
		Operational Expenditure			85
		<b>Total Operational Expenditure</b>			<b>229</b>
		<b>Total Expenditure</b>			<b>90</b>
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		Cochin Port Trust	<ul style="list-style-type: none"> <li>Access to port facilities for practical training</li> <li>Guest faculty</li> <li>Input for designing curriculum</li> <li>Provision of used equipment for training</li> <li>Provide guest faculty and facilitate on the job training</li> </ul>		
		Industry Associations (Captive Port Operators)	<ul style="list-style-type: none"> <li>Industry interface</li> <li>On the job training</li> <li>Facilitate implementation of upskilling for existing workforce</li> </ul>		
		Training Partner (DG Shipping Training institutes (Indian Maritime University/Univan Maritime Training Academy or training partners Accredited by	<ul style="list-style-type: none"> <li>Training delivery</li> <li>Provision of well-trained faculty</li> <li>Mobilization of trainees</li> </ul>		



	KASE –Aries International Maritime Research Institute)	
	Logistic Sector Skill Council	<ul style="list-style-type: none"> <li>• Development of QPs for the identified job roles</li> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• MOS could be the source of funding</li> <li>• DG Shipping approved training institutes or training partners Accredited by KASE to deliver the training and provide qualified trainers as well as mobilization support</li> </ul>	

### Work Plan

Port and Logistics	in Months								
	1	2	3	4	5	6	7	8	9
Partnership with SSC, Industry Partners and Knowledge partners									
Development of QPs									
Establishment of Training infrastructure and facility									
Furnishing of the training centre									
Purchase and installation of lab equipment									
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)									
Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

Project 2: Training for Skilled job roles in Construction Sector	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Increasing contribution of the sector in the district GDP</li> <li>• Cochin is fast becoming a real estate hot spot with several major developers coming up</li> <li>• The steady growth of the property market in Kochi can be largely attributed to the city's infrastructural development, commencement of the much awaited Kochi Metro, the Smart City initiative</li> <li>• Growth in construction activities in the district- 89.6% are residential activities and 8.6% non-residential activities</li> <li>• Attractive wages in the sector which has led to inflow of migrants</li> </ul>
<b>Rationale</b>	Construction sector has been contributing significantly to the district GDP. Between 2004-05 and 2013-14, the sector has contributed to about 16% of the total GDP of Ernakulam and its contribution has been increasing at CAGR of 5.83%. According to a study conducted by the Department of Economics and Statistics, Government of Kerala, a total of 3.33 lakh construction activities of

		different sizes were completed in the last one year (2016) in the State, out of which 12% were at Ernakulam. While 45.9% of the labour force in the construction sector of the state is dominated by migrant labour, it is important to note that increased construction activities have positively influenced the requirement for skilled professionals in the sector especially pile drivers, bar benders and steel fixers.			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Bar-Benders and Steel Fixers	• Unskilled workers in the construction industry	Fresh Training	750 persons in next 5 years
				Upskilling	
		Piling Workers	• Unskilled workers in the construction industry	Fresh Training	750 persons in next 5 years
Upskilling					
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
	Bar-Benders and Steel Fixers	Unskilled workers in the construction industry	<ul style="list-style-type: none"><li>QP available for Bar Bender and Steel Fixer</li><li>QPs do not exist for Piling Workers</li></ul>	<ul style="list-style-type: none"><li>Course available for Bar Bender and Steel Fixer</li><li>No course available for Piling workers</li></ul>	No course available
Investment (INR In lakhs)		Bar Benders and Steel Fixers			
		Operational Expenditure		114	
		Piling Workers			
		Operational Expenditure		114	
		Total Operational Expenditure		228	
Potential Partners		Partner		Areas of Support	
		Kerala Academy for Skills Excellence (KASE)		<ul style="list-style-type: none"><li>Nodal agency for overall implementation and execution of the program</li><li>Provision of space for conduct of trainings. It could be channeled through its Centre of Excellence (CoE)</li><li>Identification of training partners for training delivery</li></ul>	
		Knowledge Partners (Industry Partners such as Relcon Foundation Pvt Ltd./GeoTech Construction Pvt. Ltd)		<ul style="list-style-type: none"><li>Provide inputs in developing industry relevant training material</li><li>Facilitate industry experience</li><li>Provide on-the-job training</li><li>Provide guest faculty/trainers</li></ul>	
		Construction Skill Development Council of India		<ul style="list-style-type: none"><li>Develop model training programmes for the identified job roles</li><li>Identification and certification of Trainers</li></ul>	

		<ul style="list-style-type: none"> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of trainees</li> </ul>
<b>Training Delivery</b>	<b>Option 1</b> <ul style="list-style-type: none"> <li>• MOS could provide funding support to KASE</li> <li>• KASE could be appointed as the nodal agency to manage the overall training delivery through its upcoming CoE-Indian Institute of Infrastructure and Construction in Kollam</li> </ul> <b>Option 2 (and/or)</b> Training to be imparted through TSPs empaneled by NSDC/DDUGKY/PMKVY	

### Work Plan

<b>Construction</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Upgradation of training centre						
Affiliation of Training centre with CSCI						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Roll-out of training programme						

<b>Project 3: Training in aquaponics and for producing value added products in fish processing</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Contribution of Fisheries to district GDP was Rs. 34793 Lakhs (2013-14)</li> <li>• Contribution of Fisheries to district GDP has grown at CAGR of 5.17%</li> <li>• Presence of CMFRI, MPEDA, CIFT in Kochi</li> </ul>
<b>Rationale</b>	<p>While Ernakulam occupies nearly 8% of Kerala's coastline, the annual fish production constituted about 16% of the state's production (both marine and inland) as per the State Fisheries Department data, 2015-16. Also, the value of fish production in the district was approximately Rs. 1, 67,532 lakhs in 2015-16.</p> <p>However, it is important to understand that the overall marine and inland fish production in Kerala has remained stagnant or reduced in the last couple of years. While the state government is providing training for fish farming under the MatyaSamridhi project, what the scheme lacks is the <b>training in aquaponics</b>. Aquaponics is a combination of aquaculture (raising fish) and hydroponics (the soil-less growing of plants), that grows fish and plants together in one integrated system. Training in aquaponics will create livelihood opportunities, especially for those who lack large acres of farmland.</p> <p><b>New opportunities are also emerging in processed fish market</b>, especially sea food. Government bodies such as Marine Products Export Development Authority (MPEDA), encourages fish processing and has set up around 99 processing plants (as per 2014 data) with a total capacity of over 3000 metric tonnes in Kochi alone. Realizing the potential for dry fish products, Kerala State Coastal Area Development Corporation (KSCADC) has also launched its own brand of dry fish products – 'Drish Kerala'. Many private fish processing units have also come up, especially around Fort Kochi. Thus,</p>

		there is a growing need for providing skill development for producing processed food items that are "Ready to eat", 'Ready to cook', 'Ready to fry' etc.			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Aquaponics	<ul style="list-style-type: none"><li>Existing workforce engaged in fishery</li><li>Coastal communities</li></ul>	Upskilling	400 persons in next 5 years
		Fish and sea food processing	<ul style="list-style-type: none"><li>Existing workforce engaged in fishery</li><li>Coastal communities</li></ul>	Upskilling Fresh Training	600 persons in next 5 years
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
	Aquaponics Technician	Fishermen community Unemployed youth	QP not available	No course available	No course available
	Fish and Sea food processing technician	Fishermen community Unemployed youth	QP available for: <ul style="list-style-type: none"><li>Fish and Sea Food Processing Technician</li></ul>	Course available for Processing of Fish and their By- products	No course available
Investment (INR In lakhs)		Aquaponics Technician			
		Operational Expenditure			24
		Fish and Sea food processing technician			
		Operational Expenditure			91
		Total Operational Expenditure			115
Potential Partners		Partner	Areas of Support		
		Marine Products Export Development Authority (MPEDA) /Central Institute of Fishing Technology (CIFT)	<ul style="list-style-type: none"><li>Provide infrastructure for training</li><li>Training delivery</li><li>Provide faculty members</li><li>Integrate the proposed trainings in its training plan</li></ul>		
		Central Marine Research Institute	<ul style="list-style-type: none"><li>Input for designing the curriculum</li><li>Guest faculty</li></ul>		
		Industry Associations (Baby Marine Pvt Ltd., Ruby Marine Pvt. Ltd.)	<ul style="list-style-type: none"><li>Industry interface</li><li>Facilitate sourcing of shrimps to different export houses</li></ul>		
		Agriculture Sector Skill Council	<ul style="list-style-type: none"><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>		
Training Delivery		<ul style="list-style-type: none"><li>CIFT or MPEDA could provide the infrastructure and deliver the training programmes</li><li>Agriculture Sector Skill Council could certify the training programmes</li><li>Department of Fisheries and MoS could fund the training</li></ul>			

## Work Plan

Fisheries	in Months					
	1	2	3	4	5	6
Upgradation of training centre						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

Project 4: Upskilling/Training in tourism sector					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>Most prominent tourist destination with highest number of foreign tourists visiting the district (29498 in between Jan-Sep 2016)</li> <li>Proposed Beach corridor development plan approx. worth Rs. 4847Lakhs</li> <li>Guided by the State Tourism Policy which lays emphasis on safety and security of tourists</li> </ul>			
<b>Rationale</b>		<p>According to the provisional estimates of Department of Tourism, Govt. of Kerala, the total number of domestic and foreign tourists visiting Ernakulam between January and September 2016 was 20,39,633 and 2,94,918 respectively. The most popular tourist destinations in the district include Fort Kochi, Cochin city and Cherai beach. In the light of the huge number of tourists flocking to the district, the District Tourism Department has proposed to undertake a project for Beach Corridor Development- Cherai Circuit to include infrastructure development of 9 beaches across 25 kms.</p> <p>The project envisages to create the largest beach corridor in the State. Apart from setting up of tree houses, huts, restaurants, an important component of the project is to have skilled life guards posted at 7 out of 9 beaches proposed in the project. Guided by the State Tourism Policy 2012, the project realizes that safety and security of tourists is a critical factor in nurturing the growth of the tourism industry as well as for promoting responsible tourism in the district. For this reason, creating a pool of skilled life guards in the district will be an important step in this regard. It requires upskilling of existing life guards with training on usage of modern life saving equipment as well as providing training for creating new life guards.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Skilling training for lifeguards	<ul style="list-style-type: none"> <li>Unemployed youth from Coastal communities</li> </ul>	Fresh Training	300 persons in next 5 years
		Restaurant Cook, Chef, Housekeeping Staff, Front Office Staff	<ul style="list-style-type: none"> <li>Unemployed youth from Coastal communities</li> </ul>	Fresh Training	1200 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Life guards	<ul style="list-style-type: none"> <li>Unemployed youth from coastal</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>Life Guards</li> </ul>	No course available	No course available

		communities			
	Restaurant Cooks, Housekeeping Staff, Front Office Staff	<ul style="list-style-type: none"><li>Unemployed youth from coastal communities</li></ul>	QPs available for: <ul style="list-style-type: none"><li>Cook, Chef, Housekeeping Staff, Front Office Staff</li></ul>	Course available for <ul style="list-style-type: none"><li>Cook, Housekeeper</li></ul>	Course available for <ul style="list-style-type: none"><li>Food production, Housekeeper, Front Office Associate</li></ul>
Investment (INR In lakhs)		Life Guards			
		Operational Expenditure		46	
		Restaurant Cook, Chef, Housekeeping Staff, Front Office Staff			
		Operational Expenditure		183	
		Total Operational Expenditure		229	
Potential Partners		Partner		Areas of Support	
		MoS and Ministry of Tourism		<ul style="list-style-type: none"><li>Provide funds for training delivery, equipment support and infrastructure support</li><li>Facilitate On-Job-Training</li></ul>	
		Training Partner (Kerala Institute of Tourism and Travel Studies/State Institute of Hospitality Management/TSPs accredited by KASE)		<ul style="list-style-type: none"><li>Provide infrastructure for training</li><li>Training delivery</li><li>Provide faculty members</li><li>Integrate the proposed trainings in its training plan</li></ul>	
		Knowledge Partner (Institute of Professional Life Guards)		<ul style="list-style-type: none"><li>Provide inputs in curriculum design</li><li>Provide guest faculty</li></ul>	
		Sports Sector Skill Council/ Tourism and Hospitality Sector Skill Council		<ul style="list-style-type: none"><li>Develop model training programmes for the identified Job Roles (in case QPs do not exist)</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>	
Training Delivery		<ul style="list-style-type: none"><li>Kerala Institute of Travel and Tourism Studies or TSPs empaneled with NSDC/DDUGKY/PMKVY could provide the infrastructure and deliver the training programmes</li><li>Sports Sector Skill Council and Tourism and Hospitality Sector Skill Council could certify the training programmes</li><li>MoS together with Ministry of Tourism could fund the training</li></ul>			

### Work Plan

Life Guards	in Months					
	1	2	3	4	5	6
Upgradation of training centre (if required)						
Purchase of consumables						
Appointment of additional staff members (if required)						
Mobilization of prospective trainees						
Enrolment of students						

Life Guards	in Months					
	1	2	3	4	5	6
Roll-out of training programme						

Project 5: Trainings for job roles emerging in Smart City					
Key economic drivers		<ul style="list-style-type: none"><li>Smart City Projects worth INR 2000 Cr proposed for by Cochin Smart City Mission</li><li>Emerging investments in Kochi Metro Rail</li></ul>			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Production of renewable energy	<ul style="list-style-type: none"><li>Coastal communities</li></ul>	Upskilling	200 persons in next 5 years
				Fresh Training	
		Solid waste management	<ul style="list-style-type: none"><li>Coastal communities</li></ul>	Upskilling	100 persons in next 5 years
Fresh Training					
Rationale		In the light of the proposed investments in Smart City Projects in varying sectors-renewable energy (over 15,000 lakhs) , solid waste management (over INR 600 Lakhs), Water supply (INR 1300 Lakhs), it is expected that job roles in these sectors will be in high demand. Skilled workforce will be required to meet the requirements of these emerging investments.			
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
	Solar panel installation technician and Solar panel maintenance technician	<ul style="list-style-type: none"><li>Youth interested in renewable energy domain</li></ul>	QP available for: <ul style="list-style-type: none"><li>Solar PV Installer - Civil</li><li>Solar PV Installer - Electrical</li><li>Solar PV Installer (Suryamitra)</li></ul>	Course available for Solar electric System Installer & Service Provider, Solar Hot Water system installer, Assistant Solar PV Technician, Solar PV Technician	No course available
	Solid waste management technician	<ul style="list-style-type: none"><li>Youth interested in waste management domain</li></ul>	QP available for: <ul style="list-style-type: none"><li>Wastewater Treatment Plant Helper</li><li>Wastewater Treatment Plant Technician</li></ul>	No course available	No course available
Investment (INR In lakhs)		Solar panel installation technician and Solar panel maintenance technician			
		Operational Expenditure			30
		Solid waste management technician			
		Operational Expenditure			15
		Total Operational Expenditure			45

Potential Partners	Partner	Areas of Support
	Kerala Academy for Skills Excellence (KASE)	<ul style="list-style-type: none"> <li>• Nodal agency for overall implementation and execution of the program</li> <li>• Provision of space for conduct of trainings (Could be channeled through its Centre of Excellence)</li> <li>• Identification of training partners for training delivery</li> </ul>
	Training Partner	<ul style="list-style-type: none"> <li>• Provide infrastructure for training</li> <li>• Training delivery</li> </ul>
	Industry Associations (Cochin Smart City Mission Ltd.)	<ul style="list-style-type: none"> <li>• Industry interface</li> <li>• Facilitate On-Job-Training</li> <li>• Facilitate in identifying the firms that could recruit the trained graduates</li> </ul>
	Green Jobs Skill Council	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
Training Delivery	<p><b>Option 1</b></p> <ul style="list-style-type: none"> <li>• MOS could provide funding support to KASE</li> <li>• KASE could be appointed as the nodal agency to manage the overall training delivery through its CoE in Water and Waste water treatment-Green Method Engineering in Kochi</li> </ul> <p><b>Option 2 (and/or)</b></p> <ul style="list-style-type: none"> <li>• Training to be imparted through TSPs empaneled by NSDC/DDUGKY/PMKVY</li> </ul>	

### Work Plan

Smart City	in Months					
	1	2	3	4	5	6
TSP empanelment						
SSC affiliation						
Training centre setup						
mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

Project 6: Value addition courses in furniture design courses for wood based manufacturing units	
Key economic drivers	<ul style="list-style-type: none"> <li>• Presence of major furniture clusters in Ernakulam</li> <li>• Since the furniture sector in Ernakulam depends largely on imported wood, the district could be developed as a furniture manufacturing hub and linked to Kochi port for evacuation</li> </ul>



<b>Rationale</b>		According to the estimates provided by DIC, Ernakulam, amongst all MSME units wood/wooden based manufacturing units account for highest investments worth Rs 92,368 Lakhs across 2000 units in the district. The sector provides employment to over 18,000 persons in the district, making it one of the top 5 employers among all MSME units. One of the of critical challenges faced by the manufacturing units in the district is to keep abreast with the recent trends in the furniture design space such as Ready to Assemble (RTA) or knock-down furniture kits. The manufacturing units in the district have restricted to traditional furniture due to limited or lack of skills in furniture designing. Thus, creating a need for providing skill training to furniture manufacturers to augment their skills on modern-day furniture design. The skill training in furniture design course will include developing contemporary designs in 2-D and 3-D forms, use of different types of furniture technology, spatial Organization, details of furniture design etc.			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Furniture Design Course	<ul style="list-style-type: none"> <li>Existing workforce engaged in wood based manufacturing units</li> </ul>	Upskilling Fresh Training	600 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<b>Furniture Designer</b>	<ul style="list-style-type: none"> <li>Existing workforce engaged in wood based manufacturing units</li> <li>Unemployed youth from Coastal communities</li> </ul>	QP not available	Course available for Bamboo Furniture Making and Wooden Furniture	Course available for Bamboo works
<b>Investment (INR In lakhs)</b>		<b>Furniture Design Course</b>			
		Operational Expenditure			91
		<b>Total Operational Expenditure</b>			<b>91</b>
<b>Potential Partners</b>		<b>Partner</b>		<b>Areas of Support</b>	
		Kerala Academy for Skills Excellence (KASE)		<ul style="list-style-type: none"> <li>Nodal agency for overall implementation and execution of the program</li> <li>Provision of space for conduct of trainings (Could be channeled through its Centre of Excellence)</li> <li>Identification of training partners for training delivery</li> </ul>	
		Training Partner (Keltron Design Academy)		<ul style="list-style-type: none"> <li>Provide infrastructure for training</li> <li>Training delivery</li> <li>Provide faculty members</li> <li>Integrate the proposed trainings in its training plan</li> </ul>	
		Industry Associations (KeFCon.)		<ul style="list-style-type: none"> <li>Input for designing the curriculum</li> <li>Guest faculty</li> </ul>	

		<ul style="list-style-type: none"> <li>• Industry interface</li> <li>• Facilitate internships/on-the-job training</li> </ul>
	Furniture and Fittings Sector Skill Council	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<p><b>Option 1</b></p> <ul style="list-style-type: none"> <li>• MOS could provide funding support to KASE</li> <li>• KASE could be appointed as the nodal agency to manage the overall training delivery through its CoE –Kerala State Institute of Design (KSID), Kollam</li> <li>• Furniture and Fittings Sector Skill Council will certify the training programmes</li> </ul> <p><b>Option 2</b></p> <ul style="list-style-type: none"> <li>• Keltron Design Academy could provide the infrastructure and deliver the training programmes</li> <li>• Furniture and Fittings Sector Skill Council could certify the training programmes</li> <li>• MoS together with MoSDE could fund the training</li> </ul>	

### Work Plan

<b>Furniture Design Course</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Upgradation of training centre (if required)						
Purchase of consumables						
Appointment of additional staff members (if required)						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

<b>Project 7: Courses in Medical Tourism</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Major hospitals like KIMS, Trivandrum, Lake Shore and AIMS in Kochi, and MIMS, Calicut have pioneered joining hands with the Government for promoting Medical Tourism.</li> <li>• Well connected by air from major medical tourism markets in the Middle East European markets and South Asia</li> <li>• Advanced and sophisticated hospitals of International standards located in Kerala.</li> <li>• The developed tourism industry in Kerala with its array of high quality resorts and hotels.</li> </ul>
<b>Rationale</b>	<p>Kerala is already marketed as a health destination, mainly for its Ayurveda packages. Medical tourism is marketed along with Ayurveda and other health packages. Since Kerala is well connected by air from major medical tourism markets in the Middle East, Europe and South East Asia, and has sophisticated hospitals of international standards, medical tourism has a lot of scope and potential in the State, especially in cities like Ernakulam. The developed tourism industry in Kerala with its array of high quality</p>

		resorts and hotels provides suitable opportunity for the medical tourism industry to further grow here.			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Ayurveda Counselor/ Dietician/Yoga therapist	• Local youth	Fresh Training	300 persons in next 5 years
		Certificate course in Medical Tourism	• Local youth	Fresh Training	300 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<b>Ayurveda Counselor</b>	• Local youth	QP not available	Course not available	Course not available
	<b>Dietician/Yoga therapist</b>	• Local youth	QP not available	Course not available	Course not available
<b>Investment (INR In lakhs)</b>		<b>Ayurveda Counselor</b>			
		Operational Expenditure			46
		<b>Dietician/Yoga therapist</b>			
		Operational Expenditure			46
		<b>Total Operational Expenditure</b>			<b>92</b>
<b>Potential Partners</b>		<b>Partner</b>		<b>Areas of Support</b>	
		KASE		<ul style="list-style-type: none"> <li>• Nodal agency for overall implementation and execution of the program</li> <li>• Provision of space for conducting trainings</li> <li>• Identification of training partners for training delivery</li> </ul>	
		Training Partner (Affiliated to KASE)		<ul style="list-style-type: none"> <li>• Provide infrastructure for training</li> <li>• Training delivery</li> <li>• Provide faculty members</li> <li>• Integrate the proposed trainings in its training plan</li> </ul>	
		Industry Associations (Tourism & Medical)		<ul style="list-style-type: none"> <li>• Input for designing the curriculum</li> <li>• Guest faculty</li> <li>• Industry interface</li> <li>• Facilitate internships/on-the-job training</li> </ul>	
		Tourism Sector Skill Council Healthcare Sector Skill Council Lifesciences Sector Skill Development Council		<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> </ul>	

		<ul style="list-style-type: none"> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<b>Option 1</b> <ul style="list-style-type: none"> <li>• MOS could provide funding support to KASE</li> <li>• KASE could be appointed as the nodal agency to manage the overall training delivery</li> <li>• Respective Sector Skill Council will certify the training programmes</li> </ul> <b>Option 2</b> <ul style="list-style-type: none"> <li>• Training Provider empaneled with KASE could provide the infrastructure and deliver the training programmes</li> <li>• Respective Sector Skill Council could certify the training programmes</li> <li>• MoS together with MoSDE could fund the training</li> </ul>	

<b>Medical Tourism Course</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Identification of TSPs						
Course Curriculum preparation						
Training Centre setup/preparation						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

### 3.3. Summary for Kozhikode

S.No	Project Name	Job Roles	Type of training	No. of people to be trained
1.	Upskilling in furniture manufacturing industry	Assistant Carpenter- Wooden furniture, Furniture design, Product design	Upskilling	1200 persons in next 5 years
2.	Training and Certification for Port & Maritime Sector	Crane operators, tug operators	Upskilling	300 persons in next 5 years
3.	Training in Footwear design	Footwear designer/Pattern designer	Fresh	600 persons in next 5 years
4.	Training in Construction	Bar benders and steel fixers	Fresh	1500 persons in next 5 years
5.	Training in entrepreneurial skills for students pursuing food production courses	Entrepreneurs as baker/caterer/restaurant owner	Fresh and Upskilling	500 persons in next 5 years
6.	Trainings for fishermen community	Deep sea fishing and navigation, fish handling and marketing	Fresh and Upskilling	500 persons in next 5 years

### 3.4. Action Plan for Kozhikode

<b>Project 1: Upskilling in furniture manufacturing industry</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>Calicut is famous for wood and timber trading.</li> <li>Kallai, a small town in Kozhikode is known for wood of superlative strength and durability</li> <li>More than 400 MSME units based on timber or wooden furniture have registered with the DIC since 2010</li> </ul>			
<b>Rationale for a Training Centre</b>		<p>The scope for wood and wooden furniture manufacturing is high in Kerala. A large number of people are engaged in saw mills, furniture manufacturing, own furniture shops which are spread across the district. Kallai, a small town in Calicut is known for timber trading, teak, rosewood. Malabar Wood work is well known in Southern parts of India. According to 2015-16 MSME data, the sector has 365 units of wood/wooden based furniture with an investment of 926.16 lakhs employing 1,542 persons in the district. A skill training on Wood working with various advanced machinery for products and furniture design, drawing, finishing can be implemented in the district.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Assistant Carpenter-Wooden furniture, Furniture design, Product design.	<ul style="list-style-type: none"> <li>Workforce currently engaged in furniture manufacturing industry</li> </ul>	Upskilling	1200 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<ul style="list-style-type: none"> <li>Assistant Carpenter-Wooden furniture, Furniture design, Product design, Carpenter Wooden furniture.</li> </ul>	Existing workforce	QP available for: <ul style="list-style-type: none"> <li>Assistant – Fitter- Modular Furniture</li> <li>Assistant Carpenter-wooden Furniture</li> <li>Carpenter Wooden Furniture</li> <li>Fitter- Modular Furniture</li> <li>Lock Technician</li> </ul>	MES available for: <ul style="list-style-type: none"> <li>Basic Wood Work</li> <li>Wooden furniture</li> </ul>	CTS available for: <ul style="list-style-type: none"> <li>Carpenter</li> </ul>
<b>Estimated Investment (INR In lakhs)</b>		<b>Furniture design courses</b>			
		Operational Expenditure	73		
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		Kerala Academy for Skills Excellence (KASE)	<ul style="list-style-type: none"> <li>Nodal agency for overall implementation and execution of the program</li> <li>Provision of space for conduct of trainings (Could be channeled through its Centre of Excellence)</li> <li>Identification of training partners for training delivery</li> </ul>		
		Industry Partners (Tip	<ul style="list-style-type: none"> <li>Industry interface</li> <li>Facilitate internships/on-the-job training Input for designing the curriculum</li> </ul>		

	Top furniture, DAMRO)	<ul style="list-style-type: none"> <li>• Guest faculty</li> <li>• Facilitate implementation of upskilling for existing workforce</li> </ul>
	Training Partner (Keltron Design Academy)	<ul style="list-style-type: none"> <li>• Provide infrastructure for training</li> <li>• Training delivery</li> <li>• Provide faculty members</li> <li>• Integrate the proposed trainings in its training plan</li> </ul>
	Furniture and Fittings SSC	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<p><b>Option 1</b></p> <ul style="list-style-type: none"> <li>• MOS could provide funding support to KASE</li> <li>• KASE could be appointed as the nodal agency to manage the overall training delivery through its CoE –Kerala State Institute of Design (KSID), Kollam</li> <li>• Furniture and Fittings Sector Skill Council will certify the training programmes</li> </ul> <p><b>Option 2</b></p> <ul style="list-style-type: none"> <li>• Keltron Design Academy could provide the infrastructure and deliver the training programmes</li> <li>• Furniture and Fittings Sector Skill Council could certify the training programmes</li> <li>• MoS together with MoSDE could fund the training</li> <li>•</li> </ul>	

### Work Plan

<b>Furniture Design Course</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Upgradation of training centre (if required)						
Purchase of consumables						
Appointment of additional staff members (if required)						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

<b>Project 2: Training and Certification for Port &amp; Maritime Sector</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Proposal for construction of 150 m wharf and ancillary facilities at the downstream side of the existing wharf</li> <li>• Memorandum of Understanding and Lease Agreement have been signed with Union Territory of Lakshadweep for the construction of 200 x 20 M dedicated berthing facility at Beypore for a lease period of 30 years.</li> <li>• Scope of crane operations in other sectors such as Construction</li> </ul>

<b>Rationale for a Training Center</b>		Deficiency of workers with experience in crane operations, reach stack operator and tug operators as these activities are undertaken by the port staff. The sector recruitments are managed by the port authority. The staffs are initially selected for entry level job role (Seaman). With the years of experience and promotion, port officers gradually gain proficiency in crane and tug operations. As on 2015-16, approx. 84 port officers and 185 contract labourers are employed in Beypore Port. In the year 2015-16, 1, 26,015 m.t. of cargos was handled by the port. Operations of cranes require specialized skills and can be utilized in other sectors such as construction sector.			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Crane operators (reach stacker, mobile crane, fork-lift operator)	Port staffs/Existing operators	Upskilling	150 persons in next 5 years
		Tug operator	Port Staffs/Existing operators	Upskilling	150 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Role</b> <ul style="list-style-type: none"><li>Crane operators</li></ul>	<b>Target groups</b> Existing workforce	<b>QP/NOS</b> QP available for: <ul style="list-style-type: none"><li>Hydra crane operator</li><li>Tyre mounted crane operator</li><li>Junior crane operator</li><li>Overhead crane operator</li><li>Grab/Ship Unloader (GSU) Crane operation</li><li>Rail Mounted Quay Crane (RMQC) operator</li></ul>	<b>MES</b> MES available for: <ul style="list-style-type: none"><li>Crane operator</li></ul>	<b>CTS</b> Not Available
	<ul style="list-style-type: none"><li>Tug operator</li></ul>	Existing workforce	Not Available	Not Available	Not Available
<b>Estimated investment (INR in lakhs)</b>		<b>Crane Operators</b>			
		Operational Expenditure	9		
		<b>Tug Operators</b>			
		Operational Expenditure	9		
		<b>Total Operational Expenditure</b>	<b>18</b>		
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		Beypore Port	<ul style="list-style-type: none"><li>Space and infrastructure for training/Upskilling for existing workforce</li><li>Access to port facilities for practical training</li><li>Trainers can also be the experts from the port</li></ul>		



	Training Partner (Kunjali Marakkar School of Marine Engineering of Cochin and Marine Engineering Training Institute (Cochin Shipyard Limited))	<ul style="list-style-type: none"> <li>• Training delivery</li> <li>• Co-management of the training facility</li> </ul>
	Logistic Sector Skill Council	<ul style="list-style-type: none"> <li>• Development of QPs for the identified job roles</li> <li>• Identification and certification of Trainers/assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• To impart training in the port locality.</li> <li>• The training to be managed and maintained by Port or Ministry of Shipping</li> </ul>	

### Work Plan

Port and Logistics	in Months								
	1	2	3	4	5	6	7	8	9
Partnership with SSC, Industry Partners and Knowledge partners									
Development of QPs									
Purchase and installation of lab equipment									
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)									
Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

<b>Project 3: Training in Footwear design</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Kozhikode district is emerging as a major centre in the manufacture of rubber and PVC-based footwear with the induction of state of the-art technology and value-added products by unit-holders in the industry</li> <li>• Presence of major players such as VKC, Rapture India Footcare etc.</li> <li>• Over 300 footwear based manufacturing and ancillary MSME units are registered with the DIC</li> </ul>
<b>Rationale for a Training Center</b>	Over the last couple of years, Calicut has rapidly emerged as a major hub for footwear industry and is a prominent player in the non-leather footwear manufacturing space. Footwear is one of the key exportable items from the district. Over 300 footwear manufacturing and ancillary units are registered with the DIC and have investments worth INR. 700 crores, generating employment for over 4500 persons. Implementation of value addition courses will be the next step to increase efficiencies and enhance capabilities of the skilled and semi-skilled workers in the

		industry. It is expected that such courses would provide exposure to new machineries/technologies, designs etc.			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Footwear design/Pattern design	Existing workforce	Fresh Training	600 persons in next 5 years
Availability of curriculum	Job Role	Target groups	QP/NOS	MES	CTS
	<ul style="list-style-type: none"><li>Footwear design/Pattern design</li></ul>	Existing workforce	QP available for: <ul style="list-style-type: none"><li>Cutter</li><li>Operator (Moulding, Lasting, Skiving, Pre-Assembly, Stitching)</li><li>Helper (Finishing, Uppers Making and Bottom Making)</li></ul>	MES available for: <ul style="list-style-type: none"><li>Leather Footwear &amp; Sports Shoe Maker</li><li>Leather Footwear Machine Operators (Closing and Clicking)</li></ul>	Not Available
Estimated investment (in INR Lakhs)		Footwear Design			
		Operational Expenditure	91		
Potential Partners		Partner	Areas of Support		
		Training Partner (Footwear Design and Development Institute)	<ul style="list-style-type: none"><li>Provide Infrastructure for establishing the training centre</li><li>Input for designing curriculum</li><li>Training delivery</li></ul>		
		Industry Partners (VKC, Odysia)	<ul style="list-style-type: none"><li>Facilitate On-Job-Training</li><li>Provide inputs in curriculum design</li></ul>		
		Leather/ Sector Skill Council	<ul style="list-style-type: none"><li>Development of QPs for the identified job roles</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>		
Training Delivery		Option 1			
		<ul style="list-style-type: none"><li>Upcoming FDDI campus in Kozhikode could provide infrastructure for training delivery, provision of faculty members and mobilisation support</li><li>Leather Sector Skill council could certify the training programme</li><li>MoS together with MoSDE could fund the training programme</li></ul>			
		Option 2			
		<ul style="list-style-type: none"><li>Training to be imparted through TSPs empaneled by NSDC/DDUGKY/PMKVY</li><li>MoS together with MoSDE could fund the training programme</li><li></li></ul>			

## Work Plan

Training in Footwear design	in Months					
	1	2	3	4	5	6
Partnership with SSC, Industry Partners and Knowledge partners						
Development of Training center/Establishment of Training Infrastructure						
Appointment of staff members (instructors, counsellors, mobilization in-charge, administrative staff etc.)						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

Project 4: Training in Construction					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>More than INR 1300 Cr investment projected for the next five years</li> <li>Increasing contribution of the sector in the district GDP</li> </ul>			
<b>Rationale for a Training Center</b>		The sector has contributed 15.6% of the total GDP of Kozhikode and its contribution has been increasing at CAGR of 6.8%. The district has witnessed a boom in the sector in recent years. The investments projected for the next five years in construction sector includes development of enterprise, commercial, residential projects, tourism development which will generate more employment opportunities.			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Bar-Benders and Steel Fixers	Unskilled workers in the construction industry	Fresh Training	1500 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<ul style="list-style-type: none"> <li>Bar-Benders and Steel Fixers</li> </ul>	Unskilled workers in the construction industry	<ul style="list-style-type: none"> <li>QP available for Bar Bender and Steel Fixer</li> <li>QPs do not exist for Piling Workers</li> </ul>	<ul style="list-style-type: none"> <li>Course available for Bar Bender and Steel Fixer</li> <li>No course available for Piling workers</li> <li></li> </ul>	No course available
<b>Estimated investment (INR in lakhs)</b>		<b>Training in Construction sector</b>			
		Operational Expenditure	<b>228</b>		
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		Kerala Academy for Skills Excellence (KASE)	<ul style="list-style-type: none"> <li>Nodal agency for overall implementation and execution of the program</li> </ul>		

		<ul style="list-style-type: none"> <li>• Provision of space for conduct of trainings. It Could be channeled through its Centre of Excellence (CoE) )</li> <li>• Identification of training partners for training delivery</li> </ul>
	Knowledge Partners (Industry Partners)	<ul style="list-style-type: none"> <li>• Provide inputs in developing industry relevant training material</li> <li>• Facilitate industry experience</li> <li>• Provide on-the-job training</li> <li>• Provide guest faculty/trainers</li> </ul>
	Training Partner (Don Bosco Tech Society/IL&FS Skill Development Corporation)	<ul style="list-style-type: none"> <li>• Provision of space for conducting trainings</li> <li>• Mobilization of trainees</li> <li>• Training delivery</li> </ul>
	Construction Skill Development Council of India	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified job roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of trainees</li> </ul>
<b>Training Delivery</b>	<b>Option 1</b> <ul style="list-style-type: none"> <li>• MOS could provide funding support to KASE</li> <li>• KASE could be appointed as the nodal agency to manage the overall training delivery through its upcoming CoE-Indian Institute of Infrastructure and Construction in Kollam</li> </ul> <b>Option 2 (and/or)</b> <ul style="list-style-type: none"> <li>• Training to be imparted through TSPs empaneled by NSDC/DDUGKY/PMKVY</li> </ul>	

### Work Plan

Training in construction	in Months					
	1	2	3	4	5	6
Upgradation of training centre						
Affiliation of Training centre with CSCI						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Roll-out of training programme						

<b>Project 5: Training in entrepreneurial skills for students pursuing food production courses</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Under the Intensive Industrialization Drive, last one year witnessed growth of food and agro based industries with investment worth Rs 2000 lakhs and is expected to generate employment for over 300 persons.</li> <li>• Presence of specialized training centres with quality infrastructure such as Food Craft Institute, State Institute of Hospitality Management</li> </ul>
<b>Rationale for a Training Centre</b>	Trade, Hotels and Restaurant sector has contributed about 24% of the total GDP of Calicut. According to the Tourism Department, the district has 4 home stays, 2

		resorts, 1 food park, 30 hotels accredited by Department of Tourism. Given that the sector is prominent in the district, it is important to provide entrepreneurial skills to the students which will enable them to start their own ventures. The district has a number of training partners who provide trainings and certification for food production, food and beverage services etc. It is equally important to impart sector specific entrepreneurial development programmes. DIC, Calicut had conducted Entrepreneurial Development Programme (EDP) and Skill EDP on 2015-16 for 65 participants.			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Entrepreneurship Development Program	Students of Hospitality sector courses	Fresh Training	500 in persons next 5 years
<b>Availability of curriculum</b>	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Various Job roles in hotels restaurants and bakeries	Students pursuing	QP available for <ul style="list-style-type: none"> <li>• Craft baker</li> <li>• Multi-Cuisine Cook</li> <li>• Tandoor Cook</li> <li>• Kitchen Helper</li> <li>• House Keeping Manager/Executive etc.</li> </ul> No QP available for entrepreneurship training programmes	MES available for <ul style="list-style-type: none"> <li>• Technology of manufacturing bakery products</li> </ul>	CTS available for: <ul style="list-style-type: none"> <li>• Craftsman Fruits &amp; vegetables Processing</li> <li>• Craftsman Bakery &amp; Confectionery</li> </ul>
<b>Estimated investment</b>		<b>Training in entrepreneurial skills for students pursuing food production courses</b>			
		Operational Expenditure	76		
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		Kerala Academy for Skills Excellence (KASE)	<ul style="list-style-type: none"> <li>• Nodal agency for overall implementation and execution of the program</li> <li>• Provision of space for conduct of trainings. It Could be channeled through its Centre of Excellence (CoE) )</li> <li>• Identification of training partners for training delivery</li> </ul>		
		Training Partner (Food Craft Institute, State Institute of Hotel Management)	<ul style="list-style-type: none"> <li>• Utilization of the existing infrastructure</li> <li>• Inclusion of entrepreneurship development courses</li> <li>• Designing the curriculum</li> <li>• Training delivery</li> </ul>		
		Industry Partner (Cochin Bakery, Keys Malabar Hotels, Hotel Association)	<ul style="list-style-type: none"> <li>• Inputs in designing curriculum</li> <li>• Facilitate On the Job Training</li> </ul>		
		Food Processing Sector Skill Council/Tourism and Hospitality	<ul style="list-style-type: none"> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>		

	Sector Skill Council	
Training Delivery	<b>Option 1</b> <ul style="list-style-type: none"> <li>MOS could provide funding support to KASE</li> <li>KASE could be appointed as the nodal agency to manage the overall training delivery through its CoE in Entrepreneurship Development – partnering with Entrepreneurship Development Institute of India (EDI) Ahmedabad</li> </ul> <b>Option 2 (and/or)</b> <ul style="list-style-type: none"> <li>Food Craft Institute, State Institute of Hotel Management could include Entrepreneur development programme.</li> </ul>	

## Work Plan

Training in entrepreneurial skills for students pursuing food production courses	in Months					
	1	2	3	4	5	6
Developing QP/NOS						
Appointment of additional staffs						
Enrolment of students						
Roll-out of training programme						

<b>Project 6: Training for fisherman</b>					
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>Fishing is one of the main activities in the district</li> <li>Kozhikode has a coast line of length 70 kms which is about 12% of the state's coastline length</li> </ul>				
<b>Rationale for a Training Center</b>	<p>The district has 19 fish landing centres and 21,769 active marine fishermen and 14,557 families in the year 2014-15. Deep Sea fishing has been identified as one of the important skilling areas due to the fast depletion of marine wealth at usual depths. Deep Sea fishing as a technique requires more than 30 meters of depth which requires more knowledge in handling equipment, weather patterns, navigation and safety precautions. Deep sea fishing is one of the techniques which can be adopted to generate revenue.</p> <p>Along with training on various fishing techniques, fish handling operations, transportation, processing and marketing are few of the essential components which are to be considered. Most of the fisherwomen play a major role in marketing and in determining the prices of the fishes. A large number of people are directly and indirectly involved in the above said components. A training on different fishing techniques, handling and marketing would be required for the benefit of the community.</p>				
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>	
	Deep Sea Fishing and Navigation	Fisherman Community	Fresh Training	250 persons in next 5 years	
	Safe Fishing practices	Fisherman Community	Fresh Training	250 persons in next 5 years	
	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>

Availability of curriculum	• Deep Sea Fishing and Navigation	Fisherman Community	Not Available	Not Available	Not Available
	• Fish handling and marketing	Fisherman Community	Not Available	Not Available	Not Available
Estimated investment (INR Lakhs)		Training for fisherman			
		Capital Expenditure	10		
		Operational Expenditure	76		
		Total Expenditure	86		
Potential Partners		Partner	Areas of Support		
		Department of Fisheries	• Source of funding		
		CIFT, CIFNET, MPEDA and Fisherman Co-operatives	• Provide infrastructure for training • Training delivery • Provide faculty members • Integrate the proposed trainings in its training plan		
		CMFRI	• Input for designing the curriculum • Guest faculty		
		Agriculture Sector Skill Council	• Develop model training programmes for the identified Job Roles • Identification and certification of Trainers • Identification and certification of assessors • Assessment of trainees • Certification of Trainees		
Training Delivery		• CIFT or MPEDA could provide the infrastructure and deliver the training programmes • Agriculture Sector Skill Council could certify the training programmes • Department of Fisheries and MoS could fund the training			

## Work Plan

<b>Fisheries</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Upgradation of training centre						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

## 4. List of Stakeholders consulted

### 4.1. State level consultations

S. No	Stakeholder	Person	Contact No	Email
1	Kerala State Coastal Area Development Corporation	Mr. Suresh Kumar, Project Manager	8086075890	kscadc@gmail.com
2	Department of Tourism	Mr. Biju, Tourist Information Officer	09847299323 (Mr. Biju)	info@keralatourism.org, deptour@keralatourism.org
3	Odisha Livelihood Mission	Nazeem, Assistant Planning Officer	0471-2560446	
3	Department of fisheries	Mrs. Sandhya, Joint Director	0471-2304348/9496007022 (Mrs. Sandhya, Joint Director of fisheries)	
4	Directorate of Industries and Commerce	Mr. Ramesh, Research officer		
6	IL&FS Skills Development Corporation Limited	Mr. Vipin Das	8891608430: Mr. Vipin Das	
7	Adani Vizhinjam Port Private Limited	Mr. Sushil Nair, Head-Corporate Affairs	9447231147	sushil.nair@adani.com
8	Harbour Engineering Division	Mr. Anil Kumar, Chief Engineer and Mrs. Radhika	956266767	
9	Kerala State Industrial Development Corporation	Mr. Biju, AGM	0471-2318922	
10	Department of Economics and Statistics	Mrs. Rekha	9746229954	
12	Vizhinjam International Sea Port Ltd	Mr. Ajit, Chief Project Coordinator & Head	9495718736	ajit@vizhinjamport.in
13	Kerala Academy for Skills Excellence	Mr. Harikrishnan, Chief Operating Officer	9447139350	Coo@



## 4.2. District level consultations- Ernakulam

SN	Stakeholder	Person	Cell/Phone	Email
1	Ceylon Bake house	Mr. Najid, Manager	0484-2366011	cbhkochi@gmail.com
2	Hotel Excellency	Mr. Shamir, F&B Manager	0484-2378251	excellency@eth.net
3	Kerala Tours and Travels	Partner, Nidhin	0484-2377809	kttc10@gmail.com
4	Department of Fisheries	Mr. Nithish, Assistant Executive		
		Mr. Sandeep, Junior Superintendent		
5	Fishing Farmers Development Agency (FFDA)	Ms. Seema, Fisheries Extension Officer	0484-2392660	
6	District Industries Centre	Mrs. Sudarsha, Deputy Director		
		Mr K N Krishnakumar, Joint Director	9745003420	gm.ekm.dic@kerala.gov.in
7	District Labour Department	Mr. Subhash	8281980857	
8	Asten Realtors	Dr. Radha Iyer, Head-Human Resource	9946109421	radhaiyer@astenrealtors.com
9	Smart City Kochi	Mr. Deepu, Director-Operations	9895076776	deepu.kk@smartcity-kochi.in
10	Cochin Port Trust	Mr. Jimmy George, Sr. Deputy Traffic Manager	9847449034	jimmygeorge.v@gmail.com
11	Active Shipping agency	Mr. Manoj Kumar, Partner		
12	Sea World Shipping and logistics Pvt. Ltd	Mr. Fabiam, Operations	8089784649	
13	ISB Logistics India Pvt. Ltd	Mr. Ajmal	9947839910	
14	Sparrow Logistics	Mr Shivakumar TP, Head	758882068	shival@sparrowlogistics.com
15	Cochin Shipyard	Mr. Varadarajan, GM, Skill development	9895765874	skilldevelopment@cochinshipyard.com
		Mr. K J Ramesh, Chief General Manager (HR)	9895705152	gmhr@cochinshipyard.com
16	Cochin Steamer Agents' Association and NYK Line (India) Pvt. Ltd	Mr. Prakash Iyer, President and Branch Manager of NYK Line (India) Pvt. Ltd	9447499908	prakash.iyer@nykgroup.com
17	Geotech Construction Pvt. Ltd	Mr Babu George, Marine Director	0484-2319162	
18	RDS Pvt Ltd	Mr Simson, HR Manager	9388085300	
19	Chakiat Agencies	Mr Eappen Baby, Senior Manager	0484-2667111	eappen_baby@chakiat.net
20	ACS Shipping Pvt Ltd	Mr Yeshuraj, Senior Executive	9567054187	
21	Nautical Cargo Pvt Ltd	Mr Thomas D'costa, Assistant Manager	9048599970	
22	PetronetLNG Ltd.	Captain Vikas Singh, Chief Manager, Port Operations	9539004588	vikassingh@petronetlng.com
23	Indian Maritime University	Captain Yogesh Shah, HOD, Nautical Sciences	9207783111	ycshah@imu.ac.in

24	Food Craft Institute	Ms. Annie Philip, Principal	0484-2292186	
25	Indway Furniture Manufacturing Company Pvt. Ltd/	Mr Paul P Mani, Director	8891188944	
26	Merchem Limited	Mr Raju P Mathew, Director	0484-4089300	pmraju@merchem.com
27	Hi Tech Pvt Ltd	Mr Appu Panikkar, Unit Head	9447087080	
28	Watts Electricals	Mr A Sahadevan, Partner	0484-2556762	
29	GemWood	Mr M Gopalakrishnan, Partner	0484-2376819	gemwood@md3.vsnl.net.in
30	Industrial Engineering Corporation	Mr Biju K Nair, Managing Partner	9846032242	ieebarrels@gmail.com
31	Groves Pvt Ltd	Mr. Sandeep	0484-4089300	
32	KR Bakes	Mr. Akhil, Assistant Regional Manager	9446444013	
33	Carborundum Universal Limited	Mr. Nibu John, Deputy Manager- HR	9961705860	nibujohn@cumi.murugappa.com
34	Metro Paints and Coating Pvt. Ltd	Mr. Itty, Director	0484-6572101	
35	Hi-build Coatings Pvt. Ltd	Mr. Honey Babu	9847104970	hbabu@hi-buildcoatings.com
36	Govt. ITI, Kalamssery	Mrs. Kochurani, Vice Principal	9447522630	
37	CIFT	Mr. Sajesh, Scientist	9540290362	
		Mr. Mohanty	9485175853	
38	BPCL	Mr. Kuruvila Sebastian	9495256876	
39	Ambuja Cement, CPT Terminal	Mr Sunil Nair, Terminal Manager	9847881089	sunil.nair@ambujacement.com
40	Union Bank of India	Ms Suma, Branch Manager	9995867234	
41	MPEDA	Mr Anil Kumar, Deputy Director Aquaculture Division	9594842142	
42	Kerala Institute of Travel and Tourism Studies	Ms Seema	4842401008	
43	Manipal City and Guild-Petroserve Institute of Management	Ms Janet, Faculty	0484-3078882	
44	ICICI Bank	Mr Muralidharan, Branch Manager-Perumanoor	8129998004	
45	State bank of Travancore	Ms Sujata K Devdas, Chief Manager-Perumanoor	9995894580	
46	Kochi Metro Rail Corporation	Ms Sumi, Deputy General Manager-Technical	9995802765	
47	Ruby Marine Pvt Ltd	Mr Anil, Manager	8129066334	
48	Travancore Court	Mr. Praveen, Lobby Manager	9447401120	
49		Mr. Varghese John, Marketing Officer	9447609691	

	National Institute of Fisheries Post Harvest Technology and Training (NIFPHATT)	Mr. Sreekumar (Training cell)	9446040535	csrkmr@gmail.com
50	CMFRI	Mr. Bobby (HRD)	9446739731	
		Dr. Shyam. S.Salim, Principal Scientist	9746885361	shyam.icar@gmail.c om,shyam.cmfri@g mail.com
51	Zuari Cement	Terminal Manager	0484-2381710/11	
52	IOCL	Mr. Bhaskar, Terminal Manager	0484- 2666298/266601 5	

### 4.3. District level consultations- Kozhikode

SN	Stakeholder	Person	Cell/Phone	Email
1	District Collector Office	District Collector, Shri N Prasanth	Rajith-Civil Police Office- 9645991400 0495 2383500	
2	District Fisheries Department	Deputy Director, Mariam Hazina	9446361525	
3	District Industries Centre	Manager (Credit), Hyrunisa Rajib	No. not available 9495361808	
4	Malabar Chamber of Commerce	Mohandas, Manager		
5		Secretary, Nityanand Kamat	9847056622	
6	SLK Food Processing Industries	Khalid Manager, Raji	9847007770 9961007770	
7	Minar Ispat Steel	General Manager, A Zulfiker	9744000584	
8	Crescent Builders (Construction)	Hasib Ahmed/ Sajana (Assistant Manager, HR)	4952365831	
9	Calicut Port Authority	Capt Ashwini Pratap, Port Officer	9847610034	
10	Central Marine Fisheries Research Institute	Dr Ashok, Principal Scientist	9447137278	
11	VKC (Footwear)	Chairman, Noushad	9349100282	
12	Odyssia (Rapture Footwear)	Sarika, Manager	9447363377	
13	Coast Guard Station	Station Technical Officer, Dy Commandant P L Mushtaq Ali	9446559680	pkmushtaqali@rediffmail.com
14	District Tourist Department	Subhash Chandran	7025252234	
15	District Tourism Promotion Council	Secretary	0495 2720012	
16	VRL Logistics Limited	Area Manager, K Govind Bhat	9349572010	
17	Food Craft Institute	Principal, Manoj	9995025076 0495 2372131 Biju Teacher 974551608	
18	State Institute of Hospitality Management	Principal, Balaji	9400884322, 0495 2385861	
19	Peirce Leslie	Shipping Agent, Vasanta Kumar	9847338079	
20	PV Cargo	Vishesh, CHA and Stevedoring	9895306301	
21	N K Cargo	Manager, Manoj	9447478381	
22	United Contractors	Partner, Mukundan	0495 2415760	
23	Lakshadweep Cooperative Marketing Federation	Accountant, Bina	0495 2414269	
24	Office of Marine Surveyor	Marine Surveyor, Thomaskutty	0495 2414069	

25	Corel Logistic	Managing Director, Syed	9496200101	
26	Fisheries Station, District Fisheries Department	Assistant Director, Fisheries, Abdul Majeed	0495 2414074	
27	Fishermen Welfare Board	Ashraf	94977715577	
28		Sarita	9995231515	
29	Fish Farmers Development Agency	Project Assistant, Shrija	8301001538	
30	ABC Fisheries	Partner, Muhammed Mazammil	9744453011	
31	Govt. ITI for Women Kozhikode		0495 2373976	
32	Kairali Steels Pvt. Ltd	General Manger, Vinod T	9847201875	
33	SreeRosh Developers	General Manager, Shobhi Raj	0495-4099555	
34	Kites Developers	Marketing Head, Sthuti Manoj	7025219219	
35	Harbour Engineering Department	Assistant Executive Engineer, MohanaKrishnan	9446471104	
36	Rosy Collections	Manager, Syed Haris	9447300844	
37	Lucky's	Manger, Asrar	8891400802	
38	Keys Hotel Malabar Gate	General Manager, Anil G Nayak	9072662002	
39	Surya Galaxy	Manager, Dinesh	9645964040	
40	SAIL-SCL Kerala Limited	Assistant Manager-Personnel and Legal, P UnniKrishnan	9446001230	
41	Subaida Traders	M Davood Ahamad	9387473240	
42	Sailing Vessel Manufacturer	Lead Carpenter,Satyan	9947246207	
43	Dhe Puttu	Restaurant Manager, Shynoj Mukundan	8943354654	
44	Government ITI, Malikkadavu, Karuvissery	Group Instructor, Sunija V K	0495 2377016	
45	KINFRA Techno Industrial Park	Mr. Kishore Kumar, Manager		
46	Cybrosys	Ms. Harifa Banu, HR Manager	0494-3015006/07	hr@cybrosys.com
47	Sweans technologies	Ms. Sarayu, HR executive		
48	Cochin Bakery	Mr. Sajeew, Manager	9496170763	
49	Food craft Institute	Mr.Manoj K Mathew, Principal	9995025076	
50	State Institute of Hotel Management	Mr. Navin Najeem, Lecturer	9895849577	
51	Govt. ITI for Women	Mr. Ravi Kumar, Principal	9497283016	itiwcalicut@gmail.com
52	Calicut Corporation	Mr. Shankaran Kutty, Suprendent Engineer	94447345596	
53	District Labour Office	Mr. Manoj, JS	Manoj: 09847481163	
54	Department of Economics and Statistics	Mr. Vinodhan, Deputy Director	0495-2370343	ecostatkh@gmail.com
55	Employability Exchange	Mr. Venugopalan, Employment officer	9249123786	

## *Section 7: Odisha*

*Ganjam*  
*Jagatsinghpur*

# 1. District Profile

## 1.1. Ganjam

### About Ganjam

Ganjam houses Gopalpur Port which is a private minor port in the district of Ganjam. Some of the major exportable items produced in the district are engineering products, chemical products, nylon, synthetic readymade garments, embroidered fabrics, textiles, cotton, silk, food products and pharmaceutical product. Contribution of primary sector and services sectors to the district GDP is 23% and 67% respectively.

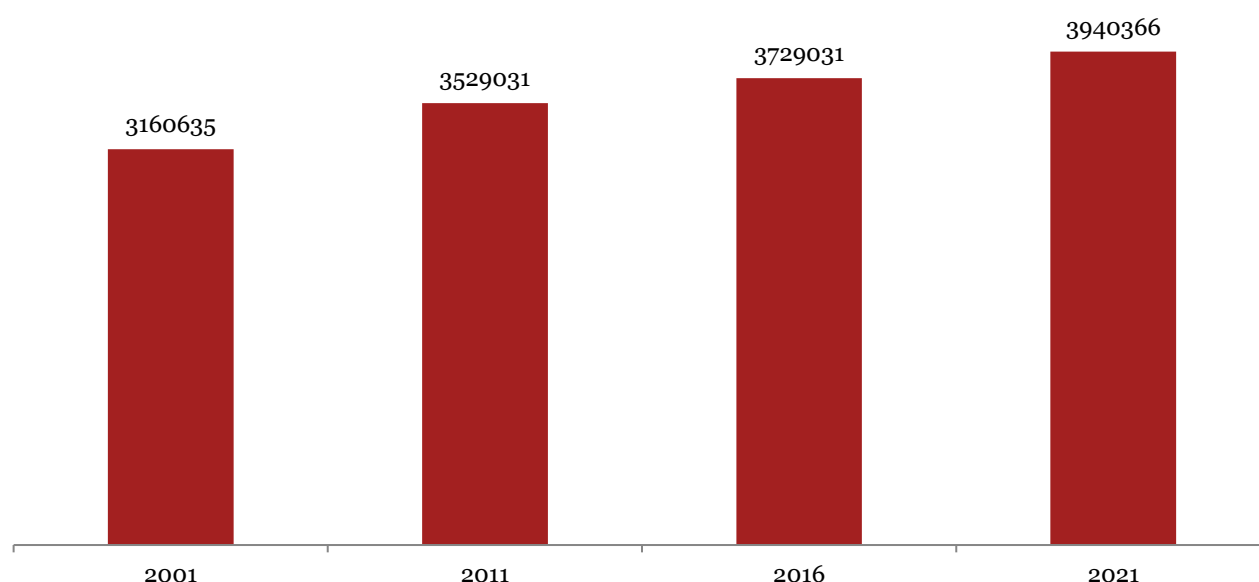
### 1.1.1. Demographic Profile

Indicator	Value
Total population	3,529,031
Decadal rate of growth of population (2001-11)	11.66%
Rural population	78.23%
Female	49.6%
SC population	19.5 %
ST population	3.37 %
Workforce participation (As % of total population)	42.55%
Main Workers (As % of total population)	25.52%
Marginal (As % of total population)	17.03%
Number of people with vocational training in the age group of 15+ in the state	36 per 1000

### Population trends<sup>1</sup>

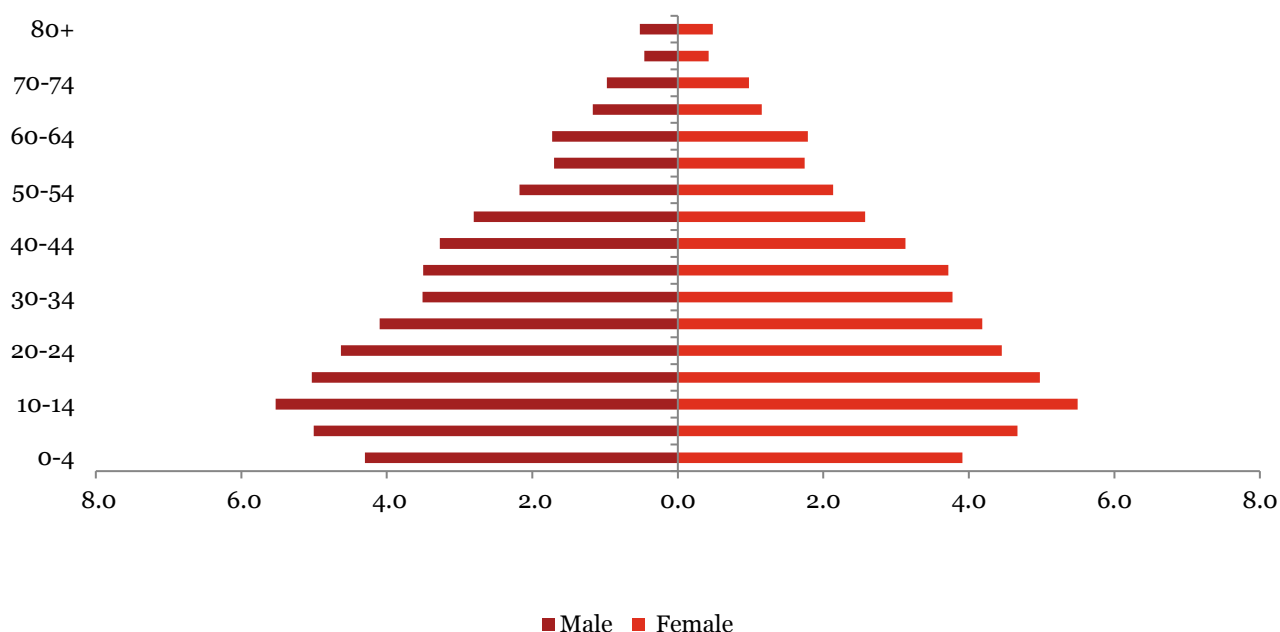
The population growth of Ganjam has almost been steady for the last 10 years and is expected to grow at the same rate in the coming future. The projected population of Ganjam will be 3.94 lakhs by 2021.

**Figure 1: Population trends in Ganjam (2001 - 2021)**



<sup>1</sup> (Census of India, 2001 and 2011), PwC Analysis  
Human Resource and Skill requirement study for 21 Coastal Districts of India – Odisha: Ganjam and Jagatsinghpur

**Figure 2: Population Pyramid: Ganjam 2011**

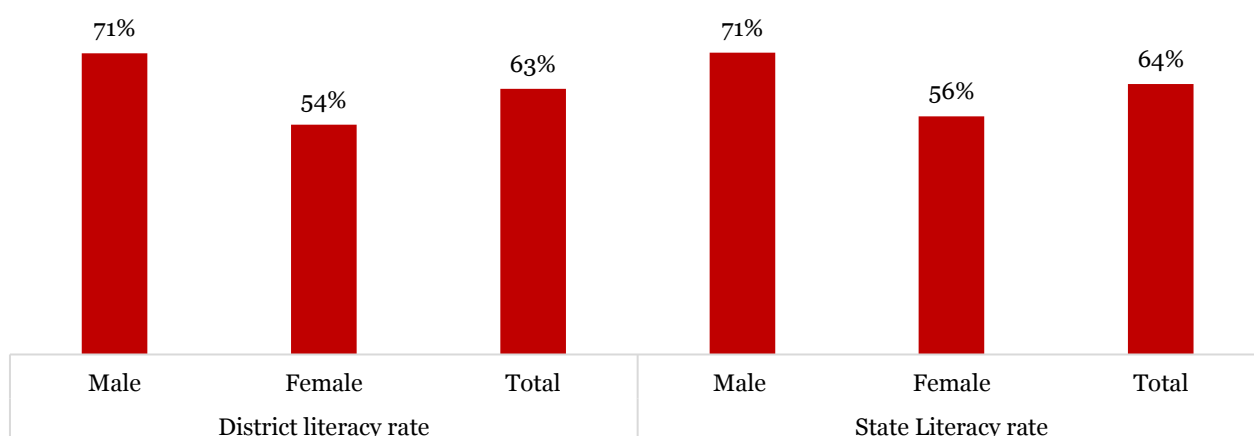


The demographic dividend bulge in Ganjam will remain intact for the next 10 years. Using proportional<sup>2</sup> method for estimating the population for the period 2011-21 (10 years)<sup>3</sup>, the population is estimated to be 37, 29,031 and 39, 40,366 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 6%.

### Literacy rates

Total literacy rate of Ganjam, as per the Census 2011, is approximately 63%, which is slightly less than the State's literacy rate of around 64%. Also, the female literacy rate of Ganjam (54%) is substantially lower than the male literacy rate, which is 71 % as per Census 2011.

**Figure 3: Ganjam vs Odisha literacy rates (2011)**



<sup>2</sup> The proportion of district and state population in 2011, and the estimated population of state in 2016 and 2021 that is reported in the population projections for India and state 2001-2026 estimates, are taken into account in estimating the district level population in 2016 and 2021.

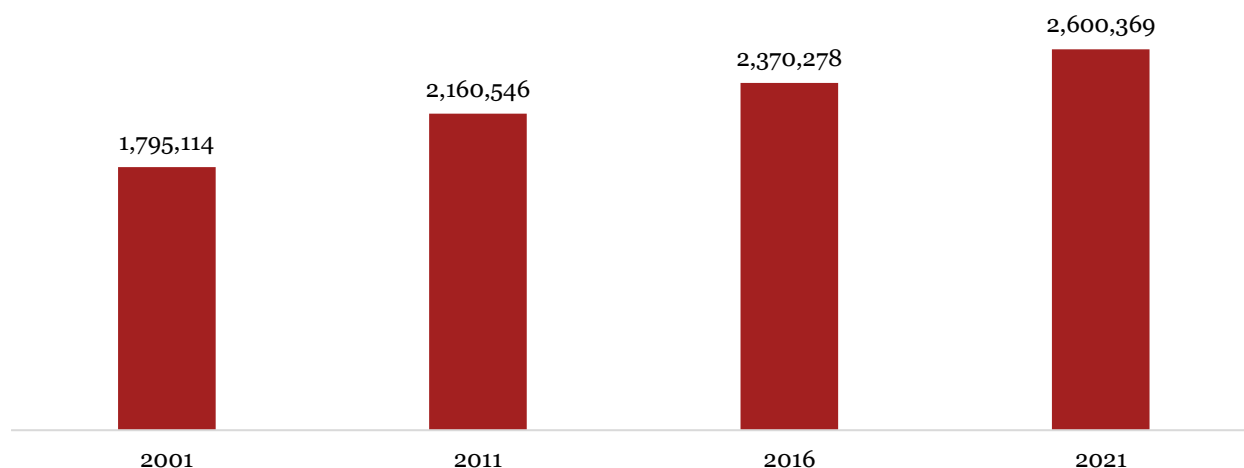
<sup>3</sup> (Census of India, 2011), PwC Analysis



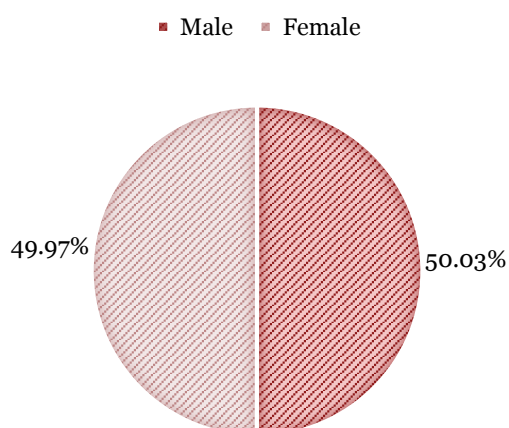
## Age specific population trends and education level for 2011<sup>4</sup>

As per Census 2011, the population in the age-group of 15 to 24 years was 6,71,639 (19.03% of the overall population). Using proportional method, the population in the age group of 15-59 years is estimated to be 2,289,833 and 2,423,436 in 2016 and 2021. The projected absolute growth in the population from 2016 to 2021 is 6%.

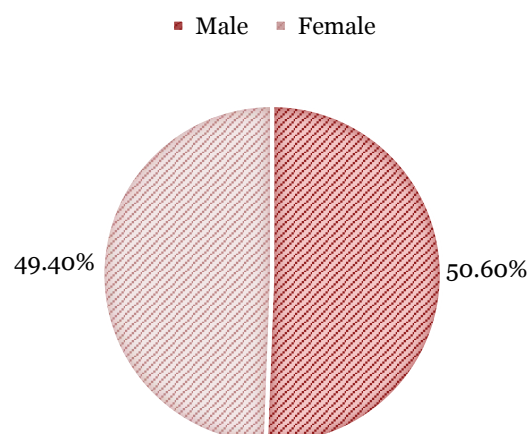
**Figure 4: Growth trend of population in the age group 15-59 year in Mumbai (2001-2021)**



**Figure 6: Age Specific Population in Ganjam (15-59 year)**



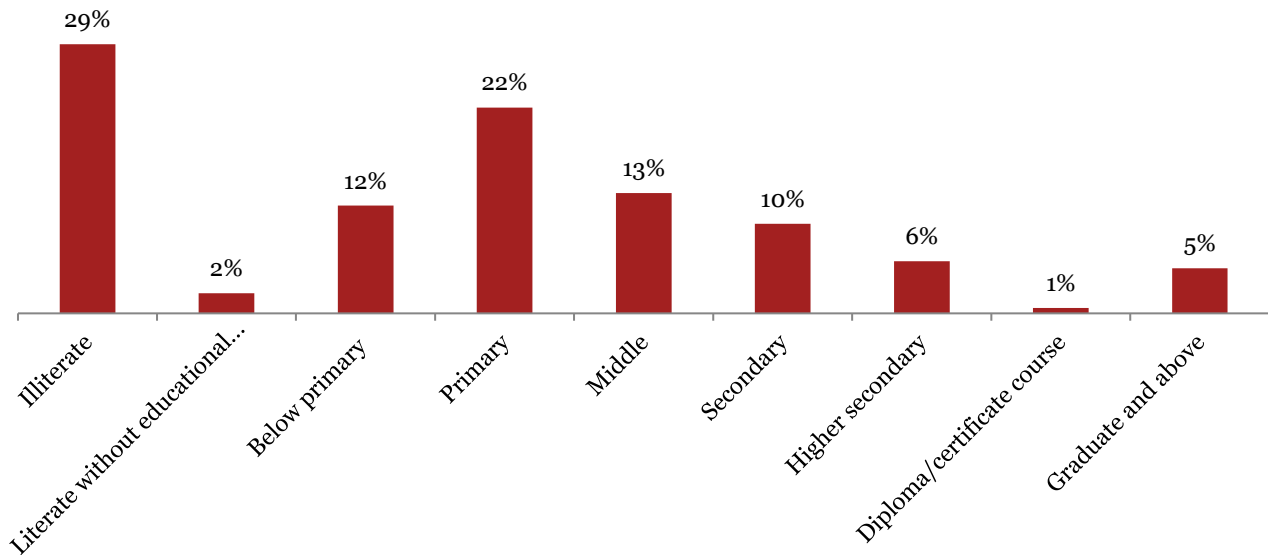
**Figure 5: Age specific population in Ganjam (15-24 year)**



In the age group of 15-59 years, the share of population of males and females in the total population of Ganjam is around 50.03% and 49.97% respectively. Similarly, the share of population of males and females in the age group of 15-24 years is 50.60% and 49.40% respectively.

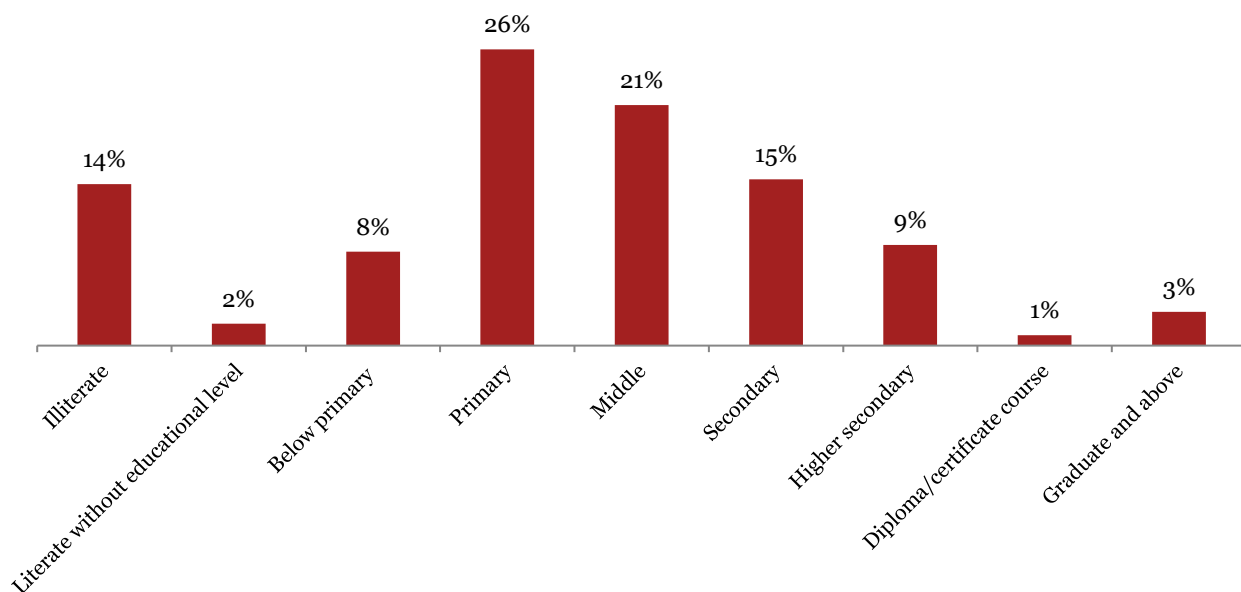
<sup>4</sup> Ibid.

**Figure 7: Age specific education level in Ganjam (15-59 year)**



From the Census 2011, depicted above, it is seen that for the age category of 15-59 years, 29% of the population of Ganjam is illiterate. 2% of the population in the age category is literate without any educational qualification, 12% population has attended school till below primary level and 22% has completed schooling only up to primary level. Roughly 13% of the literate population have completed schooling up to the middle level, whereas around 10% of the literate population have been educated till secondary. Only 1% of the population of this district have done a certificate/diploma course and 5% have at least graduated, indicating that a graduate/post-graduate degree is more sought after than a certificate/diploma.

**Figure 8: Age specific education level in Ganjam (15-24 year)**

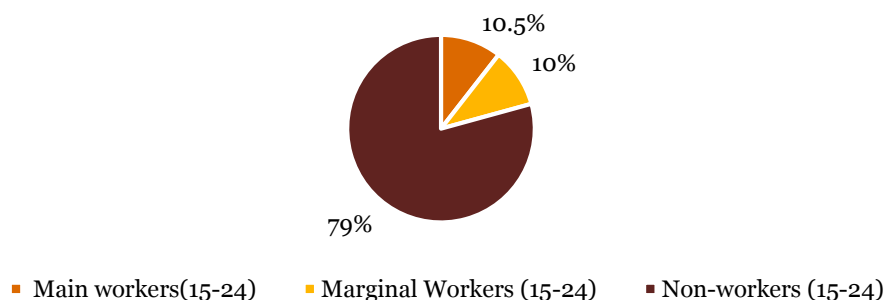


For the age category of 15-24 years, 96,003 of the population of Ganjam is illiterate. 14% of the population are literate without any educational qualification, 8% have attended school till below primary level and 26% have completed schooling only up to primary level. Roughly 21% of the literate population has done schooling up to

the middle level, whereas, around 15% of the literate population has been educated till secondary. Only 1% of the population of this district has done a certificate/diploma course and 3% have at least completed graduation.

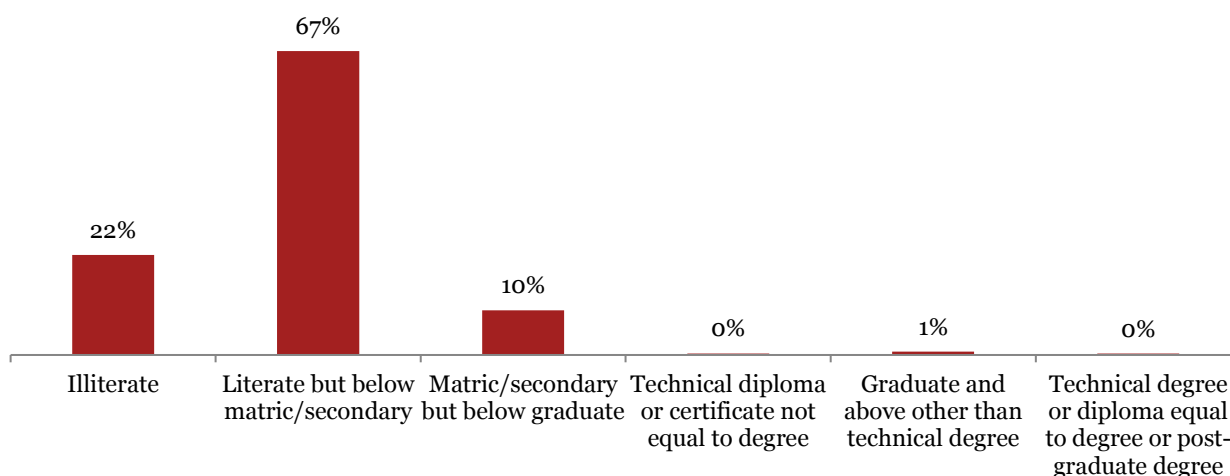
### *Age specific distribution of workers and educational level<sup>5</sup>*

**Figure 9: Age specific distribution of workers in Ganjam (15-24 years)**



79% of the population in the age group of 15-24 years are non-workers. 10.5% of the population are main-workers, whereas 10% are engaged in marginal work i.e. work for 3-6 months during the year.

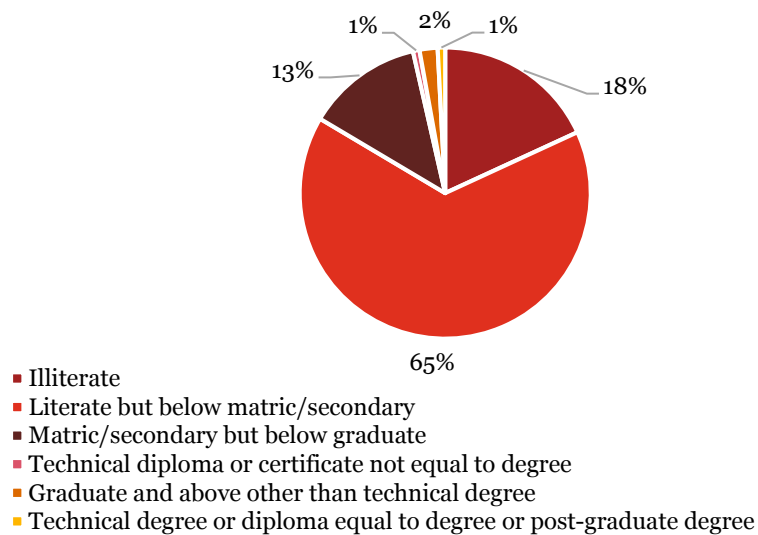
**Figure 10: Education level of marginal workers in Ganjam (15-24 year)**



Amongst the 98,071 marginal workers in the age group of 15-24 years, the number of workers with technical degree or diploma equal to degree holder is only 283 which constitutes an insignificant proportion of workers and only 1% is graduate and above other than technical degree. 10% of the population is educated up to the matric/secondary level and around 67% are literate with an educational qualification of below metric/secondary level. 22% marginal workers in this age group are illiterate.

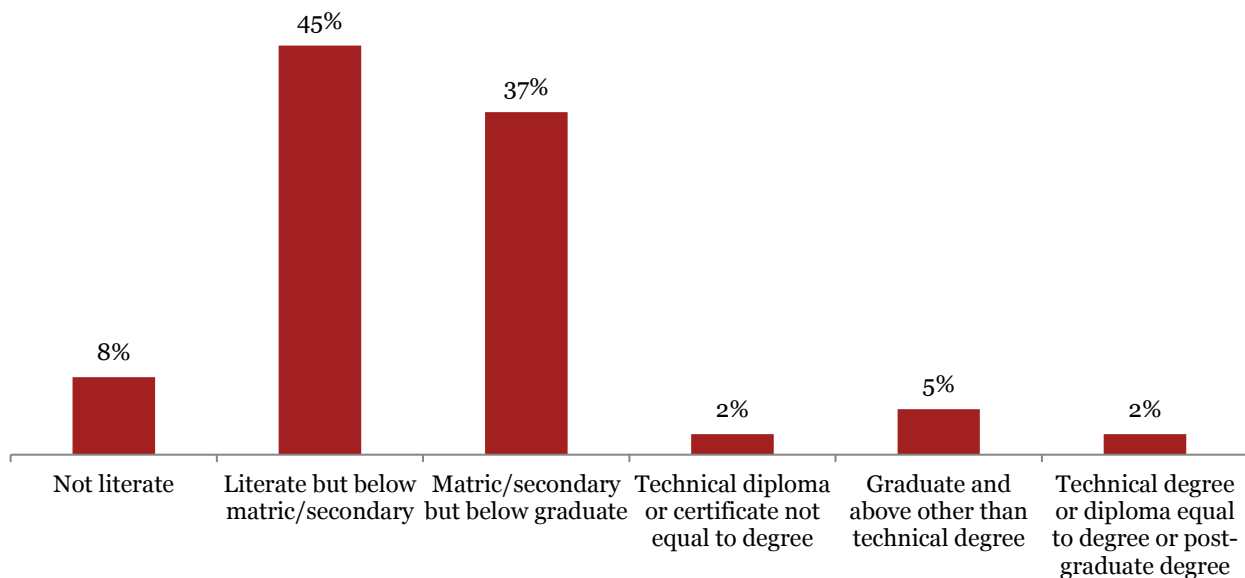
<sup>5</sup> (Census of India, 2011)

**Figure 11: Education level for main workers in Ganjam (15-24 year)**



From the census 2011 information depicted in chart given above, we find that the proportion of main workers who are illiterate (*in the age category 15-24 years*) is slightly less than the proportion of marginal workers who are illiterate. We also find that the proportion of main workers who are literate but below matric/secondary (*in the age category 15-24 years*) is slightly less (2 percentage point difference between the two) than the proportion of marginal workers who are literate but below matric/secondary. The proportion of main workers who are matric/secondary but below graduate (*in the age category 15-24 years*) is slightly more (3 percentage point difference between the two) than the proportion of marginal workers who are matric/secondary but below graduate. For the remaining three educational levels, we find that the population shares are more or less the same across the two worker categories.

**Figure 12: Education level of non-workers in Ganjam (15-24 year)**

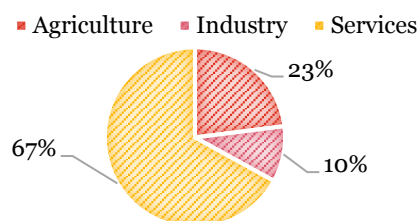


Amongst the 112570 non- workers in the age group of 15-24 years, only 2% of the population hold a technical degree or diploma equal to degree holder and 5% is graduate and above other than the technical degree. Only 2% have a diploma or a certificate (not equal to degree). 37% is educated up to the matric/secondary level and around 45% is literate but have attained an educational qualification of below matric/secondary level. 8% of the non-workers in this age group are not literate.

### 1.1.2. Key Economic Drivers

According to District Economy Survey of Ganjam, the Gross Domestic Product of the district (at constant prices- 2004-05) was INR 13,753 Crores in 2010-11 and has steadily grown at a CAGR of 8% over the period 2004-05 to 2010-11. The sectoral break up suggests that services sector contribution to district GDP is more than half (67%) followed by agriculture sector (23%).

**Figure 13: Sectoral breakup of Ganjam at constant prices (2004-05)**



The key economic drivers of the district are illustrated below:

<b>Port and Maritime</b>	<ul style="list-style-type: none"> <li>• 2 cargo Berths to be constructed in December, 2017</li> </ul>
<b>Infrastructure Development</b>	<ul style="list-style-type: none"> <li>• Construction of Textile Parks at an investment of INR 300 Cr</li> </ul>
<b>Industrial Development</b>	<ul style="list-style-type: none"> <li>• TATA Steel SEZ at an investment of INR 800 Crores</li> <li>• Multimodal Logistics Park at an investment of INR 250 Crores</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• Coastal Circuit Project at an investment of INR 78 Crores</li> </ul>

### 1.1.3. Priority Sectors

In Ganjam, the priority sectors that have been identified are **Port and Maritime sector** and other allied sectors: **fisheries, construction, tourism and manufacturing**. Other sectors that have been identified as priority sectors from the point of view of their contribution to district GDP are **healthcare, apparel and logistics**.

### 1.1.4. About Port

Ports & Maritime			
Major Ports: Nil		Minor Ports: 1	Shipyards: Nil
Details			
Gopalpur Port			
Operations:	PPP	Capacity	1 Mn tonnes P.A.
Key Cargo	Urea, Anthracite Coal, Industrial Salt, Calcined Petroleum, Coke	No of berths:	3
		Draft	12 mtrs
Description and key Trend	The Gopalpur Port is a private port owned by Odisha Stevedores Limited. The Port aims at serving the mineral rich hinterland of Odisha, Jharkhand and Chhattisgarh. The first phase of developing three deep water berths are in process and the master		

	plan envisages 15-20 berths with three separate harbors to enable segregation of cargo as needed.		
Terminal Operations			
	Terminal Operator (1)	Terminal Operator (2)	Terminal Operator (3)
Annual Capacity	5 MTPA	NA	NA
Type of Cargo handled	Urea, Anthracite Coal, Industrial Salt, Calcined Petroleum, and Coke		
Manpower	350 nos.		
High Demand Job Roles	Forklift Operator,Reach Stacker Operator, Crane Mechanic, Painter, Blaster, Marine Engine Fitter,Vessel Navigator		
Shipyards			
Description and key Trend	Nil		

### 1.1.5. Investments

The table below provides an overview of the investments that are in pipeline in next few years:

**Table 1: Proposed Key Investments for the year 2016-22 in Ganjam**

Sector	Proposed Investment (INR Cr)	Number of Projects	Expected Employment	Key Players
Port & Maritime	-	2	150 persons	Gopalpur Port, Odisha Stevedores Limited
Infrastructure	1,860	6	18,550 persons	TATA Steel, IDCO, IPICOL
Food Processing	300 {approx.}	3	7,000 persons {approx.}	Department of MSME, IPICOL, Department of Agriculture
Basic infrastructure, Transportation, Port City & Affordable Housing	0.6	1	250 persons	-
Tourism	91	1	500 persons	Department of Tourism

In the port and maritime sector, Gopalpur Port has proposed investment of setting up 2 cargo berths in December 2017.

In Ganjam, the manufacturing industry is diverse with proposed investments in a variety of products such as paper, petroleum, kitchen and wooden furniture chemical manufacturing, plastic etc. Details of some of the key investments proposed in the manufacturing space are:

**Figure 14: Details of proposed investments in Ganjam, IDCO**

Food Processing	Manufacturing	Healthcare	Construction	Tourism
<ul style="list-style-type: none"> <li>❑ Mega and Medium Food Park at INR 100 Crores; Key Player: Yet to be Identified; Employment: 5,000 nos.</li> <li>❑ Commodity Value Chain based Cluster development at 10-15 Crores per cluster; Key Player: Yet to be identified</li> <li>❑ Agri Export Zones</li> <li>❑ Fishery Harbour at INR 160 Crores-Total Direct Employment: 2000; Key Player: Ministry of Agriculture and Farmers welfare, Department of Fisheries and Animal Resources Development, IDCO Employment: 50 nos.</li> </ul>	<ul style="list-style-type: none"> <li>❑ Private Industrial Estate at INR 200 Crores; Key Player: IDCO in coordination with Private Industries; Employment: 500</li> <li>❑ TATA Steel Special Economic Zone at INR 800 Crores; Key Player: TATA Steel; Employment: 3,000 nos.</li> </ul>	<ul style="list-style-type: none"> <li>❑ Odisha Affordable Healthcare Project at INR 60 Lakhs; Key Player: Project Development underway</li> </ul>	<ul style="list-style-type: none"> <li>❑ Multi Modal Logistics Park at INR 200-250 Crores; Key Player: IDCO; Employment: 5,000 nos.</li> <li>❑ Development of Chemical and Pharmaceutical Cluster at INR 10 Crores ; Key Player: Yet to be Identified; Employment: 1,000-5,000 nos</li> <li>❑ Integrated textile Park at INR 300 Crores-Total; Key Player: IDCO; Employment: 5,000 nos.</li> </ul>	<ul style="list-style-type: none"> <li>❑ Aranya Eco Village at INR 13 Crores; Key Player: Master Plan under Final Phase; Employment: 200 nos.</li> <li>❑ Coastal Circuit project at INR 78 Crore1; Key Player: Department of Tourism, Government of Odisha; Employment: 250 nos.</li> </ul>

### 1.1.6. Youth Aspiration

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

### Respondent Profile

The table below provides an overview of the respondent profile

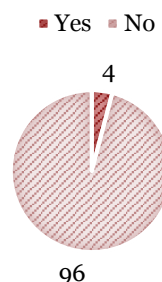
Profile	Details
Total Sample Size	399
Gender Profile	Male- 48.1% Female- 51.9%
Age Group	15-24 years
Education Level (top 3)	Senior Secondary schooling(Class 9 to 10)-42.8% Higher secondary schooling with science (Class 11 to 12)- 56.1% Higher secondary schooling with commerce (Class 11 to 12)- 85.9%
APL/BPL/AAY/Don't know (118)	APL-49.1% BPL- 46.9% AAY- 2.5% Don't know- 1.5%
Occupational Profile (top 3)	Salary from employment (19.5%), Self Employed (12.8%), Own Business (6%)

## Exposure to Vocational Training and Educational Aspiration

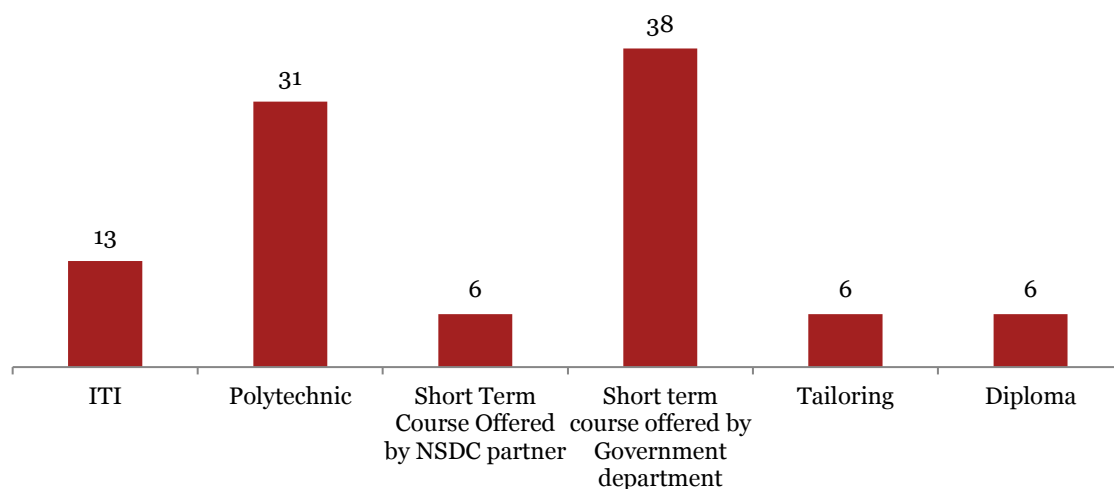
Regarding the exposure to the vocational training most students reported that they had not completed any vocational training course. Overall, ~96% of the respondents had not enrolled in vocational training course (Figure 15).

Of the total respondents who underwent vocational training (which is ~4%), majority were from Short term courses offered by Government (38%) and polytechnic (31%). Figure 16 exhibits the percentage of respondents who completed different types of courses as part of their vocational training.

**Figure 15: Percentage of respondents who completed vocational training courses - Ganjam**

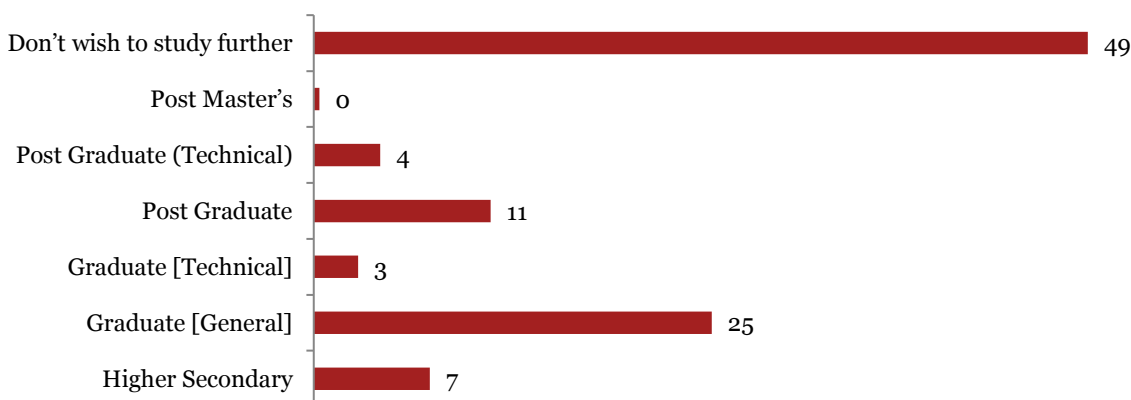


**Figure 16: Percentage of respondents completed courses in vocational training - Ganjam**



Further, the respondents were asked level about the level of education they wished to attain. 25% of the respondents aspired to attain graduation and post-graduation level of education. The desire to attain technical education is relatively low with only 7% aspiring for graduation or post-graduation in technical fields (Figure 17) whereas 49% of the respondents didn't wished to study further.

**Figure 17: Desired level of education - Ganjam**



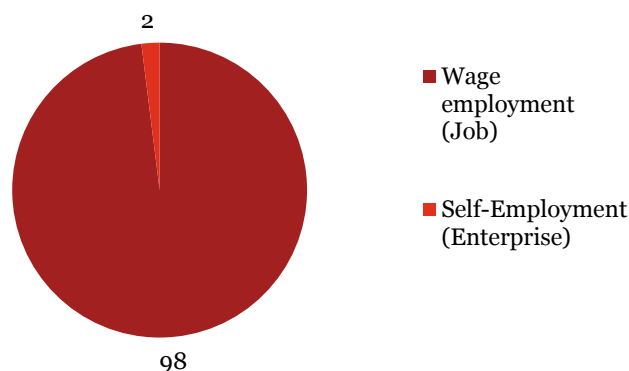


## Job Aspiration

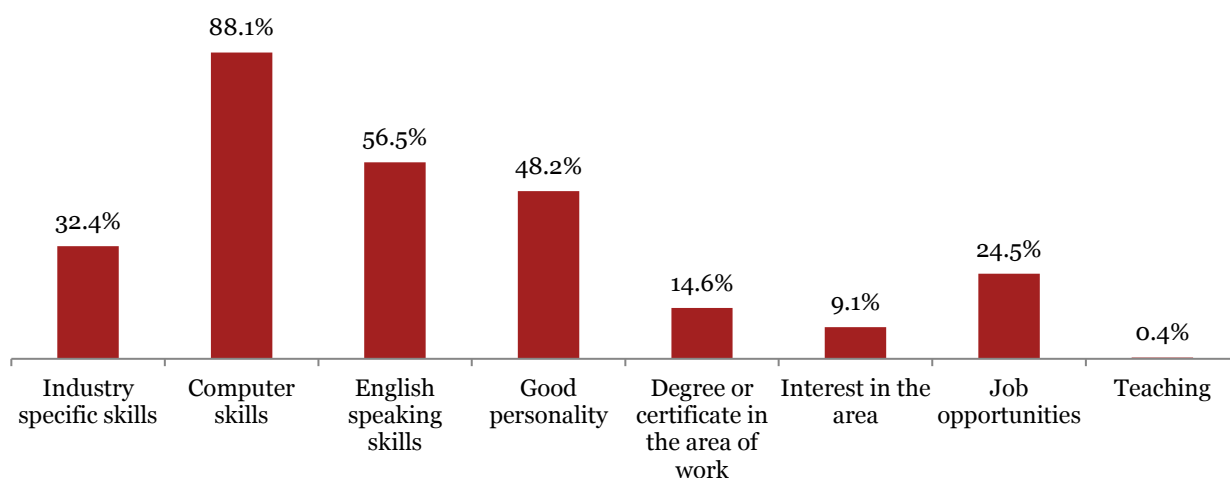
One of the important findings of the survey has been the high preference for wage employment over self-employment amongst the youth of the district. About 98% of the respondents reported to have preferred wage employment over self-employment (Figure 18).

The respondents were further asked to identify the factors important for securing employment in the area of interest. 88% of the respondents identified computer skills as the most important factor for securing employment followed by English speaking skills (56.5%) and good personality (48.2%) (Figure 19).

**Figure 18: Percentage of respondents aspiring for wage and self-employment - Ganjam**

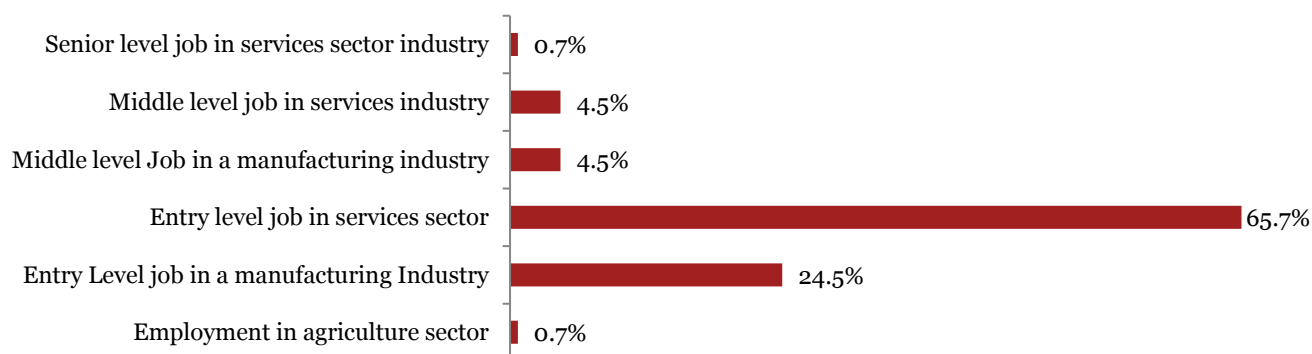


**Figure 19: Factors important for securing employment in area of interest (%) - Ganjam**



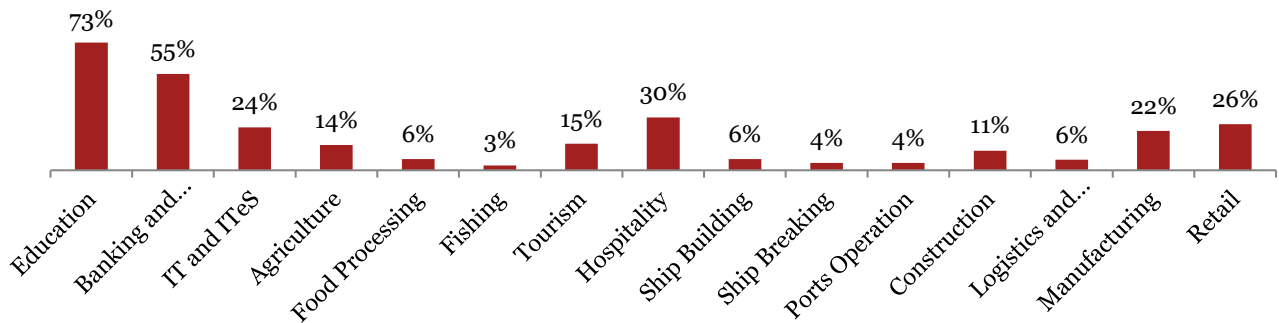
Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for services sector with 65% aspiring for entry level jobs in service sector and 24.5% aspiring for entry level jobs in manufacturing sector. This is followed by middle level jobs (11%), and entry level jobs in manufacturing industry (8%) (Figure 20).

**Figure 20: Desired job profile after completion of education/training - Ganjam**



Further, Education (73%) and BFSI (55%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job in the service sector space. The details of other sectors are mentioned in Figure 22.

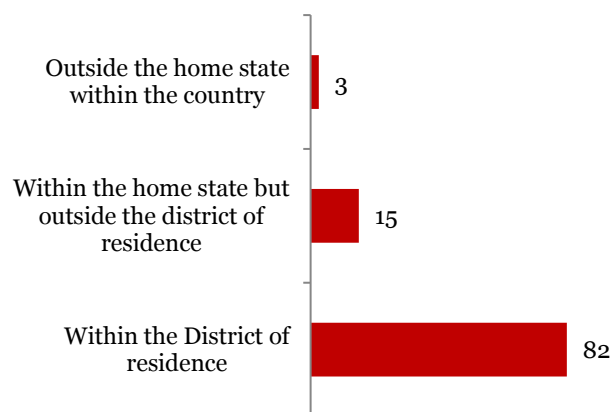
**Figure 21: Sectors in which respondents' foresee getting a desired job (%) - Ganjam**



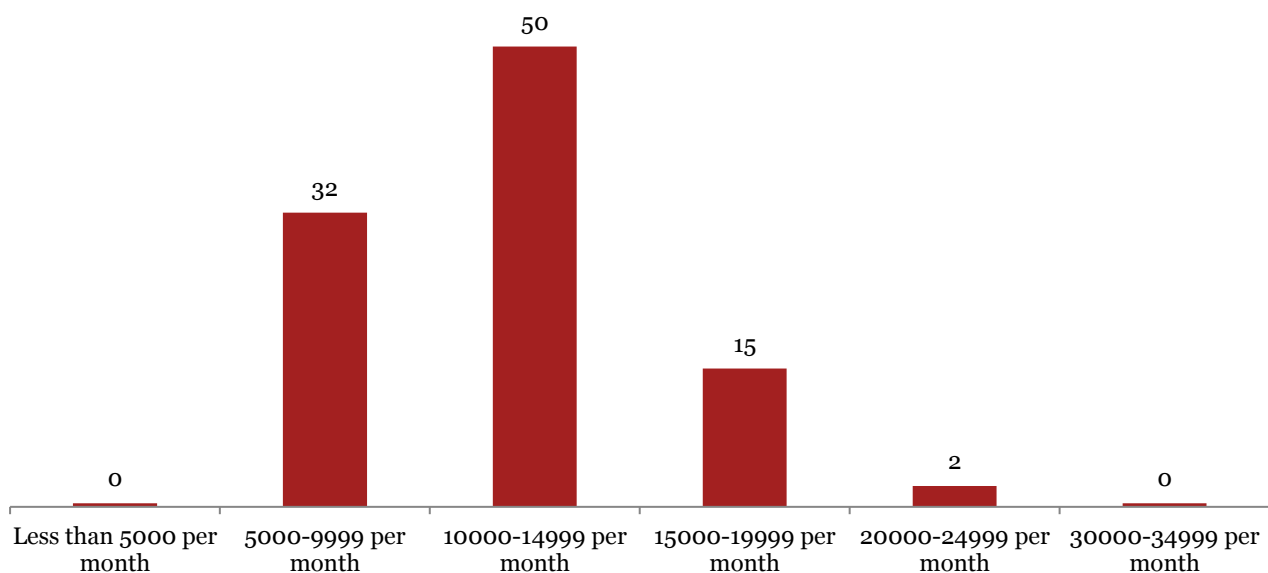
Out of total respondents, only 3% preferred to work outside the State. It is important to note that 82% preferred to work in the same district and 15% expressed willingness to migrate to other districts in the same state suggesting lack of flexibility among the youth of the district (Figure 22).

For majority of the respondents, (32%) the monthly salary expectation was INR 5,000-10,000; and for 65% of respondents the expected salary is reported to be in the range of 10,000-20,000 per month (Figure 23).

**Figure 22: Preferred work location of candidate - Ganjam**



**Figure 23: Monthly salary expectation of respondents - Ganjam**

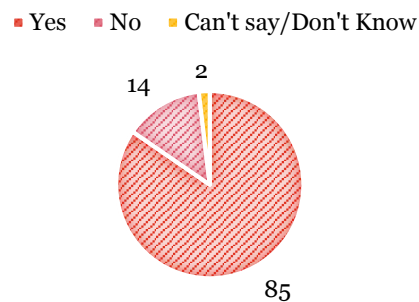


## Training Aspiration

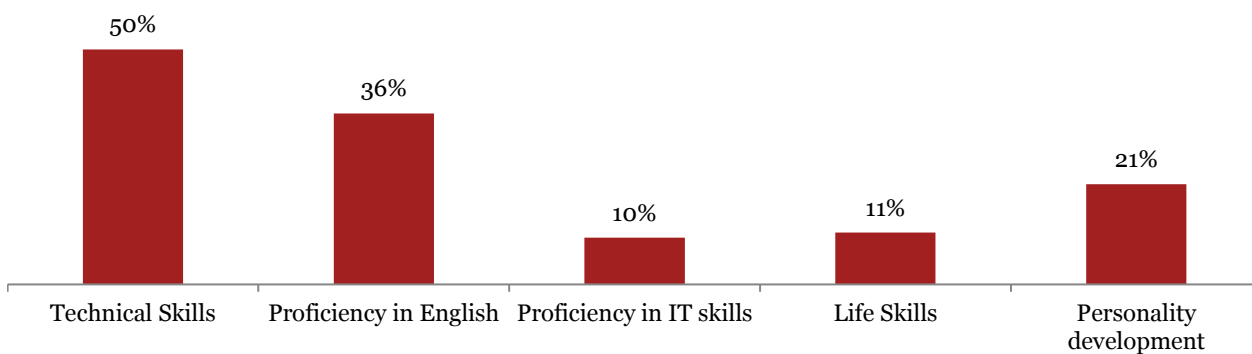
Regarding willingness of the respondents to participate in the training programme in next one year, 85% expressed interest whereas 14%% expressed dis-interest (Figure 24).

Further, when enquired about the key focus areas of skill training, 50% of respondents reported that emphasis must be laid on technical skills followed by proficiency in English (36%), and proficiency in IT skills (10%) (Figure 25).

**Figure 24: Willingness to participate in trainings (%) - Ganjam**

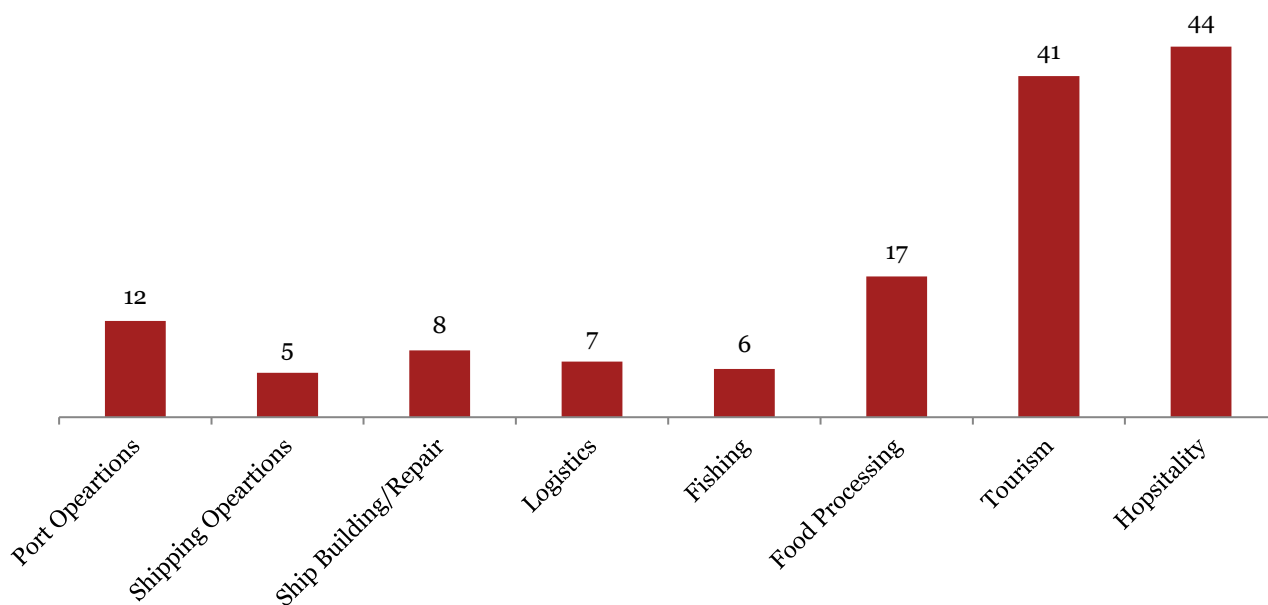


**Figure 25: Focus area on skills training - Ganjam**



Overall there is demand for training in hospitality (44%), tourism (41%), food processing (17%), shipping operations (5%) and port operations (12%) (Figure 26).

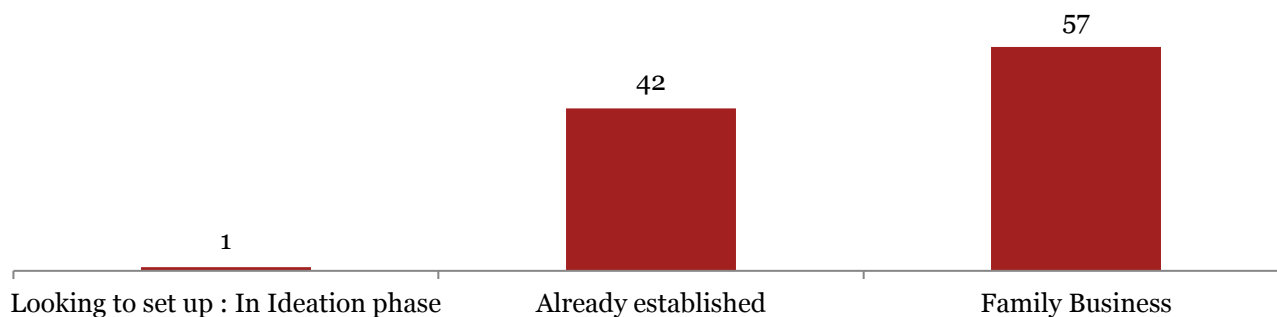
**Figure 26: Willingness of respondents to participate in trainings of different sectors - Ganjam**



## Self-Employment

Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, 57% were in family business and 42% were already established. (Figure 27).

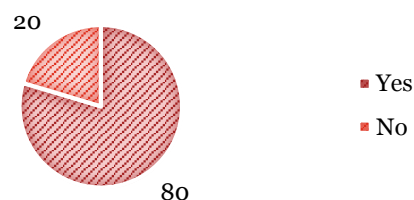
**Figure 27: Current Status of Entrepreneurial Venture (%) - Ganjam**



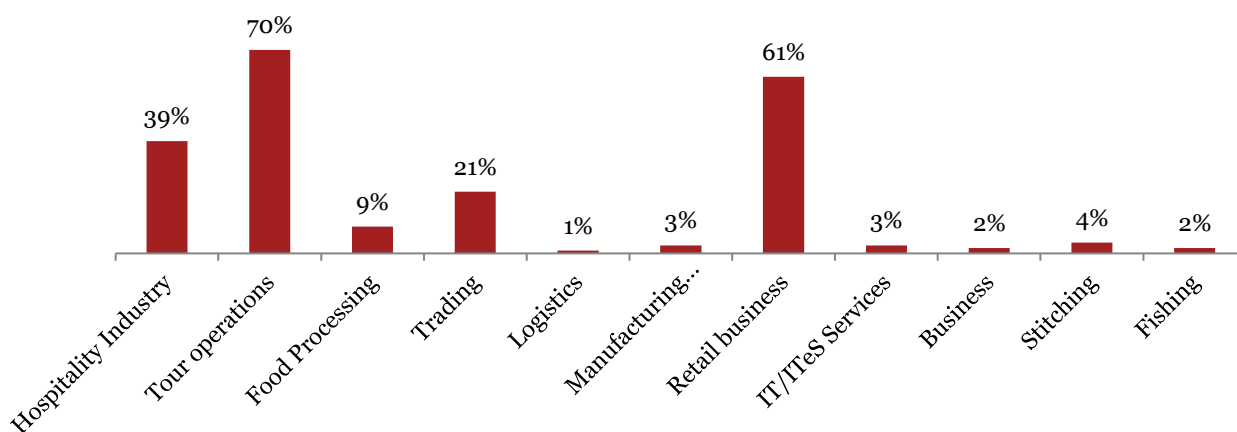
Further, 80% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 28).

Tour Operations (70%), Retail Business (61%) and Hospitality Industry (39%), Trading (21%) have been identified as most preferred sectors for setting own enterprise (Figure 29).

**Figure 28: Interested in skill development for enhancing entrepreneurial skills (%) - Ganjam**



**Figure 29: Sectors for establishing enterprise (%) - Ganjam**



### 1.1.7. Training Infrastructure

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
ITI	38	20	Fitter, Electrician, Industrial Painter, IT & ESM, DEO
Polytechnic	12	9	Mechanical, Electrical, Civil, Chemical
PMKK Training Centre	1	8	Quality assessor, Handset Repair Technician, Business Correspondent, Business Facilitator, Paddy farmer, Quality seed grower
DDU GKY	4	6	BFSI, Electrical, Hospitality, Data Entry Operator, Sewing Machine Operator

Ganjam has 1 government ITI and 37 Private ITIs which offer close to 20 trades. The most common trades are fitter, electrician, Industrial Painter, IT&ESM and DEO. Apart from these trades the Government ITI has introduced three new port related trades like Marine Engine fitter, vessel navigator and industrial painter. Apart from the ITI there are 11 private diploma colleges along with a government polytechnic which widely offers trades in mechanical, electrical, civil and chemical. The Government schemes such as PMKK and DDU-GKY are also implemented in the district. Though PMKK is still in the construction phase, however DDU-GKY has 4 Private implementing partners which have trained close to 1300 candidates in the current financial year and out of them placed 1,097 candidates.

## 1.2. Jagatsinghpur

### About Jagatsinghpur

Jagatsinghpur houses one major port, Paradip Port Trust (PPT). The major exportable items produced in the district are iron ore, Ferro alloys, coal, prawns, frozen fish and rice<sup>6</sup>. Service sector (40%) and industry (33%) and have the largest share in the overall district economy.

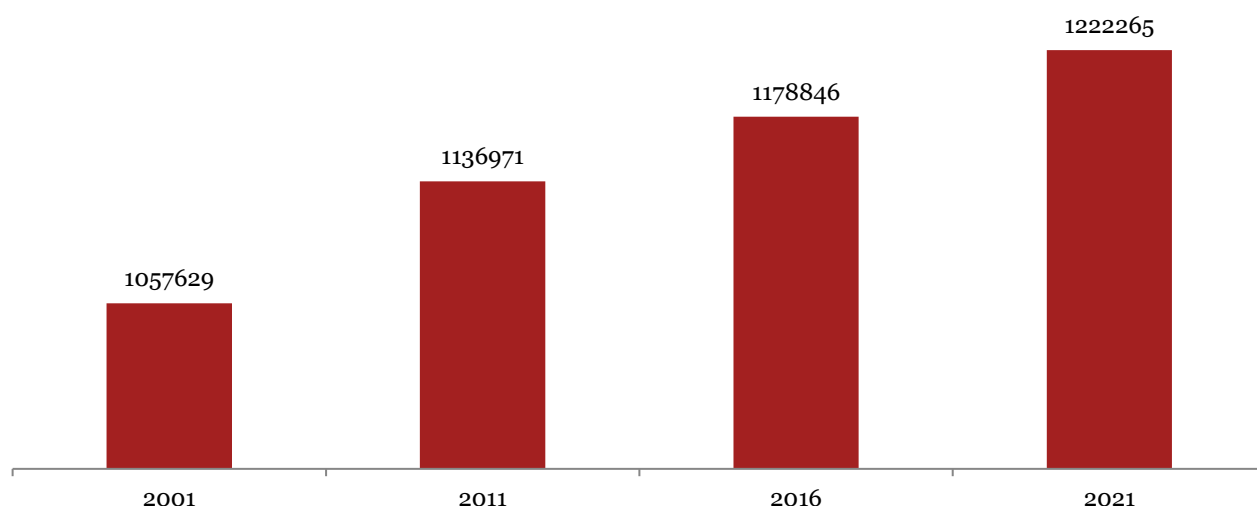
#### 1.2.1. Demographic Profile

Indicator	Value
Total population	1,136,971
Decadal rate of growth of population (2001-11)	7.48%
Rural population	89.8%
Female	49.2%
SC population	21.83%
ST population	0.69%
Workforce participation (as % of total population)	35.50%
Main Workers (As % of total population)	25.52%
Marginal (As % of total population)	9.98%
Non-workers (As % of total population)	64.49%
Number of people with vocational training in the age group of 15+ in the state	36 per 1000

### Population trends

The population growth of Jagatsinghpur has almost been steady for last 10 years and is expected to grow at the same rate in the near future. The projected population of Jagatsinghpur will be 12.22 lakhs by 2021.

**Figure 30: Population trend - Jagatsinghpur (2001 - 2021)**



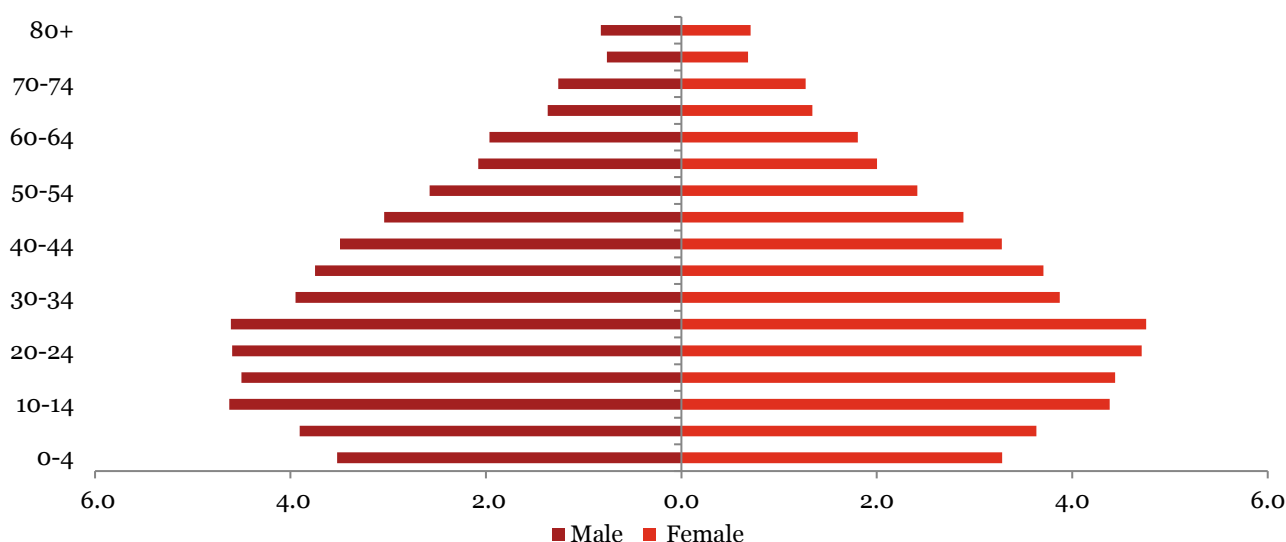
The demographic dividend bulge in Jagatsinghpur will remain intact for the next 10 years. Using proportional<sup>7</sup> method for estimating the population for the period 2011-21 (10 years)<sup>8</sup>, the population is estimated to be 1,178,846 and 1,222,265 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 4%.

<sup>6</sup> (Brief Industrial Profile of Jagatsinghpur District, )

<sup>7</sup> The proportion of district and state population in 2011, and the estimated population of state in 2016 and 2021 that is reported in the population projections for India and state 2001-2026 estimates, are taken into account in estimating the district level population in 2016 and 2021.

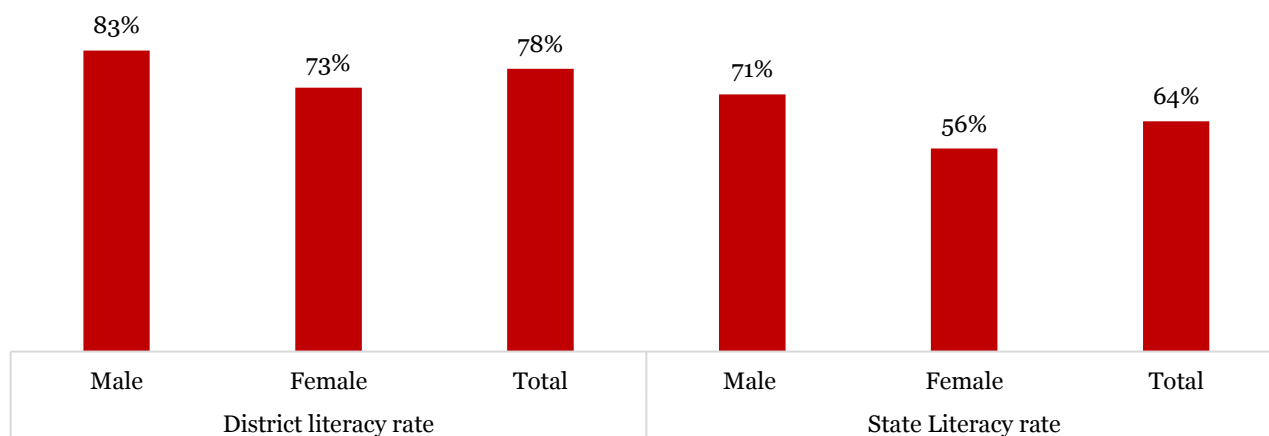
<sup>8</sup> (Census of India, 2001 and 2011)

**Figure 31: Population pyramid - Jagatsinghpur (2011)**



### *Literacy rates<sup>9</sup>*

**Figure 32: Jagatsinghpur vs Odisha literacy rates (2011)**



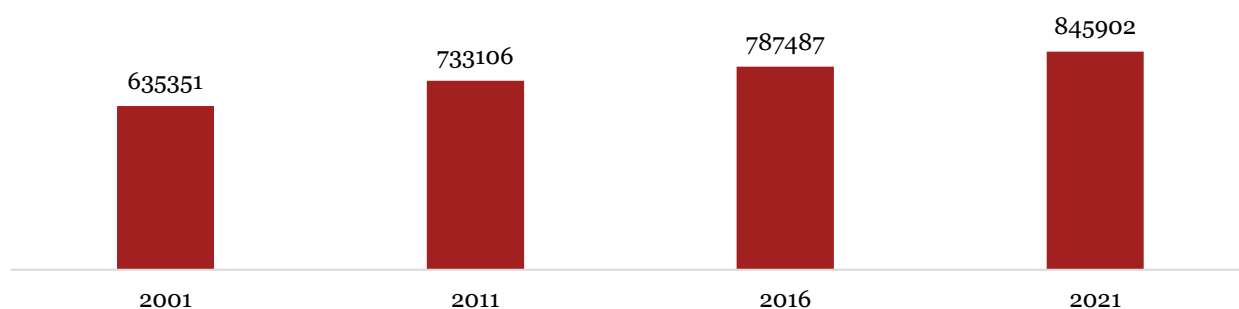
Total literacy rate of Jagatsinghpur, as per Census 2011, is approximately 78%, which is much above the State's literacy rate of around 64%). Also, the female literacy rate of Jagatsinghpur is 73% which is substantially lower than the male literacy rate of 83% in 2011.

### *Age specific population trends and education levels for 2011*

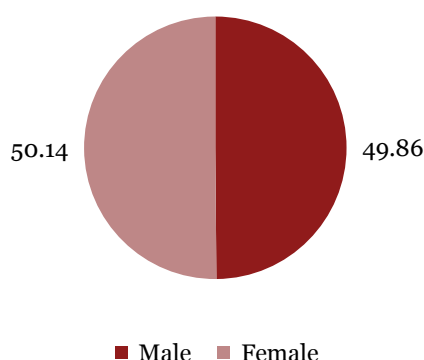
As per the Census 2011, the population in the age-group of 15 to 24 years was 206,893 (18.20% of the overall population). Using proportional method, the population in the age group of 15-59 years is estimated to be 787,487 and 845,902 in 2016 and 2021. The projected absolute growth in the population from 2016 to 2021 is 7.41%.

<sup>9</sup> (Census of India, 2011)

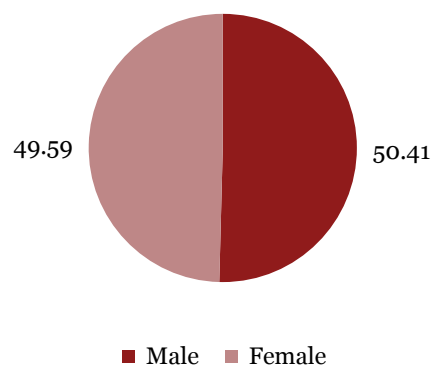
**Figure 33: Growth trend of population in the age group 15-59 year Jagatsinghpur in (2001-2021)**



**Figure 34: Age specific population in Jagatsinghpur (15-24 year)**



**Figure 35: Age Specific Population in Jagatsinghpur (15-59 year)**

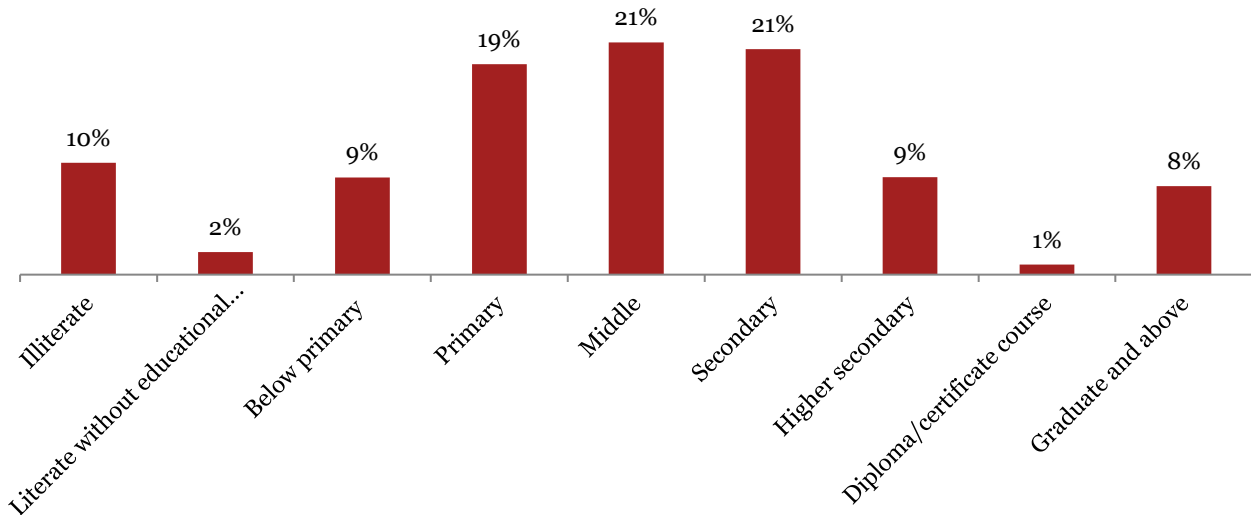


In the age group of 15-59 years the share of population of males and females in total population of Jagatsinghpur is around 50.41% and 49.59% respectively. Similarly the share of population of males and females in the age group of 15-24 years is 49.86% and 50.14% respectively.

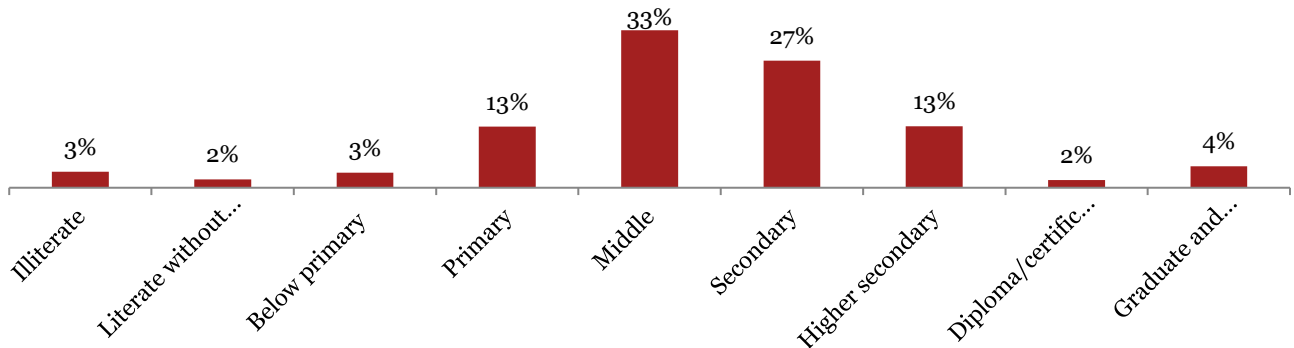
The chart indicates that for the age category of 15-59 years, 10% of the population of Jagatsinghpur is illiterate. 2% of the population in the age category are literate without any educational qualification, 9% have attended school till below primary level and 19% have completed schooling only up to primary level. Roughly, 21% of the literate population have completed schooling up to the middle level and 21% of the literate population have been educated till secondary. Only 1% of the population of this district have done a certificate/diploma course and 8% have at least graduated, indicating that a graduate/post-graduate degree is more sought after than a certificate/diploma.



**Figure 36: Age specific education level in Jagatsinghpur (15-59 year)**



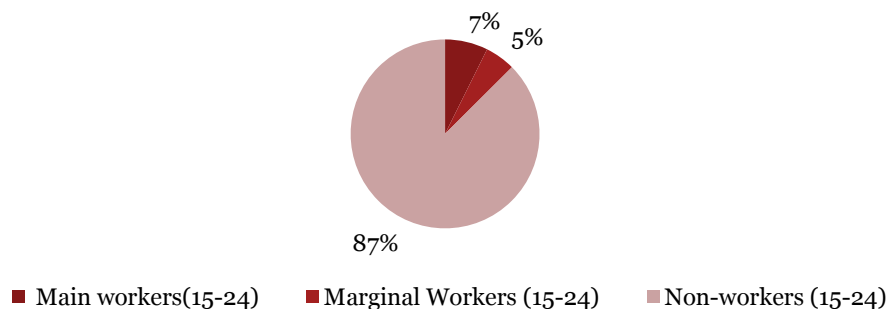
**Figure 37: Age specific education level in Jagatsinghpur (15-24 year)**



For the age category of 15-24 years, 3% of the population of Jagatsinghpur is illiterate. 2% is literate without any educational qualification, 3% have attended school till below primary level and 13% have completed schooling only up to primary level. Roughly 33% of the literate population has done schooling up to the middle level, whereas, around 27% of the literate population has been educated till secondary. Only 2% of the population of this district has done a certificate/diploma course and 4% have at least completed graduation.

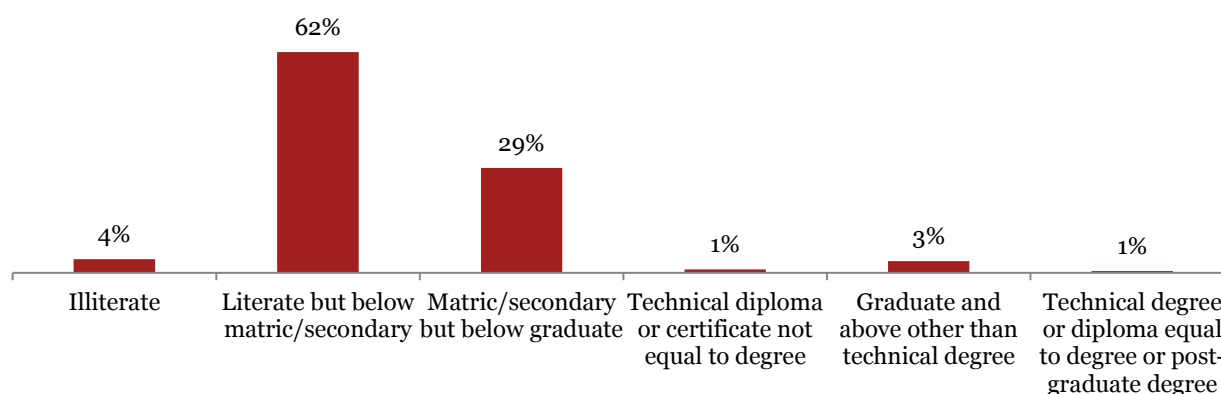
### *Age specific distribution of workers and educational level*

**Figure 38: Age specific distribution of workers in Jagatsinghpur (15-24 year)**



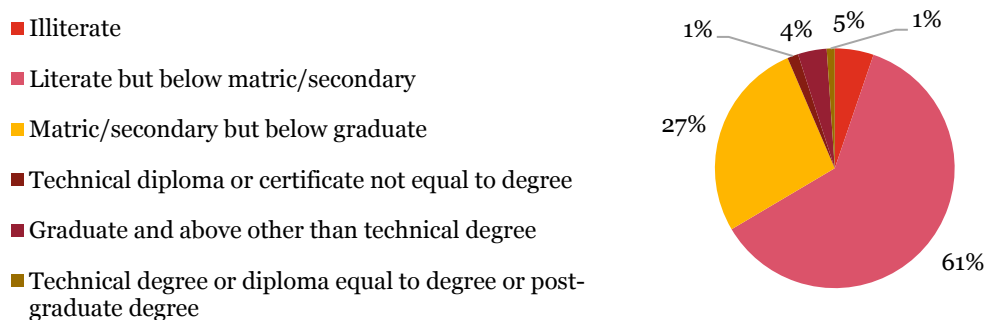
87% of the population in the age group of 15-24 years are non-workers. 7% of the population are main-workers, whereas 5% are engaged in marginal work i.e. work for 3-6 months during the year.

**Figure 39: Education level of marginal workers in Jagatsinghpur (15-24 year)**



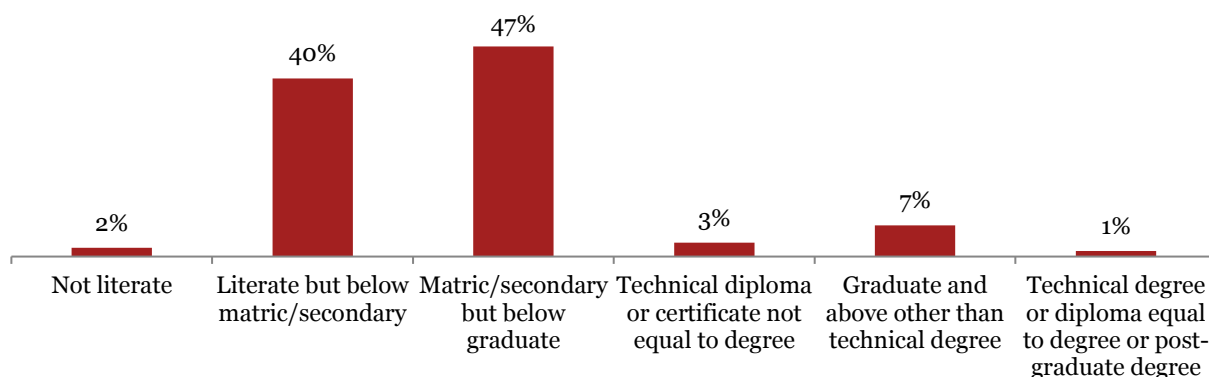
Amongst the 14,619 marginal workers in the age group of 15-24 years, only 1% hold a technical degree or diploma equal to degree and 3% are graduate and above other than technical degree. 1% have a diploma or a certificate (not equal to degree). 29% are educated up to the matric/secondary level and around 62% are literate with an educational qualification of below matric/secondary level. 4% of the marginal workers in this age group are illiterate.

**Figure 40: Education level for main workers in Jagatsinghpur (15-24 year)**



From the Census 2011, depicted above, it is seen that, the proportion of main workers who are illiterate (*in the age category 15-24 years*) is slightly more (*1 percentage difference point between the two*) than the proportion of marginal workers who are illiterate. We also find that the proportion of main workers who are literate but below matric/secondary (*in the age category 15-24 years*) is less than (*1 percentage difference point between the two*) the proportion of marginal workers who are literate but below matric/secondary. The proportion of main workers who are matric/secondary level but below graduate (*in the age category 15-24 years*) is slightly less than (*2 percentage difference point between the two*) the proportion of marginal workers who are matric/secondary level but below graduate. The proportion of main workers who are graduate and above other than technical degree (*in the age category 15-24 years*) is same as that of marginal workers who are graduate and above other than technical degree. The proportion of main workers who have attained an technical degree or diploma equal to degree or post-graduate degree (*in the age category 15-24 years*) is slightly more than (*1 percentage difference point between the two*) the proportion of marginal workers who have attained an technical degree or diploma equal to degree or post-graduate degree. For the remaining one educational level, we find that the population share is the same across the two worker categories.

**Figure 41: Education level of non-workers in Jagatsinghpur (15-24 year)**

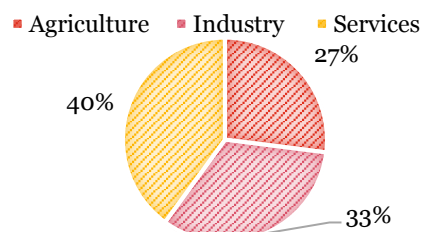


Amongst the 50417 non-workers in the age group of 15-24 years, only 1% hold a technical degree or diploma equal to degree and 7% are graduate and above other than technical degree. 3% have a diploma or a certificate (not equal to degree). 47% are educated up to the matric/secondary level and around 40% are literate but have attained an educational qualification of below matric/secondary level. 2% non-workers in this age group are not literate.

### 1.2.2. Key Economic Drivers

According to District Economy Survey, Jagatsinghpur, the Gross Domestic Product of the district (at constant prices- 2004-05) was INR 5,944 crore in 2010-11 and it has steadily grown at a CAGR of 8% over the period 2004-05 to 2010-11. The sectoral break up suggests that services sector contribution to district GDP is highest (40%) followed by industry sector (33%).

**Figure 42: Sectoral breakup of Jagatsinghpur at constant prices (2004-05)**



The key economic drivers of the district are illustrated below:

<b>Port, Maritime and Logistics</b>	<ul style="list-style-type: none"> <li>Develop Outer Harbour under Project Sagarmala at INR 4,179 Crores.</li> <li>Multi Modal Logistics Park at INR 200 Crores.</li> </ul>
<b>Infrastructure Development</b>	<ul style="list-style-type: none"> <li>Steel Based Downstream Parks at INR 1,200 Crores.</li> <li>Private Industrial Estate at INR 100 Crores.</li> <li>Paradip Plastic Park at INR 107 Crores</li> </ul>
<b>Industrial Development</b>	<ul style="list-style-type: none"> <li>Development of Low Cost Hospital at INR 60 lakhs</li> </ul>
<b>Urbanisation</b>	<ul style="list-style-type: none"> <li>Smart Industrial Port City spread over 6,727.17 acres</li> </ul>

### 1.2.3. Priority Sectors

In Jagatsinghpur, the priority sectors that have been identified are **Ports and Maritime sector** and other sectors: **fisheries, construction, agriculture and manufacturing.**

### 1.2.4. About Ports

Ports & Maritime				
Major Ports: 1		Minor Ports: Nil		Shipyards: Nil
Details				
Paradeep Port				
Operations:	Paradeep Port Trust	Capacity	79 Million Tonnes	
Key Cargo	Coal, Gasoline, Diesel	No of berths:	20	
		Draft	13 mtrs (43 ft.)	
Description and key Trend	The Gopalpur Port is a private port owned by Odisha Stevedores Limited. The Port aims at serving the mineral rich hinterland of Odisha, Jharkhand and Chhattisgarh. The first phase of developing three deep water berths are in process and the master plan envisages 15-20 berths with three separate harbors to enable segregation of cargo as needed.			
Terminal Operations				
	Terminal Operator (1)	Terminal Operator (2)	Terminal Operator (3)	Terminal Operator (4)
Annual Capacity	IOCL 37 mn tonnes	ESSAR 6.55 mn tonnes	IFFCO 4.03 mn tonnes	PPL 3.47 mn tonnes
Type of Cargo handled	Gasoline, Diesel, Petroleum, Crude Oil	Dry bulk cargo	Containers	Petroleum products, crudes, and chemicals
Manpower	-	-	-	-
High Demand Job Roles	Technicians (Fitter, Welder , Electrician etc.), Pump Operators	Cleaner, Carpenter, Mechanic, Loco Driver, BMH OPERATOR	Pay loaders, Excavators, Heavy Earth Moving vehicle Operator	Maintenance Staff
Shipyards				
Description and key Trend	Nil			

### 1.2.5. Investments

The table below summarizes the investments are that are in the pipeline in next few years:

**Table 2: Proposed Key Investments for the year 2016-22 in Jagatsinghpur**

Sector	Proposed Investment (INR Cr)	Number of Projects	Expected Employment	Key Players
Port & Maritime	5,349.97	5	200-300 persons	Paradeep Port Trust
Infrastructure	15,380	9	459,800 persons	MSME, IDCO, Container Corporation of India Limited

Smart Port City	1,500 {Approx.}	2	32,000 persons	Paradeep Port Trust, MSME, Private Partners
Basic infrastructure, Transportation, Port City & Affordable Housing	860	2	700 persons	Rural Water Supply & Sanitation, L&T, Department of Health & Family Welfare, Private partners

In the port and maritime sector, upgradation and repair work in the existing Paradip port, development of port-based SEZ and initiation of shipyard projects have been identified as key focus areas for future investments. Details of proposed investments in this sector are given below:

**Table 3: Details of Investments in Port and Maritime sector in Jagatsinghpur**

Project	Proposed Investment (INR cr)	Expected Employment	Key Players
Paradip International Cargo Terminal	430.78	-	Paradip Port
Paradip Terminal for Export of Iron Ore	740.19 Cr	-	JSW
Mechanisation of EQ 1,2 and 3	-	-	JSW
Coal Import Berth	50	Information not available	Paradip Port Trust
Outer Harbour under Project Sagarmala	21	200-700 Nos	Paradip Port Trust

In Jagatsinghpur, with the MSME sectors, manufacturing, tourism, logistics, food processing, health care, construction are upcoming areas with proposed investments to the tune of INR 1,110 Cr and is expected to create employment for approximately 450,000 persons. The details of proposed investments across these sectors are given below:

**Figure 43: Details of proposed investments across different sectors, IDCO**

Logistics	Manufacturing	Healthcare	Construction	Food Processing
<ul style="list-style-type: none"> <li>Development of Multi Modal Logistics Park with Paradip Port Trust Area at INR 200 Cr: Employment: 7000 nos.</li> </ul>	<ul style="list-style-type: none"> <li>Manufacturing- Downstream Park for Steel based Units at INR 1,200 Crores- Total Direct Employment: 500</li> <li>Manufacturing - Development of District-level Mini Tool Rooms (2 firms )at INR 180 Crores</li> </ul>	<ul style="list-style-type: none"> <li>Health Care: Odisha Affordable Healthcare Projects at INR 60 Lakhs</li> </ul>	<ul style="list-style-type: none"> <li>Development of Industrial Park under SIPC Master Plan at INR 500-800 Cr-Total Direct Employment: 20000-25000Key Player: Paradip Port Trust;</li> <li>Green Field Corridor at INR 350 Cr Employment: 300 nos.</li> <li>Chemicals &amp; Petrochemical Region at INR 13,643 Crores- Key Player: IDCO Employment: 450,000 nos.</li> <li>Mega Water Supply Projects at INR 800 Cr-Total Direct Employment: 500; Key Player: (RWSS), Rural Development Department Employment: 400-600 nos.</li> </ul>	<ul style="list-style-type: none"> <li>Food processing Centres- at INR 30 Crores</li> <li>Commodity Cluster based Value Chain Development at INR 10 Crores</li> </ul>

### 1.2.6. Training Infrastructure

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
ITI	22	15	Fitter, Electrician, Welder, DEO, Plumber
Polytechnic	-	-	-
PMKK Training Centre	1	5	LMV driver-Level 3, Welding technician Level- 3, Business correspondent, Business Facilitator, Trainee associate
DDU GKY	1	1	Retail, BPO Voice, BPO Non Voice

Jagatsinghpur has no Government ITI but there are 22 Private ITIs which offers close to 22 trades, the most common trades being fitter, electrician, welder, DEO and Plumber. The Government schemes such as PMKK and DDU-GKY are also implemented in the district. Though PMKK is still in the construction phase, however DDU-GKY has 1 Private implementing Partner which has trained close to 1163 candidates in the current financial year and placed 774 candidates of them.

There are a number of training programmes initiated by various State Government departments which is tabulated as follows:

Department	Programme	Trades
Panchayati Raj Department	RSETI	Food Processing, Mushroom Cultivation etc.
MSME Department	Entrepreneur Development programme; Coir Development Training programme, Handicraft Sector	Wood Carving, Terracotta, Straw Craft
Department of Agriculture	National Food Security Mission, Rashtriya Krishi Vikas Yojana, National Mission of Oil Seed Project	Extension training in improving output
ST& SC Department	OSFDC	Electrician, Welding,
Panchayati Raj Department	Sagarmala-DDUGKY	Welding, Ship Fitter, Structural fabricator
Housing & Urban Development department	State Urban Development Agency	Data Entry Operator, Beauty & Wellness, Plumbing, Sewing Machine Operator
Department of Agriculture	RKVY, State Employment Mission	Orchard Business Management, Nursery Business Management, Coconut Cultivation
Department of Skill Development & Technical Education	Skill Upgradation Training, Placement Linked Training programme	Electrician, Hospitality, Plumbing etc.

### 1.2.7. Youth Aspiration

#### Respondent Profile

The table below provides an overview of the respondent profile:

Profile	Details
Total Sample Size	400
Gender Profile	Male- 46% Female- 54%
Age Group	15-24 years
Education Level (top 3)	Senior Secondary schooling(Class 9 to 10)- 39.9 Higher secondary schooling with science (Class 11 to 12)- 6.2%

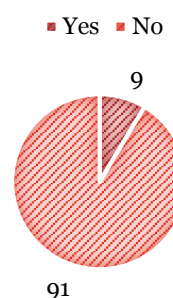
	Higher secondary schooling with commerce (Class 11 to 12)- 3.6%
APL/BPL/AAV/Don't know	APL-43.5% BPL- 48.8% AAV- 7.3% Don't know- 0.5%
Occupational Profile (top 3)	Own Business (14.3%), Salary from employment (9.8%), and Labourer (6.3%)

## Exposure to Vocational Training and Educational Aspiration

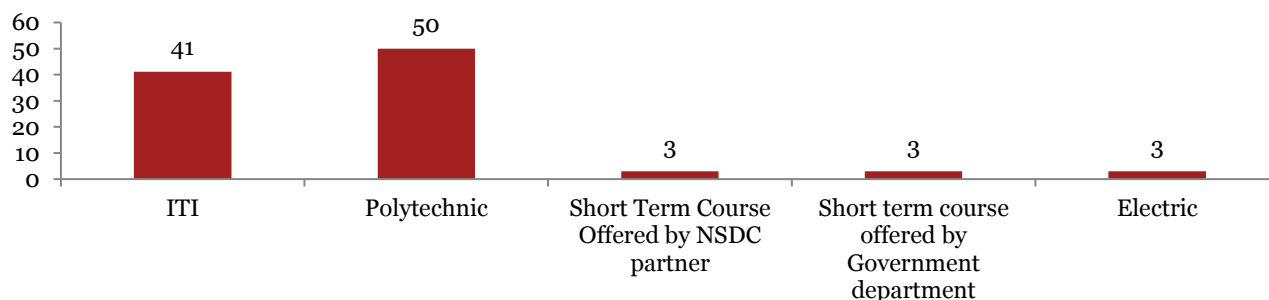
Regarding the exposure to the vocational training most students reported that they had not completed any vocational training course. Overall, ~91% of the respondents had not enrolled in vocational training course

Of the total respondents who underwent vocational training (which is ~9%), majority were from Polytechnic (50%) and ITI (41%). Figure 45 exhibits the percentage of respondents who completed different types of courses as part of their vocational training.

**Figure 44: Percentage of respondents who completed vocational training courses - Jagatsinghpur**

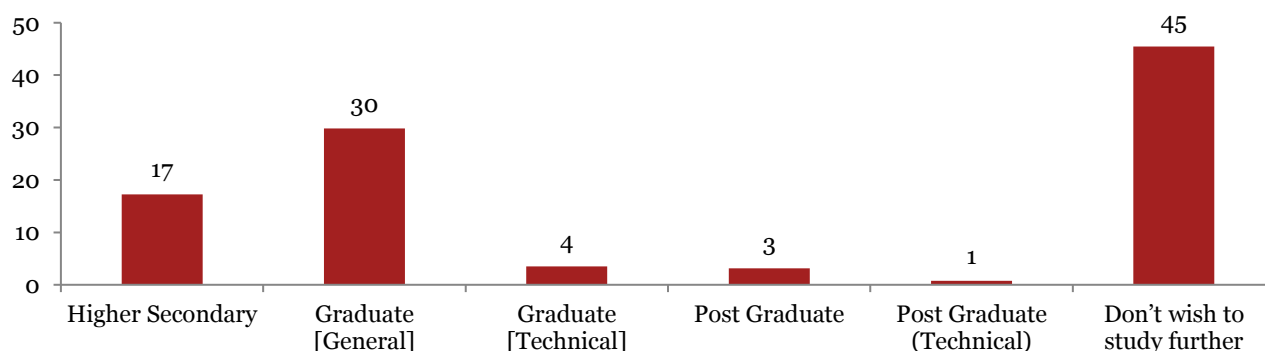


**Figure 45: Percentage of respondents completed courses in vocational training - Jagatsinghpur**



Further, the respondents were asked level about the level education they wished to attain. 30% of the respondents aspired to attain graduation. The desire to attain technical education is extremely low with only 1% & 3% aspiring for graduation or post-graduation in technical fields respectively whereas 45% of the respondents didn't wished to study further. (Figure 46)

**Figure 46: Desired level of education - Jagatsinghpur**



## Job Aspiration

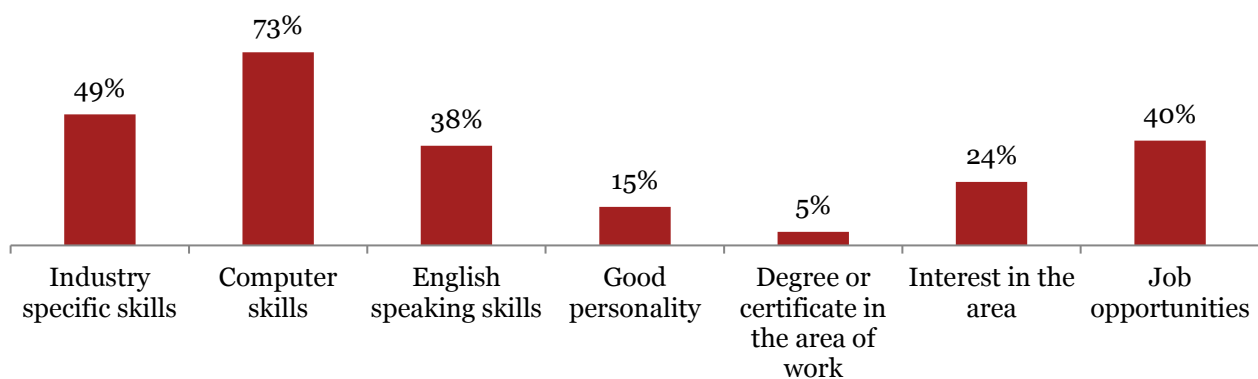
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 89% of the respondents reported to have preferred wage employment over self-employment. (Figure 47)

The respondents were further asked to identify the factors important for securing employment in the area of interest. 73% of the respondents identified computer skills as the most important factor for securing employment followed by Industry specific skills (49%) and job opportunities (40%) (Figure 48)

**Figure 47: Percentage of respondents aspiring for wage and self-employment - Jagatsinghpur**



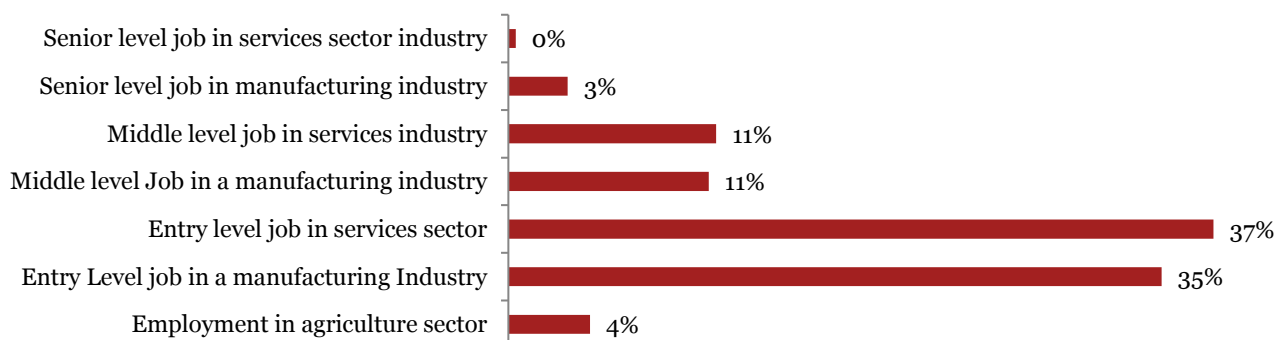
**Figure 48: Factors important for securing employment in area of interest (%) - Jagatsinghpur**



Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for services sector with 37% aspiring for entry level jobs in service sector and 35% aspirin for entry level jobs in manufacturing sector. This is followed by middle level jobs in manufacturing and services industry (11%). (Figure 49).

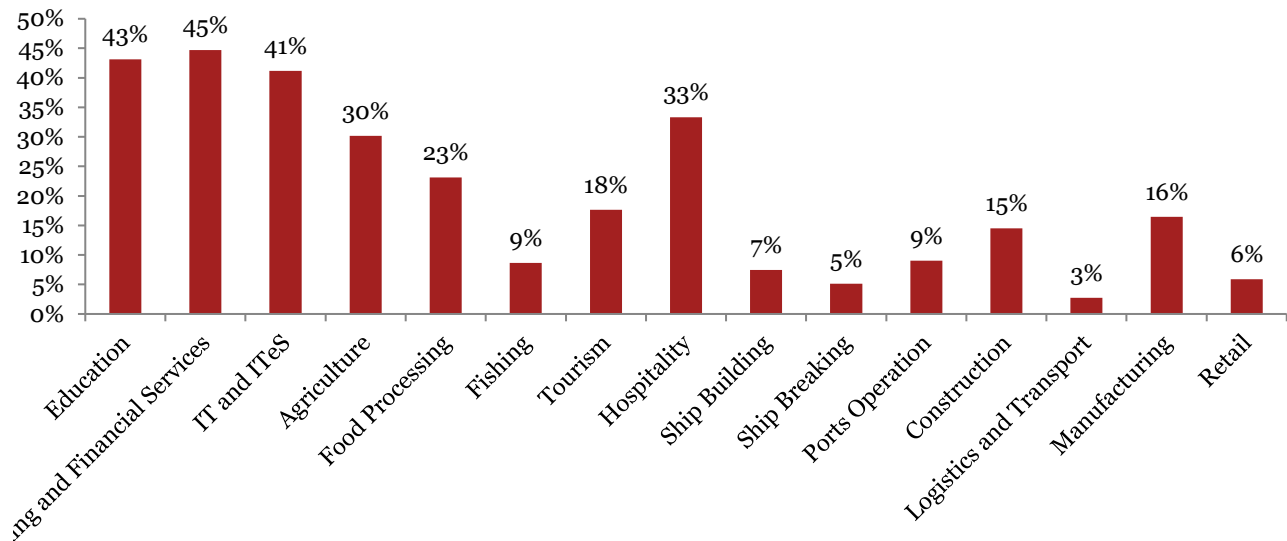
Further, Education (43%) and BFSI (45%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job in the service sector space. The details of other sectors are mentioned in Figure 52.

**Figure 49: Desired job profile after completion of education/training - Jagatsinghpur**



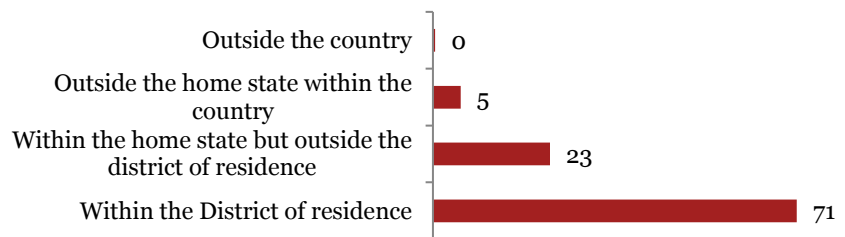


**Figure 50: Sectors in which respondents' foresee getting a desired job (%) - Jagatsinghpur**



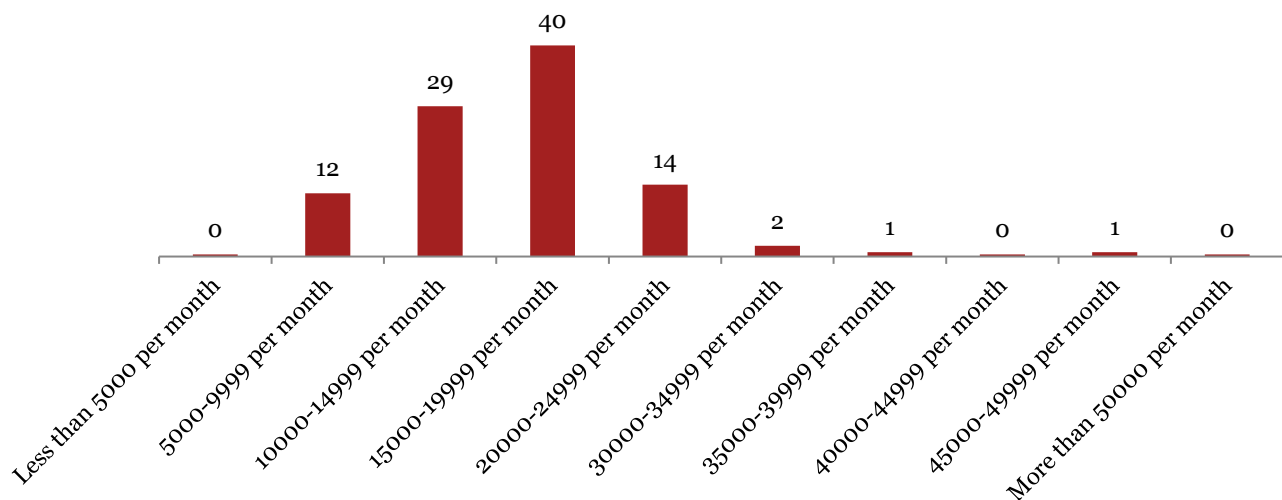
Out of total respondents, only 5% preferred to work in outside state. It is important to note that 71% preferred to work in the same district and 23% expressed willingness to migrate to other districts in the same state suggesting lack of flexibility among the youth of the district (Figure 51)

**Figure 51: Preferred work location of candidate - Jagatsinghpur**



For majority of the respondents (40%) the monthly salary expectation was INR 15,000-20,000; and for 29% of the respondents expected salary is reported to be in the range of 10,000-15,000 per month (Figure 52).

**Figure 52: Monthly salary expectation of respondents - Jagatsinghpur**

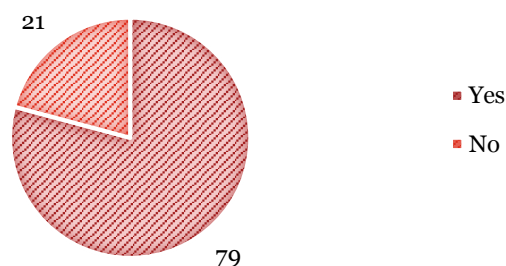


## Training Aspiration

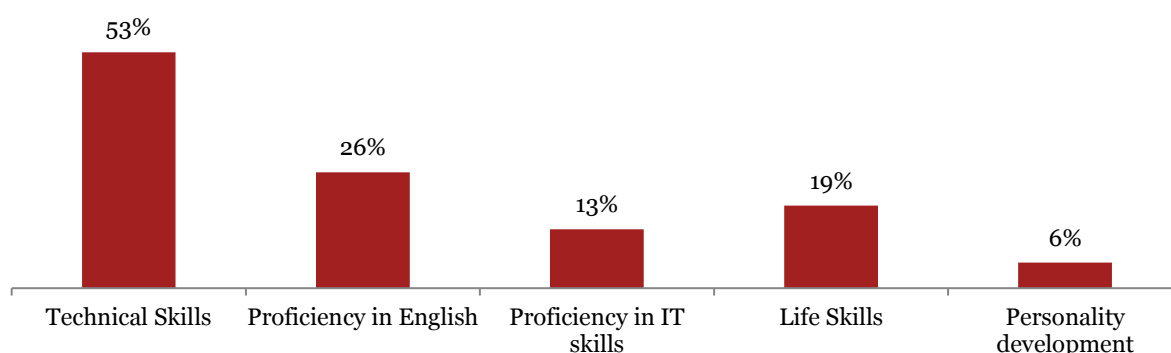
Regarding willingness of the respondents to participate in the training programme in next one year, 79% expressed interest whereas 21% expressed dis-interest (Figure 53).

Further, when enquired about the key focus areas of skill training, 53% of respondents reported that emphasis must be laid on technical skills followed by proficiency in English (26%), and proficiency in Life skills (19%) (Figure 54).

**Figure 53: Willingness to participate in trainings (%) - Jagatsinghpur**



**Figure 54: Focus area on skills training - Jagatsinghpur**

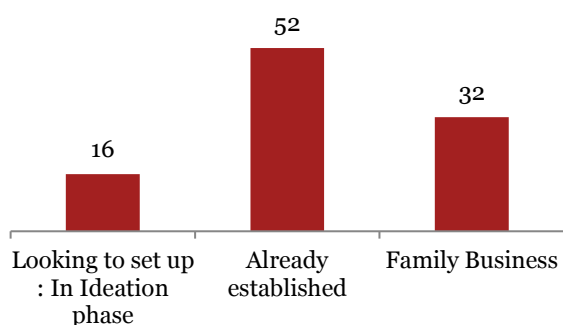


Overall there is demand for training in hospitality (70%), food processing (64%), tourism (42%), shipping operations (10%) and port operations (24%) (Figure 26).

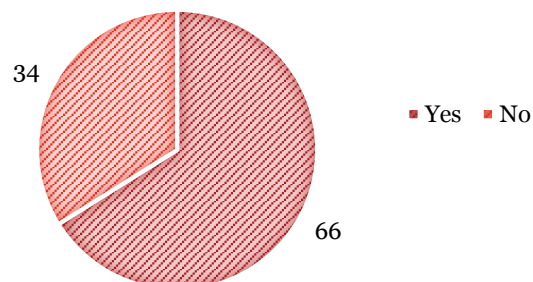
## Self-Employment

Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, 52% were already established and 32% were in family business. Further, 66% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills.

**Figure 56: Current Status of Entrepreneurial Venture (%) - Jagatsinghpur**

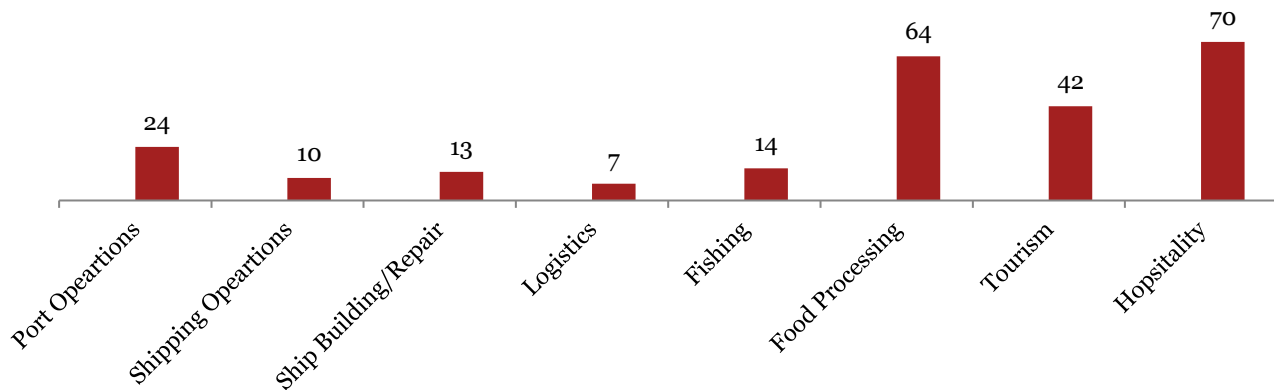


**Figure 55: Interested in skill development for enhancing entrepreneurial skills (%) - Jagatsinghpur**



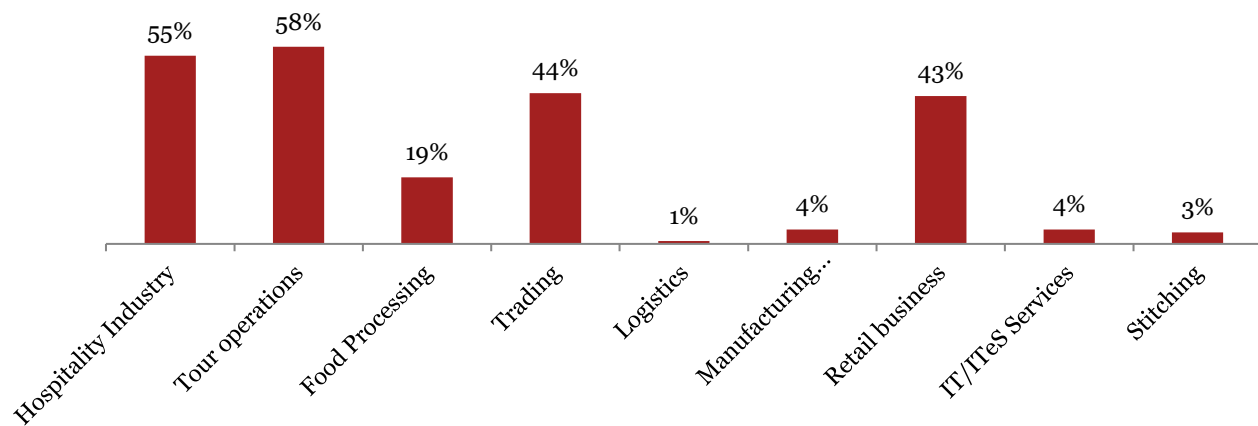
Hospitality (70%), Food processing (64%), Tourism (42%) and Port operations (24%) emerged as prominent areas where respondents were have expressed willingness to participate in trainings.

**Figure 57: Willingness of respondents to participate in trainings of different sectors - Jagatsinghpur**



Tour Operations (58%), Hospitality Industry (55%), Trading (21%) and Retail Business (43%) have been identified as most preferred sectors for setting own enterprise (Figure 58)

**Figure 58: Sectors for establishing enterprise (%) - Jagatsinghpur**



## 2. Skill Gap Assessment, Job Roles and Emerging Job Roles

### 2.1. Incremental Demand<sup>10</sup> for Skilled & Semi Skilled Manpower

The state of Odisha is witnessing increased industrialization and urbanization. These are affecting the incremental demand of skilled workforce in the district where as per our methodology Port & Allied, Logistics, Tourism, Construction & Fisheries are going to generate the maximum demand for skilled and semi-skilled workers after factoring in future investments and technological changes.

**Table 4: Incremental demand for skilled & semi-skilled workers**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
<b>Agriculture Sector</b>	-22,739	-22,662	-22,582	-22,506	-22,425	-22,350	-135,264
<b>Manufacturing</b>	39,560	41,218	42,943	44,741	46,614	48,566	263,642
<b>Construction</b>	43,624	45,103	46,633	48,214	49,849	51,540	284,963
<b>Logistics</b>	16,335	17,443	18,624	19,885	21,235	22,672	116,194
<b>Communications</b>	93,518	22,936	25,888	29,224	32,987	37,234	241,787
<b>Trade</b>	25,542	26,981	28,501	30,107	31,803	33,597	176,531
<b>Tourism</b>	16,301	17,220	18,190	19,215	20,297	21,441	112,664
<b>Total</b>							1,060,517

### 2.2. Job roles in High Demand

#### 2.2.1. Ganjam

##### Key trends in Core Sectors

- **Agriculture:** Ganjam has a strong agrarian economy given its fertility of soil and favorable climatic condition. Paddy is the main crop grown in the district along with pulses, groundnut, and sugarcane. Kewda and Cashew are the two such crops which are unique to the district. Though agriculture has still prominence in the district, however the rate workforce engaged as farmers is decreasing due to growing urbanization.
- **Manufacturing:** Key drivers of employment in the district are expected in units in the Automobile and Ancillary Industries, Electronics etc.
- **Construction:** With the proposal of Special Economic Zones like the one being set up in Gopalpur huge number of construction activities are expected to start in the district. This will increase the demand for construction workers.
- **Logistics:** The upcoming industries in the next five years which will industrialize the Ganjam belt will require huge demand for workforce in the logistics sector.

<sup>10</sup> 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. Since District level GDP is not available in Odisha. A statewide estimation is calculated.

- **Trade:** Though trade is a dominant sector in the district, there is low potential for “New Jobs” due to the existing saturation and high share of unskilled workforce. Collaboration with industry partners and increased formalization can create a demand of reorganization and up-skilling of existing workforce.
- **Tourism & Hospitality:** The State Government has proposed huge investments to promote tourism in and around Ganjam. The present tourist spots attracts people from all over the state as well as the neighbouring states like Andhra Pradesh. Thus with the increasing focus in this sector, the demand for skilled workforce will also increase in due course. Gopalpur Beach, Tara Tarini Hill Shrine, Chilka Lake are some of the most sought after tourist destinations in Ganjam.
- **Communications:** Information and Communication will have high demand for skilled workforce in the district due to upcoming industries

This sections captures the jobs that have been reported to be high in demand in Ganjam. The job roles that are listed below have been identified by the stakeholders. Across the sectors few of job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describe the job roles that are high in demand across the sectors.

## Ports and Maritime Sector

The ports and maritime sector has reported high demand for crane operators and other skilled workers such as welders, electricians, and blaster. The Gopalpur Port is expected to become automated and required of highly skilled manpower will be restricted crane operators, heavy machine operators etc.

The matrix below captures the jobs roles that are high in demand:

Port operations & Ship Building	Findings
<ul style="list-style-type: none"> <li>• Forklift Operator</li> <li>• Reach Stacker Operator</li> <li>• Crane Mechanic</li> <li>• Painter</li> <li>• Blaster</li> <li>• Marine Engine Fitter</li> <li>• Vessel Navigator</li> </ul>	<ul style="list-style-type: none"> <li>• Port operators and CFSs have to train the crane operators for at least three months</li> <li>• Trainings required on safety issues especially in handling crane operations</li> <li>• Port &amp; maritime sector demands skilled workforce; the shortfall is being met with migrant labour</li> <li>• Acute shortage of technicians for ship repair</li> </ul>

## Other Priority Sectors

### Manufacturing

Ganjam is emerging as an industrial and manufacturing hub<sup>11</sup> that will cater to various industries such as Chemicals, Pharmaceuticals, Petrochemicals, Dyes and Plastics. These sectors demand skilled workforce that could work in manufacturing processes.

The matrix below captures the jobs roles that are high in demand:

Manufacturing	Findings
<ul style="list-style-type: none"> <li>• Production Assistants</li> <li>• Welder</li> <li>• Fitter</li> <li>• Mechanic</li> <li>• Plumber</li> <li>• Electrician</li> <li>• Turner</li> <li>• Motor Winding</li> </ul>	<ul style="list-style-type: none"> <li>• Upcoming SEZs such as Gopalpur SEZ</li> <li>• Supervisory skills are also needed in the roles of foremen, leading hands and supervisors</li> <li>• Limited apprenticeship arrangement exists, combining formal training off-the-job with on-the-job training</li> <li>• Stakeholders indicated preference for hiring ITI graduates</li> <li>• Skill Training in some of the high demand trades unavailable in local ITIs and training institutes</li> </ul>

<sup>11</sup> [http://www.business-standard.com/article/pti-stories/odisha-cm-inaugurates-2-big-industrial-projects-in-ganjam-116113001182\\_1.html](http://www.business-standard.com/article/pti-stories/odisha-cm-inaugurates-2-big-industrial-projects-in-ganjam-116113001182_1.html)

## Tourism

Ganjam is a hub of tourists due to presence of beaches, temples, largest brackish water lake Chilika Lake and presence of Olive Ridley turtles which attracts a large of tourists to the district. Also a number of State initiatives to promote tourism in the district will raise the demand for skilled workforce in the tourism and hospitality sector.

The matrix below captures the jobs roles that are high in demand:

Manufacturing	Findings
<ul style="list-style-type: none"> <li>• Front Office Executive</li> <li>• Chef</li> <li>• Kitchen Steward</li> <li>• Housekeeping Supervisor</li> <li>• Tour guide</li> <li>• Facility Store Keeper</li> <li>• Billing Executive</li> <li>• Cruise/Boat/Jetty in charge</li> <li>• Solar Panel Assistant</li> <li>• Plumber</li> </ul>	<ul style="list-style-type: none"> <li>• High demand Job Roles: Ferry Operators; Speed Boat Driver; Solar Panel Assistant; Solid Waste Management; and Sewerage Treatment Plant Operator</li> <li>• Very less number of institutes to provide quality training in tourism and hospitality sector</li> <li>• Huge Investments are proposed to be made in Ganjam in tourism and hospitality sectors as part of the coastal circuit program</li> </ul>

## Fisheries

Ganjam is one of the major source of marine fishing in the State. The district has a number of waterlogged areas which are proposed to be developed for fish farming both for fresh water as well as shrimp farming. Thus upscaling the skilling requirements of the fishermen and local community is the need of the hour.

The matrix below captures the jobs roles that are high in demand:

Fisheries	Findings
<ul style="list-style-type: none"> <li>• Cold Storage Technician</li> <li>• Warehouse Manager</li> <li>• Mechanic</li> <li>• Glass/Tunnel/ Trolley Freezer Operator</li> <li>• Grading supervisor</li> <li>• De-heading supervisor</li> </ul>	<ul style="list-style-type: none"> <li>• New technology needs to be explored to increase the potential of employment in the sector: (i) Deep sea fishing; (ii) Cage culture; (iii) Ornamental fish rearing; and (iv) Mariculture.</li> <li>• Gopalpur is one of the major sources in the state for marine fishing and can complement coastal circuit investments in tourism</li> <li>• Fishing is largely a traditional occupation, thus there is a need for upskilling in the sector.</li> </ul>

## Construction

In a period of next five years there will be a number of construction as a result of upcoming industries which would require skilled workers in the sector. Apart from this the existing industries require a number of skilled workers in various trades like cable jointing, lab assistant etc. which are currently unavailable in any of the local training institutes.

The matrix below captures the jobs roles that are high in demand:

Construction	Findings
<ul style="list-style-type: none"> <li>• Mason</li> <li>• Bar bender</li> <li>• Supervisor</li> <li>• Carpenter</li> <li>• Painter</li> <li>• Electrician</li> <li>• Plumber</li> <li>• Fabricator</li> </ul>	<ul style="list-style-type: none"> <li>• Large number of upcoming Industries in the district</li> <li>• Limited number of skilled workers in the district</li> <li>• Currently Building contractors hire workers from neighbouring states</li> <li>• RPL for construction workers kick started by the State</li> </ul>

## 2.2.2. Jagatsinghpur

### Key trends in Core Sectors

- **Agriculture Sector:** Though Jagatsinghpur is prominently known for most of its population dependent on agriculture, however increasing urbanization and decreasing rate of return on agriculture has resulted in decreasing trend in the demand workforce.
- **Manufacturing:** The city continues to be a hub for trade activities and manufacturing and will continue to grow in this sector due to upcoming industries like plastic processing industries, expansion of IOCL etc. There will be high demand for workforce in this sector.
- **Construction:** With the upcoming Smart Port city project, Plastic Parks etc. the demand for construction related job roles will increase in the district. Also the port's expansion will require high number of workforce in various job roles in this sector.
- **Logistics:** Logistics sector is ancillary to the Port activities. As the cargo movement in the port maximizes the logistics requirement in terms of movement of trucks, dumpers increases accordingly.
- **Communication:** The communication industry is set to boost in the immediate future, due to the increased focus on Digital India. The industries will require operators for their call centres, front desk managers etc.
- **Tourism:** Jagatsinghpur has potential to become one of the tourist destinations in the State. The sector is taking up in a gradual manner and will require skilled workforce in this sector. Jagatsinghpur is famous for Ma Sarala Temple and Paradeep sea beach.
- **Fisheries:** Paradeep is famous for all varieties of sea fish like Pomphret, Prawns etc.

This sections captures the jobs that have been reported to be high in demand in Jagatsinghpur. The job roles that are listed below have been identified by the stakeholders. Across the sectors few of job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describe the job roles that are high in demand across the sectors.

### Ports and Maritime Sector

The ports and maritime sector has reported high demand for crane operators and other skilled workers such as fork lift operators and electricians. Paradip Port being the only major port handles all the major exports and imports of cargo of the State. Technological advancements in the sector will impact jobs in this sector, however the port will be requiring a number of workforce at the entry level.

The matrix below captures the jobs roles that are high in demand:

Port operations	Findings
<ul style="list-style-type: none"><li>• Rail Mounted Quay Crane Operator</li><li>• Forklift Operator</li><li>• Crane Mechanic</li><li>• Electrician</li><li>• Welder</li><li>• Pay loader Operator</li><li>• Dumper Operator</li><li>• Excavators</li><li>• Traffic Inspector(On shore &amp; Off Shore)</li><li>• Traffic Foreman</li><li>• Deck Foreman</li><li>• Tally Clerk</li><li>• Seal Checker</li><li>• Signal Man</li><li>• Marine Foreman</li><li>• Marine Driver</li></ul>	<ul style="list-style-type: none"><li>• High demand job roles: Fitter; Electrician; Welder; Diesel Mechanic Helper; Traffic Foreman; Outdoor Clerk; Supervisor; Tally Clerk; and Signal Man.</li><li>• Training on attitudinal aspects and safety required to improve efficiency at ports</li><li>• Training currently imparted by employers or by suppliers of machinery.</li><li>• Large number of jobs outsourced by port authorities: (i) Terminal operations; (ii) Crane operators; (iii) Maintenance; and (iv) Truck drivers.</li></ul>

- Greaser
- Cleaner

## Other Priority Sectors

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like ports and maritime sector, sectors such as agriculture, fisheries, manufacturing, and construction will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature.

## Agriculture

Jagatsinghpur is a district which is an agriculturally rich district. The fertility of the soil makes it suitable to grow one of the high quality paddy in the State. The population though is largely dependent upon agriculture but the workforce in this sector is declining due to decrease in output, Thus augmenting the skill in this sector is would enhance the productivity and hence the economy of the district.

The matrix below captures the jobs roles that are high in demand:

Agriculture	Findings
<ul style="list-style-type: none"> <li>• Paddy Cultivator</li> <li>• Dairy farmer</li> <li>• Agriculture Extension Service Provider</li> <li>• Repair, Maintenance &amp; field operation of tillage equipment</li> <li>• Repair&amp; Maintenance of Spraying &amp; Dusting</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture employs more than half of the workforce of the district.</li> <li>• There has been a steady growth in cultivation of commercial crops, however marketing channels are still underdeveloped.</li> <li>• Training Requirements in following areas: (i) Training in improved Agricultural Techniques; and (ii) Food Processing Technicians.</li> </ul>

## Fisheries

Paradeep is famous for export of marine products and has the largest number of fish processing industries concentrated in this district. There is a demand for a large number of workers in this sector.

The matrix below captures the jobs roles that are high in demand:

Fisheries	Findings
<ul style="list-style-type: none"> <li>• Cold Storage Technician</li> <li>• Warehouse Manager</li> <li>• Mechanic</li> <li>• Glass/ Tunnel/ Trolley Freezer Operator</li> <li>• Grading supervisor</li> <li>• Be-heading supervisor</li> </ul>	<ul style="list-style-type: none"> <li>• Fishing is largely a traditional occupation, therefore mostly upskilling is required.</li> <li>• New technology needs to be explored to increase the potential of employment in the sector: Deep sea fishing; Pisciculture; and Export Quality fish rearing.</li> <li>• Training requirements for Fishermen in the areas of sustainable fishing and value addition.</li> </ul>

## Manufacturing

Emerging technology will shape the manufacturing sector in next few years and the workforce engaged in manufacturing will have to upgrade its skills to be in tune with the emerging market requirements. This sector will also require technological literacy among the workers. The matrix below captures the jobs roles that are high in demand:



<b>Manufacturing</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Production Assistants</li> <li>• Welder</li> <li>• Fitter</li> <li>• Mechanic</li> <li>• Plumber</li> <li>• Electrician</li> <li>• Turner</li> <li>• Motor Binding</li> </ul>	<ul style="list-style-type: none"> <li>• Currently there is only small-scale Manufacturing; however, there is commitment of large investments within SEZ's being established in the district.</li> <li>• Even though there are around 22 ITCs in the district, the quality of training provided is unsatisfactory.</li> <li>• High Demand Job-roles: Welder; Fitter; Electrician; Instrumentation; High Pressure Vessel Welder; and Data Entry Operator</li> </ul>

## *Construction*

A number of large scale projects such as Plastic Park and Smart Port City which have been proposed by the State will involve a massive amount of work in the construction sector. The existing workforce will be required to upgrade its skills in building hi-tech buildings and there is a requirement of fresh training to meet the huge requirement of workforce in this sector.

The matrix below captures the jobs roles that are high in demand:

<b>Construction</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Mason</li> <li>• Supervisor</li> <li>• Bar bender</li> <li>• Carpenter</li> <li>• Electrician</li> </ul>	<ul style="list-style-type: none"> <li>• Upcoming Large Scale Projects</li> <li>• Acute shortage of workforce in the sector</li> <li>• Currently no training institute provides training in this sector</li> </ul>

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## **3. District Action Plan**

### **3.1. Background**

An actionable roadmap is one of the deliverables to be submitted to MoS for implementing skill training programmes in each of the districts. To develop these District specific plans, the team has mapped the emerging skilling opportunities across the 21 districts. Further, similar training opportunities or training requirements from the same sector have been clubbed in to one programme to ensure optimal use of resources and to build economies of scale for delivery partners. This has been proposed to improve the chances of developing and proposing feasible and viable training delivery models.

Further, the team has also estimated the broad capital and operational expenditure expected to be incurred in operationalizing the training initiatives in the districts. Apart from this, critical operational aspects such as training delivery mechanisms, availability of curriculum and employers have also been explored. The current status of these critical aspects will help ascertain the feasibility of initiating these trainings immediately and assess the gaps that need to be bridged before these training can be rolled out.

### **3.2. Objective of developing the plan**

The District action plans have been developed with an overall objective of providing a step by step skill implementation plan to the Ministry of Shipping in the 21 coastal districts. The specific objectives include the following:

- Mapping various skilling opportunities available in the district, keeping in mind the requirements of Port led development and emergence of CEZs.
- Mapping the current status of various pre-requisites such as availability of qualifications, curriculum, funding for training, potential training delivery partners, availability of assessors and certification processes and institutions for the training programmes.
- Identify the potential/target beneficiaries for the training courses.
- Map the infrastructure and the investment that may be required to deliver the training programmes in the district.
- Provide an estimate of the investment required to create/hire the skilling infrastructure.
- Provide a step by step action plan for MoS to implement the skilling initiatives.

### **3.3. Methodology**

Stakeholder consultations<sup>12</sup> that were held at national, state and district level and that included stakeholders from government, industries, associations, and private firms. A separate plan has been prepared for each of the 21 district. The plan has been divided into several sections and include sections on training delivery, potential partners, and investments. The investments component has been divided into two broad heads: capital expenditure and operational expenditure. Capital expenditure has only been proposed in cases in which there were very limited possibilities of using existing institutional framework for partnership and for using existing infrastructure and equipment. Operational expenditure includes the cost of the running the training programmes including the salary of the instructors. The common cost norms are the basis of calculating the operational expenditure. Capital expenditure has been worked out bearing in mind the infrastructure requirements of the programme and duration of training programmes. Wherever, feasible partnership with existing programmes such as DDU-GKY and PMKVY has been suggested in the plan.

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<sup>12</sup> Roughly 700 primary consultations informed the development of these plans for 21 districts  
Human Resource and Skill requirement study for 21 Coastal Districts of India – Odisha: Ganjam and Jagatsinghpur

### 3.4. Summary of Ganjam

SN	Project Name	Job Roles	Type of training	No. of people to be trained
1	Manufacturing & Construction	Lab Attendant, Cable Jointer, Motor Winder, Mason, Assistant Fire Operator, Fire & Rescue Operator	Fresh	4,500 persons in next 5 years
2	Agriculture & Fisheries	Gardener, Kewda Producer, Maize Producer, Sea food Processing	RPL Fresh	1,000 persons in next 5 years
3	Tourism	Tour Operator, House Keeping trainee, Tourist Guide	Fresh	1,200 persons in next 5 years
4	Skill Development in Port Operations	Crane Operator, Forklift Operator, Truck Driver, Helper	RPL Fresh	900 Persons next 5 years

### 3.5. Action Plan of Ganjam

<b>Project 1: Manufacturing and Construction</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Presence of chief economic minerals like limestone, manganese, monazite, sand</li> <li>• One Minor Port- Gopalpur Port</li> <li>• Upcoming SEZ</li> <li>• Presence of large Industries manufacturing products like Ferro Chrome, Caustic Soda, Chlorine etc.</li> </ul>			
<b>Rationale for a Training Center</b>		<p>Ganjam has a concentration of large number of big industries and with the plan of development of Gopalpur SEZ, the district would become an industrial belt in the State in upcoming 5-10 years. Currently there are number of industries which consume high voltage Electric power, thus requirement of workforce in power transmission and maintenance is in high demand. Further the construction work for the new industries would soon take up in the district in the area marked for SEZ in Gopalpur which would require a high number of workforce for the same.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Lab Attendant in Chemical Plant	<ul style="list-style-type: none"> <li>• Local Youth with a minimum qualification of Class 12</li> </ul>	Fresh Training	900 persons in next 3 years
		High Tension Cable Jointing	<ul style="list-style-type: none"> <li>• Local Youth with a minimum qualification of Class 12</li> </ul>	Fresh Training	900 persons in next 5 years
		Motor Winding	<ul style="list-style-type: none"> <li>• Local Youth with a minimum qualification of Class 12</li> </ul>	Fresh Training	600 persons in next 5 years
		Masonry	<ul style="list-style-type: none"> <li>• Local Community</li> </ul>	RPL	1500 persons in next 5 years
				Fresh Training	300 persons in next 5 years
		Fire Safety	<ul style="list-style-type: none"> <li>• Local Youth with a minimum qualification of Class 12</li> </ul>	Fresh Training	300 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Lab Attendant	Local Youth with a minimum qualification of Class 12	<ul style="list-style-type: none"> <li>• No course available</li> </ul>	No course available	No course available
	Cable Jointer	Local Youth with a minimum qualification of Class 12	<ul style="list-style-type: none"> <li>• Installing, repairing, Jointing cables</li> <li>• Basic Health &amp; Safety practices for power related work</li> </ul>	No course available	No course available
	Motor Winder	Local Youth with a minimum qualification of Class 12	<ul style="list-style-type: none"> <li>• No course available</li> </ul>	No course available	No course available
	Mason	Local Community	<ul style="list-style-type: none"> <li>• Layout for foundation, walls, soak-pit &amp; monitor earthwork activities</li> <li>• Build brick/block masonry</li> </ul>	No course available	No course available

			<ul style="list-style-type: none"><li>Build structure using random rubble masonry</li><li>Carry out IPS flooring</li><li>Carry out reinforcement structure for RCC structure</li></ul>		
	Assistant Fire Operator, Fire & Rescue Operator	Local Youth with a minimum qualification of Class 12	<ul style="list-style-type: none"><li>No Course available</li></ul>	No Course available	No Course available
Investment (INR In lakhs)	<b>Construction</b>				
	<b>Lab Attendant in Chemical Plant</b>				
	Operational Expenditure			263	
	<b>High Tension Cable Jointing</b>				
	Operational Expenditure			65	
	<b>Motor Winding</b>				
	Operational Expenditure			175	
	<b>Mason</b>				
	Operational Expenditure			527	
	<b>Fire Safety</b>				
	Operational Expenditure			11	
	<b>Total Operational Expenditure</b>			<b>1,065</b>	
<b>Capital Expenditure for training centre<sup>13</sup></b>			<b>-</b>		
Potential Partners	<b>Partner</b>		<b>Areas of Support</b>		
	Industry (Tata Steel)		<ul style="list-style-type: none"><li>Space and infrastructure for establishing the training center</li><li>Guest faculty</li><li>Input for designing curriculum</li><li>Input for designing QP</li><li>Provision of used equipment for training</li><li>Facilitate implementation of RPL for existing work force</li><li>Provide guest faculty and facilitate on the job training</li></ul>		
	Department of Skill Development & Technical Education		<ul style="list-style-type: none"><li>Funding &amp; Incentive to Industries for training delivery</li></ul>		
	Government ITI/ Private Training partners,		<ul style="list-style-type: none"><li>Training delivery</li><li>Management of the training facility</li></ul>		
	Construction Sector Skill Council		<ul style="list-style-type: none"><li>Development of QPs for the identified job roles</li><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>		
Training Delivery	<b>Option 1</b> <ul style="list-style-type: none"><li>Industry partners creates the training facility/ upgrade the existing facilities</li><li>Industry partners to deploy trained professionals for training delivery and mobilize trainees as per their requirement</li><li>Training facility to be managed and maintained by the Government</li></ul>				

- Govt. department to fund or incentivize the industries for the training delivery
- Option 2**
- Private training provider to rent/develop the training facility and deliver the training programme

## Work Plan

Construction	in Months								
	1	2	3	4	5	6	7	8	9
Partnership with SSC, Industry Partners and Knowledge partners									
Development of QPs									
Establishment of Training infrastructure and facility									
Furnishing of the training centre									
Purchase and installation of lab equipment									
Appointment of staff members ( <i>instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.</i> )									
Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

Project 2: Agriculture & Fisheries					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>Export Quality Rice</li> <li>Ganjam is highest producer of fish in the state</li> <li>Ragi, Mung &amp; Biri are the major economic crops grown in Ganjam</li> </ul>			
<b>Rationale</b>		<p>As a number of companies are going to be set up in the district, there will be a need of gardeners/landscapers who could set up the lawns and maintain greenery in premises. It is also taking into consideration the level of pollution that these industries are going to create, extensive plantation would be required to neutralise it. Thus if the local community is trained in a particular horticulture trade, then it would help them to use their own expertise in creating a green cover in the industrial premises. The training can be imparted through Craftsmen Training Scheme being implemented by DGET. Additionally, as per the Odisha Fisheries Policy 2011, it is proposed that the waterlogged area, dead rivers of government, which are lying unused and unproductive needs to be utilised for developing fish ponds and the fishermen can be trained to become entrepreneurs. Thus Ganjam having a large number of area under such category, thus pisciculture would be a revenue generating activity in such area.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Horticulture	• Local Community	RPL	300 persons in next 5 years
				Fresh	200 persons in next 5 years
		Pisciculture	• Local Community	RPL	300 persons in next 5 years
				Fresh	200 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Gardener	Local Community	<ul style="list-style-type: none"> <li>Nursery Management</li> <li>Designing of Garden Components</li> </ul>	No course available	No course available

			<ul style="list-style-type: none"><li>• Plantation, care &amp; Maintenance of Garden</li><li>• Maintain Health &amp; Safety at Workplace</li></ul>		
	Fish Farmer, Fish Retailer, aquaculture Technician	Farmers, Fishermen, Coastal Community	<ul style="list-style-type: none"><li>• Prepare for Retail selling of fish</li><li>• Maintain health &amp; Safety at workplace</li><li>• Undertake Pond Preparation activities</li><li>• Carry out culture operations</li></ul>	No course available	No course available
	Sea Food Processing Technician	Local Youths	<ul style="list-style-type: none"><li>• Prepare &amp; Maintain Work Area &amp; Process Machineries</li><li>• Prepare for execution of fish &amp; sea food processing</li><li>• Documentation of record keeping related to fish processing</li><li>•</li></ul>	No course available	No course available
Investment (INR In lakhs)		<b>Agriculture &amp; Fisheries</b>			
		<b>Training in Horticulture</b>			
		Operational Expenditure			135
		<b>Training in Pisciculture</b>			
		Operational Expenditure			40
		<b>Total Operational Expenditure</b>			<b>180</b>
Potential Partners		Capital Expenditure <sup>14</sup>			-
		<b>Partner</b>		<b>Areas of Support</b>	
		Fisheries Department		<ul style="list-style-type: none"><li>• Space and infrastructure for establishing the incubation and training center</li><li>• Management of the incubation centre</li><li>• Guest faculty</li><li>• Provision of used equipment for training</li></ul>	
		MPEDA, CIFA		<ul style="list-style-type: none"><li>• Input for designing curriculum for integrated farming</li><li>• Training delivery</li><li>• Co-management of the training facility</li></ul>	
		Nodal Banks		<ul style="list-style-type: none"><li>• Promote bank linkages</li><li>• Introduce youth to various entrepreneurial schemes</li></ul>	
		Agriculture Sector Skill Council		<ul style="list-style-type: none"><li>• Develop model training programmes for the identified job roles</li><li>• Identification and certification of Trainers</li></ul>	

<sup>14</sup> Includes the cost of building the incubation centre

	<ul style="list-style-type: none"> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of trainees</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• MoS to support Fisheries Department of the State in setting up the training centre; the centre will be run by the department</li> </ul>

## Work Plan

Agriculture	in Months					
	1	2	3	4	5	6
TSP Affiliation						
Incubation centre setup						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of incubation centre and training programme						

Project 3: Tourism					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Presence of Gopalpur Beach {Beaches, turtles, lighthouses}</li> <li>• Chilka Lake</li> <li>• Rushilulya Beach famous for Olive Ridley turtles</li> </ul>			
<b>Rationale</b>		<p>Ganjam is a tourist spot with the presence of Gopalpur Sea Beach, Hot Springs, historical sites and temples makes it a hot spot for tourism. However there is only one polytechnic and very less Private institutes providing certain training in tourism and hospitality. With the upcoming project of Coastal Circuit under the Swadesh Darshan Scheme, there will be number of projects in terms of water sports, eco-tourism etc. Also presence of light houses in the Gopalpur Beach would also promote Lighthouse Tourism. Thus the demand for tourism professionals will rise substantially. Thus training through private partners, specialised courses through polytechnics, vocational education can be taken up and the youth population can be skilled accordingly.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Tourism & Hospitality	Local Youths	Fresh Training	1,200 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Tour Operator	Local Youths	<ul style="list-style-type: none"> <li>• Tour Guide</li> </ul>	No course available	No course available
	House Keeping trainee, Chef	Local Youths	<ul style="list-style-type: none"> <li>• House Cleaning</li> <li>• Chef</li> </ul>		
	Tour Escort	Local Youths	<ul style="list-style-type: none"> <li>• Tour Escort</li> </ul>		
	Front office trainee	Local Youths	<ul style="list-style-type: none"> <li>• Front Office Trainee</li> </ul>		
<b>Investment (INR In lakhs)</b>		<b>Tourism &amp; Hospitality</b> <b>Training in Tourism</b>			
		Operational Expenditure		228.6	
		<b>Total Operational Expenditure</b>		<b>246.6</b>	
		Capital Expenditure <sup>15</sup>		-	
<b>Potential Partners</b>		<b>Partner</b>		<b>Areas of Support</b>	
		Tourism Department		<ul style="list-style-type: none"> <li>• Provide infrastructure for training</li> </ul>	

<sup>15</sup> The cost of building the residential facility  
Human Resource and Skill requirement study for 21 Coastal Districts of India – Odisha: Ganjam and Jagatsinghpur



		<ul style="list-style-type: none"> <li>• Training delivery</li> <li>• Support in setting up/scaling up the training centre as per the required SSC norms</li> <li>• Provide faculty members</li> <li>• Integrate the proposed trainings in its training plan</li> </ul>
	ITI, Polytechnic, Private Training Partners	<ul style="list-style-type: none"> <li>• Imparting Training to youths</li> </ul>
	Tourism & Hospitality Skill Council	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• Tourism Department/Government ITI, Polytechnic/Private Training Partners will provide the infrastructure and deliver the training programmes</li> <li>• Automotive Tourism &amp; Hospitality Skill Council will certify the training programmes</li> </ul> <p><b>Option 1</b></p> <ul style="list-style-type: none"> <li>• Build the residential facility for the trainees</li> </ul> <p><b>Option 2</b></p> <ul style="list-style-type: none"> <li>• Lease the residential facility for the trainees</li> </ul>	

### Work Plan

Tourism	in Months					
	1	2	3	4	5	6
Upgradation of training centre						
Affiliation of Training centre with ASCI						
Initiation of residential facility construction work						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

Project 4: Skill Development in Port Operations	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Presence of Gopalpur Port.</li> <li>• Presence of Manufacturing Industries.</li> <li>• Export of chemicals like Iluminite, Granite block, Iron ore pallets and Iron ore fines, industrial granulated slags.</li> </ul>
<b>Rationale</b>	<p>The manufacturing industries concentration in this district generally involves transportation of goods within the industrial area or transportation from the Port. However Operating the specialised heavy vehicles involves substantial amount of risk and lack of specialisation might lead to accidents and fatalities. In the current scenario the drivers having a license are allowed to handle such vehicle after getting basic training by the industry. However, there needs to be a concrete procedure wherein people get a proper training and are assessed by a specialised body and are subsequently certified as crane operators. The</p>

		<p>training can be initiated in coordination with the industries wherein the on-site training can be facilitated by them support by the government. The training period can stretch from minimum of three months to a six month course. The trainers to be involved in the training also need to have a certification form a recognised institute. Also the people having a substantial experience in operating such equipment can be taken as trainers.</p> <p>The drivers and helpers handling the trucks carrying hazardous chemical substances lack in certain skill set wherein they succumb to injuries in due course of their work. In order to avoid such situation Grasim Industries has tied up with Government of Odisha and RTOs to conduct certain training programmes for the drivers and helpers in order to make them capable to handle the vehicles without causing any harm to themselves.</p>			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Training in Operating Heavy Earth Moving Vehicles	<ul style="list-style-type: none"><li>Existing Operators</li><li>Local Youths</li></ul>	RPL	200 persons in next 5 years
				Fresh Training	200 persons in next 5 years
		Training in Safe Transportation of Hazardous Chemicals	<ul style="list-style-type: none"><li>Existing Operators</li><li>Local Youths</li></ul>	RPL	300 persons in next 5 years
Fresh Training	200 persons in next 5 years				
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
	Crane Operator, Forklift Operator	<ul style="list-style-type: none"><li>Existing Operators</li><li>Local Youths</li></ul>	QP available for: <ul style="list-style-type: none"><li>Crawler crane operator</li><li>Hydra crane operator</li><li>Tyre mounted crane operator</li><li>Junior crane operator</li><li>Overhead crane operator</li></ul>	Course available for: Truck Mounted/ Crawler/ Rough Terrain Crane Operator	No course available
	Truck Driver cum Hazardous Material Handler, Helper	<ul style="list-style-type: none"><li>Existing Operators</li><li>Local Youths</li></ul>	<ul style="list-style-type: none"><li>Course not available</li></ul>	Course not available	Course not available
Investment (INR In lakhs)		Training centre for skilling in Port related Activities			
		Training in Operating Heavy Earth Moving Vehicles			
		Operational Expenditure		41	
		Training in Safe Transportation of Hazardous Chemicals			
		Operational Expenditure		21	
		Total Operational Expenditure		67	
Potential Partners		Partner	Areas of Support		
		Gopalpur Port	<ul style="list-style-type: none"><li>Space and infrastructure for establishing the training center</li><li>Access to port facilities for practical training</li><li>Guest faculty</li><li>Input for designing curriculum</li><li>Provision of used equipment for training</li></ul>		

		<ul style="list-style-type: none"> <li>Facilitate implementation of RPL for existing work force</li> <li>Provide guest faculty and facilitate on the job training</li> </ul>
	Industry partner	<ul style="list-style-type: none"> <li>Industry interface</li> <li>On the job training</li> </ul> Facilitate implementation of RPL for existing workforce
	Training Partner (Gopalpur Port)	<ul style="list-style-type: none"> <li>Training delivery</li> <li>Co-management of the training facility</li> </ul>
	Logistic Sector Skill Council, Automotive Sector Skill Council	<ul style="list-style-type: none"> <li>Develop model training programmes for the identified Job Roles</li> <li>Identification and certification of Trainers</li> <li>Identification and certification of assessors</li> <li>Assessment of trainees</li> <li>Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>Engage a TSP that is affiliated with DDU-GKY and PMKVY to deliver the training</li> </ul>	

### Work Plan

Training in Port Related Activities	in Months					
	1	2	3	4	5	6
TSP empanelment						
SSC affiliation						
Training centre setup						
mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

### 3.6. Summary of Jagatsinghpur

SN	Project Name	Job Roles	Type of training	No. of people to be trained
1	Fisheries and Sea Food Processing and Allied activities	Aquaculture/ Mariculture Technicians, Brackish water aquaculture farmer, Ornamental fish culture technician	Fresh and RPL	3,650 persons in next 5 years
2	Agriculture	Agriculture Equipment Technician, Farm Producer	Fresh and RPL	1,900 persons in next 5 years
3	Manufacturing	Plastic Moulding Operator/Technician, Plastic Mould Assistant	Fresh	600 persons in next 5 years

### 3.7. Action Plan for Jagatsinghpur

<b>Project 1: Fisheries and Sea Food Processing and Allied activities</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Export of High quality Shrimp and Prawn</li> <li>• High demand for sea fish in the State</li> <li>• Export quality packaged sea food products</li> <li>• Growing demand for ornamental fish in the state</li> </ul>			
<b>Rationale for a Training Center</b>		<p>Jagatsinghpur as a district is predominantly an agrarian district wherein the population is mainly dependent on agriculture and fisheries. Though industrialization is picking up in the district but it has not been evident as to what will be the upcoming opportunities in the industrial scenario for the local population. Hence enhancing their core capability by providing them additional training in their core activity in improving their income level and hence open up opportunities for employment. Also Fisheries industry being predominant in ensuring revenue to the district, thus increasing the expertise in fish handling, fish processing, diversification of products such as solar fish drying would add on to the districts potential in the fisheries sector.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Solar Fish Drying	<ul style="list-style-type: none"> <li>• Fishermen</li> <li>• Producers</li> </ul>	RPL	500 persons in next 5 years
				Fresh Training	600 persons in next 5 years
		Sea Food Processing	<ul style="list-style-type: none"> <li>• Coastal communities</li> </ul>	RPL	200 persons in next 5 years
				Fresh Training	300 persons in next 5 years
		Sustainable & Responsive Fishing	<ul style="list-style-type: none"> <li>• Coastal communities</li> </ul>	RPL	300 persons in next 5 years
				Fresh Training	500 persons in next 5 years
		Fish Handling	<ul style="list-style-type: none"> <li>• Workers engaged in Fish Landing Centres, Fishing Harbours</li> </ul>	RPL	450 persons in next 5 years
				Fresh Training	200 persons in next 5 years
		Boat Repair & Net Mending	<ul style="list-style-type: none"> <li>• Allied Fishery Workers</li> </ul>	Fresh Training	200 persons in next 5 years
		Certification of Boat Drivers	<ul style="list-style-type: none"> <li>• Coastal communities</li> </ul>	Fresh Training	200 persons in next 5 years
		Ornamental Fish Culture	<ul style="list-style-type: none"> <li>• Coastal communities</li> </ul>	Fresh Training	200 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Fishermen, Producers	Coastal Community, Fishermen	No course available	No course available	No course available
	Sea food Processing Technician	Coastal Community, Fishermen	<ul style="list-style-type: none"> <li>• Prepare &amp; Maintain Work Area &amp; Process Machineries</li> <li>• Prepare for execution of fish &amp; sea food processing</li> <li>• Documentation of record keeping related to fish processing</li> </ul>	No course available	No course available

			<ul style="list-style-type: none"> <li>Food safety, hygiene, sanitation</li> </ul>		
	Fishermen	Coastal Community, Fishermen	<ul style="list-style-type: none"> <li>Safety, Hygiene, sanitation practices for capture fishing &amp; fishing assistance</li> </ul>	No course available	No course available
	Marine Capture Fishermen	Coastal Community, Fishermen	<ul style="list-style-type: none"> <li>Perform Pre Fishing Activities</li> <li>Capture the Fish</li> <li>Perform Post Fishing Activities</li> </ul>	No course available	No course available
	Fishing Boat maintenance Worker, Carpenter, Net Mender	Coastal Community	<ul style="list-style-type: none"> <li>Perform Pre Departure Mechanical Activities</li> <li>Perform Manning of Engines during fishing operations</li> </ul>	No course available	No course available
	Fishing Boat Driver	Coastal Community	<ul style="list-style-type: none"> <li>Perform Boat Navigation related activities</li> <li>Carry out maneuvering and navigation of fishing boat</li> </ul>	No course available	No course available
	Ornamental Fish Technician	Fishing Community	<ul style="list-style-type: none"> <li>Perform Pond &amp; tank preparation activities</li> <li>Carry out preparation of feed</li> <li>Carry out breeding, seed production and culture of ornamental fish</li> <li>Ensure safety, hygiene and sanitation practices or culture fishing</li> </ul>	No course available	No course available
<b>Investment (INR Lakhs)</b>		<b>Fisheries and Sea Food Processing and Allied activities</b>			
		<b>Solar Fish Drying</b>			
		Operational Expenditure			10
		<b>Sea Food Processing</b>			
		Operational Expenditure			60
		<b>Sustainable &amp; Responsive Fishing</b>			
		Operational Expenditure			10
		<b>Fish Handling</b>			
		Operational Expenditure			10
		<b>Boat Repair &amp; Net Mending</b>			
		Operational Expenditure			95
		<b>Certification of Boat Drivers</b>			

	Operational Expenditure	10
	<b>Ornamental Fish Culture</b>	
	Operational Expenditure	5
	<b>Total Operational Expenditure</b>	<b>200</b>
	<b>Capital Expenditure for training centre<sup>16</sup></b>	-
<b>Potential Partners</b>	<b>Partner</b>	<b>Areas of Support</b>
	Fisheries & Animal Resource Department and MPEDA(Marine Product Export Development Authority)	<ul style="list-style-type: none"> <li>• Space and infrastructure for establishing the training center</li> <li>• Guest faculty</li> <li>• Input for designing curriculum</li> <li>• Provision of used equipment for training</li> <li>• Facilitate implementation of RPL for existing workforce</li> <li>• Provide guest faculty and facilitate on the job training</li> </ul>
	Industry Associations (Taloja Industry Association)	<ul style="list-style-type: none"> <li>• Industry interface</li> <li>• On the job training</li> <li>• Facilitate implementation of RPL for existing workforce</li> </ul>
	Private Training Partner	<ul style="list-style-type: none"> <li>• Training delivery</li> <li>• Management of the training facility</li> </ul>
	Agriculture Sector Skill Council	<ul style="list-style-type: none"> <li>• Development of QPs for the identified job roles</li> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<b>Option 1</b> <ul style="list-style-type: none"> <li>• Fisheries and Animal Resources Department creates the training facility</li> <li>• Training facility to be managed and maintained by the Government</li> <li>• MPEDA or Govt department to deliver the training and provide qualified trainers and mobilize trainees</li> </ul> <b>Option 2</b> <ul style="list-style-type: none"> <li>• Private training provider to rent/develop the training facility and deliver the training programme</li> </ul>	

### Work Plan

<b>Fisheries and Sea Food Processing and Allied activities</b>	<b>in Months</b>								
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
Partnership with SSC, Industry Partners and Knowledge partners									
Development of QPs									
Establishment of Training infrastructure and facility									
Furnishing of the training centre									
Purchase and installation of lab equipment									
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)									

Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

<b>Project 2: Agriculture</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Export Quality Rice</li> <li>• Groundnut, mustard, sugarcane are major crops responsible for revenue generation</li> <li>• Mango is widely grown fruit which has the potential to generate revenue for the district</li> </ul>			
<b>Rationale</b>		<p>Though Odisha has 480 Km long coastline, however 120 Km long coastline is banned for fishing activities for nearly seven months due to the breeding season of the Olive Ridley turtles. Thus the fishermen residing nearby these areas and depending upon this coastline remain idle or without any proper earning due to the aforesaid factor. Thus training them in alternative livelihood options like poultry farming, cottage industries etc. would help them to retain their livelihood in the off season. The training can be done in partnership with Private Training partners which may be worked through the National Rural Livelihood Mission under Ministry of Rural Development in its upcoming DDU-GKY scheme. Also the district being prone to cyclones and floods and also some of the major portion being under the restricted area of Bhitarkanika National Park affects the livelihood of the community here. The sea ingress also results in salinity of soil making it unfit for farming. Thus it is necessary to train the local community to adopt a new methodology of farming called Integrated Rice Fish Culture which would help them secure their livelihood amidst all such hurdles.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Alternative Livelihood Option {Poultry farming, Cottage Industry}	<ul style="list-style-type: none"> <li>• Farmers, Fishermen, Coastal Community</li> </ul>	RPL	500 persons in next 5 years
		Integrated farming	<ul style="list-style-type: none"> <li>• Farmers, Fishermen, Coastal Community</li> </ul>	RPL	500 persons in next 5 years
		Repair & Maintenance of Agriculture Equipment	<ul style="list-style-type: none"> <li>• Farmers, Fishermen, Coastal Community</li> </ul>	RPL	500 persons in next 5 years
				Fresh	400 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Poultry Farm Assistant, Dairy Farm Entrepreneur	Farmers, Fishermen, Coastal Community	<ul style="list-style-type: none"> <li>• Broiler Farm Worker</li> <li>• Chick Grading technician</li> <li>• Poultry feed, Food safety and labelling</li> <li>• Dairy farmer-Entrepreneur</li> </ul>	No course available	No course available
	Farmer	Farmers, Fishermen, Coastal Community	No course available	No course available	No course available



	Agriculture Machinery Repair Entrepreneur, Service & Maintenance Technician	Farmers, Fishermen, Coastal Community	<ul style="list-style-type: none"><li>Setting up of Repair &amp; Service Centre</li><li>Operationalize Repair &amp; maintenance centre</li></ul>	No course available	No course available
Investment (INR Lakhs)	Agriculture				
	Alternative Livelihood Option				
	Operational Expenditure			67	
	Integrated farming				
	Operational Expenditure			13	
	Repair & Maintenance of Agriculture Equipment				
	Operational Expenditure			105	
	Total Operational Expenditure			185	
Capital Expenditure <sup>17</sup>			-		
Potential Partners	Partner		Areas of Support		
	Agriculture Department		<ul style="list-style-type: none"><li>Space and infrastructure for establishing the incubation and training center</li><li>Management of the incubation centre</li><li>Guest faculty</li><li>Provision of used equipment for training</li></ul>		
	Central Rice Research Institute		<ul style="list-style-type: none"><li>Input for designing curriculum for integrated farming</li></ul>		
	Training Partner		<ul style="list-style-type: none"><li>Training delivery</li><li>Co-management of the training facility</li></ul>		
	Nodal Banks		<ul style="list-style-type: none"><li>Promote bank linkages</li><li>Introduce youth to various entrepreneurial schemes</li></ul>		
	Agriculture Sector Skill Council		<ul style="list-style-type: none"><li>Develop model training programmes for the identified job roles</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of trainees</li></ul>		
	Training Delivery		<ul style="list-style-type: none"><li>MoS to support Agriculture Department of the State in setting up the training centre; the centre will be run by the department</li><li>The empaneled TSP that could be from DDU-GKY, DDU-GSY, PMKVY or RSETI</li></ul>		

## Work Plan

Agriculture	in Months					
	1	2	3	4	5	6
TSP Affiliation						
Incubation centre setup						
Appointment of additional staff members						

<sup>17</sup> Includes the cost of building the incubation centre

Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of incubation centre and training programme						

Project 3: Manufacturing					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>Chemical Industry</li> <li>Plastic Processing Industry</li> <li>Presence of Paradip Port</li> </ul>			
<b>Rationale</b>		<p>With the upcoming Plastic Park in Jagatsinghpur near IOCL Refinery wherein all type of plastic industries will develop as downstream industry of IOCL. Various plastic products by process of injection moulding, extrusion, blow moulding and thermoforming will be the main products of the park. Thus creating a skilled workforce in plastic processing will be the need of the hour. The training can be initiated by Ministry of Skill Development and Entrepreneurship/Ministry of Rural development in alignment with the curriculum designed by NSDC.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
				Fresh Training	600 persons in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<b>Plastic Moulding Operator/ Technician, Plastic Mould Assistant</b>	Local Unemployed youth	QP available for: <ul style="list-style-type: none"> <li>Plastic Moulding Assistant/Helper</li> </ul>	No course available	No course available
<b>Investment (INR In lakhs)</b>		<b>Manufacturing</b> <b>Training in Plastic Processing</b>			
		Operational Expenditure		50	
		<b>Total Operational Expenditure</b>		<b>50</b>	
		Capital Expenditure <sup>18</sup>		-	
<b>Potential Partners</b>		<b>Partner</b>		<b>Areas of Support</b>	
		Skill Development Department, ITI		<ul style="list-style-type: none"> <li>Provide infrastructure for training</li> <li>Training delivery</li> <li>Support in setting up/scaling up the training centre as per the required SSC norms</li> <li>Provide faculty members</li> <li>Integrate the proposed trainings in its training plan</li> </ul>	
		Industry Associations		<ul style="list-style-type: none"> <li>Industry interface</li> </ul>	
		Automotive Skill Development Council		<ul style="list-style-type: none"> <li>Develop model training programmes for the identified Job Roles</li> <li>Identification and certification of Trainers</li> <li>Identification and certification of assessors</li> <li>Assessment of trainees</li> <li>Certification of Trainees</li> </ul>	

<sup>18</sup> The cost of building the residential facility  
Human Resource and Skill requirement study for 21 Coastal Districts of India – Odisha: Ganjam and Jagatsinghpur

<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>Skill Development Department/Government ITI will provide the infrastructure and deliver the training programmes</li> <li>Automotive Skill Development Council will certify the training programmes</li> </ul> <p><b>Option 1</b></p> <ul style="list-style-type: none"> <li>Build the residential facility for the trainees</li> </ul> <p><b>Option 2</b></p> <ul style="list-style-type: none"> <li>Lease the residential facility for the trainees</li> </ul>
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### Work Plan

<b>Manufacturing</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Upgradation of training centre						
Affiliation of Training centre with ASCI						
Initiation of residential facility construction work						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

## 4. List of Stakeholders consulted

### 4.1. State level consultations- Odisha

Sl. No.	Stakeholder	Person	E-mail	Cell/Phone
1	Odisha State Employment Mission	Mr. Rajesh Gopalan Nair, IFS State Mission Director	grajeshifs@gmail.com	9583044400
2	Utkal Chamber of Commerce	Mr. Rajen Padhi Director General	dgucci@utkalchamber.in	9437021347
3	Odisha Livelihood Mission	Mr. Pranabjyoti Nath, IAS, State Mission Director	pjnathias@gmail.com	9937040864
4	Public Health and Engineering Department	Mr. S Laxmi Pati, Chief Engineer	cerwss@nic.in	9437644466
5	Department of Technical Education & Training	Mr. Ajay Kumar Panda, Deputy Director		9437006808
6	Odisha Skill development Authority	Mr. Subroto Bagchi, Chairman	subroto.bagchi@gov.in	06742391320
7	IDCO	Managing Director	cmd@idco.in	0674 2543506
8	Paradeep Phosphated Limited	General Manager	NA	06742391669
9	L&T	Cluster Head	NA	998677299
10	Department of Tourism	Mrs. Majulata Dalai, Deputy Director and Deputy Secretary	oritour@gmail.com	9861128751
11	MPEDA	State Coordinator		
12	State MSME Department	Mr. Ramakant Sahoo, Joint Secretary	Ramakrushna.sahoo3@gmail.com	9438444918

### 4.3. District level consultations- Jagatsinghpur

Sl. No.	Stakeholder	Person	E-mail	Cell/Phone
1	District Collectorate	Mrs. Yamini Sarangi, IAS Collector Jagatsinghpur	dm-jagatsinghpur@nic.in	06724-220379
2	DRDA Jagatsinghpur	Mr. B K Das	NA	9437088219
3	District Fisheries Office cum FFDA	Mr. Gyanaranjan Samal	NA	9937437495
4	Directorate of Fisheries, Kujang, Jagatsinghpur	Mr. Biraja Prasanna, Asstt Director	adfmarinek@gmail.com	9437107799
5	Management Society Fishing Harbour	Mr. Bharat Bhushan Sahoo, Manager	NA	9040527810
6	Suryodyog Food Processing Private Limited	Mr. Subrat Das, Manager	NA	9937194929
7	Brackish Water Training Centre	Mr. Pramod Kumar Rout, Principal	NA	9437251699
8	Odisha Maritime Academy	Capt SA Amini, Principal	NA	8457912100
9	Hotel Empires , Paradip	Mr. Manoranjan Rout, Asst F.O Manager	Manoranjan.rout@mpir eshotel.com	9338016540
10	Paradip Port Trust	Mr. Bipin Panigrahy, Deputy Chief Engineer	dcme@paradeepport.gov.in	9937445199
11	Hotel Golden Anchor Private Limited	Manager	NA	9238111222
12	IFFCO	Capt. Mohapatra	NA	NA
13	Indian Oil Corporation Limited	Senior Manager, Refinery Coordination	NA	9437075910
14	DIC Jagatsinghpur	S.N Nayak	dicjspur@nic.in	06724-221707

#### 4.4. District level consultations- Ganjam

Sl. No.	Stakeholder	Person	E-mail	Cell/Phone
1	District Collectorate	Shri Prem Chandra Choudhary	dm-ganjam@nic.in	9437559670
2	DRDA Jagatsinghpur	Shri Vijay Amruta Kulange, IAS, PD-DRDA	ori-dganjam@nic.in	06811-263965
3	Department of Energy, CE cum EI, Ganjam	Mr. Jagdish Prasad Swain, Chief Engineer cum Chief Electrical Inspector, Dept. of Enregy	ceiszbmpr-od@gov.in	9437303510
4	District Fisheries Office cum FFDA	Vishnu Prasad Panigrahy	NA	NA
5	Gopalpur Port	Shri Saroj Misro, Deputy COO, Gopalpur Ports	saroj.misro@gopalpurports.in	7873982221
6	TATA Steel	Mr. RK Singh, Head-Resettlement & Rehabilitation	singh@tatasteel.com	NA
7	District Supply and Marketing Society, ORMAS	Ms. Sanghamitra Nayak, Chief Executive, DSMS	dsmsganjam@gmail.com	NA
8	Saraf Industries	Mr. GR Kar, GM Operations	NA	7381072208
9	Grasim Industries, Aditya Birla Group	GR Sharma, Senior GM {Engineering Services}	NA	977749412
10	ITI Ganjam	Mr. Rajat Panigrahi	NA	9438293909
11	IKYA	Mr. Sumit Kumar	NA	9893195550
12	DIC Ganjam	Mr. Pranab Kumar Nayak	dicgan@nic.in	0680-2290715
13	Mayfair Hotels & Resorts	Mr. Chidananda Mallick	Chidananda.Mallick@mayfairhotels.com	9238413078
14	Government Polytechnic Ganjam	Mr. Sarat Pattnaik, Principal	ucpes@ori.nic.in	06802291826

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## *Section 8: Puducherry*

# 1. District Profile

## Puducherry

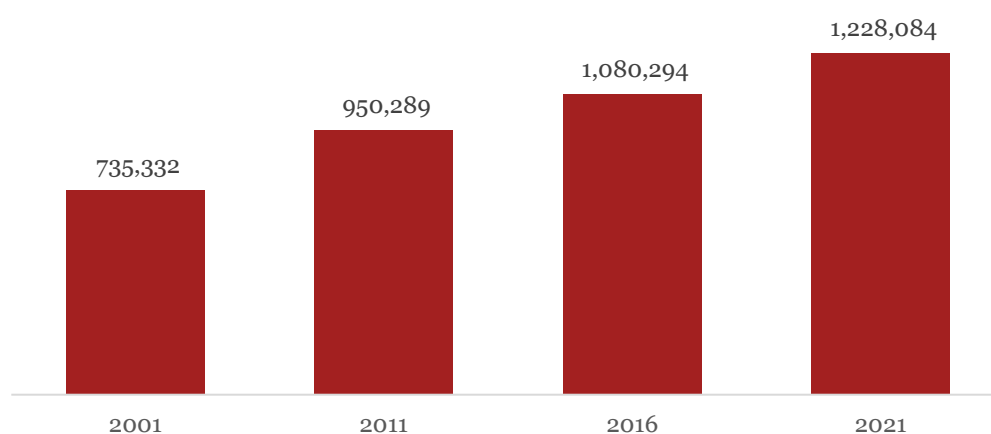
The district (also known as Pondicherry) is the capital of the eponymous union territory which was created upon the merger of territories of the French in South India with the Union of India. The district consists of several exclaves completely surrounded by the districts of Cuddalore and Villupuram in Tamil Nadu. Thus the area of influence of Puducherry's economy exceeds beyond its territorial boundaries. Industry (25%) and service sector (65%) have the largest share in the overall district economy. It has been a traditional hub for tourism, health and wellness and fishing industries. Puducherry houses one minor port, Puducherry Port Trust and the major exportable items produced in the district are chemicals, steel, garments, handicrafts and processed food<sup>1</sup>.

### 1.1. Demographic Profile<sup>2</sup>

Indicator	Value
Total population	950,289
Decadal rate of growth of population (2001-11)	29.23%
Rural population	31%
Female	51%
SC population	16%
ST population	0%
Workforce participation	37%
Main workers (As % of total population)	33.2%
Marginal (As % of total population)	3.4%
Non-workers (As % of total population)	63.4%
*Number of people with vocational training in the age group of 15+ <sup>3</sup>	43 per 1,000

### Population trends<sup>4</sup>

Figure 1 Population Trends in Puducherry 2001-2021



<sup>1</sup> Brief Industrial Profile of Puducherry District, MSME

<sup>2</sup> Census 2011

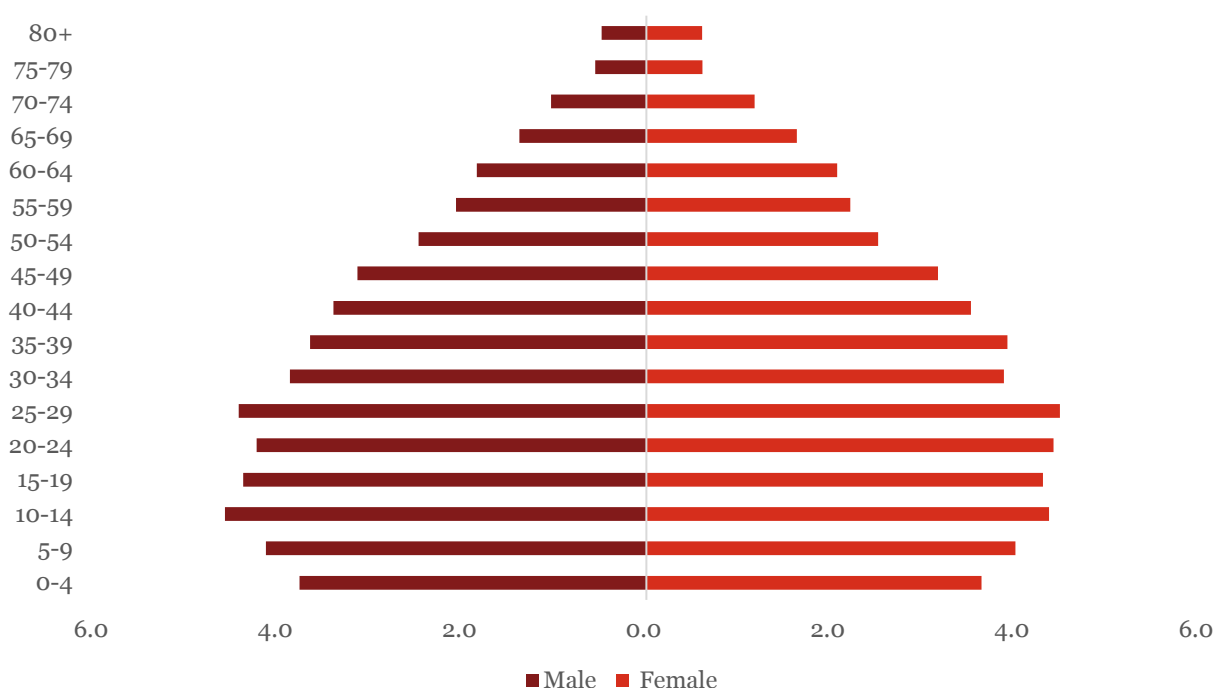
<sup>3</sup> Employment and Unemployment Survey Vol III, Labour Bureau, 2015-16

<sup>4</sup> Based on Census 2001, 2011



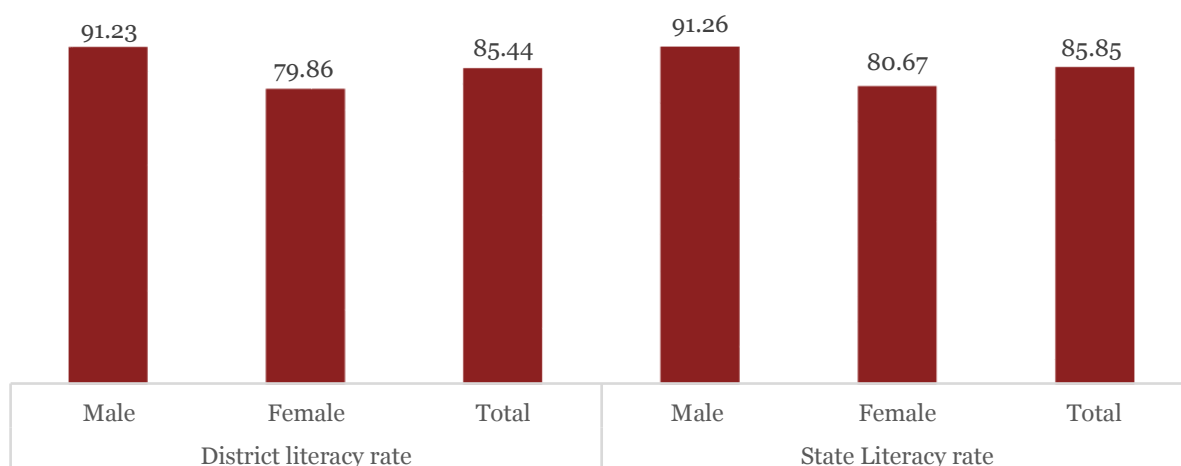
The demographic dividend bulge in Puducherry is expected to shift upward in the coming 10 years. Estimating the population for the period 2001-11 (10 years), the population is estimated to be 10,80,294 and 12,28,084 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 13.7%.

**Figure 2 Population Pyramid Puducherry, Census 2011**



### Literacy rates<sup>5</sup>

**Figure 3: Puducherry District vs Puducherry UT literacy rates**



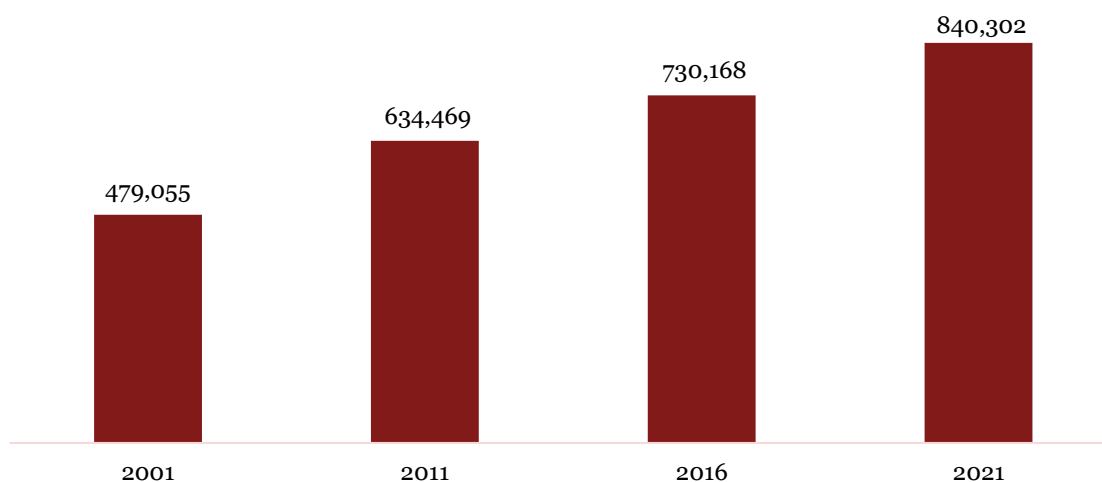
<sup>5</sup> Census, 2011

Total literacy rate of district of Puducherry, as per the Census 2011, is approximately 85.44%, which is marginally lesser than the entire UT's literacy rate of around 85.85%. Also, the female literacy rate of Puducherry is 79.86% which is lower than the male literacy rate of 91.23% and is also marginally lower than the UT level literacy amongst women.

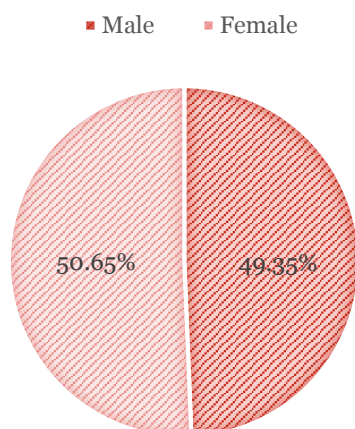
### *Age specific population trends and education level<sup>6</sup>*

As per the Census 2011, the population in the age-group of 15 to 24 years was 492,873 (18.71 of the overall population). Projecting the population in the age group of 15-59 years, it is estimated to be about 7,30,168 and 8,40,302 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 15.1%.

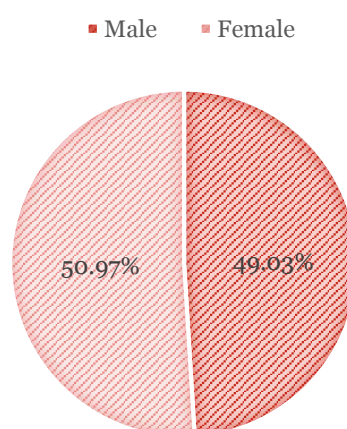
**Figure 4: Growth trend of population in the age group 15-59 years in Puducherry**



**Figure 5: Age specific population (15-59 years)**



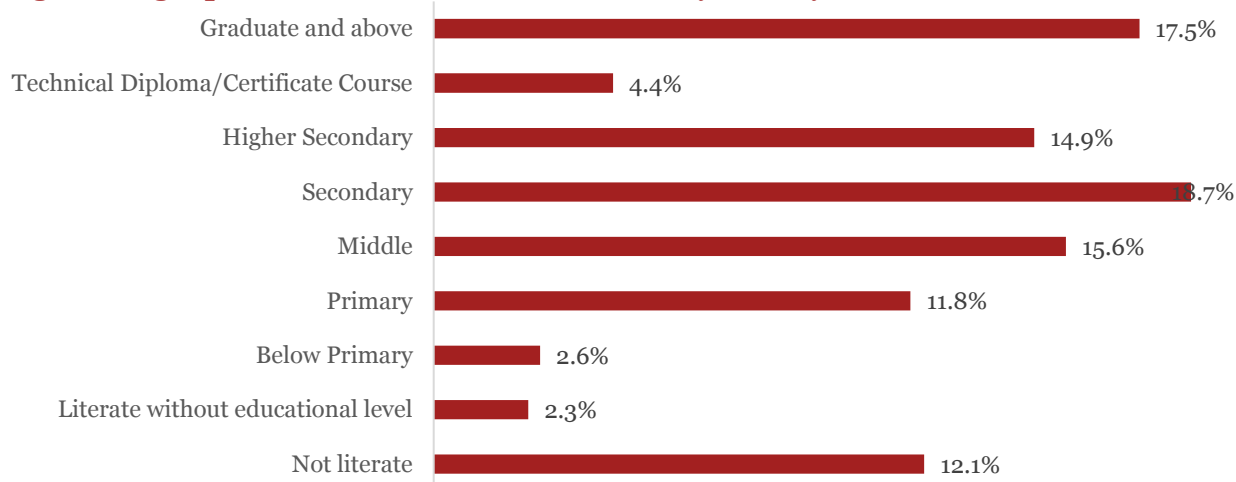
**Figure 6: Age specific population (15-24 years)**



The share of population of males and females in total population of Puducherry is around 50% each in both the age categories-15-59 and 15-24 years. The share of females is higher than the share of males in the district.

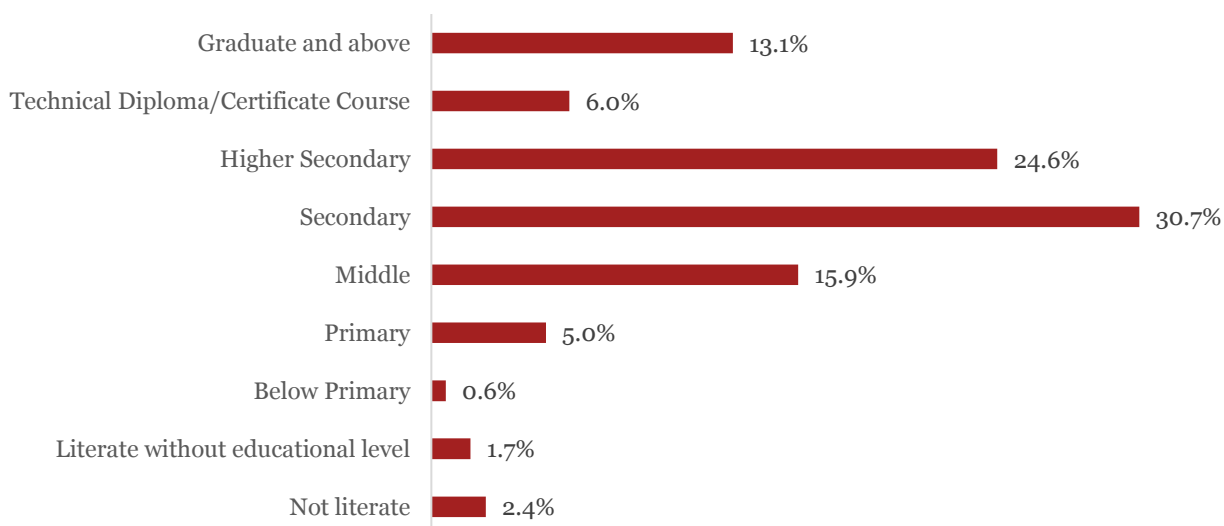
<sup>6</sup> Based on Census 2001, 2011

**Figure 7: Age specific education level in Puducherry (15-59 yrs.)**



From the Census 2011, we understand that for the age category of 15-59 years, literacy in the working age group is 87.9%. Graduates and Technical Diploma holders make about 22% of the population. More than 52% of the population are educated with secondary or higher levels of education. However, 28% of the population is educated at primary or lower levels of education. Though there is a high share of educated workforce, the share of under educated workforce will prove to be a challenge for employment.

**Figure 8: Age specific education level in Puducherry (15-24 yrs.)**

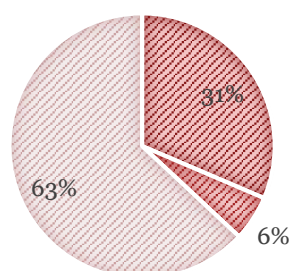


For the age category of 15-24 years, 2.4% of the population of Puducherry is not literate, 1.7% are literate without any educational qualification, 0.6% have attended school till below primary level and 5% have completed schooling only up to primary level. Roughly 16% of the population in 15-24 years category have done schooling up to the middle level, whereas, around 30.7% of the population in 15-24 years category have been educated till secondary. Only 6% of the population of this district have done a certificate/diploma course and 13.1% are graduates and above.

## Age specific distribution of workers and educational level<sup>7</sup>

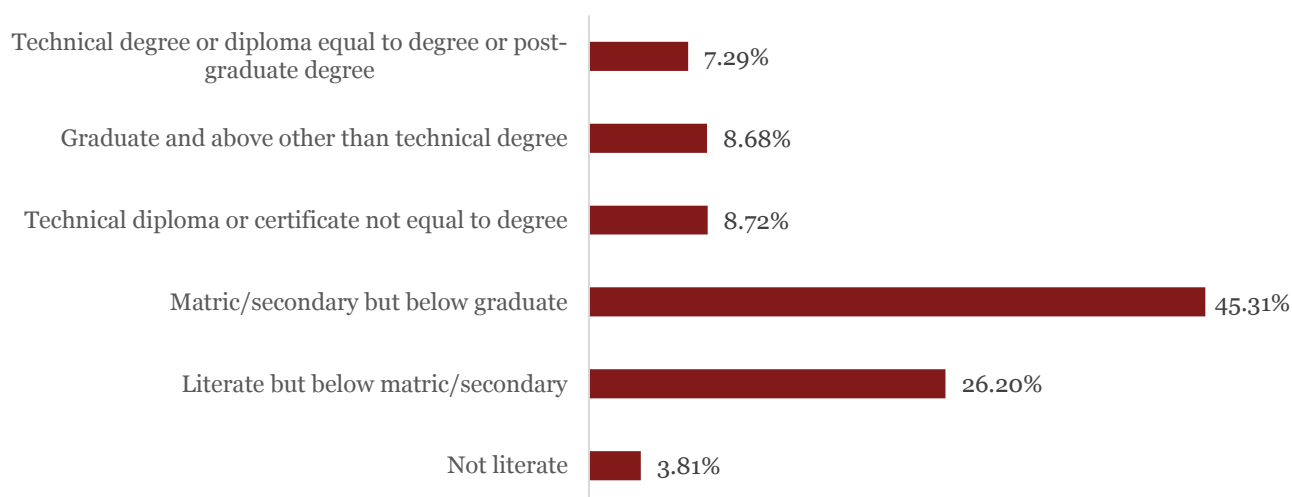
**Figure 9: Age specific distribution of workers in Puducherry (15-24 yrs.)**

■ Main Workers ■ Marginal Workers ■ Non-workers



The total workforce participation rate for this district, according to census 2011, is 42.74% and 63% of the population in the age group of 15-24 years are reported as non-workers. 31% of the population are main-workers, whereas 6% are engaged in marginal work i.e. working for 3-6 months during the year.

**Figure 10: Education level of marginal workers in Puducherry (15-24 yrs.)**



Amongst the 2443 marginal workers in the age group of 15-24 years, 178 (7.29%) hold technical degree or a diploma equal to degree or post-graduate degree and 212 (8.68%) are graduate and above other than a technical degree. 213 (8.72%) have a diploma or a certificate (not equal to degree). 1107 (45.31%) are educated up to the matric/secondary level but below graduate and 640 (26.20%) are literate with an educational qualification of below matric/secondary level. 93 (3.81%) marginal workers in this age group are not literate.

<sup>7</sup> Based on Census 2011

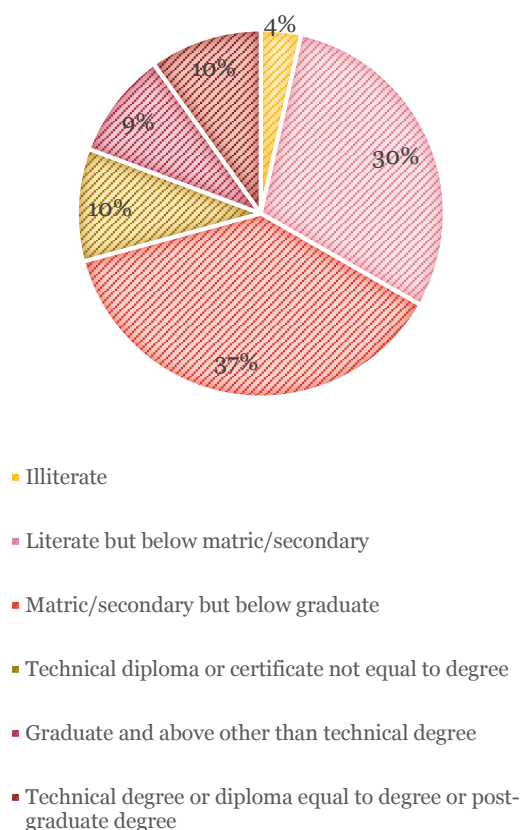
The proportion of main workers who are illiterate (in the age category 15-24 years) is the same as the proportion of marginal workers available for work and who are illiterate. We also find that the proportion of main workers who are literate but below matric/secondary (in the age category 15-24 years) is more than (4 percentage difference point between the two) the proportion of marginal workers who are available for work and are literate but below matric/secondary.

The proportion of main workers who are matric/secondary level but below graduate (in the age category 15-24 years) is less than (8% percentage difference point between the two) the proportion of marginal workers who are available for work and are matric/secondary level but below graduate.

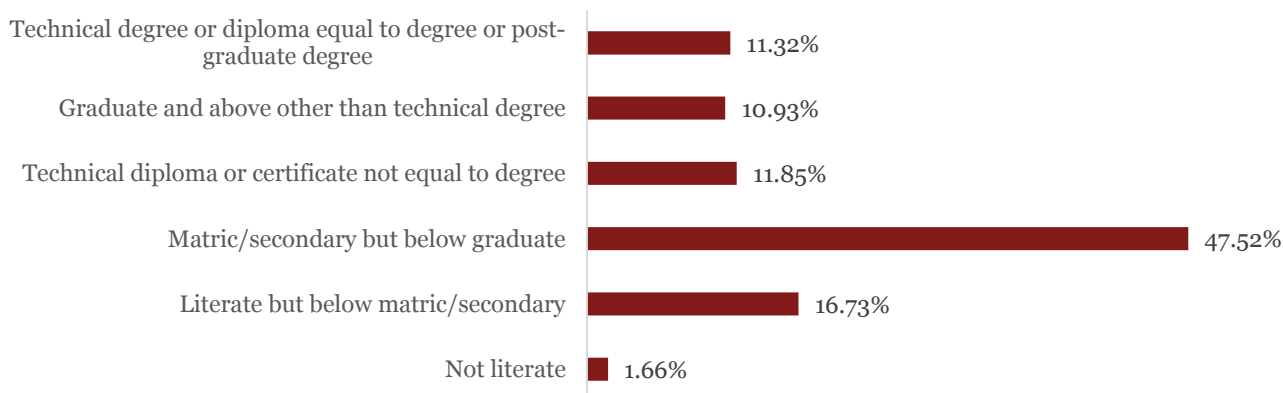
The proportion of main workers who are graduate and above other than technical diploma (in the age category 15-24 years) is almost same as the proportion of marginal workers who are available for work and are graduate and above other than technical degree.

The proportion of main workers who have attained a technical degree or diploma equal to degree or post-graduate degree (in the age category 15-24 years) is slightly greater than (3 percentage difference point between the two) the proportion of marginal workers available for work and who have attained a technical degree or diploma equal to degree or post-graduate degree.

**Figure 11: Educational level for main workers in Puducherry (15-24 yrs.)**



**Figure 12: Education level of non-workers in Puducherry (15-24 yrs.)**

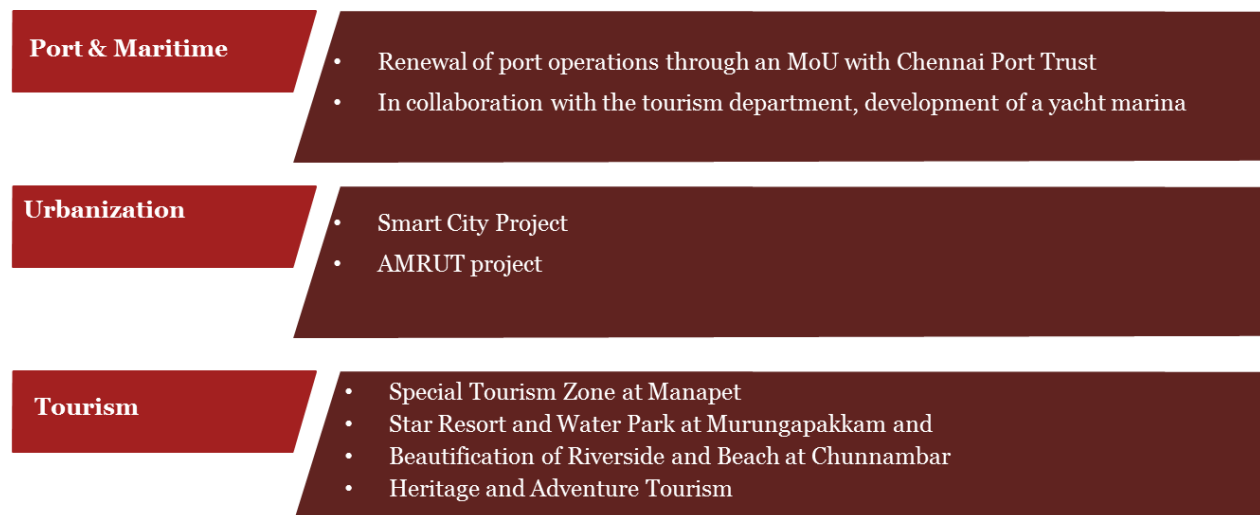


Amongst the 11,928 non- workers in the age group of 15-24 years, 1350 (11.32%) hold a technical degree or a diploma equal to degree or post graduate degree and 1304 (10.93%) have a graduate and above other than a technical degree. 1413 (11.85%) have a diploma or a certificate (not equal to degree). 5668 (47.52%) are educated up to the matric/secondary level but below graduate and 1995 (16.73%) are literate but below matric/secondary level. 198 (1.66%) non-workers are not literate

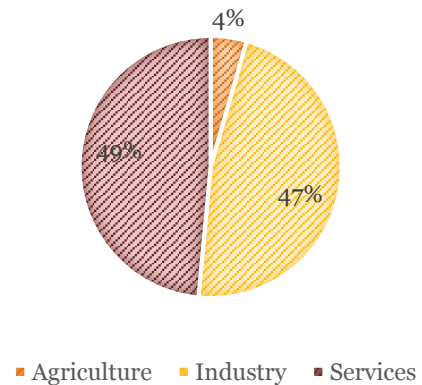
## 1.2. Key Economic Drivers

According to Directorate of Economics and Statistics, Puducherry, the Gross Domestic Product of the union territories (at constant prices- 2004-05) was INR 1,228,778 crore in 2012-13 and it has steadily grown at a CAGR of 9.5% over the period 2004-05 to 2012-13. The sectoral break up suggests that services sector contribution to district GDP is more than half (65%) followed by industries sector (25%). Further disaggregation suggests that logistics sector has a share of 30% and manufacturing has a share of 16% in the district GDP. Other sectors driving the district economy are agriculture (8%) and construction sector (8%).

The key economic drivers of the district are illustrated below:



**Figure 13: Sectoral breakup of Puducherry GDP at constant prices (2004-05)**



## 1.3. Priority Sectors

In Puducherry, the identified priority sectors are **Ports and Maritime** and allied sectors like: **logistics, fisheries, tourism and construction**. Other sectors that have been identified as priority sectors from the point of view of their contribution to district GDP are **manufacturing and agriculture**.

## 1.4. About Port

Ports & Maritime			
Major Ports: Nil		Minor Ports: 1	
		Shipyards: Nil	
Details			
Puducherry Port			
Operations:	PPP ( Under Tender)	Capacity	1 MN tonnes P.A
Key Cargo	Containers (99%), Ferry Movement	No of berths:	1
		Draft	2-2.5M
Description and key Trend	The Port of Puducherry, riverine port administered by the Puducherry Maritime Board has been out of operations over the last few years owing to litigation. With legal clearance, it is set to witness increased traffic after a MoU with Chennai Port Trust for Container Traffic through barges. Ferry service is also planned between Chennai, Puducherry and Karaikal. This is expected to boost to the allied sectors in logistics, dredging etc.  There are plans to develop <ul style="list-style-type: none"><li>•Facilities for handling bulk cargo through barges from an anchorage point farther out in the sea.</li><li>•Boat and Barge Repair Facilities</li></ul>		

## 1.5. Investments

The table below summarizes the investments that are in the pipeline in next few years:

**Table 1: Proposed Key Investments for the year 2016-22 in Puducherry**

Sector	Proposed Investment (INR Cr)	Number of Projects	Expected Employment	Key Players
<b>Port &amp; Maritime</b>	-	3	350 persons	Puducherry Port, Chennai Port Trust
<b>Manufacturing</b>	2000	1	>2000 persons	Lenovo
<b>Infrastructure</b>	592.15	7	--	Town and Country Planning Department, Smart Cities Mission, NHAI

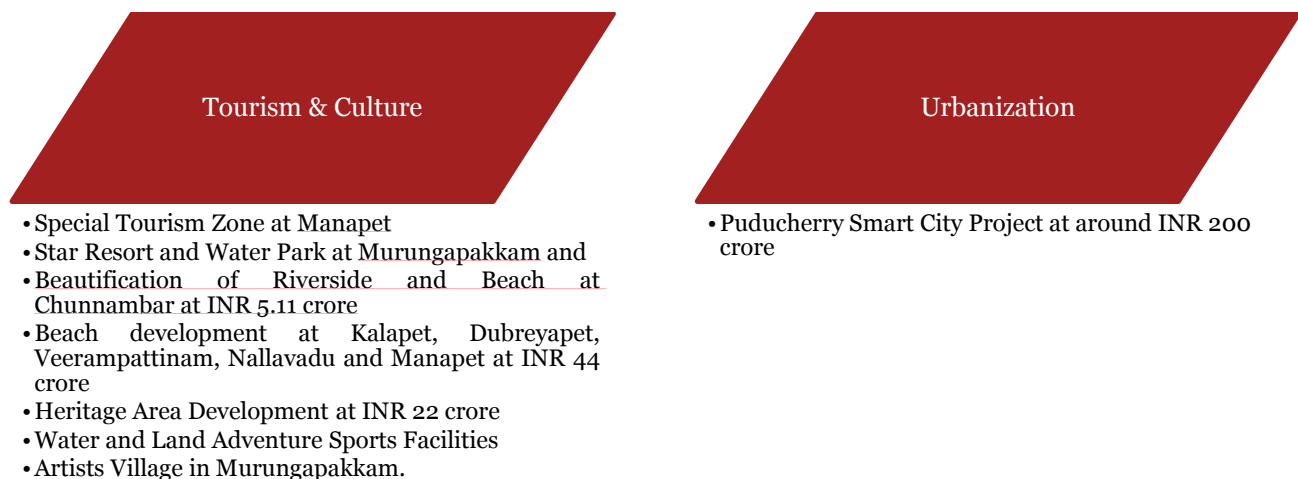
In the port and maritime sector, the Puducherry port has only recently planned to resume its operations by means of a MoU with the Chennai Port Trust. Details of proposed investments in this sector are given below:

**Table 2: Details of Investments in Port and Maritime sector in Puducherry**

Project	Proposed Investment (INR Cr)	Expected Employment	Key Players
<b>MoU with Chennai Port Trust (ChPT) for developing Puducherry Port as a sister concern for handling container berths</b>	-	300 persons	ChPT, Puducherry Port

Projects sanctioned under the Jawaharlal Nehru National Urban Renewal Mission, Atal Mission for Rejuvenation and Urban Transformation and Smart Cities will be implemented. Several projects are to be executed in the district in Urban planning, Retro-fitting, Sanitation, and Transport spaces.

Tourism & Trade is one of the major drivers of the Puducherry economy as the district is a hub for leisure, spiritual and historic locations including Sri Aurboindo Ashram, Auroville (partly in Villupuram district of Tamil Nadu), the White Town, Arikamedu Archaeological Site, Beaches at Kalapet, Veerampattinam and backwaters. The Govt. of Puducherry is also planning to tap the heritage aspect of tourism to boost production of Handicrafts through an Artist's village in Murungapakkam.

**Figure 14: Details of proposed investments across different sectors**



## 1.6. Youth Aspiration

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

### Respondent Profile

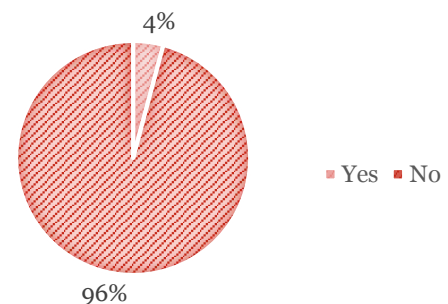
The table below provides an overview of the respondent profile:

Profile	Details
<b>Total Sample Size</b>	384
<b>Gender Profile</b>	Male – 64.6% Female – 35.4%
<b>Age Group</b>	15-24 years
<b>Education Level (top 3)</b>	Senior Secondary Schooling (Class 9 to 10)- 25.6% Higher secondary schooling with commerce (Class 11 to 12)- 16.4% Secondary schooling(Class 9 to 10)- 11.6%
<b>APL/BPL/AAY/Don't know</b>	APL -12.8 % BPL – 66.1 % Don't know/Can't Say – 21.1 %
<b>Occupational Profile (top 3)</b>	Student (43.5%), Unemployed (23.4%), Salary from employment (18.2%)

### Exposure to Vocational Training and Educational Aspiration

Regarding the exposure to the vocational training most students reported that they had not completed any vocational training course. Overall, ~96% of the respondents had not enrolled in vocational training course (Figure 15).

**Figure 15: Percentage of respondents who completed vocational training course -**



The respondents were asked about the level of education they wished to attain. More than half of the respondents (55%) didn't aspire for further education. The desire to attain technical education is relatively low with only 4.2% aspiring for graduation or post-graduation in technical fields with general degrees preferred (22%) **Figure 16: Desired level of education).**

Further, of the total respondents who underwent vocational training (which is 4%), most were from Polytechnics (56.3%) and ITIs (25%). Figure 17 exhibits the percentage of respondents who completed different types of courses as part of their vocational training.

**Figure 16: Desired level of education - Puducherry**

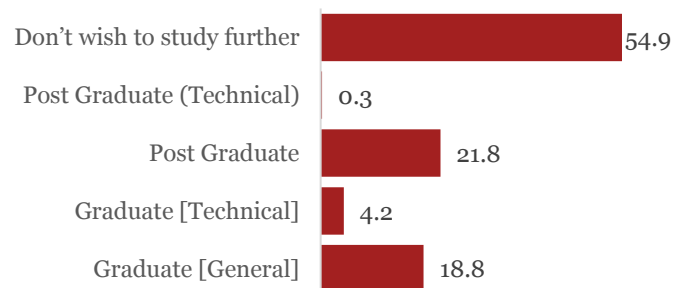
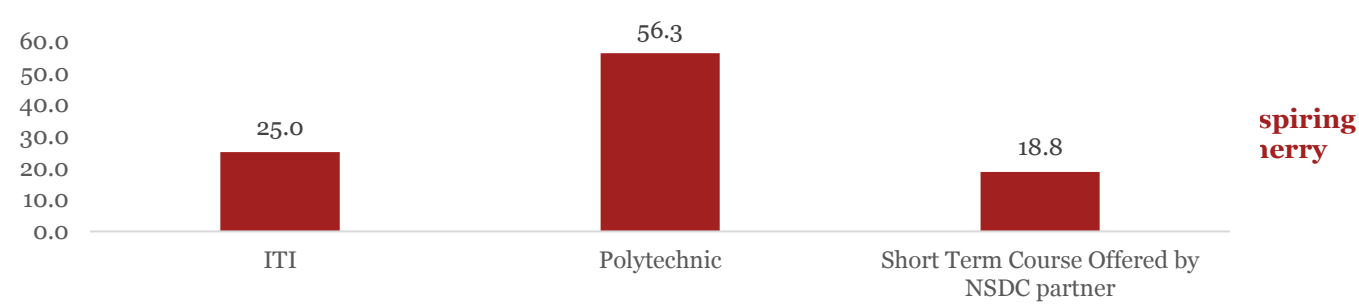


Figure 17: Percentage of respondents completed courses in vocational training - Puducherry



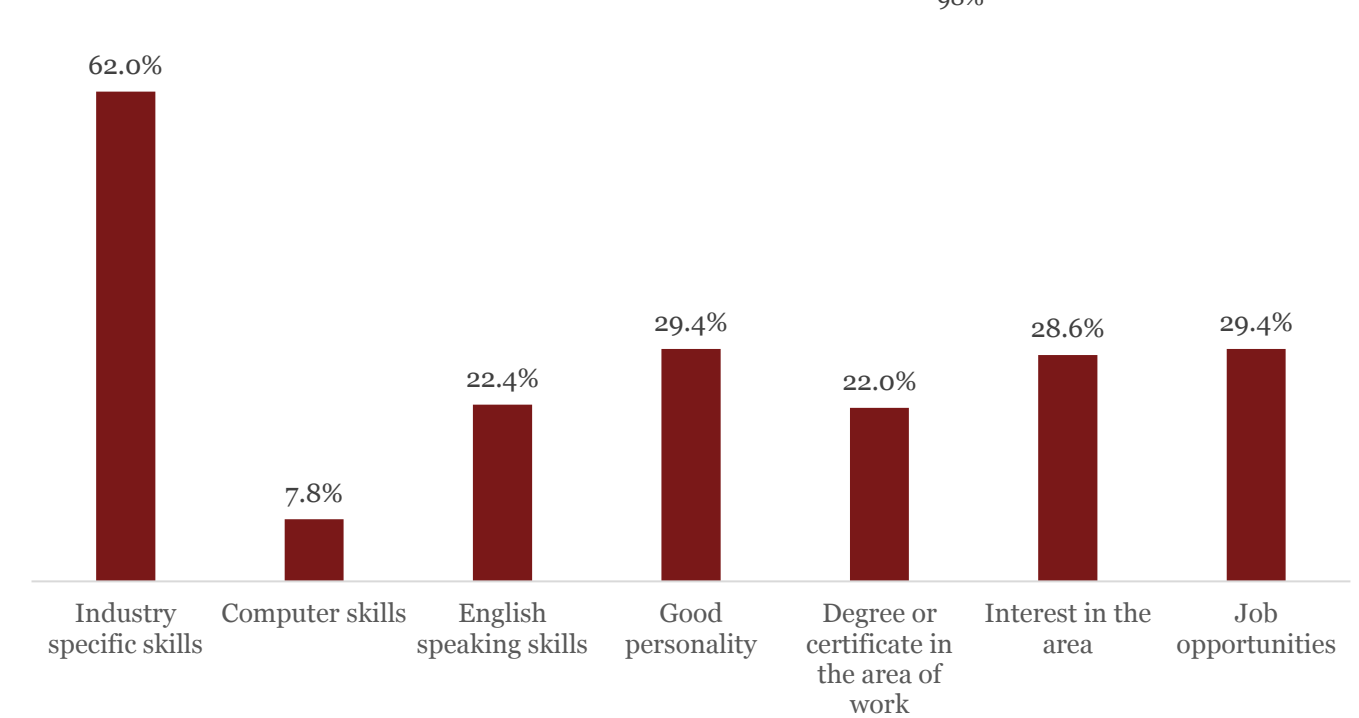
Job Aspiration

One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. Over 98% of the respondents reported their preference for wage employment over self-employment (Figure 18).

The respondents were further asked to identify the factors important for securing employment in the area of interest. 62% of the respondents identified industry specific skills as the most important factor for securing employment followed by good personality and job opportunities (29.4%) and interest in the area (28.6%) (Figure 19).

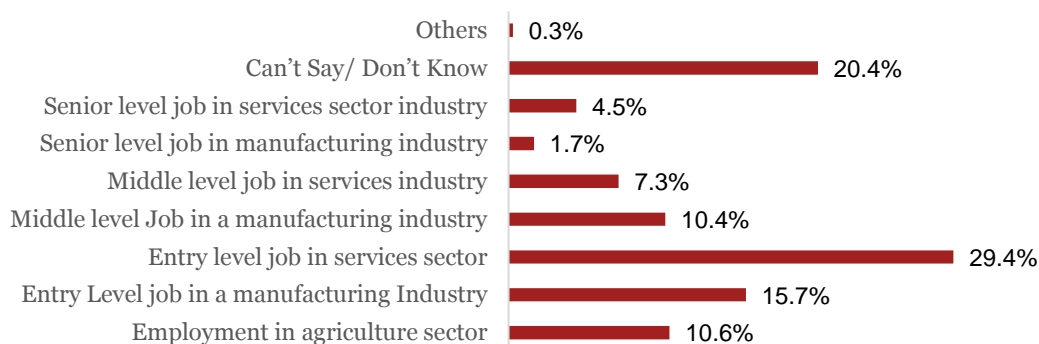


Figure 19: Factors important for securing employment



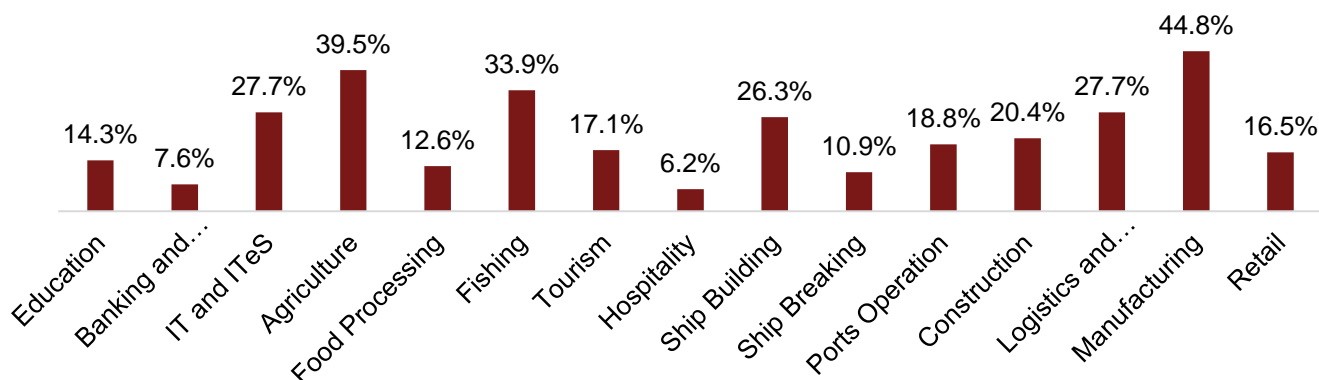
Regarding job aspirations of the respondents after completion of education or training, it can be observed that

**Figure 20: Desired job profile after completion of education/training - Puducherry**



there is a demand for services sector with 30% aspiring for entry level jobs and 7% aspiring for middle level jobs. This is followed by manufacturing sector entry level jobs (16%) and middle level jobs in services sector (10%). About 11% want to enter the Agriculture sector. (Figure 20)

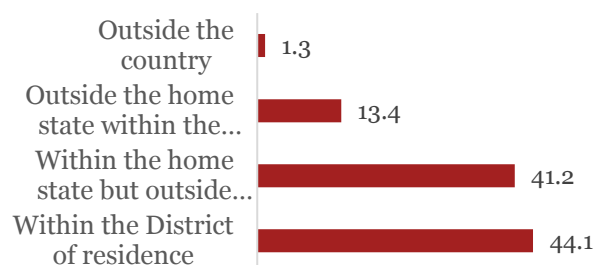
**Figure 21: Sectors in which respondents' foresee getting a desired job (%) - Puducherry**



Further, Manufacturing (44.8%), Agriculture (39.5%), Fishing (34%), IT/ITES (27.7%) and Logistics (27.7%) have been identified as sectors in which the respondents feel that they are mostly likely to get a job which is in alignment with their considerable interest for a job in all three sectors. The details of other sectors are mentioned in Figure 21.

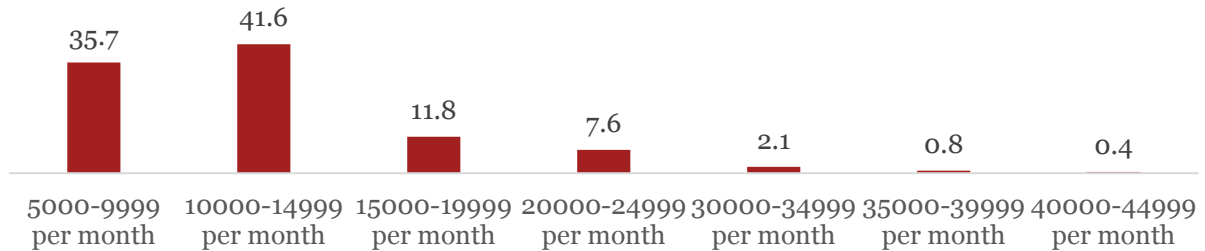
Out of total respondents, 85% preferred to work in the same state. However about half of the of the respondents (44%) preferred to work in the same district and 13% expressed willingness to migrate to other districts in the same state suggesting some flexibility among the youth of the district.(Figure 22)

**Figure 22: Preferred work location of candidates - Puducherry**



A high proportion of the respondents (41.6%) reported that their monthly salary expectation was in the range of INR 10000-15000. For 35.7% of respondents the expected salary is reported to be of range 5000-10000 per month (Figure 23).

**Figure 23: Monthly salary expectation of respondents - Puducherry**

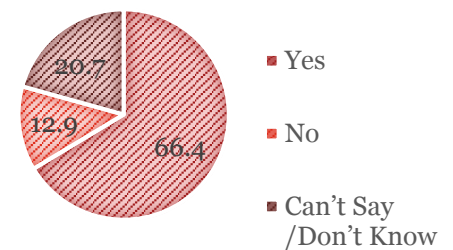


### Training Aspiration

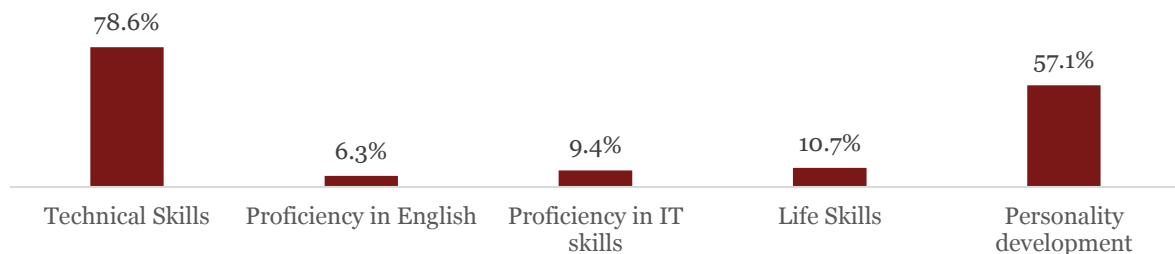
Regarding willingness of the respondents to participate in the training programme in next one year, more than two thirds expressed interest. (Figure 25)

Further, when enquired about the key focus areas of skill training, 79% of respondents reported that emphasis must be laid on technical skills followed by personality development (57%) and life skills (11%). (Figure 26)

**Figure 24: Willingness to participate in trainings- Puducherry**

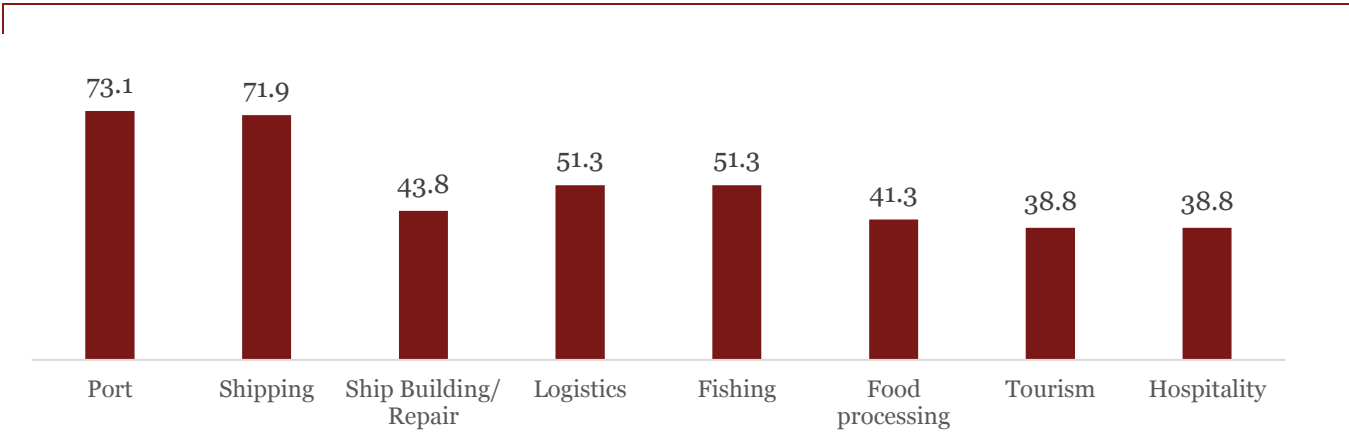


**Figure 26: Focus area on skills training - Puducherry**



Overall there is high acceptability for training in port (73%) and shipping (72%), logistics and fishing (51.3%) and ship building (43.8%) indicating a demand for trainings in the core sectors of this study. (Figure 27)

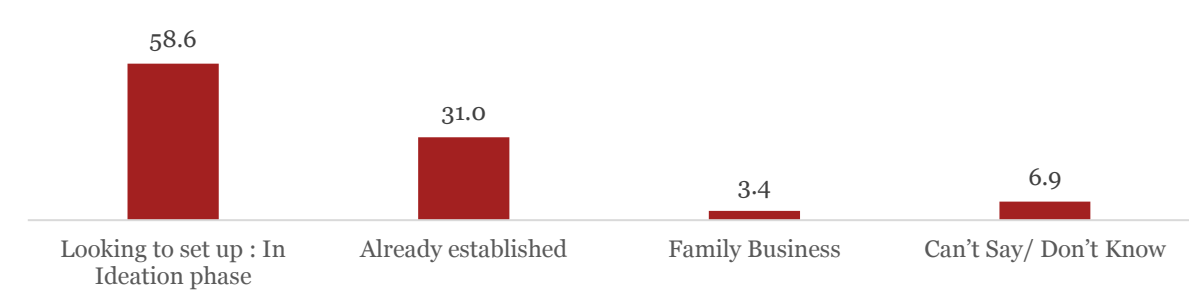
**Figure 27: Willingness of respondents to participate in trainings of different sectors - Puducherry**



Self-Employment

Only 29 respondents (which is less than 7% of the respondents) wanted to engage in Entrepreneurial ventures. Regarding current status of the Entrepreneurial Venture of the respondents who are in self-employment, 58.6% were looking to set up a venture, 31% had already established businesses and only about 3% were in family business (Figure 28).

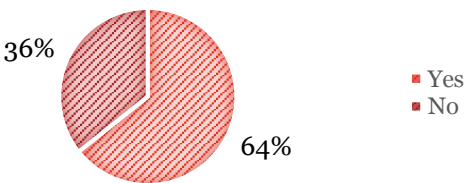
Figure 28: Current Status of Entrepreneurial Venture (%) - Puducherry

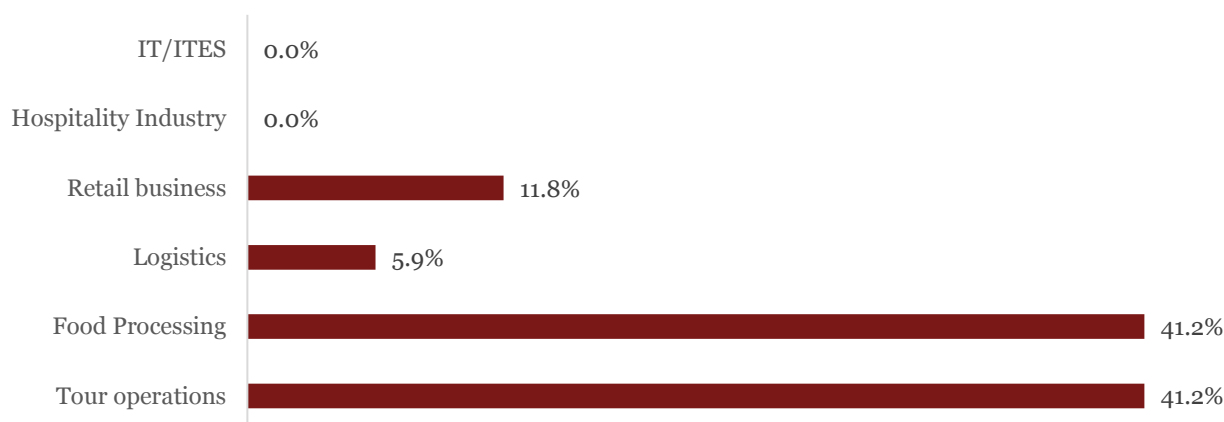


Further, 64.3% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 29).

Food Processing (41.2%), tour operations (41.2%), retail (12%) and logistics (6%) emerged as the key sectors which the respondents want to set up ventures in. IT/ITeS services and hospitality have found no takers as most preferred sectors for setting own enterprise (Figure 30).

Figure 29: Interested in skill development for enhancing entrepreneurial skills (%) - Puducherry



**Figure 30: Sectors for establishing enterprise (%) - Puducherry**

## 1.7. Training Infrastructure

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
<b>ITI</b>	10	15	Fitter, Electrician, Wireman, Electronics Mechanic, Draughtsman (Civil)
<b>Polytechnic</b>	9	10	Electrical & Electronics Engineering, Electronics & Communication Engineering, Civil Engineering, Instrumentation & Control Engineering, Mechanical Engineering
<b>Training centers under PMKVY</b>	2	5	Assistant Beauty Therapist, Beauty Therapist, Hand Embroiderer, Field Technician – Computing and Peripherals, Handset Repair Engineer
<b>PMKK</b>	Not Allotted	Not Allotted	Not Allotted
<b>DDU GKY</b>	Not Allotted	Not Allotted	Not Allotted

The training infrastructure in the district is dominated by the ITIs and Polytechnics. However, the trades are largely focussed on technical and engineering trades.

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- ITIs -There are 10 ITIs providing training in 15 different trades. However according to Dept. of Training & Employment, in the Private ITI's, of the total sanctioned seats, there is an average of 42% vacancy across all trades.
  - Polytechnics – Core engineering sectors like Civil, Electrical & Electronics, Electronics & Communication and Mechanical remain the most dominant trades, however, new age trades such as Hotel Management, Mechatronics, Production Technology, etc. are also gaining traction. The students prefer to move to full time engineering courses post diploma.
  - No DDU-GKY /PMKK has been allocated under the scheme. This is also an opportunity for the Ministry of Shipping to partner with NSDC to establish one training centre in the district..

## 2. Skill Gap Assessment, Job Roles and Emerging Job Roles

### 2.1. Incremental Demand<sup>8</sup> for Skilled & Semi Skilled Manpower

The district of Puducherry is witnessing increased industrialization and it is emerging as a major destination of trade with the Port being considered as an engine for the same. Our analysis suggests that the manufacturing sector is expected to generate a higher demand for skilled and semi-skilled workers.

**Table 3: Incremental Demand for Skilled & Semi Skilled Workers in Puducherry**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
Ports & Allied	100	100	100*	-	-	-	300
Logistics	152	154	155	157	158	160	936
Tourism	165	169	173	178	184	189	1,058
Construction	598	617	638	660	681	704	3,898
<b>Other Dominant Sectors in the District</b>							
Manufacturing	1769	1829	1889	1953	2018	2084	11,542
Trade (Retail & Wholesale)	331	340	349	359	370	381	2,130
Agriculture	-535	-528	-521	-514	-508	-500	-3,106
<b>TOTAL</b>							16,578

#### Key trends in Core Sectors

- **Ports and Allied Sectors:** Port of Pondicherry which has been dormant for a while is set to restart operations handling container traffic from the Chennai Port. Dredging works are currently underway. The traffic is set to increase to a maximum capacity\* of 1 million tonnes in the next three years.
- **Logistics:** The restart of operations in the port and the development of the Chennai-Kanyakumari Industrial Corridor are set to boost the requirement of the skilled workers in the sector. Currently, the sector has slowed down owing to lack of port traffic.
- **Tourism & Hospitality:** A weekend getaway for the residents of Chennai and which sees substantial expatriate visitors from France, the district is a traditional tourist destination, the district is seeing the development of Marina, water sports, themed restaurants etc.
- **Construction:** The infrastructure sector with road-way up-gradation (East Coast Road), Smart City related urban development projects in Underground Sewage Systems, Water supply, are expected drivers.
- **Fisheries:** The promotion of sustainable fishing, inland fishing, shrimp and prawn farming are growing owing to proximity to both fresh and salt water sources.

#### Key trends in other Dominant Sectors in the District

<sup>8</sup> 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.



- **Manufacturing & Industry:** The Puducherry Industrial Policy envisages a multi-sector industrial promotion, making use of the proximity to the manufacturing hubs in and around Chennai. Sectors of thrust include Automobiles and Components, Plastics, Agro and Food Processing, Marine Products, Solar Power etc. Land banks have been identified in Seddarpet for establishment of an Industrial Estate.
- **Trade:** Trade will be boosted by the proposed industrialization and increased port operations. There is a trend of formalization with the opening up of several apparel chains, fast food chains etc.
- **Agriculture & Fisheries:** Urbanization and Industrialization has made agriculture a sector a lower preference for employment and investment returns, this has affected employment prospects. However, fisheries has seen continuous increase in output and will be boosting employment in the sector.

## 2.2. Gap between Total Demand<sup>9</sup> and Supply for Skilled workforce in Select Sectors

The gap in the **existing total skilled workforce** connotes the gap between the total requirement of skilled manpower and workforce in the district with recognized trainings in the said sectors

**Figure 31: Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in Puducherry**



- **Construction Sector:** The percentage of total skill availability is still low. The gap is set to increase from 19,533 to 23,173 assuming present rates of growth of population and demand for skilled workforce, a jump of 4,000.
- **Logistics Sector:** Less than 1,000 skilled workers are available to meet the **total requirement of skilled manpower** of 12,000. These are very exacerbated by the limited options available recognized

<sup>9</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling

trainings and certificates in the sector. However the incremental requirement for workforce in the district is expected to increase the gap further by nearly half.

- **Manufacturing Sector:** The manufacturing sector faces high skill gap owing to lack of sufficient training infrastructure in the district. With the gap nearing a lakh.
- **Tourism and Hospitality:** Given the present trends of increased formalization and requirement of skilled workers in the sector the gap between the **total requirement of skilled manpower** and **availability of workforce with recognized trainings** is set to increase by a more than 50% by 2022. The requirement for initiating new trainings and recognizing prior learning in the sector is thus a priority.

## 2.3. Job Roles High in Demand

This sections captures the jobs that have been reported to be high in demand in Puducherry. The job roles that are listed below have been identified by the stakeholders. Across the sectors few of job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describe the job roles that are high in demand across the sectors.

### Port and Maritime Sector

The sector has seen little activity owing to shut down of the Port for the last 4-5 years. The operations are set to resume with container and bulk cargo movement in the present calendar year.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Port & Terminal operations	Findings
<ul style="list-style-type: none"> <li>• <b>Forklift Operator</b></li> <li>• <b>Reach Stacker Operator</b></li> <li>• <b>Crane Mechanic</b></li> <li>• <b>Surveyors</b></li> <li>• <b>Tug Operator</b></li> <li>• <b>Dredging Machine Operators/ Mechanics</b></li> </ul>	<ul style="list-style-type: none"> <li>• Currently minimal operations in the port.</li> <li>• Container movement planned after MoU with Chennai Port.</li> <li>• Annual Capacity would be 1 million tonnes.</li> <li>• Reach stackers would be the required personnel.</li> <li>• Constant requirement of dredging necessitates continuous requirement of personnel on board a dredger. The dredging is to be let out to third party.</li> </ul>

### Other Priority Sectors

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like port and maritime sector, sectors such as logistics, manufacturing, and construction will also be susceptible to technological disruptions and automation that will negatively impact jobs of manual nature.

### Logistics

Truckers are high in demand but the existing workforce that is engaged in trucking lack life skills. Truckers who could be equipped with skills for handling hazardous substances will be greatly demanded by the manufacturing firms and the CFS.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Logistics	Findings
<ul style="list-style-type: none"> <li>• <b>Surveyors</b></li> <li>• <b>Fork lift operators</b></li> <li>• <b>Supervisors</b></li> <li>• <b>Truck Driver</b></li> <li>• <b>Helper</b></li> </ul>	<ul style="list-style-type: none"> <li>• Increasing volumes of cargo from port operations and Chennai-Kanyakumari Industrial Corridor.</li> <li>• Skills shortages for handling hazardous substances.</li> <li>• Life skills training required for truckers.</li> </ul>

	<ul style="list-style-type: none"> <li>Increased use of ICT and automation in work processes will impact the manual jobs.</li> </ul>
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### Construction

Setting up of new age industries, power plants and urban sanitation and renewable energy projects would necessitate skill and knowledge up-gradation. There is a deficiency in availability of resources in these sectors.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Construction	Findings
<ul style="list-style-type: none"> <li>Supervisor-Finishes</li> <li>Solar Panel Technician</li> <li>Plumbing Retrofitting</li> <li>Supervisor - Electrical Works</li> <li>Painter ( Machine operated)</li> <li>Plumbers</li> <li>Sanitation Technicians</li> </ul>	<ul style="list-style-type: none"> <li>Demand expected from Industrialization, Urbanization and Smart City Projects.</li> <li>Safety is a key area of requirement. Awareness of safety equipment requires adequate orientation.</li> <li>Demand for new age installation and maintenance skills especially in renewable energy sector.</li> <li>Retrofitting may be required in the Smart City projects.</li> </ul>

### Manufacturing

Puducherry is home to manufacturing industries like Plastics, Food Processing, and Apparel etc. These sub-sectors demand skilled workforce that could work in manufacturing processes. This sector will also require technological literacy among the workers.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Manufacturing	Findings
<ul style="list-style-type: none"> <li>Production Assistants</li> <li>Welder</li> <li>Fitter</li> <li>Mechanic</li> <li>Plumber</li> <li>Electrician</li> <li>Turner</li> <li>Motor Binding</li> <li>Tailoring</li> <li>Quality Assurance</li> </ul>	<ul style="list-style-type: none"> <li>Industrial areas in and around the district demand skilled workforce.</li> <li>Food processing industry is widespread as an MSME industry and can employ women.</li> <li>Low availability for apprenticeship arrangements, combining formal training off-the-job with on-the-job training.</li> <li>Industry associations design custom trainings as an add-on for the sector.</li> <li>Quality Assurance will be a key differentiator for promoting the production.</li> </ul>

### Tourism & Trade

Tourism sector is set to further develop on new areas of skill trainings, via Water Sports, Chauffeur, etc.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Tourism	Findings
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<ul style="list-style-type: none"> <li>• <b>Front Office Executive</b></li> <li>• <b>Chef</b></li> <li>• <b>Kitchen Steward</b></li> <li>• <b>Housekeeping Supervisor</b></li> <li>• <b>Tour guide</b></li> <li>• <b>Facility Store Keeper</b></li> <li>• <b>Billing Executive</b></li> <li>• <b>Boatman</b></li> <li>• <b>Lifeguards</b></li> <li>• <b>Food and Beverage Executive</b></li> </ul>	<ul style="list-style-type: none"> <li>• Traditionally strong sector in the district.</li> <li>• High migration rates result in higher turnover in employees.</li> <li>• Requirement for English &amp; French language skills.</li> <li>• Focus required on communication skills/public relations; reporting skills; administration skills and financial skills.</li> </ul>
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### *Fisheries & Sea Food Processing*

The presence of the sensitive bio-diversity in the marine eco-system are both an opportunity and a challenge in the district. Inland fishing and aquaculture hold sizable opportunities. Packaged sea products are also widely exported.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Fisheries</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• <b>Deep Sea Fisherman</b></li> <li>• <b>Engine &amp; Boat Mechanics</b></li> <li>• <b>Inland Fishing</b></li> <li>• <b>Prawn &amp; Crab Farmer</b></li> <li>• <b>Cold Storage Technician</b></li> <li>• <b>Warehouse Manager</b></li> <li>• <b>Mechanic</b></li> <li>• <b>Glass/Tunnel/Trolley Freezer Operator</b></li> <li>• <b>Grading supervisor</b></li> <li>• <b>De-heading supervisor</b></li> <li>• <b>Aquaculture Technician</b></li> <li>• <b>Mari culture Technician</b></li> </ul>	<ul style="list-style-type: none"> <li>• Potential for employment for women in sea food processing.</li> <li>• Export potential for produce.</li> <li>• Unused land parcels can be used for aquaculture with appropriate skill up-gradation.</li> <li>• Usage of navigation, satellite imagery, for identifying optimal catch.</li> <li>• Quality assurance would be a key requirement for the entire value chain.</li> </ul>

## ***3. District Action Plan***

### ***3.1. Background***

An actionable roadmap is one of the deliverables to be submitted to MoS for implementing skill training programmes in each of the districts. To develop these District specific plans, the team has mapped the emerging skilling opportunities across the 21 districts. Further, similar training opportunities or training requirements from the same sector have been clubbed in to one programme to ensure optimal use of resources and to build economies of scale for delivery partners. This has been proposed to improve the chances of developing and proposing feasible and viable training delivery models.

Further, the team has also estimated the broad capital and operational expenditure expected to be incurred in operationalizing the training initiatives in the districts. Apart from this, critical operational aspects such as training delivery mechanisms, availability of curriculum and employers have also been explored. The current status of these critical aspects will help ascertain the feasibility of initiating these trainings immediately and assess the gaps that need to be bridged before these training can be rolled out.

### ***3.2. Objective of developing the plan***

The District action plans have been developed with an overall objective of providing a step by step skill implementation plan to the Ministry of Shipping in the 21 coastal districts. The specific objectives include the following:

- Mapping various skilling opportunities available in the district, keeping in mind the requirements of Port led development and emergence of CEZs.
- Mapping the current status of various pre-requisites such as availability of qualifications, curriculum, funding for training, potential training delivery partners, availability of assessors and certification processes and institutions for the training programmes.
- Identify the potential/target beneficiaries for the training courses.
- Map the infrastructure and the investment that may be required to deliver the training programmes in the district.
- Provide an estimate of the investment required to create/hire the skilling infrastructure.
- Provide a step by step action plan for MoS to implement the skilling initiatives.

### ***3.3. Methodology***

Stakeholder consultations<sup>10</sup> that were held at national, state and district level and that included stakeholders from government, industries, associations, and private firms. A separate plan has been prepared for each of the 21 district. The plan has been divided into several sections and include sections on training delivery, potential partners, and investments. The investments component has been divided into two broad heads: capital expenditure and operational expenditure. Capital expenditure has only been proposed in cases in which there were very limited possibilities of using existing institutional framework for partnership and for using existing infrastructure and equipment. Operational expenditure includes the cost of the running the training programmes including the salary of the instructors. The common cost norms are the basis of calculating the operational expenditure. Capital expenditure has been worked out bearing in mind the infrastructure requirements of the

<sup>10</sup> Roughly 700 primary consultations informed the development of these plans for 21 districts

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programme and duration of training programmes. Wherever, feasible partnership with existing programmes such as DDU-GKY and PMKVY has been suggested in the plan.

### 3.4. Summary of projects for Puducherry

SN	Project Name	Job Roles	Type of training	No. of people to be trained
1.	Training for artisans (with focus on entrepreneurial development)	Artisans, Chiseler, Stone Crafter, Paper Mache Art Designer	Fresh Training	500 in next 5 years
2.	Skill Development in tourism and hospitality Sector – drivers cum guides	Taxi Driver, Tour Guides, Counter Sales Executives	Fresh Training and Upskilling	1200 in next 5 years
3.	Fishing - Sustainable Fishing and Safety Training, Boat/Ship Repair	Fisherman, VPS Navigator, Boat repair mechanic	Fresh Training	1600 in next 5 years
4.	New age Building Construction	Solar electric System Installer & Service Provider, Solar Hot Water system installer, Assistant Solar PV Technician, Solar PV Technician	Fresh Training	1300 in next 5 years
5.	Scuba diving/Snorkeling Trainers – Adventure sports and tourism	Water Tank Cleaner, Boat Jetty In-charge, Scuba diving trainer, Adventure Sport trainer	Fresh Training and Upskilling	450 in next 5 years
6.	Aquaculture and Sea Food Processing	Aquaculture/ Mari culture Technicians, Brackish water aquaculture farmer, Quality assurance Manager/Lab Technician Food microbiologist/ Food Processing Worker Processed Food Entrepreneur	Fresh Training and Upskilling	1000 in next 5 years
7.	Beauty and Wellness Trainings	Beautician, Hair Stylist, Makeup artiste Pedicurist/ Manicurist / Nail Technician Tattoo Artist/ Mehendi Designer Spa Manager, Masseur	Fresh Training	1200 in next 5 years
8.	Medical Tourism	Cardiac Lab Technology Radiographic & Imaging Technology Operation Theatre Technology Renal Dialysis Technology Optometry Technology	Fresh Training	1000 in next 5 years
9.	Language Lab – French, Hindi, English and German	Tourist Guides, Cab Drivers etc.	Fresh and Up Skilling	1200 in next 5 years

### 3.5. Action Plan for Puducherry

<b>Project 1: Training for artisans (with focus on entrepreneurial development)</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>Well established handicrafts industry with a Geographical Indication (GI) for two crafts – Villianur Terracotta Works and Tirukanur Paper Mache Craft</li> <li>Presence of ready market from the visiting tourists</li> </ul>			
<b>Rationale for the project</b>		<p>The district is home to specialized craftworks like Kora mat weaving (cluster in Odiampet), Terracotta and pottery (Villianur) and soapstone sculpting (Kossampalayam) and Papier Mache Craft (Tirukanur). In recent years, the number of junior level artisans engaged in these crafts has reduced despite the huge demand due to non-availability of specialized training centers and necessary infrastructure. The DIC is currently conducting training programs with major artisans and has also set up an arts and crafts village at Murungapakkam. Trainings can be conducted for unemployed youth in the district in these trades to satisfy the demand.</p> <p>In addition artisans have a home-based business, they are often faced with the issue of insufficient market linkage opportunities or lack sufficient support to identify and pursue such opportunities. For this reason, the junior artisans may be provided marketing trainings which will enable them to understand the market beyond the local, establish strong forward linkages.</p>			
<b>Job roles in demand</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Handicrafts and Handloom Artisans (Terracotta, Mat Weaving, Stone Work, Papier Mache, leather, etc.)	<ul style="list-style-type: none"> <li>Local artisans</li> <li>Local youth and young entrepreneurs</li> </ul>	Fresh Training (300 Hours)	500 in 5 years
<b>Availability of curriculum</b>	<b>Job roles</b>	<b>Target Group</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Terracotta, Mat Weaving, Stone Work, Papier Mache, leather works	Local youth and young entrepreneurs	QP available for: <ul style="list-style-type: none"> <li>Artisans</li> <li>Chiseler</li> <li>Stonecraft</li> <li>Paper Mache Art Designer</li> </ul>	No course available	No course available
	Entrepreneurial Skills	Handicraft and Handloom artisan	QP does not exist	No course available	No course available
<b>Investment (INR In lakhs)</b>		<b>Incubation and training centre</b>			
		Operational Expenditure			65
		Capital Expenditure			5
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		DIC & Puducherry Tourism Department	<ul style="list-style-type: none"> <li>Space and infrastructure for establishing the incubation and training center</li> </ul>		
		Entrepreneurship Development Institute	<ul style="list-style-type: none"> <li>Inputs in designing curriculum on entrepreneurship skill development</li> <li>Guest faculty</li> </ul>		



	NID	<ul style="list-style-type: none"> <li>• Input for designing curriculum for various art crafts</li> <li>• Guest faculty</li> </ul>
	Industry Associations (Pondicherry Craft Foundation)	<ul style="list-style-type: none"> <li>• Industry interface</li> <li>• Facilitate sourcing of crafts to retails chains</li> <li>• Facilitate exports of crafts</li> </ul>
	Training Partner	<ul style="list-style-type: none"> <li>• Training delivery</li> <li>• Co-management of the training facility</li> </ul>
	Handicraft Sector Skill Council	<ul style="list-style-type: none"> <li>• Development of QPs for the identified job roles</li> <li>• Develop model training programs for the identified job roles</li> <li>• Identification and certification of trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of trainees</li> </ul>
<b>Training Delivery</b>	Training to be conducted by empaneled TSP. The newly constructed artists' village has ample space for training and marketing/incubation of new entrepreneurs.	

### Work Plan

Handicraft	in Months					
	1	2	3	4	5	6
TSP Empanelment						
SSC affiliation						
QP -NOS Review and Development						
Training centre setup						
Appointment of staff members						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out training programme						

Project 2: Skill Development in tourism and hospitality sector	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Inflow of foreign tourists coming to Puducherry</li> <li>• Large scale investment planned in tourism in Puducherry</li> </ul>
<b>Rationale</b>	<p>As Puducherry is a hub for leisure, spiritual and historic locations, Tourism is one of the major growth drivers of Puducherry. Considering the huge number of foreign tourists (more than a lakh)<sup>11</sup>, guides cum cab/tourist vehicle drivers are required who can fluently speak in English, Tamil and French/German.</p> <p>The upcoming tourism projects like beachfront development in six locations, heritage tourism, etc., would also demand a large number of high quality guides and tour operators.</p>

<sup>11</sup> Puducherry at a glance-2016, Directorate of Economics and Statistics, Govt. of Puducherry

Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Training for Taxi Drivers cum guides	• Existing Taxi Driver • Unemployed Youth	Upskilling	600 in next 5 years
				Fresh Training	300 in next 5 years
		Training for Marine Tourism and Hospitality trades	• Unemployed Youth / Women	Fresh Training	300 in next 5 years
Availability of curriculum	Job Roles	Target Groups	QP/NOS	MES	CTS
	Taxi Drivers cum guides	Existing auto/taxi drivers, unemployed youth	QP available for: • Taxi Driver	• Driver HMV	Not Available
	• Tour Guides • Counter Sales Executives	• Tour Operators	QP available for: • Tour Guide • Counter Sales Executives • Front Office Associate	MES available for: • Tour Assistant • Ticket Reservation Assistant	Course available for: • Travel Tour Assistant • Tour Guide
Investment (INR In lakhs)		Training for Taxi Drivers			
		Operational Expenditure		64	
		Training for Marine Tourism			
		Operational Expenditure		27	
		Capital Expenditure		22	
		Total Operational Expenditure		91	
Potential Partners		Partner		Areas of Support	
		PMKVY / PSSDM Training Providers		• Provide the infrastructure and lab for training • Training delivery	
		Puducherry Women’s ITI / other ITIs		• Provide the infrastructure and lab for training • Training delivery	
		Driving Schools and Private Taxi Agencies		• Input for designing curriculum • Guest faculty	
		Tourism SSC, PTDC		• Develop model training programs • Identification and certification of trainers • Identification and certification of assessors • Assessment of trainees • Certification of trainees	
Training Delivery		• NSDC has already initiated trainings for Front Office Executives through empaneled TSPs under PMKVY. This could be expanded. • Additional allocation could be made to the Puducherry Woman’s ITI for expansion of training in the Tourism and Hospitality Sector, currently plans are underway for trainings in the sector.			

### Work Plan

Travel and Hospitality Trades	in Months
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	1	2	3	4	5	6
TSP enplanement						
Training centre setup						
Appointment of trainers						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of centre and training programme						

Project 3: Fishing - Sustainable Fishing and Safety Training, Boat Repair					
Key economic drivers		<ul style="list-style-type: none"><li>• Destruction of corals due to unsustainable fishing practices</li><li>• Safety training to fisherman to prevent getting lost in the sea</li></ul>			
Rationale		<p>The intention to catch large quantities of fish often results in adoption of unsustainable and destructive methods of fishing. Fishermen need to be trained to move from a capture-based approach to a culture-based one, thereby effecting an increase in fish population as well.</p> <p>The amount that a crew can catch, depends on their skillset. The spotter is the person who spots the fishes in the sea without any scientific training. Training can be given on spotting fish, safety mechanisms to be followed including basic navigation, reading the VPS (Vehicle Positioning systems) and basic health and hygiene training on handling the fish post-harvest.</p> <p>Ship and boat repair training can also be provided to the fishermen as the Puducherry Port is set to re-open for operations including revamping their dry docking facilities that allow for ship repair. This can be an additional means of income for the fishermen or the local community.</p>			
Trainings in high demand		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Sustainability Training	<ul style="list-style-type: none"><li>• Fisherman and crew members</li></ul>	Fresh	600 in next 5 years
		Safety Training	<ul style="list-style-type: none"><li>• Local fishing community</li><li>• Fish cooperative Members</li></ul>	Fresh	600 in next 5 years
		Ship/boat repair	<ul style="list-style-type: none"><li>• Local community</li><li>• Fishermen</li></ul>	Fresh	400 in the next 5 years
Availability of curriculum	Job Roles	Target Group	QP/NOS	MES	CTS
	Fisherman	<ul style="list-style-type: none"><li>• Local fishing community</li><li>• SHG members</li><li>• Fish cooperative Members</li></ul>	Fishing Equipment Technician Marine Capture Fisherman cum Primary Processor	Not Available	Not Available
	Boat Repairman	<ul style="list-style-type: none"><li>• Local community</li><li>• Fishermen</li></ul>	Fish Boat Maintenance Worker	Not Available	Not Available
Investment (INR In lakhs)		Safety and Sustainability Training			
		Operational Expenditure		72	
		Ship/boat Repair			
		Operational Expenditure		51	
		Total Operational Expenditure		124	
Potential Partners		Partner		Areas of Support	

	Fisheries Department and MSSRF	<ul style="list-style-type: none"> <li>• Providing trainers</li> <li>• Space and infrastructure for establishing training</li> <li>• Practical training</li> <li>• Input for designing curriculum</li> </ul>
	Agriculture Sector Skill Council	<ul style="list-style-type: none"> <li>• Develop model training programs</li> <li>• Identification and certification of trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of trainees</li> </ul>
<b>Training Delivery</b>	Fisheries Department to provide training infrastructure (near fishing harbor) and deliver training through empaneled TSPs. MSSRF has already developed a short training program. Currently the expansion is constrained by requirement of funds.	

<b>Fisheries</b>	<b>in Months</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Development and finalization of the curriculum by TNFU				
Purchase of consumables				
Appointment of additional staff members				
Mobilization of prospective trainees				
Enrolment of students				
Roll-out of training programme				

<b>Project 4: New age Building Construction – Trainings</b>				
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Smart city projects</li> <li>• Chennai – Kanyakumari Industrial Corridor</li> <li>• Tourism Development Projects</li> </ul>			
<b>Rationale</b>	<p>The Smart City project which is in its initial phase in the district aims to invest in sustainable forms of energy and aims to invest in solar technology. There would be a significant demand for solar panel technicians in the next 2- 3 years. There is also requirement emerging from the neighboring districts of Tamil Nadu like Villupuram, Kanchipuram and Chennai.</p> <p>Basic training in plant science, landscape construction and maintenance would be required with the proposed drive in industrial development as part of the Chennai-Kanyakumari Industrial Corridor, Tourism Projects and the Smart Cities. There will also be a demand for workforce that could work in renewable energy and waste management domain.</p>			
<b>Trainings in high demand</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of Beneficiaries</b>
	Green Jobs Trainings- Solar Power	• Local youth	Fresh Training	500 in next 5 years
	Landscaping	• Existing Construction workers	Up Skilling	500 in next 5 years

		Façade/ Office Fitting Installations	• Local youth	Fresh Training	300 in next 5 years
Availability of curriculum	Job Role	Target groups	QP/NOS	MES	CTS
	Solar panel installation technician and solar panel maintenance technician	ITI (Electrical and Mechanical)/Diploma (Electrical and Mechanical) candidates	QP available for: • Solar Panel Installation technicians	Course available for: Solar electric System Installer & Service Provider, Solar Hot Water system installer, Assistant Solar PV Technician, Solar PV Technician	No course available
	Landscaping	Existing Construction Workers	Façade Installers Interior Finishes Pavement Layer		
Investment (INR In lakhs)		Green Jobs Training			
		Operational Expenditure		87.6	
		Landscaping			
		Operational Expenditure		26.5	
		Facade Office Installation			
		Operational Expenditure		38.8	
		Total Operational Expenditure		153	
		Total Capital Expenditure		34	
Potential Partners		Partner		Areas of Support	
		Training Institutes		• Provide infrastructure for training • Training delivery	
		Industry Association		• Industry interface • Facilitate On-Job-Training • Facilitate in identifying the firms that could recruit the trained graduates	
		Skill Council for Green Jobs Construction Sector Skill Council		• Development of QPs for the identified job roles • Develop model training programs for the identified job roles • Identification and certification of trainers/assessors • Assessment and Certification of trainees	
Training Delivery		• Engage a TSP affiliated with PMKVY/ Puducherry Skill Development Society to deliver the training			

### Work Plan

Smart City	in Months
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	1	2	3	4	5	6
TSP empanelment						
SSC affiliation						
Training centre setup						
mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

Project 5: Scuba diving/Snorkeling Trainers – Adventure sports and tourism					
Key economic drivers		<ul style="list-style-type: none"><li>• Inflow of foreign tourists coming to Puducherry (more than a lakh)<sup>12</sup></li><li>• A weekend getaway for the residents of Chennai</li><li>• Large scale investment planned in adventure sports in Puducherry</li><li>• Presence of corals and rare fishes</li></ul>			
Rationale		<p>Puducherry is one of the sites for sighting of a variety of fish and corals which makes it a hub for tourists who are interested in adventure sports. There is a huge shortage of certified scuba diving trainers. Since the district is also a popular weekend getaway for residents of Chennai, the demand for these is increasing.</p> <p>Pondicherry Tourism Development Corporation (PTDC) has projects like setting up a yacht marina, dolphin watch tours and water sports in the pipeline. The Chunnambar boat house has been developed into a water sports complex with facilities for adventure sports on the pipeline. These would require skilled life guards, boat operators, water sports trainers, etc.</p>			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries <sup>13</sup>
		Scuba diving trainers, Adventure sports trainers	• Coastal community	Fresh Training	150 in next 5 years
		Boat operators, life guards	• Unemployed Youth	Fresh Training	300 in next 5 years
Availability of curriculum	Job Roles	Target Groups	QP/NOS	MES	CTS
	Scuba diving trainers	Coastal community	Not Available	Not Available	Not Available
	<ul style="list-style-type: none"><li>• Life Guard</li><li>• Boat Jetty In-charge</li></ul>	Coastal Community	QP available for: <ul style="list-style-type: none"><li>• Water Tank Cleaner</li><li>• Boat Jetty In-charge</li></ul>	MES available for: <ul style="list-style-type: none"><li>• Tour Assistant</li></ul>	Course available for: <ul style="list-style-type: none"><li>• Travel Tour Assistant</li><li>• Tour Guide</li></ul>
Investment (INR In lakhs)		Training for Adventure Sports			
		Operational Expenditure		10.2	
		Training for Life guards / Boat Drivers			
		Operational Expenditure		31.4	
		Total Operational Expenditure		41.4	
		Capital Expenditure		50	
Potential Partners		Partner		Areas of Support	
		Scuba diving schools		<ul style="list-style-type: none"><li>• Input for designing curriculum</li><li>• Guest faculty</li></ul>	

<sup>12</sup> Puducherry at a glance-2016, Directorate of Economics and Statistics, Govt. of Puducherry

<sup>13</sup> To be reviewed after year 3 to increase targets.

	Tourism SSC, PTDC	<ul style="list-style-type: none"> <li>• Develop model training programs</li> <li>• Identification and certification of trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of trainees</li> </ul>
	Training Partner, NSDC	<ul style="list-style-type: none"> <li>• Provide the infrastructure and lab for training</li> <li>• Training delivery</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• Training can be provided by the empaneled TSP from DDU-GKY and PMKVY</li> </ul>	

### Work Plan

Travel and Hospitality Trades	in Months					
	1	2	3	4	5	6
TSP enplanement						
Training centre setup						
Appointment of trainers						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of centre and training programme						

<b>Project 6: Food Processing: Aquaculture and Sea Food Processing</b>				
Key economic drivers	<ul style="list-style-type: none"> <li>• Tracts of land parcels that are available and could be used aqua-culture and Mari-culture</li> <li>• Huge demand for shrimps, crabs and other fish</li> <li>• 63 % of the workers in the industries in the District of Villupuram (Tamil Nadu) work in food processing sector where Exports of fisheries is one of the major exportable item. (Villupuram, Cuddalore and Puducherry have cluster of Exclaves and Enclaves shared between them.)</li> </ul>			
Rationale	<p>Marine and Inland Aquaculture, Shrimp farming and sea food processing industries of MSME scale are well established in the East Coast Road. The location is a series of Exclaves and Enclaves shared between Puducherry and the Vanur block of Villupuram district of Tamil Nadu.</p> <p>Trainings imparted in aquaculture could help in providing the fishing community opportunities for improved livelihoods. There is a huge demand for shrimps and crabs in food sub segment and high quality produce could be exported.</p> <p>Around 36,000 people are involved in fishing and allied activities in the three adjacent districts of Villupuram, Puducherry and Cuddalore. This provides a sizable population to conduct short term trainings for value addition.</p>			
Trainings	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of Beneficiaries</b>

		Aquaculture & Mariculture	<ul style="list-style-type: none"> <li>Existing workforce engaged in fishery</li> <li>Agriculturalists</li> <li>Coastal communities</li> </ul>	Fresh Training	1000 in next 5 years
		Quality assurance Manager/Lab Technician	<ul style="list-style-type: none"> <li>Local youth</li> <li>Agriculturalists</li> <li>SHGs</li> </ul>	Fresh Training	
		Food microbiologist/ Food Processing Worker	<ul style="list-style-type: none"> <li>Local youth</li> <li>Agriculturalists</li> <li>SHGs</li> </ul>	Fresh Training/ Up Skilling	
		Processed Food Entrepreneur	<ul style="list-style-type: none"> <li>Local youth</li> <li>Agriculturalists</li> <li>SHGs</li> </ul>	Fresh Training/ Upskilling	
Availability of curriculum	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Aquaculture/ Mariculture Technicians  Brackishwater aquaculture farmer	Fishermen community  Unemployed youth  Agriculturalists	QP available for: <ul style="list-style-type: none"> <li>Aquaculture technician</li> <li>Aquaculture worker</li> <li>Brackish water aquaculture farmer</li> <li>Mariculture operator</li> <li>Shrimp farmer</li> <li>Crab fattening farmer</li> </ul>	No course available	No course available
	Quality assurance Manager/Lab Technician	Graduates in the District, women entrepreneurs, SHGs	<ul style="list-style-type: none"> <li>Quality Assurance Manger</li> </ul>	No course available	No course available
	Food microbiologist/ Food Processing Worker	Graduates in the District, women entrepreneurs, SHGs	<ul style="list-style-type: none"> <li>Food microbiologist</li> </ul>	No course available	No course available
	Processed Food Entrepreneur	Existing and Potential Food Processing Workers, SHGs	<ul style="list-style-type: none"> <li>Industrial Production Worker – Food Processing</li> </ul>	No course available	No course available
Investment (INR In lakhs)		<b>Incubation and training centre</b>			
		<b>Aquaculture &amp; Mari culture</b>			
		Operational Expenditure			33.5
		<b>Quality Assurance Technician</b>			
		Operational Expenditure			26.2
		<b>Food Microbiologist</b>			



	Operational Expenditure	24
	<b>Food Process Entrepreneur</b>	
	Operational Expenditure	21
	<b>Total Operational Expenditure</b>	<b>116</b>
	<b>Capital Expenditure</b>	<b>15-20</b>
Potential Partners	<b>Partner</b>	<b>Areas of Support</b>
	Fisheries Dept. Govt. of Puducherry	<ul style="list-style-type: none"> <li>• Provide infrastructure for training</li> <li>• Training delivery</li> <li>• Support in setting up/scaling up the training centre as per the required SSC norms</li> <li>• Provide training</li> </ul>
	Central Marine Research Institute	<ul style="list-style-type: none"> <li>• Input for designing the curriculum</li> <li>• Guest faculty</li> </ul>
	Fisheries Development Board, Skill Development Societies (TN and PY), NFDB	<ul style="list-style-type: none"> <li>• Supply funds for training, infrastructure development,</li> </ul>
	Agriculture Sector Skill Council	<ul style="list-style-type: none"> <li>• Develop model training programs for the identified job roles</li> <li>• Identification and certification of trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of trainees</li> </ul>
Training Delivery	<ul style="list-style-type: none"> <li>• Fisheries Training Dept. will provide the infrastructure and deliver the training programs</li> <li>• Agriculture Sector Skill Council will certify the training programs</li> <li>• Department of Fisheries and MoS through Puducherry Skill Development Mission could fund the training</li> </ul>	

### Work Plan

<b>Aquaculture and Sea Food Processing</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
TSP enplanement						
Training centre setup						
Appointment of trainers						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of centre and training programme						

<b>Project 7: Beauty and Wellness Training Courses</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Inflow of tourists coming to Puducherry creates market for beauty and services</li> <li>• A nascent industry with huge potential for improvement</li> <li>• Largely supported by workforce from outside the state.</li> </ul>

<b>Rationale</b>		<p>The large tourist economy brings in the demand for basic beauty and wellness services in Pondicherry. Since this is a nascent trade in the district, there is huge scope for expansion and improvement. Courses on entrepreneurship and establishing beauty &amp; wellness parlours can also be included as part of the training to support candidates in setting up their business. In addition to this, courses for tattooing &amp; mehendi design, masseur &amp; spa therapist can also be offered as this has good traction among tourists.</p> <p>Basic Beautician courses are also a significant income generator for housewives who offer services to their local neighbourhoods instead of working in or establishing parlours bringing them the comfort of working from home with flexible timings.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Beautician	• Unemployed Youth / Women	Fresh Training	400 in next 5 years
		Manicurist / Nail Specialist	• Unemployed Youth / Women	Fresh Training	200 in next 5 years
		Tattoo Artist/ Mehendi Designer	• Unemployed Youth / Women	Fresh Training	400 in next 5 years
		Spa Therapy	• Unemployed Youth / Women	Fresh Training	200 in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target Groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Beautician, Hair Stylist, Makeup artiste	Unemployed Youth / Women	QP available for: • Assistant Beautician • Hair Stylist Assistant	• Hair & Skin Make-up • Integrated Course on Skin & make up	Basic Cosmetology
	Pedicurist/ Manicurist / Nail Technician	Unemployed Youth / Women	• Pedicurist & manicurist • Assistant Nail Technician	Not Available	Not Available
	Tattoo Artist/ Mehendi Designer	Unemployed Youth / Women	Not Available	Not Available	Not Available
	Spa Manager, Masseur	Unemployed Youth / Women	• Assistant Spa Technician	• Spa Management • Ayurveda Spa Therapist • Spa Therapy	Spa Therapy
<b>Investment (INR In lakhs)</b>		<b>Training for Beautician</b>			
		Operational Expenditure			36.4
		<b>Training for Pedicurist/ Manicurist / Nail Technician</b>			
		Operational Expenditure			18.2
		<b>Training for Tattoo Artist/ Mehendi Designer</b>			
		Operational Expenditure			36.4
		<b>Training for Pedicurist/ Manicurist / Nail Technician</b>			
		Operational Expenditure			18.2
		<b>Total Operational Expenditure</b>			103.2

<b>Capital Expenditure</b>		50
<b>Potential Partners</b>	<b>Partner</b>	<b>Areas of Support</b>
	Puducherry Women's ITI / other ITIs	<ul style="list-style-type: none"> <li>• Provide the infrastructure and lab for training</li> <li>• Training delivery</li> </ul>
	Beauty Schools, Parlors	<ul style="list-style-type: none"> <li>• Input for designing curriculum</li> <li>• Guest faculty</li> </ul>
	BWSSC	<ul style="list-style-type: none"> <li>• Develop model training programs</li> <li>• Assessment of trainees</li> <li>• Certification of trainees</li> </ul>
	PSDS	<ul style="list-style-type: none"> <li>• Funding</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• The Puducherry Woman's ITI and other similar ITIs in the district which already run courses on beauty and wellness can be used as training centers</li> </ul>	

### Work Plan

<b>Beautician Training Courses</b>	<b>in Months</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Partnership with SSC				
Development and finalization of curriculum				
Appointment of trainers				
Mobilization of prospective trainees				
Enrolment of students				
Roll-out of training programme				

<b>Project 8: Trainings in Para- Medical Sector<sup>14</sup></b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Tamil Nadu and Puducherry are key destinations for Medical tourism from across the country.</li> <li>• Launching of airplane services through Udaan Scheme will enable quicker access to the hospitals in Puducherry.</li> </ul>
<b>Rationale</b>	<p>Puducherry attracted more than a million tourists in 2015-16. More than 10% of these were foreigners.<sup>15</sup> The tourism intensive economy of the district is also driven by the medical tourism supported by well-established health infrastructure attracting tourists. Among the In-patients admitted in the hospitals, 30-50% have been recorded to be outside the UT of Puducherry<sup>16</sup>. Tamil Nadu the neighboring state is also the national leader in medical tourism. There are 5 hospitals in the district including the prestigious JIPMER which is an institute of national importance in post-graduation education in the Medical Sector.</p> <p>There is consistent demand for skilled technicians to medical sector as para medical staff within Puducherry and in the state of Tamil Nadu. There are opportunities available overseas for such skilled workers as well.</p> <p>Pondicherry University as part of the Vocationalisation of Higher Education program is offering long term B.Voc Program in the Paramedical program.</p>

<sup>14</sup> Added as per request of Pudusherry Skill Development Society

<sup>15</sup> Puducherry at a glance-2016, Directorate of Economics and Statistics, Govt. of Puducherry

<sup>16</sup> <http://health.puducherry.gov.in/Programmes/programmesPDF/HospitalStatistics.pdf>

Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of Beneficiaries
		Cardiac Lab Technology	• Youth with Higher Secondary education	Fresh Training	200
		Radiographic & Imaging Technology	• Youth with Higher Secondary education	Fresh Training	200
		Operation Theatre Technology	• Youth with Higher Secondary education	Fresh Training	200
		Renal Dialysis Technology	• Youth with Higher Secondary education	Fresh Training	200
		Optometry Technology	• Youth with Higher Secondary education	Fresh Training	200
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
	Cardiac Lab Technology	Youth with Higher Secondary education	Cardiac Care Technician	Not available	Not available
	Radiographic & Imaging Technology	Youth with Higher Secondary education	Radiology Technician	Radiology Technician	Not available
	Operation Theatre Technology	Youth with Higher Secondary education	Operating Theatre Technician	Operation Theatre Technician	Not available
	Renal Dialysis Technology	Youth with Higher Secondary education	Dialysis Technician	Dialysis Technician	Not available
	Optometry Technology	Youth with Higher Secondary education	Refractionist	Optometrist	Not available
Investment (INR In lakhs)		Training for Cardiac Lab Technology			
		Operational Expenditure			68.2
		Training for Radiographic & Imaging Technology			
		Operational Expenditure			68.2
		Training for Operation Theatre Technology			
		Operational Expenditure			54.9
		Training for Renal Dialysis Technology			
		Operational Expenditure			63.8
		Training for Renal Optometry Technology			
		Operational Expenditure			54.9
		Total Operational Expenditure			310
		Capital Expenditure			100
Potential Partners		Partner	Areas of Support		
		Pondicherry University and Puducherry Skill Development Society	<ul style="list-style-type: none"> <li>• Space and infrastructure for establishing the labs</li> <li>• Assessment of trainees</li> <li>• Certification of trainees</li> </ul>		
		Dept. of Health through Medical Colleges, JIPMER	<ul style="list-style-type: none"> <li>• Guest faculty</li> <li>• Input for designing curriculum</li> </ul>		

	PSDS / Sagarmala/ MHRD	• Funding
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• Pondicherry University has already started courses in the above categories as part of the Vocationalisation of higher education program with an annual capacity of 100. This could be doubled to meet the local demand.</li> <li>• Govt. medical colleges in the district to provide OJT.</li> </ul>	

## Work Plan

<b>Paramedical Training</b>	<b>in Months</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Development and finalization of curriculum				
Upgradation of Infrastructure				
Mobilization of prospective trainees				
Enrolment of students				
Roll-out of training programme				

<b>Project 9: Language Lab – French, Hindi, English and German</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Puducherry, a former French colony has a huge inflow of tourists from France and other European countries.</li> <li>• The district also draws tourists from North India creating a huge demand for the knowledge of Hindi.</li> </ul>			
<b>Rationale</b>		<p>The tourism intensive economy of Puducherry constantly requires language skills in English, French and Hindi to cater to the national and international tourists. Of the international tourists, 32% are French, 40% are from English speaking countries such as UK, USA and Australia and 16% from Germany and Switzerland<sup>17</sup>. Competence in any one of these languages opens up various employment options such as receptionists, tourist guides, customer service executives, sales persons, sommeliers, etc. Setting up of language labs would therefore be a tremendous boost to the tourist economy.</p> <p>Additionally, the language labs could offer specific training modules to those training as taxi drivers, tourist guides, front desk executives, tour operators, etc. as it would be a necessary asset in the travel, tourism and hospitality related trades. The labs could be set up in ITIs as it would make it easier to access for those pursuing other trades.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		French, English and Hindi language courses	<ul style="list-style-type: none"> <li>• Local community</li> <li>• Unemployed youth</li> <li>• Taxi drivers, tourist guides, front desk executives and tour operators</li> </ul>	UPSKILLING and Fresh Training	1200 in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Not Available	<ul style="list-style-type: none"> <li>• Local community</li> <li>• Unemployed youth</li> <li>• Taxi drivers, tourist guides,</li> </ul>	Not available	Not available	Not available

<sup>17</sup> Tourism Survey for Puducherry (Jan-Dec 2014), Ministry of Tourism, Government of India

		front desk executives and tour operators			
Investment (INR In lakhs)	Language Labs				
	Total Expenditure			100.29	
Potential Partners	Partner		Areas of Support		
	ITIs and other DDUGKY TSPs		• Space and infrastructure for establishing the labs • Assessment of trainees • Certification of trainees		
	Language labs in the district		• Guest faculty • Input for designing curriculum		
	PSDS		• Funding		
Training Delivery	• Labs can be set up in ITIs across the district so that those pursuing different tourism and hospitality trades can be trained on specific modules. • Other empaneled TSPs can also be used for setting up of language labs.				

### Work Plan

<b>Language Lab – French, Hindi, English and German</b>	<b>in Months</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Development and finalization of curriculum				
Appointment of trainers				
Mobilization of prospective trainees				
Enrolment of students				
Roll-out of training programme				

## 4. List of Stakeholder Consultations

### 4.1 Union Territory level consultations- Puducherry

Sl. No.	Stakeholder	Person	E-mail	Cell/Phone
1	Directorate Of Industries & Commerce	V. Mokankumar, Assistant Director	v.m.kumar@hotmail.com, ind.pon@nic.in	0413 224 8168, 2248320, 9443537112
2	District Industries Centre	A. Couppoussamy, Assistant Director of Industries cum Deputy Functional Manager	acouppou@gmail.com	0413 2248391, 2249392, 9344575859
3	Puducherry Skill Development Society	Mr. Sarangaraju, Director	psdspdy@gmail.com	0413 2225526, 9443789977
4	Government ITI for Women	Mr. Nagarajan, Instructor		
5	Training (Craftsmen Training Scheme and Apprenticeship), Labour Department	Mrs. Chitra, Assistant Director		9943247022
6	Puducherry Skill Development Society and Instructor, Government ITI	G. Lakshmikantham		9789624102
7	Directorate of Economics and Statistics	Mr. Ramakrishnan, Joint Director	ramkrishnan.pon@nic.in, eands.pon@nic.in	0413 2248816
8	Fisheries Department	Mr. Meera Saheb, Deputy Director (Inland)	Meerasahed.puddala55o@gmail.com	8754244794
9	Fisheries Department	Mr. R. Soundarapandian, Assistant Director (Planning)	fish.pon@nic.in	9952460301
10	Department of Tourism	Mr. Ravi, Manager	pondytourism@gmail.com, tourism.pon@nic.in	+91 413 2358570
11	Pondicherry Tourism Development Corporation (PTDC)	Jayanthi	trip2pondicherry@gmail.com	0413 2339497
12	Chunnambar Water Sports Complex	D.R. Murugesan, MD, Pondicherry Tourism Development Corporation (PTDC)	managingdirectorptdc@gmail.com	0413 23333532
13	Atlanta Travels and Tours	Ms. Shivani, Manager	atlantatravels@hotmail.com	0413 2225468
14	Temple Adventures,	Rob Partridge	dive@templeadventures.com	99402 19449, 98943 51267, 9003122231

	Scuba Diving Center			
15	Phocos India Solar Pvt. Ltm,d.	V. Shanmuganandam, Director	shanmugam@phocos.com	7708000172, 0413 2912182
16	Phocos India Training Provider, PMKK	Mr. Prabhulingam, Trainer	prabhulingam@phocos.com	0413 2912182
17	Pondicherry Port	Mr. Rajendiran, Executive Engineer	port.pon@nic.in	Office : +91-413-2337114 Mobile : +91-9843411611
18	Novel Food Products	Mr. Anilkumar Punathil (Chief Executive)	novelfizz@gmail.com, novelfizz@yahoo.com	+91 9150207073 +91 9150309820 +91 9443958172
19	Pondicherry Craft Foundation	V. K. Munusamy	terracotta_pondy@yahoo.co.in	9790483986
20	Hotel Atithi	Mr. Niranjan, HR Manager	hr@atithipondicherry.com	04132345000
21	Smart Cities Mission	M. Dhinadayalan, Officer on Special Duty	pondysmartcity@gmail.com	0413 2337090
22	Pondicherry Engineering College – Smart Cities Training Program	Dr. Sandanalakshmi. Professor	sandalalakshmi@pec.edu	9790972173
23	Association of Small Industries of Union Territory of Pondicherry	Mr. Peter		9842339000
24	KFC, Puducherry	Store Manager		0413 430 2220
25	Muthoot Finance Corporation	Branch Manager		



## *Section 9: Maharashtra*

*Raigad*

*Mumbai*

# 1. District Profile

## Raigad

### About Raigad

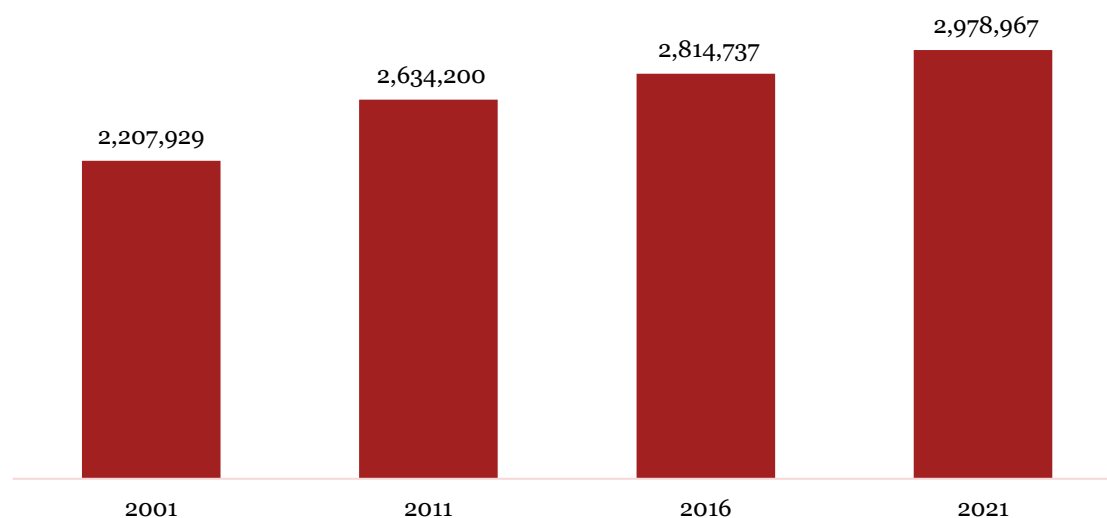
Large parts of the Raigad district lie in the extended Mumbai Metropolitan area, across the Thane Creek. The district houses one major port, Jawaharlal Nehru Port Trust (JNPT), and two prominent non-major ports, Dighi port and Dharamtar port. The major exportable items produced in the district are chemicals, steel, pharmaceuticals, rice and cashew nuts<sup>1</sup>. Industry (50%) and Service sector (44%) form the largest share in the overall district economy.

### 1.1.1. Demographic Profile<sup>2</sup>

Indicator	Value
Total population	2,634,200
Decadal rate of growth of population (2001-11)	19%
Rural population	63%
Female	49%
SC population	5%
ST population	12%
Workforce participation (As % of total population)	41%
Main Workers (As % of total population)	33%
Marginal (As % of total population)	8%
Non-workers (As % of total population)	59%
Number of people with vocational training in the age group of 15+ <sup>3</sup>	59 per 1,000

### Population trends<sup>4</sup>

Figure 1: Population trend in Raigad (2001-2021)



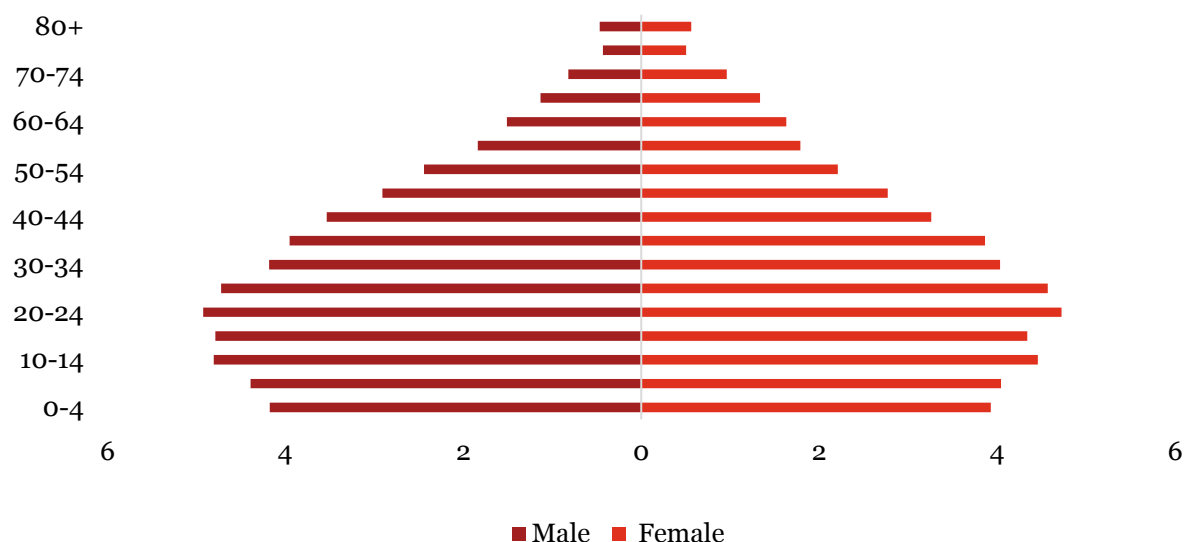
<sup>1</sup> Brief Industrial Profile of Raigad District, MSME

<sup>2</sup> Census 2011

<sup>3</sup> Employment and Unemployment Survey, District Level Estimates for Maharashtra, Labour Bureau, 2013-14

<sup>4</sup> (Census of India, 2001 and 2011), PwC Analysis

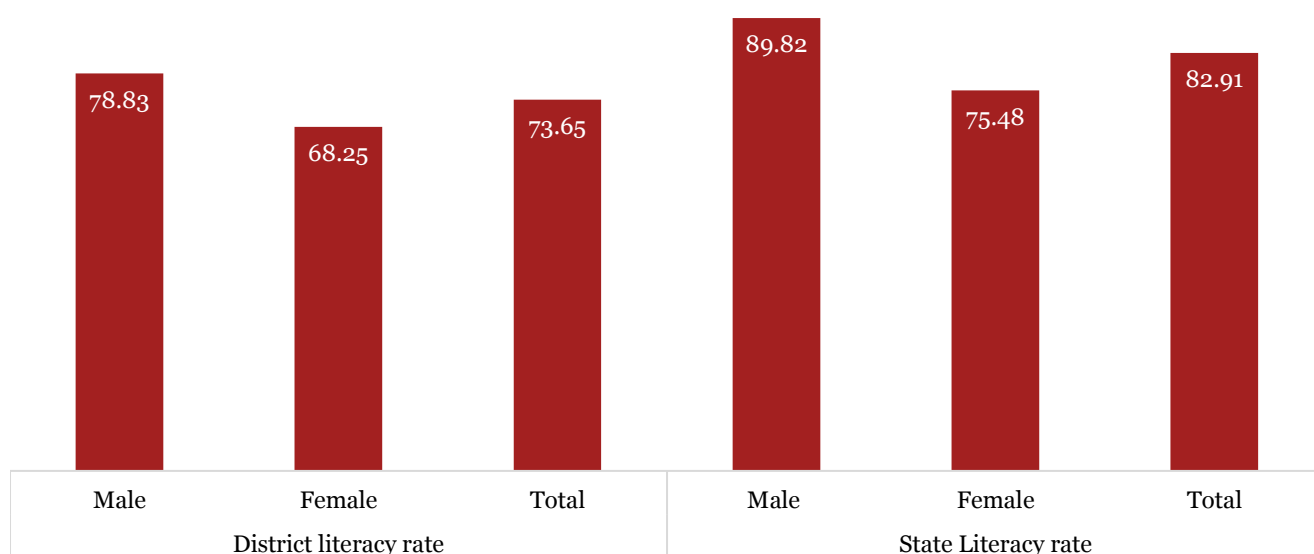
**Figure 2: Population pyramid Raigad - 2011**



The demographic dividend bulge in Raigad will remain intact for the coming next 10 years. Using proportional<sup>5</sup> method for estimating the population for the period 2011-21 (10 years), the population is estimated to be 2,814,737 and 2,978,967 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 will be 6%.

### *Literacy rates<sup>6</sup>*

**Figure 3: Raigad vs Maharashtra literacy rates (2011) – (in %)**



<sup>5</sup> The proportion of district and state population in 2011, and the estimated population of state in 2016 and 2021 that is reported in the population projections for India and state 2001-2026 estimates, are taken into account in estimating the district level population in 2016 and 2021.

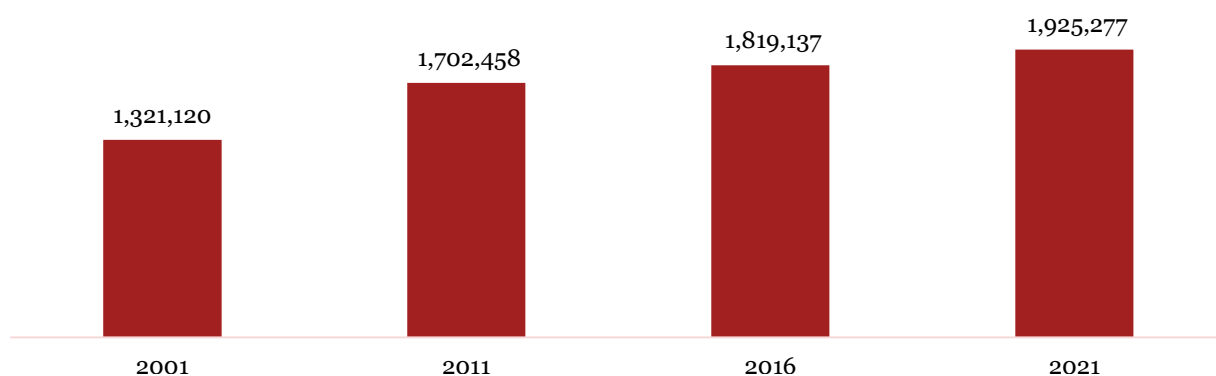
<sup>6</sup> (Census of India, 2011)

As per the Census 2011, the literacy rate of Raigad is 73.65%, which is far below the State's literacy rate of 82.91%. the female literacy rate (68.25%) of the district is also substantially lower than the male literacy rate (78.83%).

### *Age specific population trends and education levels for 2011<sup>7</sup>*

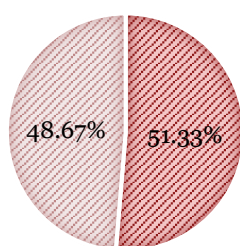
As per the Census 2011, 492,873 people were in the age group of 15-24 years which constituted 18.71% of the total population. Using proportional method, the population in the age group of 15-59 years is estimated to be 1,819,137 and 1,925,277 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 will be 6%.

**Figure 4: Growth trend of population in the age group 15-59 years in Raigad (2001-2021)**



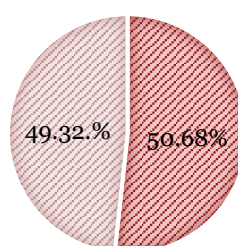
**Figure 5: Age specific population in Raigad (15-59 years)**

■ Male ■ Female



**Figure 6: Age specific population in Raigad (15-24 years)**

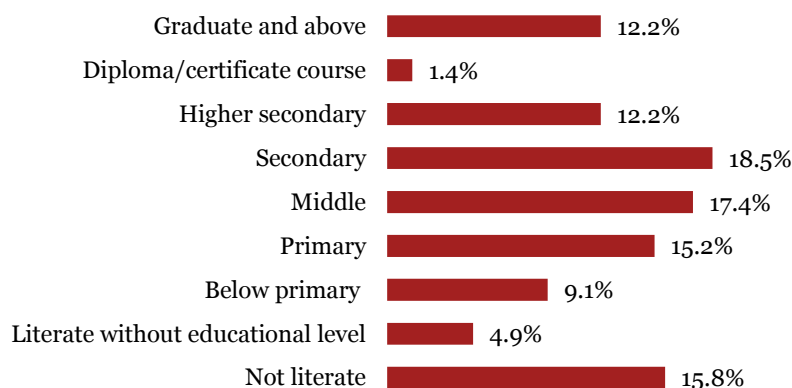
■ Male ■ Female



The share of population of males and females in total population of Raigad is around 50% each in both the 15-24 years and 15-59 years age group category. However the share of females in the 15-24 age category is lower than the 15-59 age category

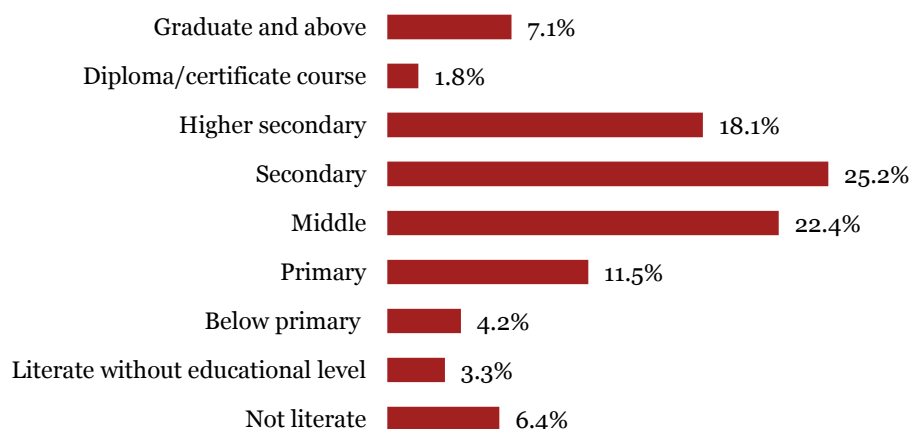
<sup>7</sup> Based on Census 2001 and 2011

**Figure 7: Age specific education level in Raigad (15-59 years)**



The census indicates that for the age category of 15-59 years, 15.8% of the population of Raigad is not literate, 4.9% of the population in the age category of 15-59 years is literate without any educational qualification, 9.1% have attended school till below primary level and 15.2% have completed schooling only up to primary level. Roughly, around 17.4% of the population in 15-59 years category have completed schooling up to the middle level, whereas around 18.5% of the population in 15-59 years category have been educated till secondary. Only 1.4% of the population of this district have done a certificate/diploma course and 12.2% have at least graduated, indicating that a graduate/post-graduate degree is more sought after than a certificate/diploma.

**Figure 8: Age specific education level in Raigad (15-24 years)**

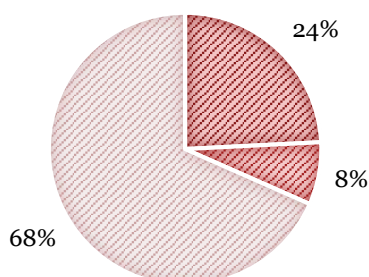


For the age category of 15-24 years, 6.4% of the population of Raigad is not literate, 3.3% are literate without any educational qualification, 4.2% have attended school till below primary level only and 11.5% have completed schooling only up to primary level. 22.4% of the population in 15-24 years category have done schooling up to the middle level, whereas, around 25.2% of the population in 15-24 years category have been educated till secondary. Only 1.8% of the population of this district have done a certificate/diploma course and 7.1% have at least completed graduation.

## Age specific distribution of workers and educational level

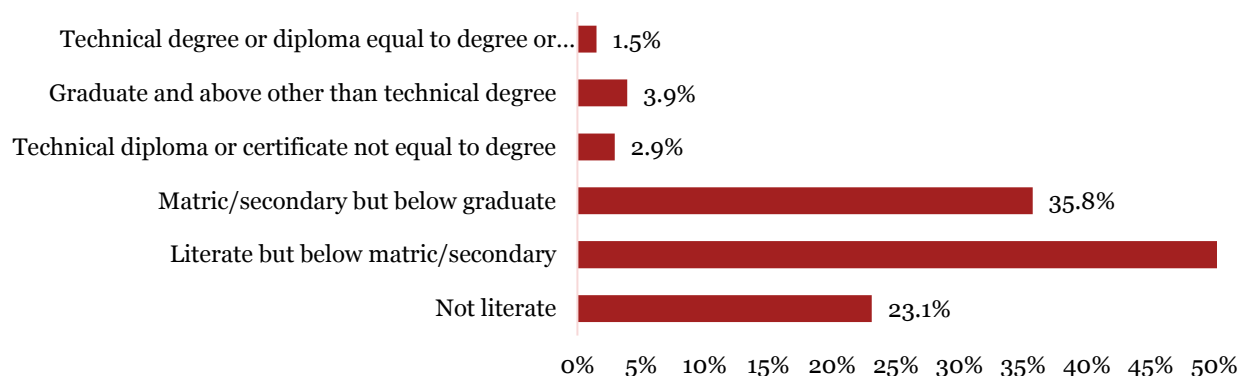
**Figure 9: Age specific distribution of workers in Raigad (15-24 years)**

■ Main workers ■ Marginal Workers ■ Non-workers



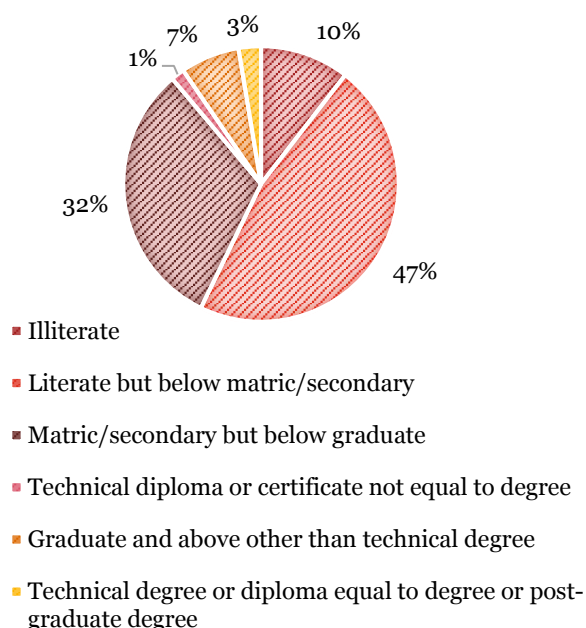
The total worker population ratio for this district, according to census 2011, is 41%. 68% of the population in the age group of 15-24 years are reported as non-workers. 24% of the population are main-workers, whereas 8% are engaged in marginal work.

**Figure 10: Education level of marginal workers in Raigad (15-24 years)**



Amongst the 23,650 marginal workers in the age group of 15-24 years, 1.5% hold technical degree or a diploma equal to degree or post-graduate degree and 3.9% are graduate and above other than a technical degree 2.9% have a diploma or a certificate (not equal to degree. 35.8% are educated up to the matric/secondary level only and 58.3% are literate with an educational qualification of below matric/secondary level. 23.1% marginal workers in this age group are not literate.

**Figure 11: Education level for main workers in Raigad (15-24 years)**



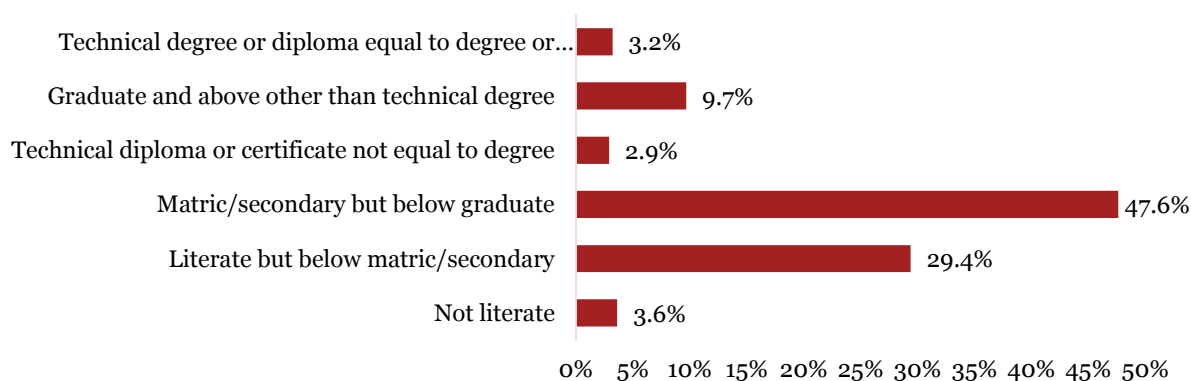
From the census depicted in the chart, the proportion of main workers who are illiterate (in the age category 15-24 years) is significantly less (23 percentage difference point between the two) than the proportion of marginal workers who are illiterate. We also find that the proportion of main workers who are literate but below matric/secondary (in the age category 15-24 years) is significantly more than (9 percentage difference point between the two) the proportion of marginal workers who are literate but below matric/secondary.

The proportion of main workers who are matric/secondary level but below graduate (in the age category 15-24 years) is significantly more than (9 percentage difference point between the two) the proportion of marginal workers who are matric/secondary level but below graduate.

The proportion of main workers who are graduate and above other than technical degree (in the age category 15-24 years) is slightly more than (4 percentage difference point between the two) the proportion of marginal workers who are graduate and above other than technical degree.

The proportion of main workers who have attained an technical degree or diploma equal to degree or post-graduate degree (in the age category 15-24 years) is slightly more than (1 percentage difference point between the two) the proportion of marginal workers and who have attained an technical degree or diploma equal to degree or post-graduate degree. For the remaining one educational level, we find that the population shares are more or less the same across the two worker categories.

**Figure 12: Education level of non-workers in Raigad (15-24 years)**

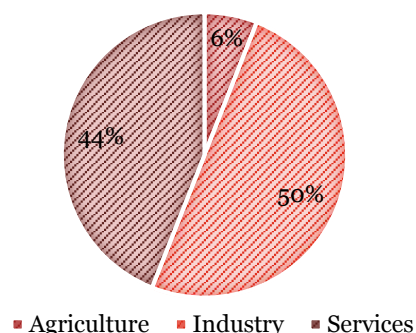


Amongst the 57,692 non-workers in the age group of 15-24 years, 3.22% hold a technical degree or a diploma equal to degree or post graduate degree and 9.69% have a graduate and above other than a technical degree. 2.91% have a diploma or a certificate (not equal to degree). Over 47.63% are educated up to the matric/secondary level but below graduate and 29.40% are literate but below matric/secondary level 3.61% marginal workers who are in this age group are not literate.

### 1.1.2. Key Economic Drivers

According to District Economy Survey, Raigad, the Gross Domestic Product of the district (at constant prices- 2004-05) was INR 24,019.28 Crores in 2012-13 and it has steadily grown at a CAGR of 9.5% over the period 2004-05 to 2012-13. The sectoral break up suggests that industry sector contribution to district GDP is nearly half (50%) followed by services sector (44%). Further disaggregation suggests that manufacturing sector has a share of 40% and hotels and restaurants have a share of 12% in the district GDP. Other sectors driving the district economy are banking and insurance (6.9%) and construction (6.1%). Banking and insurance in the district have witnessed an impressive growth of 182% over the years 2004-12.

**Figure 13: Sectoral breakup of Raigad district GDP at constant prices (2004-05)**



The key economic drivers of the district are illustrated below:

**Figure 14: Key Investments**

<b>Port, maritime and logistics</b>	<ul style="list-style-type: none"> <li>Development of the fourth terminal at JNPT</li> <li>Development of Multi-Product Port-based SEZ (textiles, multi services, electronics, logistics, engineering)</li> </ul>
<b>Industrial Development</b>	<ul style="list-style-type: none"> <li>DMIC- 100 sq. km in Dighi</li> <li>National Manufacturing Zone- 230 sq. km in Dighi</li> <li>Establishment of chemical clusters</li> </ul>
<b>Infrastructure Development</b>	<ul style="list-style-type: none"> <li>4 laning of NH 17</li> <li>Jindal and POSCO setting up production</li> <li>International airport</li> <li>CIDCO's Railway &amp; METRO Projects</li> </ul>
<b>Urbanization</b>	<ul style="list-style-type: none"> <li>Two Smart City Projects: CIDCO Navi Mumbai (South) – Brownfield and Pushpak Nagar – Greenfield</li> <li>CIDCO's NAINA city development</li> </ul>

### 1.1.3. Priority Sectors

In Raigad, the priority sectors that have been identified are **Port and Maritime sector** and other sectors like **logistics, fisheries, tourism and construction**. In addition, **manufacturing and banking & finance** have also been identified as priority sectors from the point of view of their contribution to district GDP.

### 1.1.4. About Port

Ports & Maritime		
<b>Major Ports: 1</b>	<b>Minor Ports: 2</b>	<b>Shipyards: 0</b>
<b>Details</b>		
<b>Jawaharlal Nehru Port Trust</b>		



Operations:	Land Lord Port model (PPP)	Capacity	5.2 Mn TEUs PA	
Key Cargo	Coal, fertilizer, rice, sugar Alumina	No of berths:	10	
		Draft	14.5	
Description and key Trend	The Jawaharlal Nehru Port Trust (JNPT) at Navi Mumbai (formerly known as the Nhava Sheva Port) located within the Mumbai harbour on the west coast of India, was commissioned on 26th May 1989. It occupies a place of prominence among the major Indian ports. It is the second youngest and one of the most modern major ports of the country. Though it was initially planned to be a “satellite port” to the Mumbai Port with the purpose of decongesting traffic at the latter, eventually it was developed as an independent port on its own right and it became the country’s largest container port and also one of the fastest growing ports.			
Terminal Operations				
	JNPTC	NSICT	GTICT	BPCL
Annual Capacity	1.1 Mn TEUs	1.2 Mn TEUs	1.8 Mn TEUs	1.1 Mn tonnes
Type of Cargo handled	Containers	Containers	Containers	Petroleum products, crudes, and chemicals
High Demand Job Roles	Gate clerks, crane operators, and crane mechanics	Crane operators, crane mechanics, truck drivers	Crane operators, crane mechanics, truck drivers	Maintenance staff
Other Minor Ports				
	Dighi		Dharamtar	
Terminal Operator	Self-operated		Self-operated	
Capacity	15 Mn tons		8 MTPA	
Cargo	Bauxite, coal, H.B.O and steel coils		Iron ore, coal, limestone, dolomite, clinker	
Job roles high in demand	Gate clerks, crane operators, excavator, truck drivers, crane mechanics , fork lift operators, technicians		Crane operators, truck drivers	

### 1.1.5. Investments

The table below summarizes the investments that are in pipeline in the next few years:

**Table 1: Proposed Key Investments for the year 2016-22 in Raigad**

<b>Sector</b>	<b>Proposed Investment (INR Cr)</b>	<b>Number of Projects</b>	<b>Expected Employment</b>	<b>Key Players</b>
Port & Maritime	18,000	10	1.55 lakhs	JNPT, BMCT, Karanja Multipurpose Port, Rewas Port
Infrastructure	45,000	6	8.7 Lakhs	CIDCO
Smart City	2,033	61	-	CIDCO

Basic infrastructure, Transportation, Port City & Affordable Housing	34,777	88	-	CIDCO
Projects registered with DIC	1,110	33	3400	Metropolitan Exim Chem , Yashomala Farming & Tourism Pvt. Ltd.

In the port and maritime sector, upgradation and repair work in the existing JNPT port, development of port-based SEZ and initiation of shipyard projects have been identified as key focus areas for future investments. Details of proposed investments in this sector are given below:

**Table 2: Details of Investments in Port and Maritime sector in Raigad**

Project	Proposed Investment (INR cr)	Expected Employment	Key Players
Fourth terminal at JNPT will have the capacity to handle 4.8 mn TEUs per year and will become operational in two phases in 2017 and 2022	7,915	Over 1,200 persons	Bharat Mumbai Container Terminals
Multi-Product Port-based SEZ	4,000	1.5 lakh persons	JNPT
Repair of off shore platforms, ships, and cargo handling, with a facility of 500 m long jetty that take a load 25 ton sq. mtr proposed to be operational in 2016	250	1,400 persons when operational	Das Offshore
Repair of ships, and ship building yard that will spread across 100 acres of land to be operational in 2018.	50	400 persons during Construction Phase 1,000 persons during Operations phase	Bombay Marine Engineering Works
A shipyard project is proposed at Panvel creek; there will be one fitting off berth	21	Information Not available	Belapur Offshore Terminal
Waterfront for construction of ship repair and ship construction facility	21	70 persons	Rock and Reef
Multipurpose port at Chane village	1,000	Information Not available	Karanja Multipurpose Port
Maldar Shipyard project proposed at Ulwa Belapur which will include Slipway, Fitting out berth and dry dock	21	Information Not available	Maldar Shipyard
Multipurpose port which can handle containers, coal, cement, POL, and chemical cargo at Rewas Port	5,189	Information Not available	Reliance
Upgradation and expansion of old shipyard facility in Nagav creek at Kurul, taluka.	16.11	Information Not available	Konkan Barge Builders

In Raigad, within the MSME sectors, manufacturing, tourism, logistics, food processing are upcoming areas with proposed investments to the tune of INR 1,069 Cr, expected to create employment for approximately 3000 individuals. The details of proposed investments across these sectors are given below

**Figure 15: Details of proposed investments across different sectors, DIC Raigad**

Manufacturing	Tourism	Logistics	Food processing	Other proposed investments
22 firms to be engaged in Chemical projects <ul style="list-style-type: none"> <li>• Key player: Metropolitan Exim Chem Pvt. Ltd.</li> <li>• Investment: INR 473 cr</li> <li>• Employment: Direct- 1368</li> </ul> 4 firms to be engaged in steel and alloy manufacturing <ul style="list-style-type: none"> <li>• Key Player: Latim Metals</li> <li>• Investment: INR 119 cr</li> <li>• Employment: Direct- 99</li> </ul>	2 firms to be engaged in tourism projects <ul style="list-style-type: none"> <li>• Key Player: Yashomala Farming &amp; Tourism Pvt. Ltd.</li> <li>• Investment: INR 275 cr.</li> <li>• Employment: Direct 580</li> </ul>	Key Player: Caravan Logistics Pvt. Ltd <ul style="list-style-type: none"> <li>• Investment: INR 50 cr</li> <li>• Employment: Direct-100</li> </ul>	5 firms to be engaged <ul style="list-style-type: none"> <li>• Key Player: Dhiraj Food Production Co.</li> <li>• Investment: INR 8 cr</li> <li>• Employment: Direct-68</li> </ul>	15 Firms being engaged across multiple sectors such as power, paper, gems and jewellery, apparel software and cold storage <ul style="list-style-type: none"> <li>• Investment: INR 38.5 cr</li> <li>• Employment: Direct 462</li> </ul>

### 1.1.6. Youth Aspiration

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspirations, job aspirations, training aspirations and self-employment.

#### Respondent Profile

The table below provides an overview of the respondent profile:

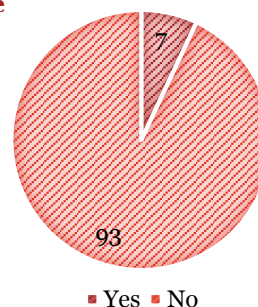
Profile	Details
Total Sample Size	384
Gender Profile	Male- 51% Female- 49%
Age Group	15-24 years
Education Level (top 3)	Senior Secondary schooling(Class 9 to 10)- 19.3% Higher secondary schooling with science (Class 11 to 12)- 17.7% Higher secondary schooling with commerce (Class 11 to 12)- 14.9%
APL/BPL/AAY/Don't know	APL-22 % BPL- 73% AAY- 5%
Occupational Profile (top 3)	Salary from employment (28.3%), Own business (14.6%), Agriculture (14.3%)

## Exposure to Vocational Training and Educational Aspiration

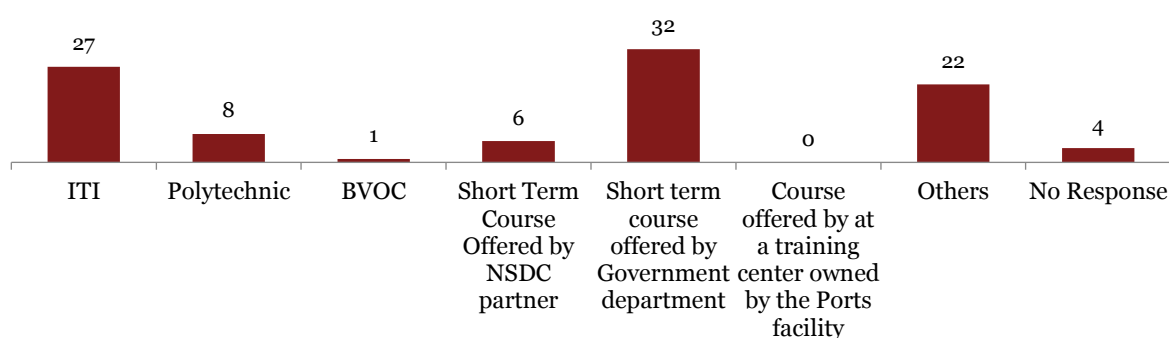
Regarding the exposure to the vocational training, most students reported that they had not completed any vocational training course. Overall, ~93% of the respondents had not enrolled in vocational training course (Figure 16).

Of the total respondents who underwent vocational training (which is ~7%), majority were from ITI (27%) and polytechnic (8%). Figure 17: Percentage of respondents completed courses in vocational training - Raigad exhibits the percentage of respondents who completed different types of courses as part of their vocational training.

**Figure 16: Percentage of respondents who completed vocational training course**

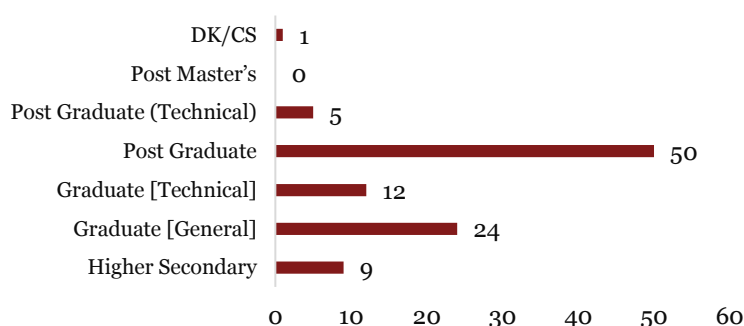


**Figure 17: Percentage of respondents completed courses in vocational training - Raigad**



Further, the respondents were asked about the level of education they wished to attain. Nearly three-fourth of the respondents (74%) aspired to attain graduation and post-graduation level of education. The desire to attain technical education is relatively low with only 17% aspiring for graduation or post-graduation in technical fields (Figure 18: Desired level of education).

**Figure 18: Desired level of education - Raigad**



## Job Aspiration

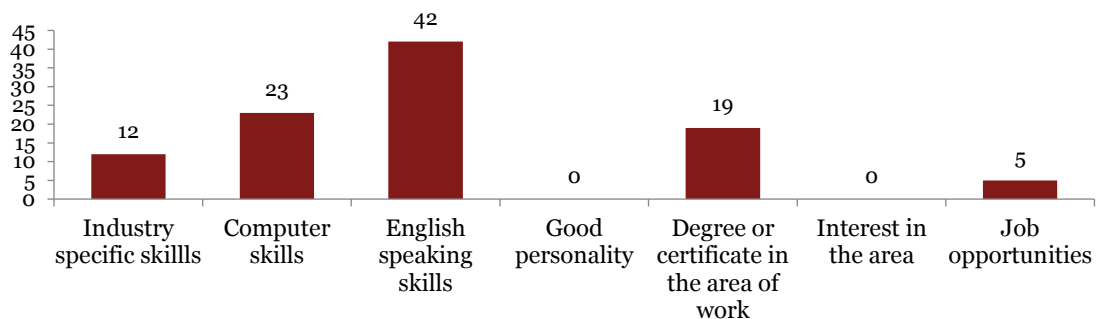
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 95% of the respondents reported to have preferred wage employment over self-employment (Figure 19: Percentage of respondents aspiring for wage and self-employment).

The respondents were further asked to identify the factors important for securing employment in the area of interest. 42% of the respondents identified English speaking skills as the most important factor for securing employment followed by computer skills (23%), degree or certificate in area of work (19%) and industry specific skills (12%) (Figure 20).

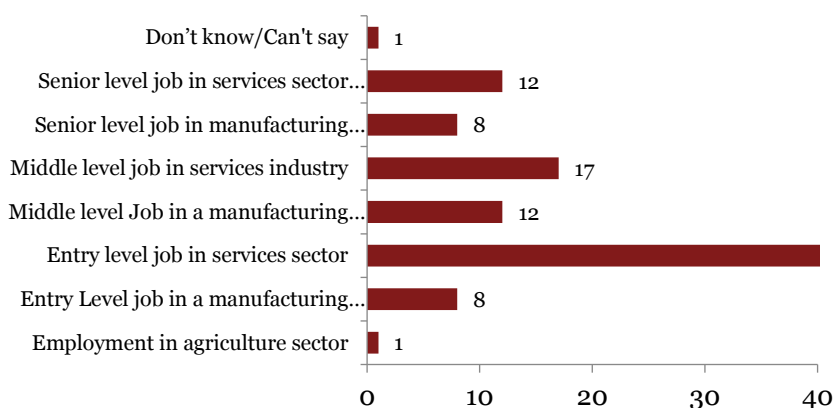
**Figure 19: Percentage of respondents aspiring for wage and self-employment - Raigad**



**Figure 20: Factors important for securing employment in area of interest (%) - Raigad**



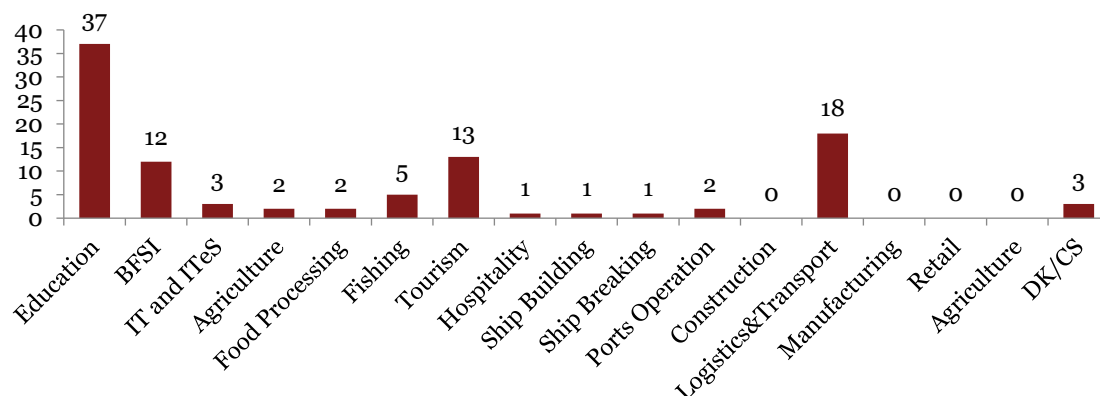
**Figure 21: Desired job profile after completion of education/training - Raigad**



Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for services sector with 17% aspiring for middle level jobs and 41% aspiring for entry level jobs in service sector. This is followed by manufacturing industry (20%) and senior level jobs in services sector (12%) (Figure 21).

Further, Education (37%), Logistics & transport (18%), tourism (13%) and BFSI (12%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job in the service sector space. The details of other sectors are mentioned in Figure 22.

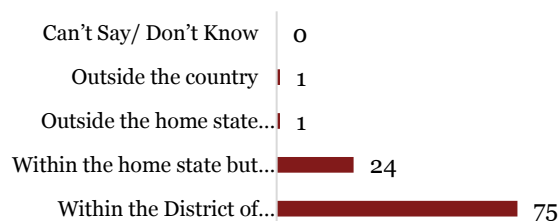
**Figure 22: Sectors in which respondents' foresee getting a desired job (%) - Raigad**



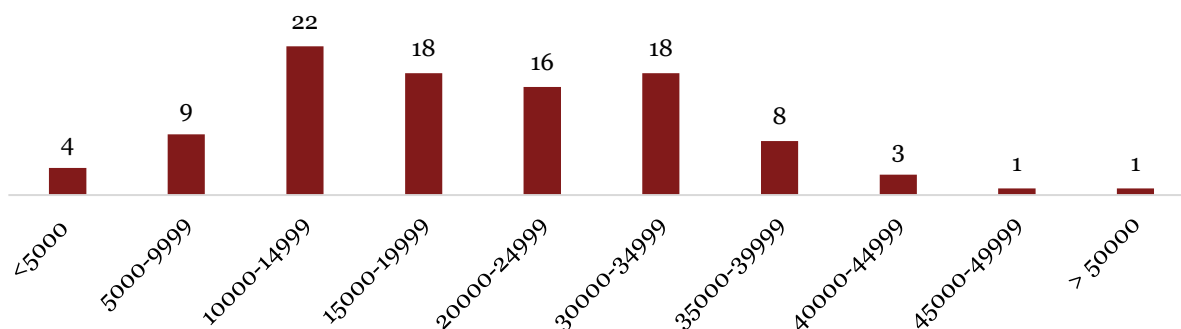
Out of total respondents, 99% preferred to work in the same State. It is important to note that three-fourth of the of the respondents (75%) preferred to work in the same district and 24% expressed willingness to migrate to other districts in the same state suggesting lack of flexibility among the youth of the district.(Figure 23)

For majority of the respondents (22%) the monthly salary expectation was INR 10,000-15,000. And for 18% of respondents the expected salary is reported to be range in 15,000-20,000 per month (Figure 24).

**Figure 23: Preferred work location of candidates - Raigad**



**Figure 24: Monthly salary expectation of respondents - Raigad**

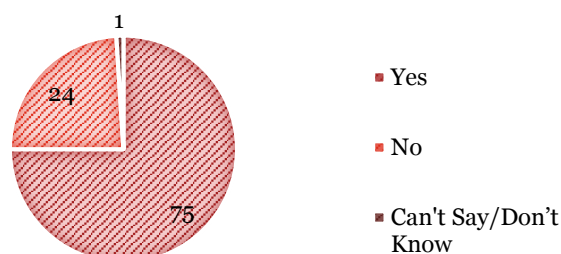


## Training Aspiration

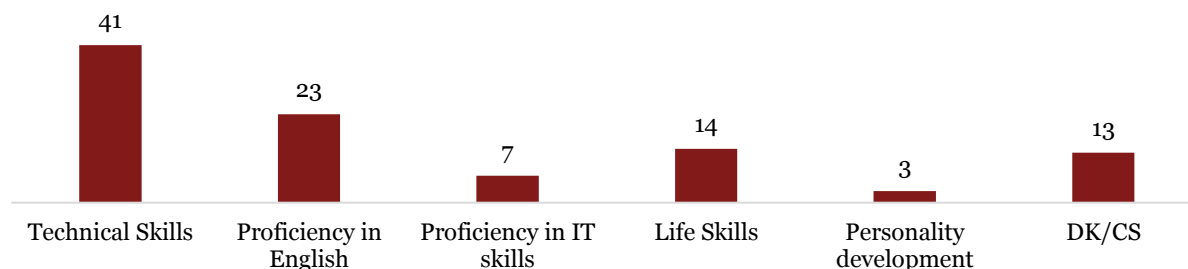
Regarding willingness of the respondents to participate in the training programme in next one year, 75% expressed interest whereas 24% expressed dis-interest (Figure 25).

Further, when enquired about the key focus areas of skill training, 41% of respondents reported that emphasis must be laid on technical skills followed by proficiency in English (23%) and life skills (14%) (Figure 26).

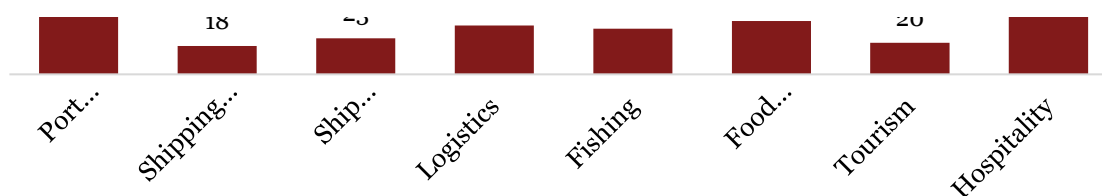
**Figure 25: Willingness to participate in trainings (%) - Raigad**



**Figure 26: Focus area on skills training - Raigad**



**Figure 27: Willingness of respondents to participate in trainings of different sectors - Raigad**

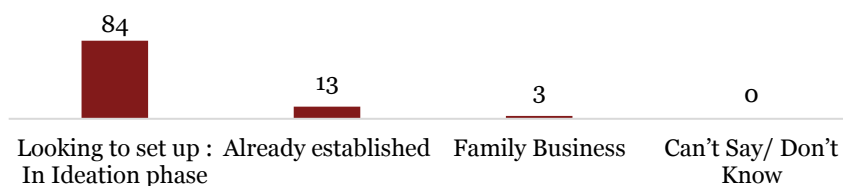


Overall there is a demand for training in hospitality (47%), port operations (40%), food processing (34%) and logistics (31%) (Figure 27: Willingness of respondents to participate in trainings of different sectors - Raigad)

## Self-Employment

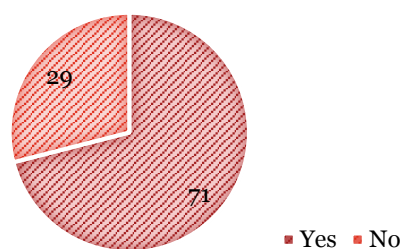
Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, 3% were in family business and 84% were in their ideation stage (Figure 28).

**Figure 28: Current Status of Entrepreneurial Venture (%) - Raigad**



Further, 71% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 29).

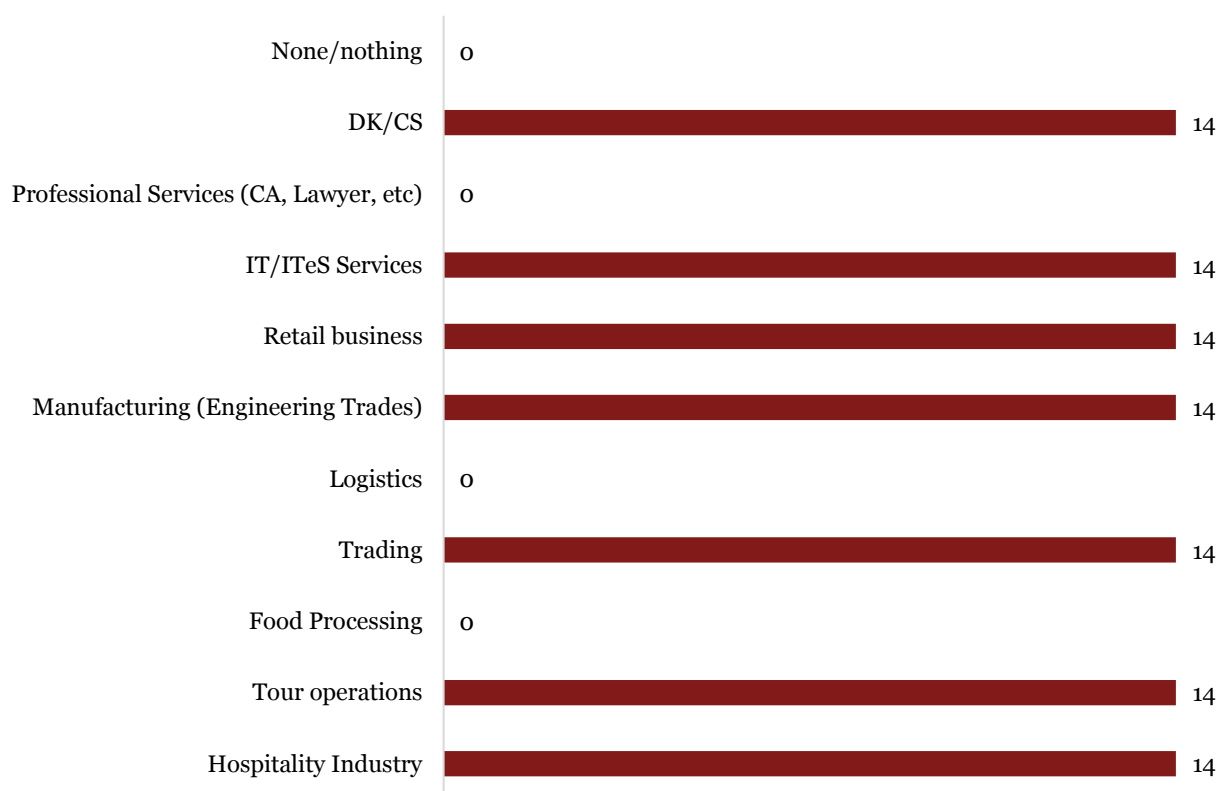
**Figure 29: Interested in skill development for enhancing entrepreneurial skills (%) - Raigad**



Retail business (14%), hospitality (14%), IT/ITeS services (14%), trading (14%), manufacturing (engineering trades) (14%) and tour operations (14%) have been identified as most preferred sectors for setting own enterprise (Figure 30).

**Figure 30: Sectors for establishing enterprise (%) - Raigad**





### 1.1.7. Training Infrastructure

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
ITI	19	37	Electrician, Fitter, MMV. Draughtsman Civil, Welder
Polytechnic	6	13	Civil Engineering, Electrical And Electronics Engineering, Mechanical Engineering. Civil Engineering, Electronics & Communication Engg.
Directorate General of Shipping – Training Courses	2	10	Pre Sea Training for Deck Ratings, Diploma in Nautical Science, Proficiency in Survival Techniques, Personal Safety and Social Responsibility
PMKVY / PMKK	1	Not Available	Not Available
DDU GKY	Not available	Not available	Not available
Other State Govt skill centers	25	>30	Accounts Assistant Using Tally, Business Correspondent, Bar Bender, Shuttering Carpenter, Plumber, Media And Entertainment, Electrician

The Training infrastructure in the district is dominated by the ITIs and Polytechnics. However, the trades are largely focussed on technical and engineering trades.

- ITIs: There are 19 ITIs providing training in 37 different trades like civil, electrical and mechanical sectors.

- 
- Polytechnics: Core engineering sectors like Civil, Electrical & Electronics, Electronics & Communication and Mechanical remain the most dominant trades, however, other trades such as Hotel Management, Mechatronics, Production Technology, etc. are also gaining traction.
  - PMKVY & PMKK: The district is not covered under PMKVY. Under PMKK one centre has been allotted.
  - DDU-GKY: The district is not covered under DDU-GKY Scheme.
  - MSSDS: Through various institutions, MSSDS has sanctioned courses in more than 30 trades with capacity of around 1000. However, the duration and level of training vary widely and would require standardisation.

## 1.2. Mumbai

### About Mumbai

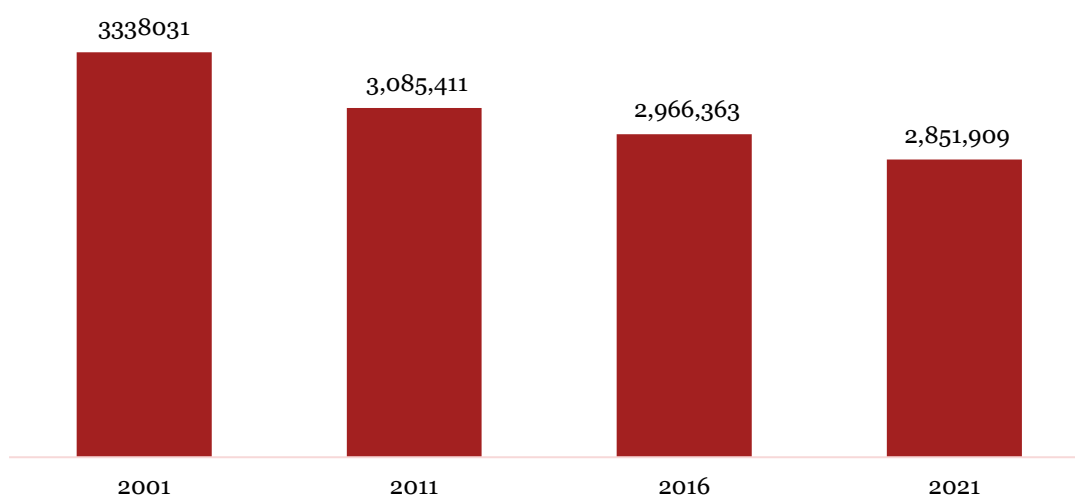
The financial and entertainment capital of the country, the city has been a historical port city and was known as India's Manchester for its textile production and exports. Various institutions including the Reserve Bank of India, the National Stock Exchange, Bombay Stock Exchange, SEBI etc. are located here. Headquarters of major Indian conglomerates like Reliance, Godrej, Future Group are located here. The Mumbai Port Trust is situated in Mumbai which has helped the industry to grow and the major exportable items produced in the district are engineering products, chemical products, Nylon Synthetic Readymade Garments, Embroidered Fabrics, Textiles, Cotton and Art, Silk, Food Products and Pharmaceutical Products. 74% and 25% contribution to GDDP comes from the Tertiary and Secondary sectors respectively<sup>8</sup>.

### 1.2.1. Demographic Profile<sup>9</sup>

Indicator	Value
Total population	3,085,411
Decadal rate of growth of population (2001-11)	-8%
Rural population	0%
Female	45%
SC population	7%
ST population	1%
Workforce participation (As % of total population)	41%
Main Workers (As % of total population)	39%
Marginal (As % of total population)	2%
Non-workers (As % of total population)	59%
*Number of people with vocational training in the age group of 15+ <sup>10</sup>	68 per 1,000

### Population trends<sup>11</sup>

Figure 31: Population trend in Mumbai (2001-2021)



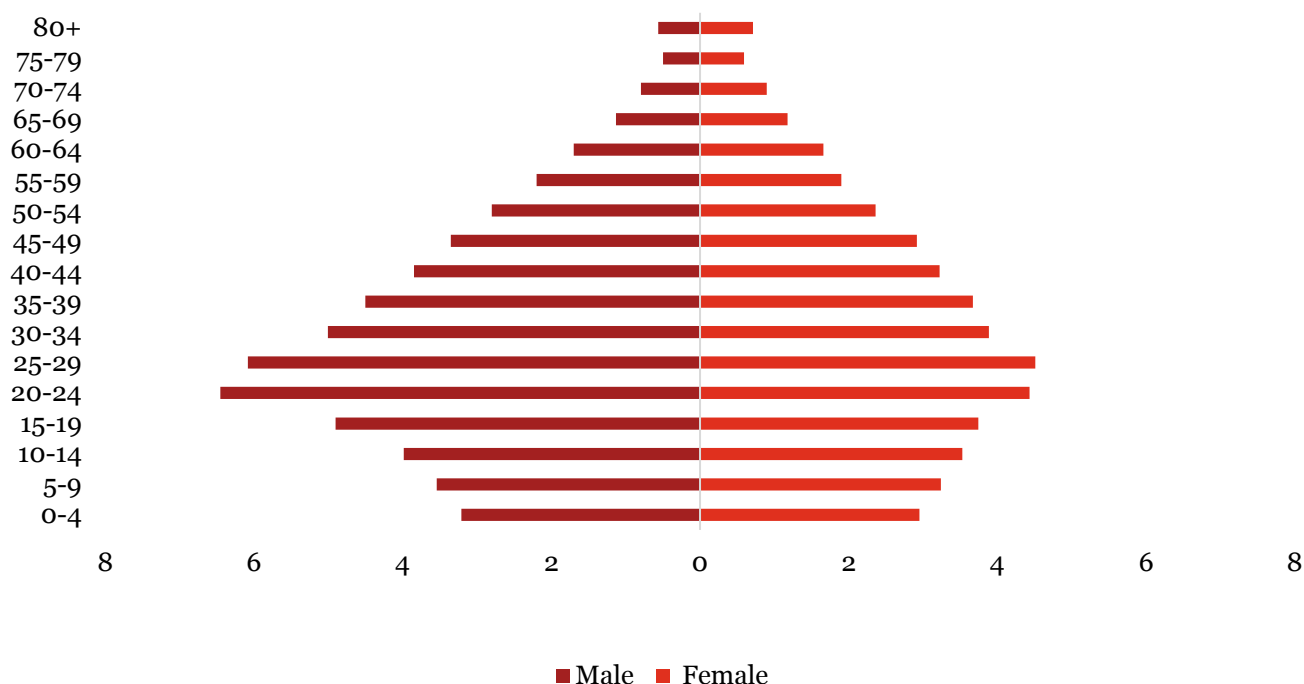
<sup>8</sup> Brief Industrial Profile of Mumbai district, MSME

<sup>9</sup> Census 2011

<sup>10</sup> Employment and Unemployment Survey, District Level Estimates for Maharashtra, Labour Bureau, 2013-14

<sup>11</sup> Based on Census 2001 and 2011

**Figure 32: Population Pyramid Mumbai (2011)**

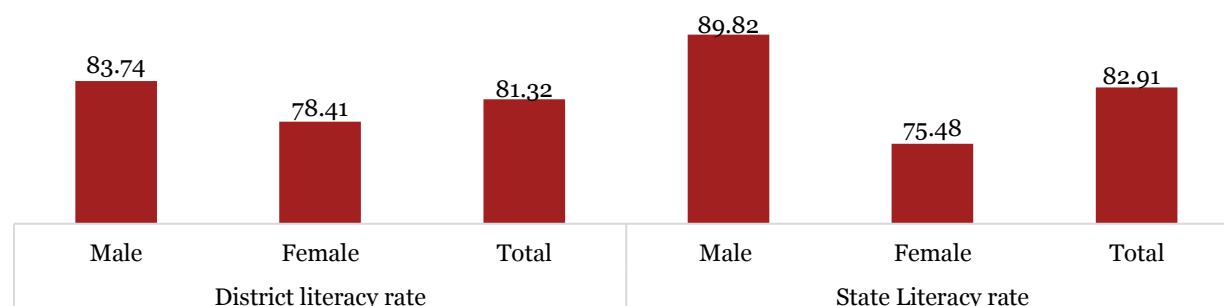


Mumbai will continue to benefit from the young population for another 10 years. The increasing price of real estate and congestion is making the city expensive to live in forcing the people to migrate to the suburbs and resulting in a decreasing population.

### *Literacy rates<sup>12</sup>*

Total literacy rate of Mumbai, as per the Census 2011, is approximately 81%, which is slightly below the state's level literacy rate of around 83%. Also, the female literacy rate of Mumbai (78.4%) is substantially lower than the male literacy rate, which is 83.7 % as per Census 2011.

**Figure 33: Mumbai vs Maharashtra literacy rates (2011)**

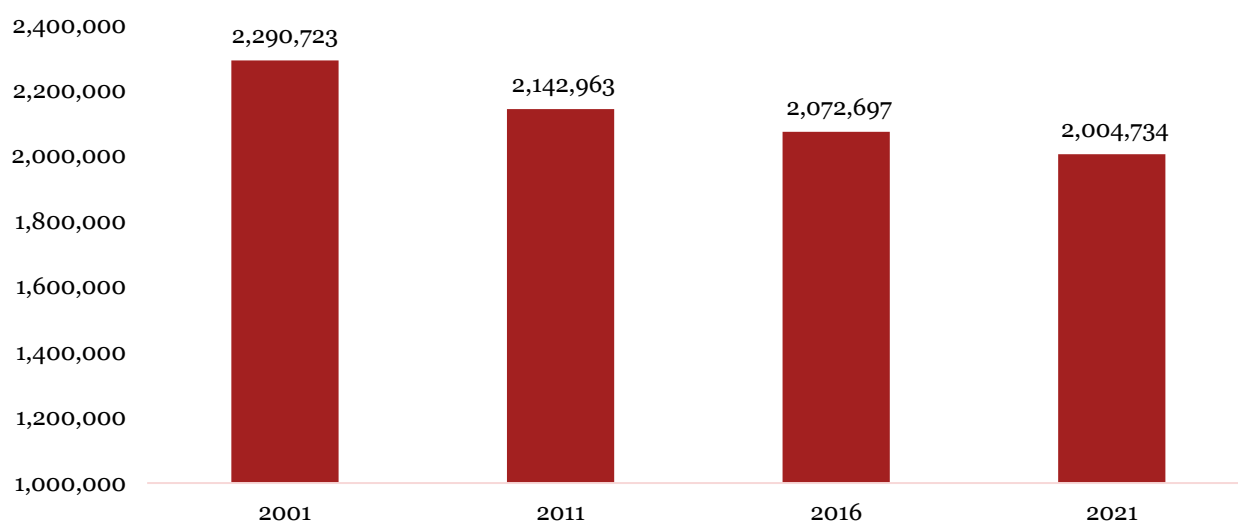


<sup>12</sup> Census 2011

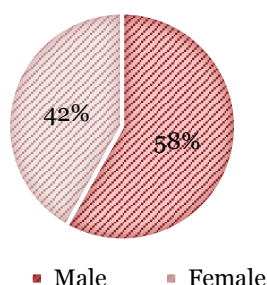
### Age specific population trends and education levels for 2011<sup>13</sup>

As per the Census 2011, the population in the age-group of 15 to 24 years was 599,667 (19.4% of the overall population).

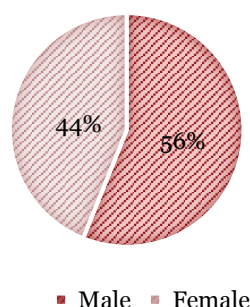
**Figure 34: Growth trend of population in the age group 15-59 years in Mumbai (2001-2021)**



**Figure 35: Age specific population in Mumbai (15-24 years)**



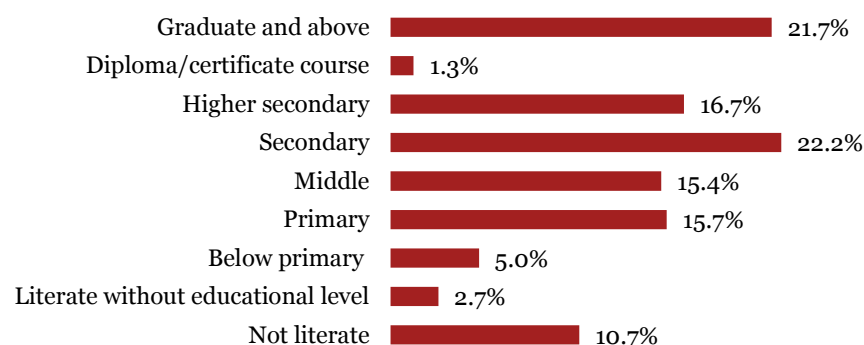
**Figure 36: Age Specific Population in Mumbai (15-59 years)**



While in the age group of 15-59 the share of population of males and females in total population of Mumbai is around 44% and 56% respectively, the share of population of males and females in the age group of 15-24 is 42% and 58% respectively. The share of the female population is thus higher in the 15-24 age category.

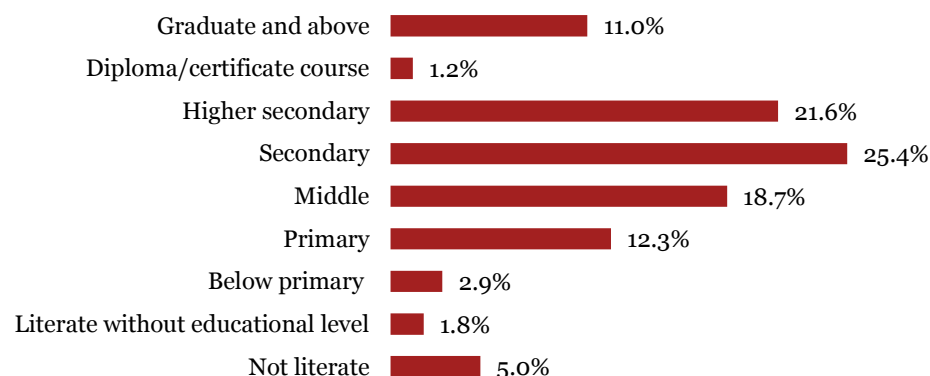
<sup>13</sup> Based on Census 2001 and 2011

**Figure 37: Age specific education level in Mumbai (15-59 years)**



The Census indicates that for the age category of 15-59 years, 10.7% of the population of Mumbai is not literate. 2.7% of the population in the age category are literate without any educational qualification, 5% have attended school till below primary level and 15.7% have completed schooling only up to primary level. 15.4% of the literate population have completed schooling up to the middle level, whereas around 22.2% of the population have been educated till secondary. Only 1.3% of the population of this district have done a certificate/diploma course and 21.7% have at least graduated, indicating that a graduate/post-graduate degree is more sought after than a certificate/diploma.

**Figure 38: Age specific education level in Mumbai (15-24 years)**



For the age category of 15-24 years, 5% of the population of Mumbai is not literate. 1.8% are literate without any educational qualification, 2.9% have attended school till below primary level and 12.3% have completed schooling only up to primary level. 18.7% of the population has done schooling up to the middle level, whereas, around 25.4% population has been educated till secondary level. Only 1.2% of the population of this district has done a certificate/diploma course and 11% have at least completed graduation.

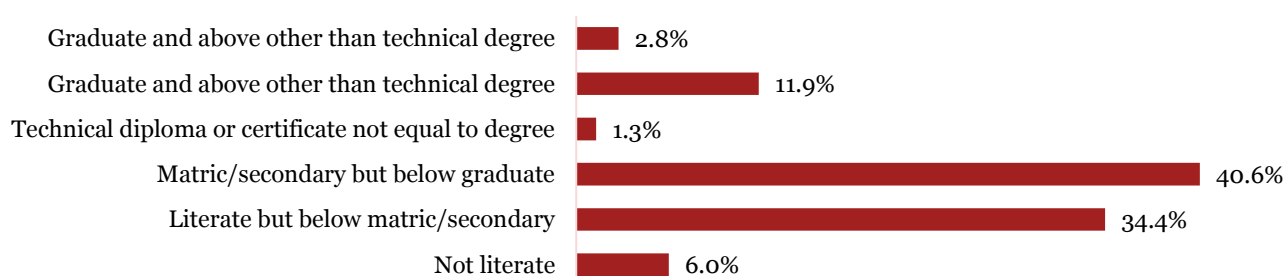
### Age specific distribution of workers and educational level

The total worker population ratio for this district, according to census 2011, comes out to be 47.73%. 64% of the population in the age group of 15-24 years are non-workers. 33% of the population is main worker, whereas 3% are engaged in marginal work i.e. work for 3-6 months during the year.

**Figure 39: Age specific distribution of workers in Mumbai (15-24 years)**

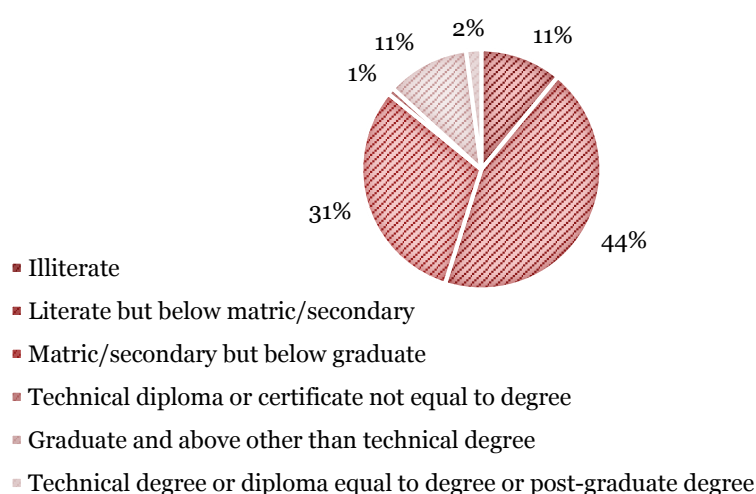


**Figure 40: Education level of marginal workers in Mumbai (15-24 years)**



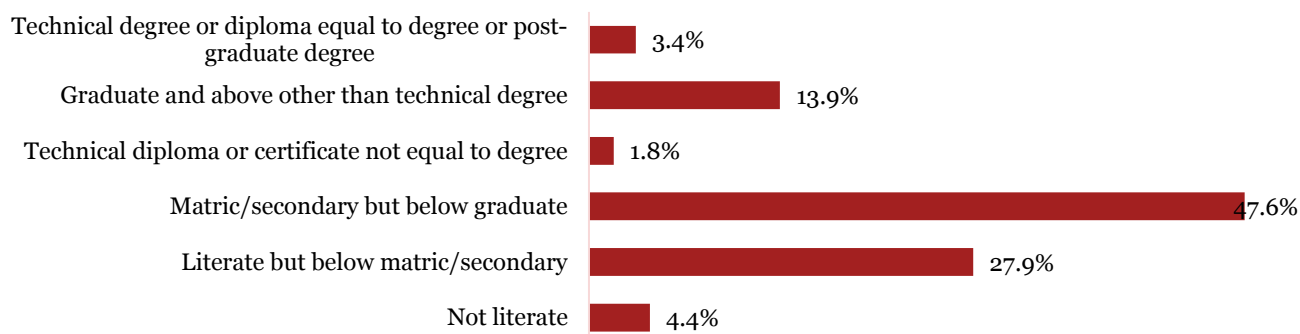
Amongst the 8,183 marginal workers in the age group of 15-24 years, around 3% hold a technical degree or diploma equal to degree and 12% are graduate and above other than technical degree. 1% have a diploma or a certificate (not equal to degree). Around 41% are educated up to the matric/secondary level and around 34% are literate with an educational qualification of below matric/secondary level. 6% marginal workers in this age group are not literate.

**Figure 41: Education level for main workers in Mumbai (15-24 years)**



From census depicted in the figure, we find that the proportion of main workers who are illiterate (in the age category 15-24 years) is slightly less (3 percentage point difference between the two) than the proportion of marginal workers and who are illiterate. We also find that the proportion of main workers who are literate but below matric/secondary (in the age category 15-24 years) is more (12 percentage point difference between the two) than the proportion of marginal workers who are and are literate but below matric/secondary. The proportion of main workers who are matric/secondary but below graduate (in the age category 15-24 years) is less (11 percentage point difference between the two) than the proportion of marginal workers who are and are matric/secondary but below graduate. For the remaining three educational levels, we find that the population shares are more or less the same across the two worker categories.

**Figure 42: Education level of non-workers in Mumbai (15-24 years)**

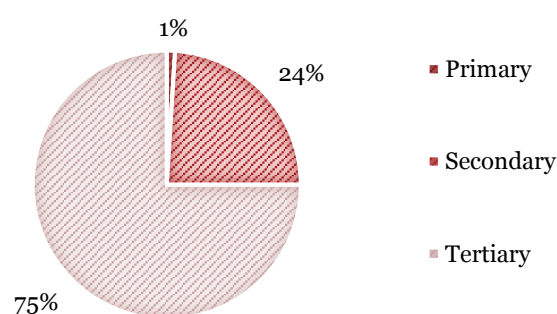


Amongst the 53,276 non-workers in the age group of 15-24 years, 1,722 (3.4%) hold a technical degree or diploma equal to degree and 7,951 (14%) are graduate and above other than technical degree. 871 (2%) have a diploma or a certificate (not equal to degree). 25,930 (47.6%) are educated up to the matric/secondary level and around 13,495 (28%) are literate but have attained an educational qualification of below matric/secondary level. 1,987 (4%) marginal workers in this age group are not literate.

### 1.2.2. Key Economic Drivers

The Gross Domestic Product of Mumbai district (at constant prices- 2004-05) was INR 19,190 crore in 2012-13 and it has steadily grown at a CAGR of 5.9% over the period 2004-05 to 2012-13. The sectoral composition of the district level GDDP has been computed based for the year 2011<sup>14</sup> and it shows that service sector contribution to district GDP is three fourth (75%) followed by secondary sector (24%) which is nearly one fourth and only 1% contribution from the primary sector. Further disaggregation suggests that manufacturing sector has a share of 20.8% in the district GDP. Trade hotels and restaurant have a share of 11.6% and Banking and Finance have a share of 11.4% in the district level GDP. Both sectors have witnessed impressive growth in their contribution to the district GDP with a growth rate of 26.7% and 29.4% respectively between 2004 and 2012.

**Figure 43: Share in Mumbai district economy**



<sup>14</sup> GDP data available in the NSDC Skill Gap Report was used for computing the sectoral share. Assumption: The growth rate of the sectors across the years would be constant and same as the growth rate of GDDP



The key economic drivers of the district are illustrated below:

<b>Port, maritime and logistics</b>	<ul style="list-style-type: none"> <li>• Presence of Mumbai Port Trust which has the capacity to handle 50MT</li> <li>• Construction of fifth oil berth at the project cost of INR 811 Crores is an upcoming investment</li> <li>• An MoU for the Allotment of dedicated anchorage to Tata Power project cost is expected to be signed and it is worth INR 60 Crores</li> <li>• Sassoon dock renovation plan of INR 52.19 Crores is proposed</li> </ul>
<b>Industrial Development</b>	<ul style="list-style-type: none"> <li>• Proposed investment by Trent hyper market worth INR 400 Crores</li> <li>• Proposed investment by Bang ETT Infrastructure worth INR 250 Crores</li> <li>• Proposed investment by global designs worth 50 Crores</li> </ul>
<b>Infrastructure Development</b>	<ul style="list-style-type: none"> <li>• An investment of INR 13,000 Cr is proposed for development of 33.2 km Mumbai Coastal Road</li> <li>• Establishment of Mumbai Trans Harbour Link (MTHL) worth INR 17,750 Cr</li> <li>• 33.5 km Mumbai Metro Phase III, Cuffe Parade SEEPZ corridor worth INR 23,136 Cr</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• Proposed investment of INR 47 Crores by Countryside Inn</li> </ul>

### 1.2.3. Priority Sectors

In Mumbai, the priority sectors that have been identified are **Port and Maritime sector** and other allied sectors **fisheries, logistics, tourism and hospitality**. In addition, **manufacturing, construction, banking & finance, retail and apparel** have also been identified as priority sectors, from the point of view of their contribution to district GDP.

### 1.2.4. About Port

Ports & Maritime			
Major Ports: 1		Minor Ports: 0	
Shipyards: 0			
Details			
Jawaharlal Nehru Port Trust			
Operations:	Land Lord Port model (PPP)	Capacity	5.2 Mn TEUs PA
Key Cargo	Coal, fertilizer, rice, sugar Alumina	No of berths:	63
		Draft	14.5
Description and key Trend	The Mumbai Port one of the few ports in India with a natural deep-water harbor. Mumbai Port is the largest port in India and handles bulk cargo traffic with its four jetties for handling Liquid chemicals, Crude and petroleum products. International container traffic of Mumbai Port is directed to the new and big JNPT on the opposite side of the Mumbai Harbour. The throughput has stagnated over difficulties in moving cargo out of the city.		
Terminal Operations			
	MbPT	ICTPL	

<i>Annual Capacity</i>	49.25 m tons	1 m tons
<i>Type of Cargo handled</i>	Liquid bulk, Dry Bulk, Break bulk & Containers	Automobile and RoRo
<i>High Demand Job Roles</i>	Ship crane operators, trailer drivers, Fork lift operator, Mechanics	Car drivers and Truck drivers

### 1.2.5. Investments

The table below provides an overview of the investments that are in pipeline in next few years:

**Table 3: Proposed Key Investments for the year 2016-22 in Mumbai**

Sector	Proposed Investment (INR cr)	Number of Projects	Expected Employment	Key Players
Port & Maritime	1,106.5	6	11,735 persons	MbPT, Tata Power, HPCL & BPCL, MFDC
Infrastructure	79,617	6	Not Available	MMRDA, MMRC, MCGM, CIDCO
Projects registered with DIC	1,031.66	64	4,327 persons	Bang-ETT Group, Indian Oil Corporation, Trent Hyper Market

In the port and maritime sector, upgradation of Mumbai Port Trust has been identified as an important area of investment and includes activities such as construction of new berths, civil works for existing berths, infrastructure development for Ro-Ro facility etc. Some of the key investments in the sector and the expected employment are as follows:

**Table 4: Details of Investments in Port and Maritime sector in Mumbai**

Project	Proposed Investment (INR cr)	Expected Employment	Key Players
An MoU for the Allotment of dedicated anchorage to Tata Power Co. Ltd	60	20 persons - Direct and 50 persons - indirect during dredging operations. No increase during operation phase, since existing operation being shifted.	Tata Power Co. Ltd
Construction of fifth oil berth at JD – Capacity 22 MMTPA <ul style="list-style-type: none"> <li>Capital Dredging work of Fifth Oil Berth</li> <li>Civil works of Fifth Oil Berth</li> <li>Submarine Pipeline work</li> <li>Onshore pipeline, firefighting and electro mechanical works</li> </ul>	811 <ul style="list-style-type: none"> <li>66</li> <li>321</li> <li>208</li> <li>180</li> </ul>	<ul style="list-style-type: none"> <li>Direct- 20 persons</li> <li>Direct – 600 to 700 persons during 30 month period, Indirect – 300 persons.</li> <li>Direct – 200 persons during 18 months period, Indirect – 300 persons</li> <li>NA</li> </ul>	JD

Award of Contract for the project of "Providing infrastructure for Ro-Ro facility at Ferry Wharf	30	Direct -200 persons during construction period	MbPT
Lease agreement with HPCL for Bunkering Project & Tripartite Agreement between MbPT/ BPCL/HPCL for Bunkering Terminal.	50	During civil work construction – 50 persons for a period of 6 months and 20 persons during operations.	MbPT, HPCL, BPCL
Sassoon Dock Renovation	52.19	10,000 (Direct and Indirect)	MbPT

In Mumbai, the manufacturing industry is diverse with proposed investments in a variety of products such as paper, petroleum, kitchen and wooden furniture chemical manufacturing, plastic etc. Details of some of the key investments proposed in the manufacturing space are:

**Figure 44: Details of proposed investments in Manufacturing Industry, DIC Mumbai**

Paper	Petroleum	Kitchen and Wooden Furniture	Chemical	Plastic	Other Mfg Projects
Key player: Singnaga & Graphic's • Investment: INR 40 cr • Employment: Direct- 650 Key Player: Sparglow enterprise • Investment: INR 2 cr • Employment: Direct- 10	Key Player: Indian Oil Corporation Ltd • Investment: INR 124. 61 cr.	Key Player: Global Designs • Investment: INR 50 cr • Employment: Direct-60	Key Player: Verus Enterprise • Investment: INR 5 cr • Employment: Direct-25	• Key Player: B D Industries • Investment: INR 15 cr • Employment: Direct-100	35 Firms engaged • Investment: INR 15.05 cr • Employment: Direct 192

Other key investments proposed for the services sector for 2016-22 are detailed out in the table below:

**Table 5: Proposed Investments in Service Sector in Mumbai, DIC Mumbai**

Project	Proposed Investment (INR cr)	Expected Employment	Key Players
Management & Consultancy Services	10	146 persons - Direct	Col Vill Research P. Ltd.
IT services	63	216 persons	TTS Consultancy Pvt. Ltd, Springboard 91 and other IT firms
Retail	400	1,000 persons -Direct	Trent hyper market
Tourism (Hotel Management)	47	105 persons	Countryside Inn

## 1.2.6. Youth Aspiration

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

### Respondent Profile

The table below provides an overview of the respondent profile:

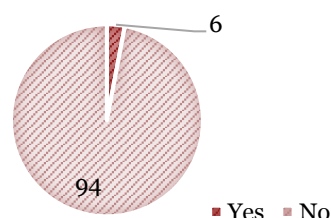
Profile	Details
Total Sample Size	384
Gender Profile	Male- 56% Female- 44%
Age Group	15-24 years
Education Level (top 3)	Higher secondary schooling with commerce (Class 11 to 12)- 24.6% Senior Secondary schooling(Class 9 to 10)- 24.1% Graduation with commerce- 16.2%
APL/BPL/AAY/Don't know (118)	APL-41 % BPL- 57% AAY- 0% Don't know- 2%
Occupational Profile (top 3)	Salary from employment (29.7%), Own business (14.6%), Fishery (10.2%)

### Exposure to Vocational Training and Educational Aspiration

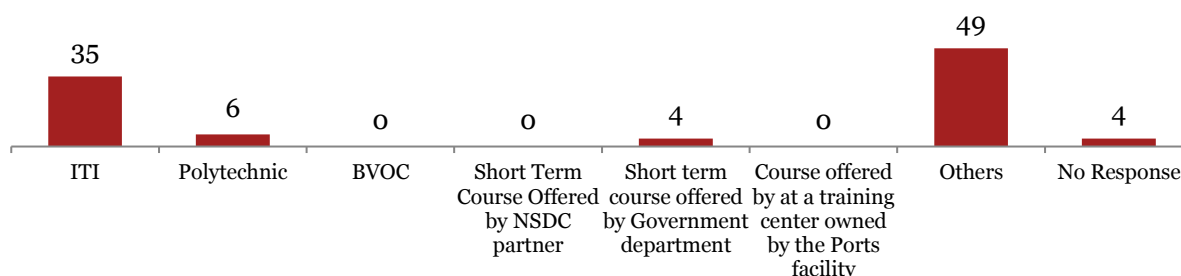
Regarding the exposure to the vocational training, most students reported that they had not completed any vocational training course. Overall, ~94% of the respondents had not enrolled in vocational training course (Figure 45).

Of the total respondents who underwent vocational training (which is ~6%), majority were from ITI (35%) and polytechnic (6%). Figure 46 exhibits the percentage of respondents who completed different types of courses as part of their vocational training.

**Figure 45: Percentage of respondents who completed vocational training courses - Mumbai**



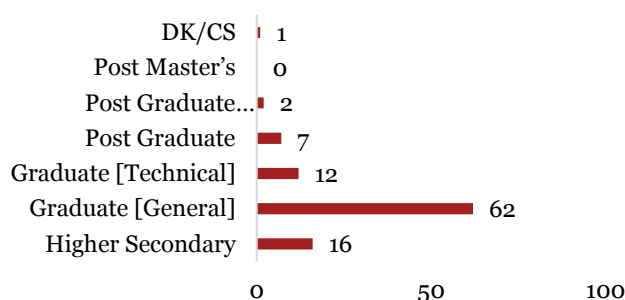
**Figure 46: Percentage of respondents completed courses in vocational training - Mumbai**



Further, the respondents were asked about the level of education they wished to attain. 69% of the respondents aspired to attain graduation and post-graduation level of education in general degrees. The desire to attain technical education is relatively low with only 14% aspiring for graduation or post-graduation in technical fields (Figure 47).

**Figure 47: Desired level of education - Mumbai**

level



## Job Aspiration

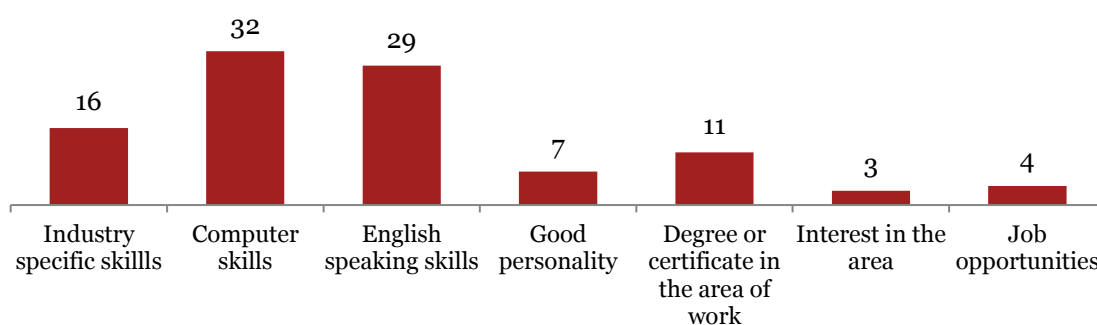
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 85% of the respondents reported to have preferred wage employment over self-employment (Figure 48).

The respondents were further asked to identify the factors important for securing employment in the area of interest. Nearly one-third (32%) of the respondents identified computer skills as the most important factor for securing employment followed by English speaking skills (29%) and industry specific skills (16%) (Figure 49).

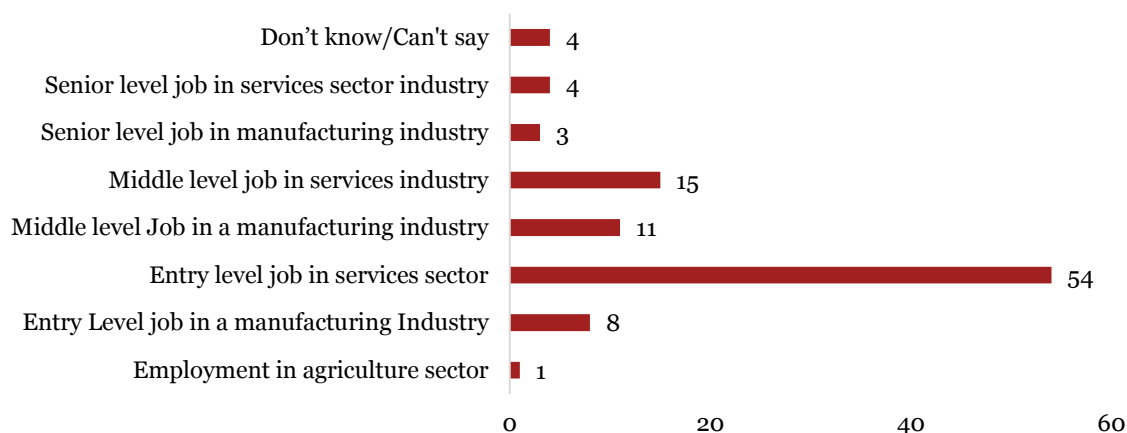
**Figure 48: Percentage of respondents aspiring for wage and self-employment - Mumbai**



**Figure 49: Factors important for securing employment in area of interest (%) - Mumbai**

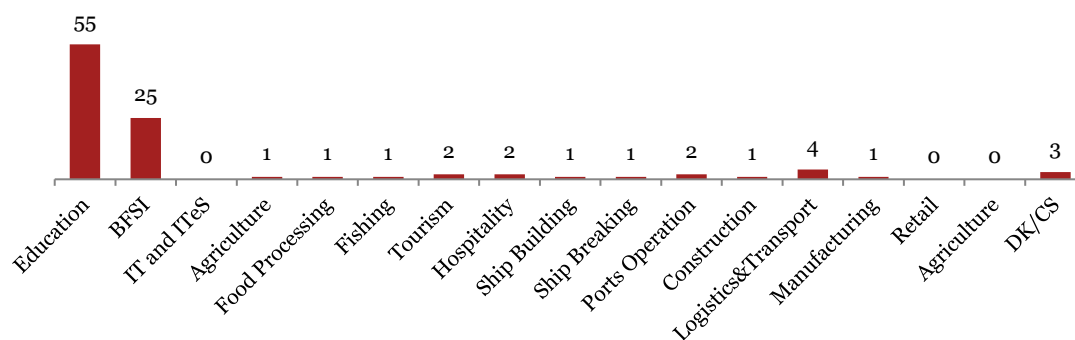


**Figure 50: Desired job profile after completion of education/training - Mumbai**



Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for services sector with 15% aspiring for middle level jobs and 54% aspiring for entry level jobs in service sector. This is followed by middle level jobs (11%), and entry level jobs in manufacturing industry (8%) (Figure 50).

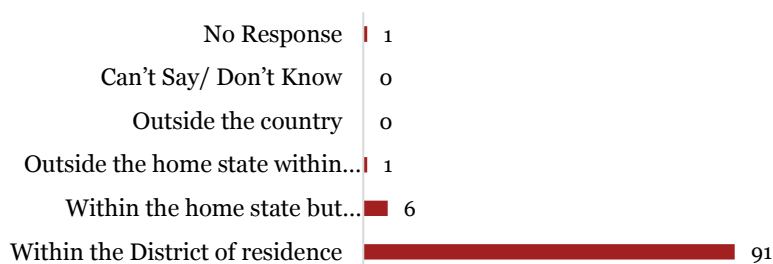
**Figure 51: Sectors in which respondents' foresee getting a desired job (%) - Mumbai**



Further, Education (55%) and BFSI (25%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job in the service sector space. The details of other sectors are mentioned in (Figure 51: Sectors in which respondents' foresee getting a desired job (%) - Mumbai).

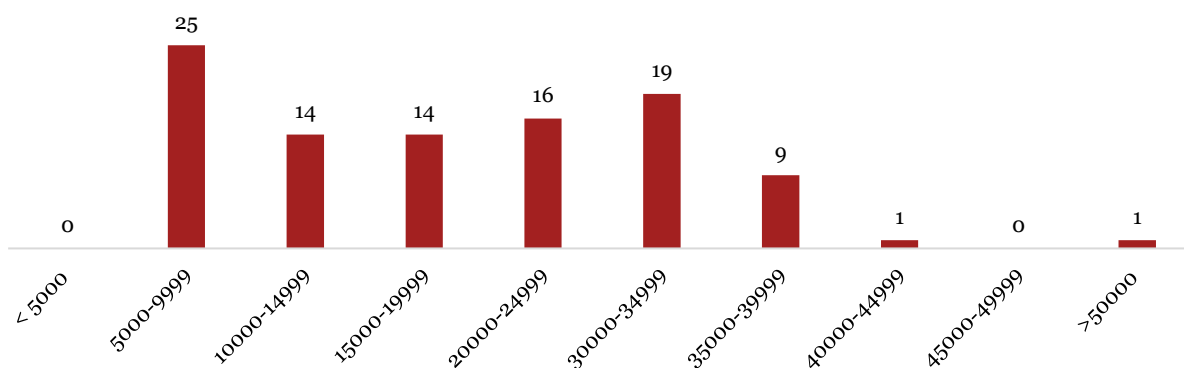
Out of total respondents, 97% preferred to work in the same State. It is important to note that 91% preferred to work in the same district and 6% expressed willingness to migrate to other districts in the same state suggesting lack of flexibility among the youth of the district (Figure 52).

**Figure 52: Preferred work location of candidate - Mumbai**



For majority of the respondents (25%) the monthly salary expectation was INR 5,000-10,000. And for 28% of respondents the expected salary is reported to be range in 10,000-20,000 per month (Figure 53).

**Figure 53: Monthly salary expectation of respondents - Mumbai**

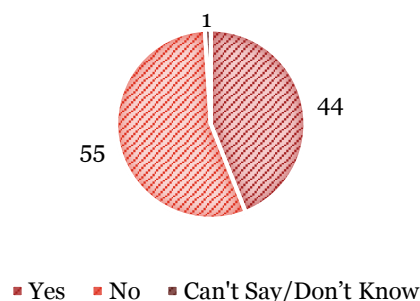


## Training Aspiration

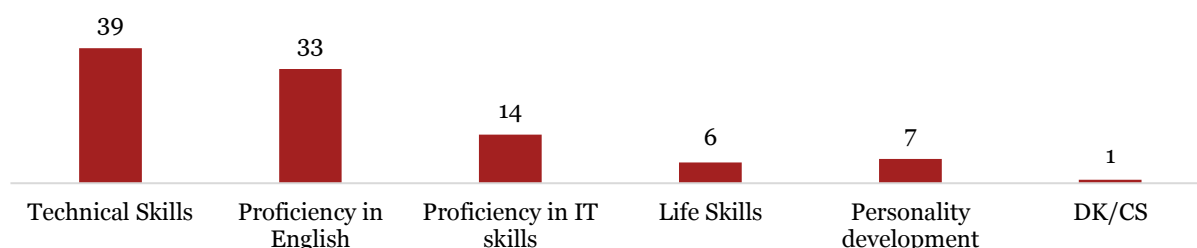
Regarding willingness of the respondents to participate in the training programme in next one year, 44% expressed interest whereas 55% expressed dis-interest (Figure 54).

Further, when enquired about the key focus areas of skill training, 39% of the respondents reported that emphasis must be laid on technical skills followed by proficiency in English (33%), and proficiency in IT skills (14%) (Figure 55).

**Figure 54: Willingness to participate in trainings (%) - Mumbai**

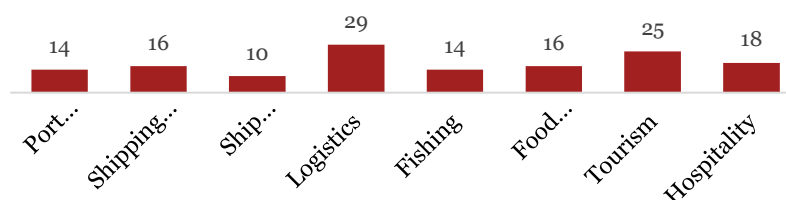


**Figure 55: Focus area on skills training - Mumbai**



Overall there is demand for training in logistics (29%), tourism (25%), hospitality (18%), food processing (16%), shipping operations (16%) and port operations (14%) (Figure 56).

**Figure 56: Willingness of respondents to participate in trainings of different sectors - Mumbai**



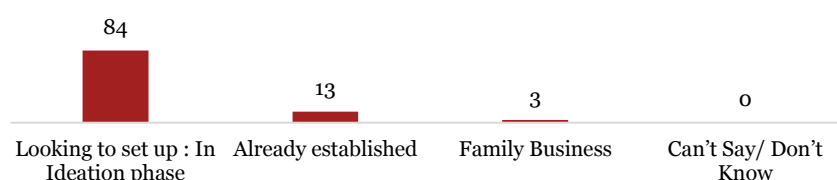
## Self-Employment

Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, 3% were in family business and 84% were in their ideation stage (Figure 57).

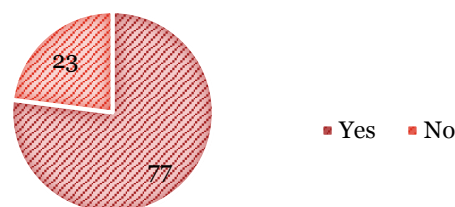
Further, only 49% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 58).

Hospitality (26%), food processing (13%) and trading (18%), manufacturing (engineering trades) (10%) and logistics (10%) have been identified as most preferred sectors for setting own enterprise (Figure 59).

**Figure 57: Current Status of Entrepreneurial Venture ( %) - Mumbai**

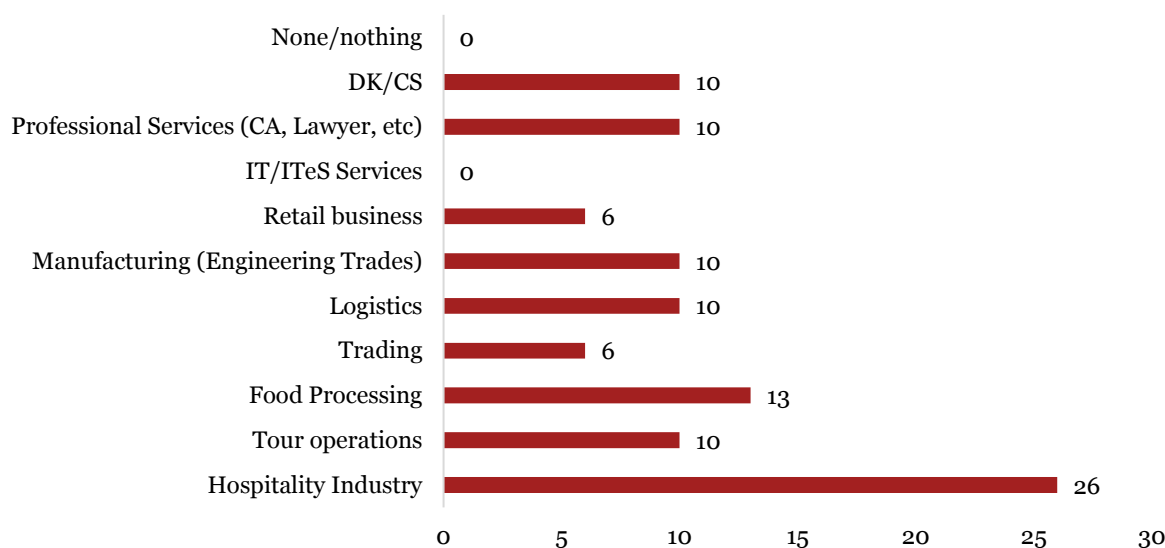


**Figure 58: Interested in skill development for enhancing entrepreneurial skills (%) - Mumbai**





**Figure 59: Sectors for establishing enterprise (%) - Mumbai**



### 1.2.7. Training Infrastructure

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
<b>Industrial Training Institutes</b>	20	48	Electrician, Fitter, MMV. Draughtsman Civil, Welder
<b>Polytechnic</b>	24	34	Civil Engineering, Electrical And Electronics Engineering, Mechanical Engineering. Civil Engineering, Electronics & Communication Engg.
<b>PMKVY</b>	19	15	Assistant Hair Stylist Retail Trainee Associate Mobile Phone Hardware Repair Technician CCTV Installation Technician Domestic Data entry Operator Assistant Beauty Therapist
<b>Directorate General Training of Shipping Courses</b>	25	8	Pre Sea Training for Deck Ratings, Diploma in Nautical Science, Proficiency in Survival Techniques, Personal Safety and Social Responsibility
<b>DDU-GKY</b>	Not available	Not available	Not available
<b>Other State Govt. Skill Development Programs</b>	36	>1500	Customer Care Executive (Call Centre), Beauty Therapy and Hair Styling Level-1, Accounts Assistant Using Tally, Accounting, Domestic Data Entry Operator

The Training infrastructure in the district is dominated by the ITIs and Polytechnics. However, the trades are largely focussed on technical and engineering trades.

- ITIs: There are 20 ITIs providing training in 48 different trades. In civil engineering, electrical, mechanical sectors.

- 
- Polytechnics: Core engineering sectors like Civil, Electrical & Electronics, Electronics & Communication and Mechanical remain the most dominant trades, however, other trades such as Hotel Management, Mechatronics, Production Technology, etc. are also gaining traction.
  - PMKVY & PMKK: The district is not covered under PMKVY with 19 centres offering 15 courses. Under PMKK one centre has been allotted. A Ministry of Shipping guided PMKK is also under plans.
  - DDU-GKY: The district is not covered under DDU-GKY Scheme
  - MSSDS: Through various institutions, MSSDC has sanctioned courses in more than 30 trades with capacity of around 1500. However, the duration and level of training vary widely and would require standardisation.

## 2. Skill Gap Assessment, Job Roles and Emerging Job Roles

### 2.1. Raigad

#### 2.1.1. Incremental Demand for Skilled & Semi Skilled Manpower<sup>15</sup>

The district of Raigad is witnessing increased industrialization and urbanization. These are affecting the incremental demand of skilled workforce in the district whereas as per our methodology manufacturing, Banking, Financial Services, and Insurance are going to generate the maximum demand for skilled and semi-skilled workers after factoring in future investments and technological changes.

**Table 6: Incremental Demand for Skilled & Semi Skilled Workers in Raigad**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
Ports & Allied	1,323	1,429	1,543	1,667	1,799	1,943	9,704
Logistics	428	432	436	441	444	448	2,629
Tourism	666	909	1,073	1,275	1,276	1,073	6,272
Construction	1,316	1,362	1,413	1,462	1,514	1,569	8,636
Fisheries	308	315	323	331	339	308	1,924
<b>Other Dominant Sectors in the District</b>							
BFSI	1,529	1,613	1,705	1,800	1,901	2,009	10,557
Manufacturing	2,945	3,043	3,143	3,248	3,355	3,467	19,201
Trade (Retail & Wholesale)	208	210	211	213	214	214	1,270
Agriculture	-705	-653	-604	-558	-518	-478	-3,516
<b>TOTAL</b>							56,677

#### Key trends in Core Sectors

- **Ports and Allied Sectors:** Expected increase in the throughput at JNPT and the need for increased productivity to ensure competitiveness are key drivers for demand in skilled labour within the Ports & Allied Sector. The gradual shifting of traffic from Mumbai port to JNPT, the large quantities and share of container traffic, are expected to be dominating factors for pushing the labour requirements. The higher requirement of skills make it the third most promising employer of skilled labour.
- **Logistics:** The spillovers of the DMIC, JNPT expansion etc. is expected to increase the demand for total employment in the logistics sector. However, trends in technological advancements are also constraining the sector's labour intensity.
- **Tourism & Hospitality:** The proposed investment under the new tourism policy of the State Govt. (contributing to more than half the incremental jobs) and increasing trends in migration and tourists are key drivers of the incremental demand in the sector. The sector is increasingly demanding skilled workers especially within the Hospitality segment.
- **Construction:** In addition to the increasing urbanization, major infrastructure projects on DMIC, Smart Cities and Metro Rail are in the anvil. Thus there is going to be a considerable construction activity

<sup>15</sup> 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.

in the district. However, the requirement of skilled and semi-skilled workers are considerably lower in the sector in comparison to others.

- **Fisheries:** The promotion of deep line fishing, cage culture etc. are expected to promote requirement of skilled workers in the fishing industry.

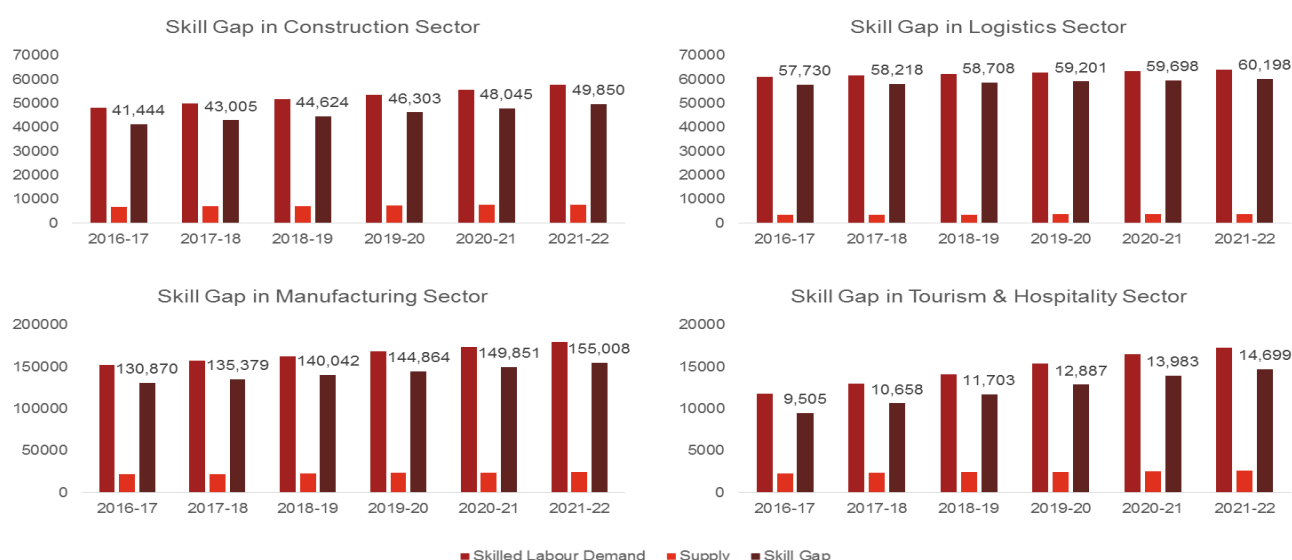
### *Key trends in other Dominant Sectors in the District*

- **BFSI:** Raigad neighbors Mumbai, the financial hub of the country. The increasing costs of real estate in Mumbai and the recent rapid advancements in the Banking Sector like financial inclusion and increase in coverage through insurance can expect to drive the economy in the financial sector in the districts and employment of skilled labour in the district.
- **Manufacturing:** The proximity to the industrial hubs, JNPT, the Delhi Mumbai Industrial Corridor projects are expected to boost the manufacturing potential of Raigad. Key drivers of employment in the district are expected within the Automobile and Ancillary Industries, Electronics, etc.
- **Trade:** Though trade is a dominant sector in terms of both income and employment in the district, the low potential of “**New Jobs**” is expected due to decrease in requirement of labour due to the existing saturation and high share of unskilled workforce etc. Gradual consolidation of industry and increased formalization can expect to create a demand of reorganization and up-skilling of existing workforce.
- **Agriculture:** Increasing urbanization, the relatively lower returns are expected to generate lower demand in the sector. However, due to the demand for higher productivity and enhanced awareness and commitment to ecological conservation, there could be very negligible but a definite need for skilled labour force.

### *2.1.2. Gap between Total Demand<sup>16</sup> and Supply for Skilled workforce in Select Sectors*

The gap in the existing total skilled workforce connotes the gap between the total requirement of skilled manpower and workforce in the district with recognized trainings in the said sectors.

**Figure 60: Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in Raigad**



<sup>16</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling

- **Construction Sector:** The availability of the skilled workforce is minimal with an estimate of less than 20% possessing any recognition in the sector to meet the 50,000 **total requirement of skilled manpower**. The gap is set to increase from 41,444 to 49,850 assuming present rates of growth of population and demand for skilled workforce, a jump of 20%.
- **Logistics Sector:** The logistics sector has historically been characterized by its informal nature and this is reflected in the very low levels of recognized skilled workforce with less than 5000 people with formal recognitions to meet the nearing **total requirement of skilled manpower** of 60,000. These are very exacerbated by the limited options available recognized trainings and certificates in the sector. However the general tapering of the incremental requirement for workforce in the district is expected to increase the gap marginally by 4%.
- **Manufacturing Sector:** The sector has historically been served by degrees in engineering, polytechnic diplomas and certificates in ITIs in the region. In addition there have been certification programs in the MSME sector as well. However, there is an excessive shortage in the supply of skilled manpower, exceeding a lakh and thirty thousand. This gap is set grow by a further twenty thousand over the next five years.
- **Tourism and Hospitality:** Given the present trends of increased formalization and requirement of skilled workers in the sector, the gap between the **total requirement of skilled manpower** and **availability of workforce with recognized trainings** is set to increase by a whopping 57% by 2022. The requirement for initiating new trainings and recognizing prior learning in the sector is thus a priority.

### 2.1.3. Job Roles High in Demand

This sections captures the jobs that have been reported to be high in demand in Raigad. The job roles that are listed below have been identified by the stakeholders. Across the sectors few of the job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describe the job roles that are high in demand across the sectors.

#### Port and Maritime Sector

The port and maritime sector has reported high demand for crane operators and other skilled workers such as welders, electricians, and blasters. Safety has been underpinned as one of the areas that could be focused on for training workforce in the port and maritime sector. With increasing technological disruptions that are happening in the sector, there is a need for upskilling of the workforce. Increasing automation in the sector will make few of the manual jobs redundant. Overall, the jobs in this sector will be driven by the growth in the volume of cargo.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Port operations	Findings
<ul style="list-style-type: none"> <li>• Rail Mounted Quay Crane Operator</li> <li>• Rail Mounted Gantry Crane Operator</li> <li>• Forklift Operator</li> <li>• Reach Stacker Operator</li> <li>• Crane Mechanic</li> </ul>	<ul style="list-style-type: none"> <li>• Well trained crane operators are difficult to find in the job market</li> <li>• Currently, Port operators and CFSs have to train the crane operators for at least three months</li> <li>• Trainings required on safety issues especially in handling crane operations</li> <li>• Port &amp; maritime sector is currently demanding a skilled workforce; the shortfall is being met with migrant labour</li> <li>• In Raigad there is a general range of technical skills related to the port and maritime that are in shortage; there have been unmet demand for skilled positions</li> </ul>

	<ul style="list-style-type: none"> <li>Job losses amongst the semi-skilled in the sector are likely to happen; there will be a need for (up-skilling) technicians to manage emerging and sophisticated crane operating systems</li> </ul>
<b>Job Roles: Ship building and repairs</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>Painter</li> <li>Blaster</li> <li>Mechanical/steel fitter</li> <li>Brazers, machinists for lathe</li> <li>Drilling and cutting</li> <li>Dock rigger</li> <li>Painter</li> <li>Electrician</li> <li>Welder</li> </ul>	<ul style="list-style-type: none"> <li>Upcoming ship yard facilities such as Bombay Marine, and Das Offshore will require skilled manpower</li> <li>The small pool of local skilled workers contributes directly to shortages of qualified workforce</li> <li>The more complex the skill, the more likely the shortage of suitably qualified local citizens</li> <li>Shortages become even more acute where training avenues for specific occupations are limited and where access to high-quality work experience is needed</li> <li>Stakeholders indicated preference for hiring ITI graduates</li> </ul>

### *Other Priority Sectors*

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like port and maritime sector, sectors such as logistics, manufacturing, and construction will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature.

### *Logistics*

Truckers are high in demand but the existing workforce that is engaged in trucking lacks life skills. Truckers who could be equipped with skills for handling hazardous substances will be greatly demanded by the manufacturing firms that are located in industrial areas such as Taloja. Automation will impact manual jobs in this sector.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Logistics</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>Surveyors</li> <li>Supervisors</li> <li>Hydraulic Axle Operator</li> <li>Truck Driver</li> <li>Helper</li> </ul>	<ul style="list-style-type: none"> <li>Increasing volumes of cargo, the impending fourth terminal, and 31 CFSs that are located in JNPT area demand skilled manpower</li> <li>CFSs demand a skilled workforce with a shortfall being met with migrant labor</li> <li>Skills shortages for handling hazardous substances</li> <li>The small pool of skilled local workers contributes directly to shortages of qualified supervisors who are from Raigad</li> <li>Life skills training required for truckers</li> <li>Increased use of ICT and automation in work processes will impact the manual jobs</li> </ul>

### *Construction*

Projects such as smart cities will demand skilled workforce that will be able to use smart technologies in not only building the smart cities but also maintaining them. There will be a demand for workforce that could work in renewable energy domain. Other projects such as Railways and Metro will require skilled workforce in structure design and maintenance, finishes, and electrical works for building huge infrastructural facilities.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Construction</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Solar PV installer (Civil)</li> <li>• Fabricator</li> <li>• Supervisor-Structure</li> <li>• Supervisor-Finishes</li> <li>• Supervisor - Electrical Works</li> <li>• Supervisor - Roads &amp; Runways</li> </ul>	<ul style="list-style-type: none"> <li>• Smart city projects and other infrastructural development projects such as the Railways and Metro will require skilled workforce</li> <li>• Site workers will require skills to use new, innovative technological devices and smart systems</li> <li>• Skills to manage increased integration of technologies into the building structures</li> <li>• Demand for new age installation and maintenance skills especially in renewable energy sector</li> <li>• Limited apprenticeship arrangement exists, combining formal training off-the-job with on-the-job training</li> </ul>

## *Manufacturing*

Raigad is an industrial and manufacturing hub that caters to sectors such as Pharmaceuticals, Petrochemicals, Dyes, Plastics, Glass, Rubber, and Chemicals. These sectors demand skilled workforce that could work in manufacturing processes. Emerging technology such as 3D or additive manufacturing will shape the manufacturing sector in next few years and the workforce engaged in manufacturing will have to upgrade its skills to be in tune with the emerging market requirements. This sector will also require technological literacy among the workers.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Manufacturing</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Production Assistants</li> <li>• Welder</li> <li>• Fitter</li> <li>• Mechanic</li> <li>• Plumber</li> <li>• Electrician</li> <li>• Turner</li> <li>• Motor Binding</li> </ul>	<ul style="list-style-type: none"> <li>• Industrial areas such as Taloja demand skilled workforce</li> <li>• Supervisory skills are also needed in the roles of foremen, leading hands and supervisors</li> <li>• Limited apprenticeship arrangement exists, combining formal training off-the-job with on-the-job training</li> <li>• Stakeholders indicated preference for hiring ITI graduates</li> <li>• Additive manufacturing or 3D printing will impact the manufacturing processes</li> <li>• There will be a general need for medium to high technology literacy throughout the sector</li> </ul>

## *Tourism*

Tourism sector in Raigad buoyed by beaches, forts, and temples demands skilled workforce. A small pool of local workforce is complemented with a migrant workforce that is working to support the tourism sector. There are opportunities to engage local youth in this sector. Training in the sector, among others, will require focus on English language skills. Tourism sector will also see automation in its front end and back end processes, automation that will impact manual jobs.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Tourism</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Front Office Executive</li> <li>• Chef</li> <li>• Kitchen Steward</li> <li>• Housekeeping Supervisor</li> <li>• Tour guide</li> <li>• Facility Store Keeper</li> <li>• Billing Executive</li> <li>• Cruise/Boat/Jetty in charge</li> </ul>	<ul style="list-style-type: none"> <li>• Small pool of adequately skilled personnel at the skilled worker level results in a small pool of people from which to draw for higher positions</li> <li>• Workforce is trained, but it generally lacks skills and experience required in the workplace</li> <li>• Focus required on communication skills/public relations; reporting skills; administration skills and financial skills</li> </ul>

## *Fisheries*

In Raigad, people have land holdings that could be used for aquaculture and mariculture. Trainings imparted in aquaculture could help in providing the fishing community an insight into a more profitable way of doing business and also to make proper utilization of unutilized land parcels that are unfit for agriculture. Trainings in marine fish farming is necessary to make the fish farmers aware about the scientific procedure of fish farming and thereby improve on the traditional practices. Further, shrimp export houses in Panvel area demand skilled workforce.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Fisheries</b>	<b>Findings</b>
<ul style="list-style-type: none"><li>• Cold Storage Technician</li><li>• Warehouse Manager</li><li>• Mechanic</li><li>• Glass/Tunnel/Trolley Freezer Operator</li><li>• Grading supervisor</li><li>• De-heading supervisor</li><li>• Aquaculture Technician</li><li>• Mariculture Technician</li></ul>	<ul style="list-style-type: none"><li>• Raigad can hugely benefit from improved fisheries practices</li><li>• Export potential for shrimps</li><li>• Unused land parcels can be used for aquaculture and mariculture</li><li>• Improved skills are particularly needed for aquaculture and mariculture</li></ul>

## *BSFI*

A small pool of local workforce is engaged in this sector. There are opportunities to train the local youth in this sector. BSFI sector is very much susceptible to automation of front end and back end processes.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: BSFI</b>	<b>Findings</b>
<ul style="list-style-type: none"><li>• Teller</li><li>• Value banker</li><li>• Debt recovery agent</li><li>• Insurance agents</li></ul>	<ul style="list-style-type: none"><li>• Focus required on language skills</li><li>• Small pool of adequately skilled personnel at the skilled worker level results in a small pool of people from which to draw for higher positions</li><li>• Up-skilling (technology and business skills) will be important</li><li>• Automation and software could render many lower skilled customer service roles obsolete</li></ul>



## 2.2. Mumbai

### 2.2.1. Incremental Demand for Skilled & Semi Skilled Manpower<sup>17</sup>

The greater Mumbai region is expected to be driven by demand for skilled workers in the services sector, specifically in sectors relating to logistics, Banking Financial Services & Insurance, Communication and tourism. The increasing formalization and new age jobs customized to suit the requirements to service the needs of the one of the densest populated regions in the world can be expected to emerge.

**Table 7: Incremental Demand for Skilled & Semi Skilled Workers in Mumbai**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
<i>Ports &amp; Allied</i>	NA	NA	NA	NA	NA	NA	NA
<i>Logistics</i>	2,723	2,744	2,766	2,785	2,808	2,830	16,656
<i>Tourism</i>	1,193	1,442	1,608	1,816	1,820	1,623	9,502
<i>Construction</i>	727	732	740	744	750	756	4,449
<i>Fisheries</i>	49	51	51	51	51	52	305
<b>Other Dominant Sectors in the District</b>							
<i>BFSI</i>	2,142	2,159	2,176	2,192	2,210	2,226	13,105
<i>Manufacturing</i>	727	732	740	744	750	756	4,449
<i>Trade (Retail &amp; Wholesale)</i>	2,121	2,138	2,154	2,171	2,187	2,205	12,976
<i>Communication</i>	1,326	1,335	1,348	1,357	1,367	1,378	8,111
<b>TOTAL</b>							69,553

#### Key trends in Core Sectors

- **Ports and Allied Sectors:** The development of the Greater Mumbai Region as a commercial, entertainment capital over the decades and influx of population, has posed several challenges to the logistics of port operations. The operations of the port have been running at excess capacity and there are no visible increments or plans for the same. The requirement of labour can therefore be expected to only decrease in the near future.
- **Logistics:** The city continues to be the hub for trade activities and manufacturing and has resulted in continued requirement for skilled workforce in the logistics sector, which is an allied sector to the former. A major driver of the sector would also be the increasing requirement in Retail through the development of E-Commerce, cold storages for higher end food products etc.
- **Tourism & Hospitality:** Being the state capital, having opportunities in business, entertainment, and employment and also being a gateway to the entire Western India, the city would continue to require considerable workforce in the Tourism & Hospitality sector. New developments include development of themed restaurants, opportunities in cruises and increasing formalization of Hospitality sector.
- **Construction:** The construction sector in Mumbai has experienced recent slow-down and the incremental numbers for workers is resultantly lower though still significant. The focus of developmental work in the suburbs in Thane and Raigad Districts are also contributing to the shift in labour from the city.

<sup>17</sup> 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.

- **Fisheries:** The incremental requirement for fishing would be minimal due to the lack of optimal space and high cost of living in the city's limits.

### **Key trends in other Dominant Sectors in the District**

- **BFSI:** Mumbai is the financial hub of the country, home to leading institutions including the Stock Exchanges, Banks etc. The recent rapid advancements in the Banking Sector like financial inclusion, increase in coverage through insurance, can expect to drive the economy in the financial sector in the districts and employment of skilled labour in the district.
- **Manufacturing:** The economy of the district is moving away from the manufacturing sector to the services sector and resultantly the incremental skill requirements are expected to be lower than in other sectors.
- **Trade:** Trade is a dominant sector in terms of both income and employment in the district. The high potential of “**New Jobs**” is expected due to increase in requirement of specialized labour in higher organized workforce. Gradual consolidation of industry and increased formalization can expect to create a demand of reorganization and up-skilling of existing workforce.
- **Communication:** The communication industry is set to be boosted by new age technology and implementation of programmes such as Digital India. The increasing penetration of internet in recent times have contributed to the requirement of personnel in both hardware part of communications as well as roles in the media.

### **2.2.2. Gap between Total Demand and Supply for Skilled workforce in Select Sectors<sup>18</sup>**

The gap in the existing total skilled workforce connotes the gap between the **total requirement of skilled manpower** and **workforce in the district with recognized trainings in the said sectors**.

**Figure 61: Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in Mumbai**



<sup>18</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling

- **Construction Sector:** The availability of the skilled workforce is minimal, with an estimate of less than 10% possessing any recognition in the sector, to meet the 1 lakh **total requirement of skilled manpower**. The gap is set to increase by 4% assuming present rates of growth of population and demand for skilled workforce.
- **Logistics Sector:** The logistics sector has historically been characterized by its informal nature and this is reflected in the very low levels of recognized skilled workforce with around 10,000 people with formal recognitions to meet the nearing **total requirement of skilled manpower** of around 2 lakhs at less than 5%. These are exacerbated by the limited options available for recognized trainings and certificates in the sector within the district.
- **Manufacturing Sector:** The sector has historically been served by degrees in engineering, diplomas in polytechnics and certificates in ITIs in the region. However, in the Greater Mumbai Region, the high share of informal employment in the sector results in less than 10% of the population having formal recognition of training.
- **Tourism and Hospitality:** Given the present trends of increased formalization and requirement of skilled workers in the sector, the gap between the **total requirement of skilled manpower** and **availability of workforce with recognized trainings** is set to increase by 13,000 by 2022. Presently around 8% of the demand is met and without an augmentation of training capacity, it would fall to around 7% in 2022.

### 2.2.3. Job Roles High in Demand

This sections captures the jobs that have been reported to be high in demand in Mumbai. The job roles that are listed below have been identified by the stakeholders. Across the sectors, few of the job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describe the job roles that are high in demand across the sectors.

#### Port and Maritime Sector

The port and maritime sector has reported high demand for crane operators and other skilled workers such as fork lift operators and electricians. The stakeholders have recommended 'safety' as one of the critical component to be included in the training programmes that cater to this sector. Technological disruptions and automation in the sector is expected to impact jobs in this sector.

The matrix below captures the job roles that are high in demand:

Job Roles: Port operations	Findings
<ul style="list-style-type: none"> <li>• Ship Crane Operator</li> <li>• Mobile Crane Operator</li> <li>• Wharf Crane Operator</li> <li>• Forklift Operator</li> <li>• Crane Mechanic</li> <li>• Electrician</li> </ul>	<ul style="list-style-type: none"> <li>• Well trained crane operators are much sought after</li> <li>• Port operators have to train the crane operators for at least three months before they are inducted to operate the cranes</li> <li>• Trainings required on safety issues especially in handling crane operations</li> <li>• Port &amp; maritime sector is currently demanding</li> <li>• Job losses amongst the low skilled in the sector are likely to happen; there will be a need for (up-skilled) technicians to manage emerging and sophisticated systems embedded in this sector</li> </ul>

#### Other Priority Sectors

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like port and maritime sector, sectors such as logistics, manufacturing, and construction will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature.

## Logistics

There is a demand for truckers but the existing workforce that is engaged in trucking lack life skills. Automation in warehousing, material handling, and intelligent transportation systems will impact manual jobs in this sector. The matrix below captures the jobs roles that are high in demand:

Job Roles: Logistics	Findings
<ul style="list-style-type: none"><li>• Surveyors</li><li>• Supervisors</li><li>• Hydraulic Axle Operator</li><li>• Truck Driver</li><li>• Helper</li></ul>	<ul style="list-style-type: none"><li>• The volumes of cargo will have to grow to support the workforce engaged in this sector</li><li>• Migrant labor engaged in this sector</li><li>• Life skills training required for truckers</li><li>• Increased use of ICT and automation in work processes will impact the manual jobs</li></ul>

## Construction

In Mumbai, projects such as Mumbai Coastal Road, Mumbai Trans Harbour Link and Mumbai Metro Phase III, Cuffe Parade SEEPZ corridor will require a workforce that is skilled in structural design, maintenance, Foreman Wet Finishing and Flooring, and electrical works for building huge infrastructural facilities and will demand skilled workforce that will be able to use smart technologies in building large infrastructural facilities.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Construction	Findings
<ul style="list-style-type: none"><li>• Supervisor-Structure</li><li>• Supervisor - Electrical Works</li><li>• Foreman Wet Finishing and Flooring</li><li>• Supervisor - Roads &amp; Runways</li><li>• Drivers for Tippers, Bulldozers, JCB ,Trailers and Excavators</li></ul>	<ul style="list-style-type: none"><li>• Site workers will require skills to use new, innovative technological devices and smart systems</li><li>• Skills to manage increased integration of technologies into building civil structures</li><li>• Though every equipment operator holds a heavy vehicle license, the basic awareness and knowhow on the operational features of specific equipment are lacking, impacting productivity</li><li>• Limited apprenticeship arrangement exists, combining formal training off-the-job with on-the-job training</li><li>• Migrant labor engaged in this sector</li></ul>

## Manufacturing

Emerging technology such as 3D or additive manufacturing, and Automated and Internet-based Workflow Management Systems will shape the manufacturing sector in next few years and the workforce engaged in manufacturing will have to upgrade their skills to be in tune with the emerging market requirements. This sector will also require technological literacy among the workers. The matrix below captures the jobs roles that are high in demand:

Job Roles: Manufacturing	Findings
<ul style="list-style-type: none"><li>• Production Assistants</li><li>• Quality Assistants</li><li>• Design Supervisors</li><li>• Welder</li><li>• Fitter</li><li>• Mechanic</li><li>• Plumber</li><li>• Electrician</li></ul>	<ul style="list-style-type: none"><li>• Supervisory skills are needed in the roles of foremen, leading hands and supervisors</li><li>• Limited apprenticeship arrangement exists, combining formal training off-the-job with on-the-job training</li><li>• Stakeholders indicated preference for hiring ITI graduates</li><li>• Additive manufacturing or 3D printing will impact the manufacturing processes</li><li>• There will be a general need for medium to high technology literacy throughout the sector</li><li>• Knowledge of the production process and technical concepts required for complex manufacturing processes</li></ul>

## *Tourism*

Training in this sector will require focus on English language skills. Tourism sector will also see automation in its front end and back end processes, automation that will impact manual jobs.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Tourism</b>	<b>Findings</b>
<ul style="list-style-type: none"><li>• Front Office Executive</li><li>• Chef</li><li>• Kitchen Steward</li><li>• Housekeeping Supervisor</li><li>• Tour guide</li><li>• Facility Store Keeper</li><li>• Billing Executive</li><li>• Cruise/Boat/Jetty in charge</li><li>• Security Guards &amp; Drivers</li></ul>	<ul style="list-style-type: none"><li>• Workforce is trained, but it generally lacks support skills and experience required in the workplace</li><li>• Focus required on communication skills/public relations; reporting skills; administration skills and financial skills</li><li>• For staff engaged in back end processing knowledge of transaction processing software and cash management is desirable</li><li>• Life skills training required for drivers</li></ul>

## *Fisheries*

In Mumbai, most of the good quality fish caught by fishermen are bought by suppliers (agents of exporters and middlemen) or auctioneer (agents of suppliers) at a very cheap rate. The suppliers in turn sell it to third parties who do sorting, grading etc. The third parties in turn sell it to exporters. Fishermen mostly do not get a fair price for their catch. Training programmes that focus on hygiene and value will assist the fishing community in marketing their catch and in getting a fair price for their produce. This sector also offers opportunities in marine food processing units.

The matrix below captures the jobs roles that are high in demand:

<b>Fisheries</b>	<b>Findings</b>
<ul style="list-style-type: none"><li>• Fishermen with value addition skills</li><li>• Cold Storage Technician</li><li>• Engine Mechanic</li><li>• Grading supervisor</li><li>• De-heading supervisor</li><li>• Packers</li><li>• Packaging Supervisor</li><li>• Freezer Operator</li></ul>	<ul style="list-style-type: none"><li>• Fishing communities can hugely benefit from improved fisheries practices</li><li>• Improved skills are particularly needed for hygiene and value addition of the catch</li><li>• Trainings required for marketing of the produce</li><li>• Demand for boat engine mechanics</li></ul>

## *BSFI*

In Mumbai, BSFI is one of the most dominant sectors, employing a large workforce. However, in the next few years, automation of front end and back end processes will impact manual jobs in this sector.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: BSFI</b>	<b>Findings</b>
<ul style="list-style-type: none"><li>• Teller</li><li>• Value banker</li><li>• Debt recovery agent</li><li>• Insurance agents</li></ul>	<ul style="list-style-type: none"><li>• Focus required on language skills</li><li>• Up-skilling (technology and business skills) will be important</li><li>• Automation and software could render many lower skilled customer service roles obsolete</li></ul>

## *Retail and Apparel*

The retail and apparel sector will see increasing reliance on designing software and automation of inventory management processes.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Retail and Apparel	Findings
<ul style="list-style-type: none"> <li>• Designers</li> <li>• Merchandisers</li> <li>• Tailors</li> <li>• Press Man</li> <li>• Checker</li> <li>• Accountant</li> <li>• Customer Service Associate</li> <li>• Cashier</li> <li>• Tele callers</li> </ul>	<ul style="list-style-type: none"> <li>• Focus required on training the workforce in using the designing software</li> <li>• Automation and software could render many lower skilled customer designing and production roles obsolete</li> <li>• Focus required on communication skills/public relations, administration skills and financial skills</li> </ul>

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## **3. District Action Plan**

### **3.1. Background**

An actionable roadmap is one of the deliverables to be submitted to MoS for implementing skill training programmes in each of the districts. To develop these District specific plans, the team has mapped the emerging skilling opportunities across the 21 districts. Further, similar training opportunities or training requirements from the same sector have been clubbed in to one programme to ensure optimal use of resources and to build economies of scale for delivery partners. This has been proposed to improve the chances of developing and proposing feasible and viable training delivery models.

Further, the team has also estimated the broad capital and operational expenditure expected to be incurred in operationalizing the training initiatives in the districts. Apart from this, critical operational aspects such as training delivery mechanisms, availability of curriculum and employers have also been explored. The current status of these critical aspects will help ascertain the feasibility of initiating these trainings immediately and assess the gaps that need to be bridged before these training can be rolled out.

### **3.2. Objective of developing the plan**

The District action plans have been developed with an overall objective of providing a step by step skill implementation plan to the Ministry of Shipping in the 21 coastal districts. The specific objectives include the following:

- Mapping various skilling opportunities available in the district, keeping in mind the requirements of Port led development and emergence of CEZs.
- Mapping the current status of various pre-requisites such as availability of qualifications, curriculum, funding for training, potential training delivery partners, availability of assessors and certification processes and institutions for the training programmes.
- Identify the potential/target beneficiaries for the training courses.
- Map the infrastructure and the investment that may be required to deliver the training programmes in the district.
- Provide an estimate of the investment required to create/hire the skilling infrastructure.
- Provide a step by step action plan for MoS to implement the skilling initiatives.

### **3.3. Methodology**

Stakeholder consultations<sup>19</sup> that were held at national, state and district level and that included stakeholders from government, industries, associations, and private firms. A separate plan has been prepared for each of the 21 district. The plan has been divided into several sections and include sections on training delivery, potential partners, and investments. The investments component has been divided into two broad heads: capital expenditure and operational expenditure. Capital expenditure has only been proposed in cases in which there were very limited possibilities of using existing institutional framework for partnership and for using existing infrastructure and equipment. Operational expenditure includes the cost of the running the training programmes including the salary of the instructors. The common cost norms are the basis of calculating the operational expenditure. Capital expenditure has been worked out bearing in mind the infrastructure requirements of the programme and duration of training programmes. Wherever, feasible partnership with existing programmes such as DDU-GKY and PMKVY has been suggested in the plan.

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<sup>19</sup> Roughly 700 primary consultations informed the development of these plans for 21 districts

### 3.1. Summary for Raigad

Sl. No.	Project Name	Job Roles	Type of training	No. of people to be trained
1	Skill Development Centre for Ports and Logistics	Truck and heavy vehicle operators, Crane operators, Truck Drivers-cum-Hazardous Materials Handler, Surveyors	Fresh and Upskilling	6,000 persons in next 5 years
2	Incubation and entrepreneurship center for idol making and consumer goods In Pen Taluka	Artisan and Maker of Goods	Fresh	2,250 persons in next 5 years
3	Fisheries and sea food processing	Aquaculture/ Mariculture Technicians, Brackish water aquaculture farmer, Ornamental fish culture technician	Fresh and Upskilling	1,500 persons in next 5 years
4	Trainings in manufacturing and construction	Electrician, Mechanics, Plumber, Fitter, Motor Binder, Fabricator, Mason, carpenter, bar bender, supervisor, land surveyor, scaffolder	Fresh and Upskilling	3,500 persons in next 5 years
5	Trainings for job roles emerging in Smart City	Solar panel installation technician and Solar panel maintenance technician, Solid waste management technician	Fresh	750 persons in next 5 years



## 3.2. Action Plan for Raigad

<b>Project 1: Skill Development Center for Ports and Logistics</b>					
Key economic drivers		<ul style="list-style-type: none"> <li>One major port – JNPT</li> <li>Two minor ports – Dighi and Dharamtar</li> <li>Development of a new terminal (4<sup>th</sup> terminal) at JNPT</li> <li>Development of a multi-product port based SEZ</li> <li>Existing industrial cluster (Taloja Industrial Cluster) catering to pharma, glass and chemical industries</li> <li>Projects such as DMIC</li> </ul>			
Rationale for a Training Center		<p>Ports and associated logistics service providers such as the CFS, transport operators, custom houses, survey agencies etc. are located in close proximity. There are about 32 CFS operators with employees ranging from 150 to 300 employees around JNPTC. Further, the port and the allied service providers have been provided with land by CIDCO, which was claimed from the local communities. Thus, the CFS and other operators have to offer employment to the project affected communities. Considering that there is a cluster of employers and potential beneficiaries available in close proximity in the district, MoS can explore the opportunity for establishing a Center for Excellence in Ports and Maritime sector.</p>			
Trainings		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Truck and heavy vehicle operators	<ul style="list-style-type: none"> <li>Existing Truckers</li> <li>Coastal communities</li> </ul>	Upskilling	1,500 in next 5 year
				Fresh Training	1,000 in next 5 years
		Crane operators	<ul style="list-style-type: none"> <li>Existing Truckers</li> <li>Coastal communities</li> </ul>	Upskilling	500 in next 5 years
				Fresh Training	1,000 in next 5 years
		Handling hazardous cargo	<ul style="list-style-type: none"> <li>Existing crane operators</li> <li>Project Affected People</li> <li>Coastal communities</li> </ul>	Upskilling	500 in next 5 years
				Fresh Training	750 in next 5 years
		Surveyors	<ul style="list-style-type: none"> <li>Coastal communities</li> </ul>	Fresh Training	750 in next 5 years
Availability of curriculum	<b>Job Roles</b>	<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Truck and heavy vehicle operators	Truck Drivers	<ul style="list-style-type: none"> <li>Reach Truck Operator</li> </ul>	Course available for: <ul style="list-style-type: none"> <li>Driver HMV</li> <li>Driver LMV</li> </ul>	No course available
	Crane operators	Crane operators	QP available for: <ul style="list-style-type: none"> <li>Crawler crane operator</li> <li>Hydra crane operator</li> <li>Tyre mounted crane operator</li> </ul>	Course available for: <ul style="list-style-type: none"> <li>Truck Mounted/Crawler/ Rough Terrain Crane Operator</li> </ul>	No course available

			<ul style="list-style-type: none"> <li>Junior crane operator</li> <li>Overhead crane operator</li> </ul>		
	Handling hazardous cargo	Truck Drivers-cum-Hazardous Materials Handler	<ul style="list-style-type: none"> <li>QP does not exist</li> </ul>	No course available	No course available
	Surveyors	Surveyors	QP available for: <ul style="list-style-type: none"> <li>Warehouse Supervisor</li> <li>Warehouse Quality Checker</li> <li>Warehouse Claims Coordinator</li> <li>Consignment Booking Assistant</li> <li>Shipment Classification Agent</li> <li>Clearance Support Agent</li> </ul>	No course available	No course available
Investment (INR In lakhs)		<b>Truck and heavy vehicle operators</b>			
		Operational Expenditure			243
		<b>Crane operators</b>			
		Operational Expenditure			182
		<b>Handling hazardous cargo</b>			
		Operational Expenditure			144
		<b>Surveyors</b>			
		Operational Expenditure			114
		<b>Total Operational Expenditure</b>			<b>683</b>
		<b>Capital Expenditure for training centre<sup>20</sup></b>			<b>1050</b>
Potential Partners		<b>Partner</b>	<b>Areas of Support</b>		
		Maharashtra State Skill Development Society	<ul style="list-style-type: none"> <li>Nodal agency for overall implementation and execution of the program</li> </ul>		
		Jawaharlal Nehru Port Trust	<ul style="list-style-type: none"> <li>Space and infrastructure for establishing the training center</li> <li>Access to port facilities for practical training</li> <li>Guest faculty</li> <li>Input for designing curriculum</li> <li>Provision of used equipment for training</li> <li>Facilitate implementation of RPL for existing work force</li> <li>Provide guest faculty and facilitate on the job training</li> </ul>		
		Industry Associations (Taloja Industry Association)	<ul style="list-style-type: none"> <li>Industry interface</li> <li>On the job training</li> </ul>		

<sup>20</sup> The cost of procuring three crane stimulators and ten truck stimulators.

		<ul style="list-style-type: none"> <li>Facilitate implementation of RPL for existing workforce</li> </ul>
	Training Partner (JNPT/TSP)	<ul style="list-style-type: none"> <li>Training delivery</li> <li>Co-management of the training facility</li> </ul>
	Logistic Sector Skill Council	<ul style="list-style-type: none"> <li>Development of QPs for the identified job roles</li> <li>Develop model training programmes for the identified Job Roles</li> <li>Identification and certification of Trainers</li> <li>Identification and certification of assessors</li> <li>Assessment of trainees</li> <li>Certification of Trainees</li> </ul>
Training Delivery	<p><b>Option 1</b></p> <ul style="list-style-type: none"> <li>JNPTC or MoS creates the training facility</li> <li>Training facility to be managed and maintained by JNPTC or MoS</li> <li>JNPT to deliver the training and provide qualified trainers and mobilize trainees</li> </ul> <p><b>Option 2</b></p> <ul style="list-style-type: none"> <li>Private training provider to rent/develop the training facility and deliver the training programme</li> </ul>	

### Work Plan

Port and Logistics	in Months								
	1	2	3	4	5	6	7	8	9
Partnership with SSC, Industry Partners and Knowledge partners									
Development of QPs									
Establishment of Training infrastructure and facility									
Furnishing of the training centre									
Purchase and installation of lab equipment									
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)									
Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

Project 2: Incubation and entrepreneurship center for idol making and consumer goods In Pen Taluka	
Key economic drivers	<ul style="list-style-type: none"> <li>Pen taluka in Raigad is one of the most popular talukas throughout the country for producing world class Ganesh idols</li> <li>Demand for Ganesh idols</li> <li>Potential for making other idols and handicrafts in lean season</li> <li>Potential demand for goods such as soaps, phenol, broom sticks, which could be locally sourced by the large number of firms located in JNPT area and industrial areas such as Taloja</li> </ul>
Rationale	<p>Pen Taluka has a cluster of artisans that are into Ganesh idol making. These artisans supply Ganesh idols both within and outside the country. However, there is a lean season associated with the trade, as Ganesh idols are more in demand in during the Ganesh Chaturthi festivities. Further, the idol makers need support in exploring other markets both internationally and nationally. An incubation center will help these idol makers in innovating in idol making</p>

		and related fields. Specific inputs on packaging, managing supply chain, use of environment friendly dyes, Export/import norms and improved designs can be provided through the center. Further, input on entrepreneurship be provided to the community members interested in establishing small enterprises. This will include inputs on business planning, market linkages and bank linkages.			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Idol making	• Existing idol making workforce	Upskilling	-
				Fresh Training	1,000 persons in next 5 years
		Consumer goods	• Unemployed women	Upskilling	-
Fresh Training	1,250 persons in next 5 years				
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
	Artisan	Artisan	QP available for: • Artisans	No course available	No course available
	Makers of goods <sup>21</sup>	Women from local community	QP does not exist	No course available	No course available
Investment (INR In lakhs)		Incubation and training centre			
		Idol making			
		Operational Expenditure	152		
		Consumer goods			
		Operational Expenditure	190		
		Total Operational Expenditure	342		
Potential Partners		Capital Expenditure <sup>22</sup>			
		51			
		Partner	Areas of Support		
		Maharashtra State Skill Development Society	• Nodal agency for overall implementation and execution of the program		
		MSME	• Space and infrastructure for establishing the incubation and training center • Management of the incubation centre • Foster innovations in idol making and consumer goods • Guest faculty • Provision of used equipment for training		
		NID	• Input for designing curriculum for idol making		
		Industry Associations (Handicrafts and Retail)	• Support marketing of the idols • Facilitate establishing the retail network for sourcing of idols to the retail outlets		
		Industry Associations (CFSSs)	• Facilitate sourcing of consumer goods produced by the trained graduates		
		Training Partner	• Training delivery • Co-management of the training facility		
		Nodal Banks	• Promote bank linkages • Introduce youth to various entrepreneurial schemes		
		Handicraft Sector Skill Council	• Develop model training programmes for the identified job roles		

<sup>21</sup> Soap, phenyl, and broom sticks

<sup>22</sup> Includes the cost of building the incubation centre

		<ul style="list-style-type: none"> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of trainees</li> </ul>
Training Delivery	<ul style="list-style-type: none"> <li>• MoS to support MSME in setting up the incubation centre; the centre will be run by MSME</li> <li>• MoS and MSME could fund the training</li> <li>• The empaneled TSP that could be from DDU-GKY, PMKVY or RSETI and empaneled/shortlisted by MSSDS</li> </ul>	

### Work Plan

Handicraft	in Months					
	1	2	3	4	5	6
TSP Affiliation						
Incubation centre setup						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of incubation centre and training programme						

Project 3: Fisheries and sea food processing					
Key economic drivers	<ul style="list-style-type: none"> <li>• Huge tracts of land parcels that are available and could be used for aqua-culture and mariculture</li> <li>• Huge demand for shrimps, crabs, and ornamental fish</li> <li>• Processing and exports of shrimps</li> </ul>				
Rationale	<p>In Raigad, people have land holdings that could be used for aquaculture and mariculture. Trainings imparted in aquaculture could help in providing the fishing community an insight into a more profitable way of doing business and also to make proper utilization of unutilized land parcels that are unfit for agriculture. There is a huge demand for shrimps and crabs; and high quality produce could be exported. People could be trained per year by the Department of Fisheries and on completion of training a certificate could be issued. Such certification will help them to get loans from the banks to engage/ venture into self-employment prospects.</p>				
Trainings	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>	
	Aquaculture & Mariculture	<ul style="list-style-type: none"> <li>• Existing workforce engaged in fishery</li> <li>• Coastal communities</li> </ul>	Upskilling	500 persons in next 5 years	
			Fresh Training	500 persons in next 5 years	
	Ornamental fish culture	<ul style="list-style-type: none"> <li>• Existing workforce engaged in fishery</li> <li>• Coastal communities</li> </ul>	Upskilling	250 persons in next 5 years	
			Fresh Training	250 persons in next 5 years	
Availability of curriculum	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<b>Aquaculture/</b>	Fishermen community	QP available for:	No course available	No course available

	<b>Mariculture Technicians</b>	Unemployed youth	<ul style="list-style-type: none"><li>• Aquaculture technician</li><li>• Aquaculture worker</li><li>• Brackish water aquaculture farmer</li><li>• Mariculture operator</li><li>• Shrimp farmer</li></ul>		
	<b>Brackish water aquaculture farmer</b>				
	<b>Ornamental fish culture</b>	Fishermen community Unemployed youth	QP available for: <ul style="list-style-type: none"><li>• Aquaculture technician</li><li>• Aquaculture worker</li><li>• Freshwater aquaculture farmer</li></ul>	No course available	No course available
Investment (INR In lakhs)		<b>Incubation and training centre</b>			
		Aquaculture & Mariculture			
		Operational Expenditure		106	
		Ornamental fish culture			
		Operational Expenditure		53	
		<b>Total Operational Expenditure</b>		<b>159</b>	
		Capital Expenditure <sup>23</sup>		45	
Potential Partners		<b>Partner</b>	<b>Areas of Support</b>		
		Maharashtra State Skill Development Society	<ul style="list-style-type: none"><li>• Nodal agency for overall implementation and execution of the program</li></ul>		
		Raigad Fishery Training Institute	<ul style="list-style-type: none"><li>• Provide infrastructure for training</li><li>• Training delivery</li><li>• Support in setting up/scaling up the training centre as per the required SSC norms</li><li>• Provide faculty members</li><li>• Integrate the proposed trainings in its training plan</li></ul>		
		Central Marine Research Institute	<ul style="list-style-type: none"><li>• Input for designing the curriculum</li><li>• Guest faculty</li></ul>		
		Industry Associations (Shrimp)	<ul style="list-style-type: none"><li>• Industry interface</li><li>• Facilitate sourcing of shrimps to different export houses</li></ul>		
		Agriculture Sector Skill Council	<ul style="list-style-type: none"><li>• Develop model training programmes for the identified Job Roles</li><li>• Identification and certification of Trainers</li><li>• Identification and certification of assessors</li><li>• Assessment of trainees</li><li>• Certification of Trainees</li></ul>		
Training Delivery		<ul style="list-style-type: none"><li>• Raigad Fishery Training Institute will provide the infrastructure and deliver the training programmes</li><li>• Agriculture Sector Skill Council will certify the training programmes</li><li>• Department of Fisheries and MoS could fund the training</li></ul>			
<b>Option 1</b>					

<sup>23</sup> The cost of building the residential facility

- Build the residential facility for the trainees
- Option 2**
- Lease the residential facility for the trainees

### Work Plan

Fisheries	in Months					
	1	2	3	4	5	6
Upgradation of training centre						
Affiliation of Training centre with ASCI						
Initiation of residential facility construction work						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

Project 4: Trainings in manufacturing and construction				
Key economic drivers	<ul style="list-style-type: none"> <li>• Manufacturing and industrial hubs</li> <li>• Industrial areas such as Taloja has close to 900 firms and has a turnover of more than INR 75,000 cr</li> <li>• Industrial development (DMIC and chemical industry cluster), infrastructure development (CIDCO projects on Railways and Metro), and Smart City Projects: NAINA, CIDCO Navi Mumbai (South) – Brownfield and Pushpak Nagar – Greenfield</li> </ul>			
Rationale	<p>Industrial areas located in Raigad district and associations such as Taloja Manufacturing Association demand skilled workforce. Taloja Manufacturing Association consists of about 975 industrial units and provides employment to over 1.25 lakh people. The turnover of the association amounts to INR 75,000 crore and engages in economic activities in a wide range of sectors including Pharmaceuticals, Petrochemicals, Tools &amp; Dyes, Plastics, Glass, Rubber and Chemicals. The training centre could provide training in jobs roles that are of high demand among the industries in and around the local geography. Job roles such as electrician, plumber, motor binder, and fabricator are the most common vocations in which training could be provided.</p> <p>The CIDCO projects that are lined up in Navi Mumbai and Raigad and the upcoming Smart City Project will witness a large volume of construction works in the form of roads, railways, airports, etc. Therefore, there will be a huge requirement of skilled workforce in the construction sector.</p>			
Trainings	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
	Skilling of Entry Level Workforce in Manufacturing Sector	<ul style="list-style-type: none"> <li>• Existing workforce engaged in manufacturing sector</li> <li>• Coastal communities</li> </ul>	Upskilling	2,500 persons in next 5 years
			Fresh Training	
	Skilling for Construction		Upskilling	1000 persons in next 5 years

		Workers of Infrastructural Facilities	<ul style="list-style-type: none"><li>Existing workforce engaged in construction sector</li><li>Coastal communities</li></ul>	Fresh Training	
Availability of curriculum	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Electrician, Mechanics, Plumber, Fitter, Motor Binder, Fabricator	<ul style="list-style-type: none"><li>Potential workforce willing to get engaged in manufacturing sector</li></ul>	QP available for: <ul style="list-style-type: none"><li>Electrician, Mechanics, Plumber, Fitter, Motor Binder, Fabricator</li></ul>	Course available for Electrician, Mechanics, Plumber, Fitter, Motor Binder, Fabricator	Course available for Electrician, Mechanics, Plumber, Fitter, Motor Binder, Fabricator
	Mason, carpenter, bar bender, supervisor, land surveyor, scaffolder	<ul style="list-style-type: none"><li>Potential workforce willing to get engaged in construction sector</li></ul>	QP available for: <ul style="list-style-type: none"><li>Mason, carpenter, bar bender, supervisor, land surveyor, scaffolder</li></ul>	Course available for mason, carpenter, bar bender, supervisor, scaffolder	Course available for mason, carpenter, bar bender, supervisor, scaffolder
Investment (INR In lakhs)		<b>Training centre for skilling in manufacturing and construction sector</b>			
		Skilling of Entry Level Workforce in Manufacturing Sector			
		Operational Expenditure		380	
		Skilling for Construction Workers of Infrastructural Facilities			
		Operational Expenditure		152	
		<b>Total Operational Expenditure</b>		<b>532</b>	
Potential Partners		<b>Partner</b>	<b>Areas of Support</b>		
		Maharashtra State Skill Development Society	<ul style="list-style-type: none"><li>Nodal agency for overall implementation and execution of the program</li></ul>		
		Training Partner	<ul style="list-style-type: none"><li>Provide infrastructure for training</li><li>Training delivery</li></ul>		
		Industry Associations (Taloja Association)	<ul style="list-style-type: none"><li>Industry interface</li><li>Facilitate On-Job-Training</li><li>Facilitate in identifying the firms that could recruit the trained graduates in Taloja</li></ul>		
		Industry partner (Deepak Fertilizer and Chemical Limited)	<ul style="list-style-type: none"><li>Provide inputs in curriculum design</li></ul>		
		Industry Associations (CIDCO)	<ul style="list-style-type: none"><li>Industry interface</li><li>Facilitate On-Job-Training</li><li>Facilitate in identifying the firms that could recruit the trained graduates in Raigad</li></ul>		
		Plumbing Sector Skill Council Automotive Sector Skill Council Construction Skill Development Council of India	<ul style="list-style-type: none"><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers</li></ul>		



	<ul style="list-style-type: none"> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
Training Delivery	<ul style="list-style-type: none"> <li>• Engage a TSP that is affiliated with DDU-GKY and PMKVY and empaneled/shortlisted by MSSDS to deliver the training</li> <li>• Construction sites/manufacturing units where the trainee is already working can be the RPL site for training.</li> </ul>

## Work Plan

Manufacturing and construction	in Months					
	1	2	3	4	5	6
TSP empanelment						
SSC affiliation						
Training centre setup						
mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

Project 5: Trainings for job roles emerging in Smart City					
Key economic drivers		<ul style="list-style-type: none"><li>Smart City Projects: NAINA, CIDCO Navi Mumbai (South) – Brownfield and Pushpak Nagar – Greenfield</li></ul>			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Production of renewable energy	<ul style="list-style-type: none"><li>Coastal communities</li></ul>	Upskilling	-
				Fresh Training	500 in next 5 years
		Solid waste management	<ul style="list-style-type: none"><li>Coastal communities</li></ul>	Upskilling	-
				Fresh Training	250 in next 5 years
Rationale		Smart cities that are lined up in Raigad and Navi Mumbai will demand skilled workforce that will be able to use smart technologies in not only building the smart cities but also maintaining them. There will be demand for workforce that could work in renewable energy and waste management domain.			
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS
	Solar panel installation technician and Solar panel maintenance technician	<ul style="list-style-type: none"><li>Youth interested in renewable energy domain</li></ul>	QP available for: <ul style="list-style-type: none"><li>Solar PV Installer - Civil</li><li>Solar PV Installer - Electrical</li><li>Solar PV Installer (Suryamitra)</li></ul>	Course available for Solar electric System Installer & Service Provider, Solar Hot Water system installer, Assistant Solar PV Technician.	No course available

				Solar PV Technician	
	Solid waste management technician	<ul style="list-style-type: none"><li>Youth interested in waste management domain</li></ul>	QP available for: <ul style="list-style-type: none"><li>Wastewater Treatment Plant Helper</li><li>Wastewater Treatment Plant Technician</li></ul>	No course available	No course available
Investment (INR In lakhs)	<b>Training centre for skilling for Smart Cities</b>				
	Skilling of Entry Level Workforce in Manufacturing Sector				
	Operational Expenditure			76	
	Skilling for Construction Workers of Infrastructural Facilities				
	Operational Expenditure			38	
	<b>Total Operational Expenditure</b>			<b>114</b>	
Potential Partners	<b>Partner</b>			<b>Areas of Support</b>	
	Maharashtra State Skill Development Society			<ul style="list-style-type: none"><li>Nodal agency for overall implementation and execution of the program</li></ul>	
	Training Partner			<ul style="list-style-type: none"><li>Provide infrastructure for training</li><li>Training delivery</li></ul>	
	Industry Associations (CIDCO)			<ul style="list-style-type: none"><li>Industry interface</li><li>Facilitate On-Job-Training</li><li>Facilitate in identifying the firms that could recruit the trained graduates in Raigad</li></ul>	
	Green Jobs Skill Council			<ul style="list-style-type: none"><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>	
Training Delivery		<ul style="list-style-type: none"><li>Engage a TSP affiliated with DDU-GKY and PMKVY and empaneled /shortlisted by MSSDS to deliver the training</li><li>Ministry of New and Renewable Energy could fund the training</li></ul>			

### Work Plan

Smart City	in Months					
	1	2	3	4	5	6
TSP empanelment						
SSC affiliation						
Training centre setup						
mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

### 3.4. Summary for Mumbai

SN	Project Name	Job Roles	Type of training	No. of people to be trained
1	Skill Development Centre for Ports and Logistics	Ship Crane operator, Mobile crane operator, Wharf crane operator, Surveyors	Fresh and RPL	3,500 persons in next 5 years
2	Skill Development in tourism and hospitality Sector	Taxi Driver, Tour Operator, Tourism Police, Cruise ship-Chefs, housekeeping, engine operator	Fresh and RPL	3,800 persons in next 5 years
3	Skill Development Centre for Infrastructure and Construction Training	Tippers, Bulldozers, Excavators, pavers, Mason, Bar bender, shuttering carpenter	Fresh and RPL	3,250 persons in next 5 years
4	Skill Development Center for Fishing	Sorters, fish handling, spotters (Pagi), Mechanics, fish handlers, Technician, Operators	Fresh and RPL	4,550 persons in next 5 years

### 3.5. Action Plan for Mumbai

Project 1: Skill Development Center for Ports and Logistics Sector					
Key economic drivers		<ul style="list-style-type: none"><li>One major port – MbPT</li><li>Construction of fifth oil berth at the project cost is INR 811 Cr.</li><li>An MoU for the Allotment of dedicated anchorage to Tata Power project cost is INR 60 Cr</li><li>Sassoon dock renovation plan 52.19 Cr.</li></ul>			
Rationale		<p>Truckers are in short supply to move the containers and goods to and fro from the port site. Thus truckers’ training for logistics sector can be taken up to supply professionally trained drivers. Further, an RPL can be planned for the existing Trucker workforce. The RPL can be run at the CFS/Port locations where the terminal operators can chip in with the necessary clearances required for smooth movement of goods.</p> <p>Since there is a high cost involved in training of crane operators, mainly because of cost of equipment’s, so very less numbers of private players will be interested. As a result we need to setup a skill development center in the nearby premises of Mumbai Port Trust (MbPT) to cater to the needs of the crane operators. An ideal training premise would have 8000 sq. ft. built up area where 3 simulators can be installed for crane operators training. In addition to this, the premises can be utilized for training of job roles like Truck Drivers and Surveyors which are also in high demand. Since the center will be located near the port premises this will also help in ease of access for Project affected people which will help in increasing their chances of gaining meaningful employment.</p> <p>Ship Crane certification course can be started for crane operators who operate ship crane, mobile cranes and wharf cranes. These job roles have been identified as high demand and most of the stakeholders in port &amp; marine sector have indicated that they always find it difficult to recruit trained workforce for operating these machines as they don’t get qualified candidates. The training could be delivered for 24 weeks, with a special module on practical operation of the machine. The training should comprise of both theoretical and practical aspects, with more focus on practical training.</p>			
Trainings		Trainin g courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiarie s
		Training for operating cranes	<ul style="list-style-type: none"><li>Existing Crane operators</li><li>Unemployed Youth</li><li>Diploma Engineers</li></ul>	Upskilling	150 persons in the next 5 year
				Fresh Training	100 persons in next 5 years
		Truckers /Trailer Operators	<ul style="list-style-type: none"><li>Existing Truckers</li><li>Unemployed youth</li></ul>	Upskilling	1,500 persons in next 5 years
				Fresh Training	1,000 persons in next 5 years
		Surveyors	<ul style="list-style-type: none"><li>Coastal communities</li></ul>	Fresh Training	750 persons in next 5 years
Availabilit y of curriculum	Job Role	Target Groups	Available QP/NOS	MES	CTS
	<ul style="list-style-type: none"><li>Ship Crane</li></ul>	Ship Crane Operators,	QP available for:	<ul style="list-style-type: none"><li>Crane Operator</li></ul>	Not Available

	operator • Mobile crane operator • Wharf crane operator	Mobile Crane Operator and Wharf Crane Operator	<ul style="list-style-type: none"> <li>• Crawler crane operator</li> <li>• Hydra crane operator</li> <li>• Tyre mounted crane operator</li> <li>• Junior crane operator</li> <li>• Overhead crane operator</li> </ul>	<ul style="list-style-type: none"> <li>• Pick and Carry Crane Operator</li> <li>• Truck Mounted/Crawler/Rough Terrain Crane Operator</li> </ul>	
	Truckers /Trailer Operators	Truck Drivers	QP available for: • Reach Truck Operator	Course available for: • Driver HMTV • Driver LMTV	Not Available
	Surveyors	Surveyors	QP available for: <ul style="list-style-type: none"> <li>• Warehouse Supervisor</li> <li>• Warehouse Quality Checker</li> <li>• Warehouse Claims Coordinator</li> <li>• Consignment Booking Assistant</li> <li>• Shipment Classification Agent</li> </ul> Clearance Support Agent	No course available	No course available
Investment (INR In lakhs)	<b>Training for operating cranes</b>				
	Operational Expenditure				24
	<b>Training for Truckers</b>				
	Operational Expenditure				243
	<b>Training for Surveyors</b>				
	Operational Expenditure				114
	<b>Total Operational Expenditure</b>				381
	<b>Total Capital Expenditure</b>				400
Potential Partners	<b>Partner</b>		<b>Areas of Support</b>		
	Maharashtra State Skill Development Society		<ul style="list-style-type: none"> <li>• Nodal agency for overall implementation and execution of the program</li> </ul>		
	Port or Terminal Operators		<ul style="list-style-type: none"> <li>• Providing Equipment</li> <li>• Space and infrastructure for establishing the training center</li> <li>• Access to port facilities for practical training</li> <li>• Guest faculty</li> <li>• Input for designing curriculum</li> <li>• Provision of used equipment for training</li> <li>• Facilitate implementation of RPL for existing work force</li> </ul>		

	Driving Schools and Transportation Agencies	<ul style="list-style-type: none"> <li>• Providing Equipment and Infrastructure for training</li> <li>• Providing Trainers</li> </ul>
	Truckers Association	<ul style="list-style-type: none"> <li>• Facilitate implementation of RPL for existing workforce</li> </ul>
	Logistics SSC, Construction SSC	<ul style="list-style-type: none"> <li>• Develop model training programs</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
Training Delivery	<b>Terminal Operator to create the training facility for Crane Operator</b> <b>Option 1</b> <ul style="list-style-type: none"> <li>• MbPT or MoS create the training facility</li> <li>• Training facility to be managed and maintained by MbPT or MoS</li> <li>• Private training operator to provide qualified trainers and mobilize trainees</li> <li>• Private players to use the training facility to deliver training program</li> </ul> <b>Option 2</b> <ul style="list-style-type: none"> <li>• Private training provider to rent/develop the training facility</li> <li>• Private training provider to provide Trainers and other center management staff</li> </ul> <b>Driving Schools</b> <ul style="list-style-type: none"> <li>• Private training provider to rent/develop the training facility</li> <li>• Private training provider to provide Trainers and other center management staff</li> </ul>	

## Work Plan

Port and Logistics	in Months								
	1	2	3	4	5	6	7	8	9
Partnership with SSC, Industry Partners and Knowledge partners									
Development of QPs									
Establishment of Training infrastructure and facility									
Furnishing of the training centre									
Purchase and installation of lab equipment									
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)									
Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

Project 2: Skill Development in tourism and hospitality Sector	
Key economic drivers	<ul style="list-style-type: none"> <li>• Inflow of tourists coming to India</li> <li>• Being the financial capital of India, hospitality and business services have emerged as a strong economic drivers. Food retail chains, hotels and service providers to business establishments</li> <li>• Large scale investment planned in Tourism in Maharashtra</li> <li>• Development of Mumbai as a cruise shipping hub</li> </ul>

Rationale		<p>Since tourism is one of the major growth drivers of Mumbai, therefore a lot of people come for both leisure and business travel. Also over a period of time customers are grown accustomed to high quality service not only in terms of the way of speaking but also the way they handle the customers. In this regard it becomes necessary to provide basic hygiene training to the drivers so as to improve customer satisfaction. Similarly there is a need of enhanced safety at tourist places like beaches and other tourist spots particularly in the aftermath of attack on Taj Hotel, which has increased the sense of insecurity among the tourists.</p> <p>With the influx of tourist becoming more sophisticated it becomes very essential to provide them with all specialized services in areas like convenience w.r.t sightseeing and hassle free travel, this results in the demands of trained Tour Operators.</p> <p>The State Tourism department plans to promote cruise tourism in the near future. This will result in generating a demand for people who would be willing to work on ships as chefs. Housekeeping attendants, etc. At present, in order to work on ships, the person needs to be certified in modules like health and safety and promoting cruise tourism will result in generating the demand for job roles related to cruise operations and maintenance like engine operators, chefs, housekeepers, waiters, etc.</p>			
Trainings		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Training for Taxi Drivers	<ul style="list-style-type: none"> <li>Existing Taxi Driver</li> <li>Unemployed Youth</li> </ul>	Upskilling	1,500 persons in next 5 year
				Fresh Training	1,000 persons in next 5 years
		Training for Cruise Ship related job roles	<ul style="list-style-type: none"> <li>Unemployed Youth</li> </ul>	Fresh Training	300 persons in next 5 years
		Training for Tour Operators	<ul style="list-style-type: none"> <li>Tour Guide,</li> <li>Counter Sales Executives (Tickets)</li> <li>Travel Consultant</li> </ul>	Upskilling	1,000 persons in next 5 year
Availability of curriculum	<b>Job Roles</b>	<b>Target Groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Taxi Driver	<ul style="list-style-type: none"> <li>Truck Driver</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>Taxi Driver</li> </ul>	<ul style="list-style-type: none"> <li>Driver HMV</li> </ul>	Not Available
	Tour Operator	<ul style="list-style-type: none"> <li>Tour Operator</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>Tour Guide</li> </ul>	<ul style="list-style-type: none"> <li>Tour Agent and Travel Operator</li> <li>Tour Guide for International Tourist</li> <li>Tourism &amp; Travel Executive</li> </ul>	<ul style="list-style-type: none"> <li>Travel and Tour Assistant</li> </ul>
	Tourism Police	<ul style="list-style-type: none"> <li>Police</li> </ul>	Not Available	Not Available	Not Available
	Cruise ship- Chefs, housekeeping,	<ul style="list-style-type: none"> <li>Local Community members</li> </ul>	<ul style="list-style-type: none"> <li>Trainee Chef</li> <li>Commis Chef</li> </ul>	<ul style="list-style-type: none"> <li>Repair &amp; Overhauling</li> </ul>	<ul style="list-style-type: none"> <li>Pump Operator</li> </ul>

	engine operator, Fire and rescuer etc.		<ul style="list-style-type: none"><li>• Tandoor Chef</li><li>• Winding Engine Operator</li><li>• Gas Engine Operator</li><li>• Helper Electrician</li><li>• Plumber,</li><li>• House Keeping Attendant</li><li>• Welder</li></ul>	<div>of engine system</div> <ul style="list-style-type: none"><li>• Fire and Rescue Operator</li><li>• Arc and Gas Welder</li><li>• TIG Welder</li><li>• Electrician Domestic</li></ul>	<div>Cum Mechanic,</div> <ul style="list-style-type: none"><li>• Plumber</li><li>• Electrician,</li><li>• Mechanic</li><li>• Welder</li></ul>
Investment (INR In lakhs)	<b>Training for Taxi Drivers</b>				
	Operational Expenditure			243	
	<b>Training for Tour Operators</b>				
	Operational Expenditure			45	
	<b>Training for Cruise Ships related job role</b>				
	Operational Expenditure			60	
<b>Total Operational Expenditure</b>			348		
Potential Partners	<b>Partner</b>			<b>Areas of Support</b>	
	Maharashtra State Skill Development Society			<ul style="list-style-type: none"><li>• Nodal agency for overall implementation and execution of the program</li></ul>	
	Driving Schools and Private Taxi Agencies, IITTM			<ul style="list-style-type: none"><li>• Input for designing curriculum</li><li>• Guest faculty</li></ul>	
	Tourism SSC, Maharashtra Tourism Development Corporation			<ul style="list-style-type: none"><li>• Develop model training programs</li><li>• Identification and certification of Trainers</li><li>• Identification and certification of assessors</li><li>• Assessment of trainees</li><li>• Certification of Trainees</li></ul>	
	Training Partner			<ul style="list-style-type: none"><li>• Provide the infrastructure and lab for training</li><li>• Training delivery</li></ul>	
Training Delivery		<ul style="list-style-type: none"><li>• IITTM, NSDC Training Centers to deliver training for Tour Operators</li><li>• Driving Schools, NSDC Training Centers to deliver training for Taxi Operator</li><li>• IITTM or NSDC Training Centers to deliver training for Tourism Police</li><li>• The empaneled TSP that could be from DDU-GKY and PMKVY</li></ul>			

## Work Plan

Tourism	in Months					
	1	2	3	4	5	6
Partnership between Maharashtra Tourism Development Corporation, Tourism SSC, IITTM for development and finalization of the curriculum						
Partnership between Driving schools and Tourism SSC for development and finalization of the curriculum						



Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

Project 3: Skill Development Center for Infrastructure and Construction Training					
Key economic drivers		<ul style="list-style-type: none"><li>A number of new projects in proposed in Mumbai<ul style="list-style-type: none"><li>33.2 km Mumbai Coastal Road (INR 13,000 Cr)</li><li>Mumbai Trans Harbour Link (MTHL) (INR 17,750 Cr)</li><li>33.5 km Mumbai Metro Phase III, Cuffe Parade SEEPZ corridor (INR 23,136 Cr)</li><li>18.5 km Dahisar to DN Nagar (INR 4,994 Cr),</li><li>16.5 km Dahisar East to Andheri East (INR 4,737 Cr)</li><li>NMIA –Phase INR 16,000 Cr</li></ul></li><li>Construction and real estate are one of the key economic drivers in Mumbai</li></ul>			
Rationale		<p>With coming up of large amount of investments in infrastructure sector in Mumbai, this will result in increase in demand of workers in constructions sectors in unskilled, semi-skilled and skilled category. As per stakeholder interaction it was evident that construction contractors have to give 3-6 months of OJT (On the Job Training). This results in increase in training cost. Even after the OJT, the person is still not fine-tuned with various scope of the work as the training is done in a whimsical basis and does not have a systematic methodology.</p> <p>So in order to provide sustainable employment, it is necessary that the person engaged in equipment handling should also have an understanding of other equipment, as well as finer details of the scope of work like coordinating with the supervisor, following the instructions, etc. The training will comprise of a mix of both theory and practical part, with major focus on practical training.</p> <p>Keeping in mind the above requirements, a need for dedicated Skill Development Centre in Infrastructure sector is felt. The proposed training centre would be of 8000 sq. ft capacity and will have 5 classrooms and 3 labs.</p>			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Training for Infrastructure Equipment Operator like Tippers, Bulldozers, Excavators, pavers	<ul style="list-style-type: none"><li>Existing Heavy Vehicle Operators</li><li>Unemployed Youth</li></ul>	Upskilling	250 persons in next 5 years
				Fresh Training	500 persons in next 5 years
		Training in Construction like Mason, Bar bender, shuttering carpenter	<ul style="list-style-type: none"><li>Local People with a minimum qualification of Class 8</li></ul>	Upskilling	1500 persons in 5 years
Fresh Training	1000 persons in 5 years				
Availability of curriculum	Job Roles	Target Group	QP/NOS	MES	CTS
	<ul style="list-style-type: none"><li>Tippers, Bulldozers.</li></ul>	<ul style="list-style-type: none"><li>Tippers, Bulldozers.</li></ul>	QP available for: <ul style="list-style-type: none"><li>Tipper Operator</li></ul>	Excavator Operator	Not Available

	Excavators, pavers	Excavators, pavers	<ul style="list-style-type: none"><li>• Excavator Operator</li><li>• Bulldozer Operator</li></ul>		
	Mason, Bar bender, shuttering carpenter	<ul style="list-style-type: none"><li>• Mason, Bar bender, shuttering carpenter</li></ul>	QP available for: <ul style="list-style-type: none"><li>• Helper Mason</li><li>• Helper Bar Bender</li><li>• Shuttering Carpenter</li></ul>	<ul style="list-style-type: none"><li>• Mason</li><li>• Assistant Bar Bender &amp; Steel Fixer</li><li>• Assistant Shuttering Carpenter &amp; Scaffolder</li></ul>	<ul style="list-style-type: none"><li>• Mason</li></ul>
Investment (INR In lakhs)		<b>Training for Infrastructure Equipment Operator</b>			
		Operational Expenditure		91	
		<b>Training in Construction</b>			
		Operational Expenditure		243	
		<b>Total Operational Expenditure</b>		334	
Potential Partners		<b>Partner</b>		<b>Areas of Support</b>	
		Maharashtra State Skill Development Society		<ul style="list-style-type: none"><li>• Nodal agency for overall implementation and execution of the program</li></ul>	
		MMRDA, CIDCO		<ul style="list-style-type: none"><li>• Providing Trainers</li><li>• Providing technical expertise to Infrastructure and SCMS SSC</li><li>• Coordinating with construction contractors for OJT</li><li>• Industry interface</li><li>• Facilitate in identifying the firms that could recruit the trained graduates in Mumbai</li></ul>	
		Construction Contractors		<ul style="list-style-type: none"><li>• Provide inputs in curriculum design</li></ul>	
		Training Service Provider		<ul style="list-style-type: none"><li>• Provide training delivery</li></ul>	
		Infrastructure SSC, SCMS (Skill Council for Mining SSC)		<ul style="list-style-type: none"><li>• Develop model training programs</li><li>• Identification and certification of Trainers</li><li>• Identification and certification of assessors</li><li>• Assessment of trainees</li><li>• Certification of Trainees</li></ul>	
		Training Delivery		<ul style="list-style-type: none"><li>• TSP empaneled with DDU GKY or PMKVY program</li></ul> <p><b>Option 1:</b></p> <ul style="list-style-type: none"><li>• MMRDA or CIDCO to provide training space for training purpose</li></ul> <p><b>Option 2:</b></p> <ul style="list-style-type: none"><li>• Selected ITI's with required infrastructure for training delivery</li></ul> <p><b>Option 3:</b></p> <ul style="list-style-type: none"><li>• Construction Contractors and their associations to provide space for training delivery</li></ul>	

## Work Plan

Tourism	in Months					
	1	2	3	4	5	6
Partnership between MMRDA, CIDCO, Infrastructure and SCMS SSC for development and finalization of the curriculum						
Partnership between Driving schools and Tourism SSC for development and finalization of the curriculum						
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

Project 4: Skill Development Center for Fishing	
Key economic drivers	<ul style="list-style-type: none"> <li>Fishing has good export and domestic consumption potential in Mumbai</li> <li>Renovation of Sasson Dock</li> </ul>
Rationale	<p>The amount that a crew can catch, depends on their skillset. The spotter is the person who spots the fishes in the sea on his own judgement. As of now they don't have a scientific training on this. In addition to this many of fisherman get lost as they are not able to read weather warnings or they unintentionally cross their permissive range in the sea. The course can include basic navigation training, some modules of seaman course, reading the VPS (Vehicle Positioning system) and basic health and hygiene training of how to handle the fishes post-harvest.</p> <p>Also, the traditional fishermen are increasingly finding it difficult to maintain a sustainable income due to variation in catch on a daily basis, particularly the catches are low during non-monsoon season. There has also been an increase in rift between traditional fishermen and deep sea fishermen. Since most of the boats are semi mechanised, the technology orientation to deep sea fishing can help in smooth transition of traditional fisherman to deep sea fishing over a period of time. As per our interaction with the Fishing community members, FSI do have advance ports on which similar trainings can be conducted. The training should include usage of technology for finding fishes, VPS (Vehicle Positioning System) and similar other technologies used for deep sea fishing like trawling, gill netting as well as basic information of state and central marine policy. It should also include boat designing for deep sea fishing, fish biotics and harvesting methods</p> <p>In addition to the problems stated about, fisherman are also facing the problem of not being able to fetch good prices for their produce. Most of the good quality fishes caught by fisherman are bought by suppliers (agents of exporters) at a very cheap rate. Fisherman incurs a substantial loss as s/he does not have expertise on how to export the fish nor they have the proper contacts so that they can bypass the intermediaries. The members of the cooperative should be given the training regarding what are the various rules and regulation in export, what are the various quality parameters they need to meet, what kind of facilities (like cold storage) can be used so that the quality of the fish can be preserved. This will increase the returns to the fisherman on the whole and help the fisherman to walk towards the goal of sustainable means of income.</p> <p>Apart from expanding the marketing capacity of fisherman in terms of export based training, government should also enhance the capacity of fisherwomen. A large portion of the fishes that are caught gets wasted mainly</p>

		<p>because of lack of proper cooling, both at port level and the boat level. Most of these fishes lose their freshness in a short amount of time on reaching the port. Also, since most of the fishes are sold by fisher women so any loss of fish during handling causes a substantial financial loss for her and her family. It would be quite handy if training regarding fish pickle making or fish wafers can be provided to these women, so that they get additional avenues for income generation</p> <p>Maharashtra also has a lot of scope for sports fishing and fish tourism. If promoted properly this can also prove to be good additional source of income for fisherman folk. This program will require a push from the government for marketing, also it would require training of fisherman folks on how to select spots, handle customers, and basic hygiene training and keeping the customers engaged by making them try various fishing techniques.</p> <p>In order to ensure that the quality of all these programs are not compromised and all the programs can be delivered under a common roof, a need for skill development center in Fisheries sector is felt. Currently Mumbai has only 1 center as CIFE (Central Institutes of Fisheries Education) which has a limited capacity to train students. The center can have 5 class room and 3 labs and a built up area of 8000 Sq. Ft. also the possibility of building cold storage facilities at dock level should also be explored as it directly benefit the fisherman</p>			
Trainings in high demand		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		RPL Training for fishermen and crew members	• Fisherman and crew members	Upskilling	1,000 persons in 5 years
		Deep Sea Fish Training	• Local fishing community • Fish cooperative Members	Upskilling	1,200 persons in next 5 years
		Export based training for fisherman cooperative	• Members of Fisherman cooperatives	Upskilling	500 persons in next 5 years
		Sports Fishing and Fish Tourism	• Members of Fisherman cooperatives	Upskilling	250 persons in next 5 years
		Fish Value Added Products	• Fisherwomen • Local Community Members	Fresh	600 persons in next 5 years
				Upskilling	1,000 persons in 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target Group</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	• Sorters, fish handling, spotters (Pagi), Mechanics, fish handlers	• Sorters, fish handling, spotters (Pagi), Mechanics, fish handlers	Fishing Boat Mechanic, Marine Capture Fisherman	Not Available	Not Available

	<ul style="list-style-type: none"><li>• Technician</li></ul>	<ul style="list-style-type: none"><li>• Local fishing community</li><li>• SHG members</li><li>• Fish cooperative Members</li></ul>	Not Available	Not Available	Not Available
	<ul style="list-style-type: none"><li>• Fish Exporter</li></ul>	<ul style="list-style-type: none"><li>• Fish Exporter</li></ul>	Not Available	Not Available	Not Available
	<ul style="list-style-type: none"><li>• Fish Value Added Products</li></ul>	<ul style="list-style-type: none"><li>• Sea Food Processor</li></ul>	<ul style="list-style-type: none"><li>• Fish and Sea Food Processing Technician</li></ul>	<ul style="list-style-type: none"><li>• Processing of Fishes and their By-products</li></ul>	Not Available
	<ul style="list-style-type: none"><li>• Sports Fishing and Fish Tourism</li></ul>	<ul style="list-style-type: none"><li>• Local Fisherman</li></ul>	Not Available	Not Available	Not Available
Investment (INR In lakhs)		RPL Training for fishermen and crew members			
		Operational Expenditure		61	
		Deep Sea Fish Training			
		Operational Expenditure		73	
		Export based training for fisherman cooperative			
		Operational Expenditure		30	
		Fish Value Added Products			
		Operational Expenditure		152	
		Fish Sporting			
		Operational Expenditure		15	
Total Operational Expenditure		331			
Potential Partners		Partner	Areas of Support		
		Maharashtra State Skill Development Society	<ul style="list-style-type: none"><li>• Nodal agency for overall implementation and execution of the program</li></ul>		
		CMFRI, CIFE, CIFT, MPEDA, Maharashtra Chambers of Commerce and Fisherman Cooperatives	<ul style="list-style-type: none"><li>• Providing Trainers</li><li>• Providing technical expertise to ASCI, FICSI SSC</li><li>• Space and infrastructure for establishing training</li><li>• Practical training</li><li>• Input for designing curriculum</li></ul>		
		ASCI ,FICSI	<ul style="list-style-type: none"><li>• Develop model training programs</li><li>• Identification and certification of Trainers</li><li>• Identification and certification of assessors</li><li>• Assessment of trainees</li><li>• Certification of Trainees</li></ul>		
Training Delivery		Option 1: CIFE to provide training infrastructure and deliver training Option 2:			

	NSDC/MSSDS empaneled Training Partners are enrolled for training delivery

## Work Plan

Fisheries	in Months					
	1	2	3	4	5	6
Upgradation of training centre						
Partnership between ASCI , FICSI, MPEDA ,Maharashtra Chambers of Commerce fisherman cooperatives for development and finalization of the curriculum						
Affiliation of Training centre with ASCI						
Initiation of residential facility construction work						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

## 4. List of Stakeholder Consultations

### 4.1. State level consultations- Maharashtra

Sl. No.	Stakeholder	Person	E-Mail	Cell/Phone
1	Maharashtra Tourism Development Corporation (MTDC)	Ms. Swati, GM	gm@maharashtratourism.gov.in	022-22894926/22856743
2	Maharashtra Tourism Development Corporation (MTDC)	Mr. Yogesh Nirgude, Training Officer	stakeholder@maharashtratourism.gov.in	8422822029
3	Department of Fisheries	V V Naik, Joint Commissionaire	vvnaik_stpfish@yahoo.co.in, commfishmaha@gmail.com	9423085654, 022-22821139
4	Maharashtra Tourism Development Corporation (MTDC)	Mr. Sushil Pawar, Manager-Establishments		8422822013
5	Maharashtra Maritime Board	Mr. Atul Patne, CEO	ceommb@gmail.com	022-22612143/22611734
6	Maharashtra Maritime Board	Mr. Gopinath R Thombre, Deputy Collector	grt978@gmail.com	9167884636, 022-22662006
7	Maharashtra Maritime Board	Mr. Jitendra Raisinghani, Deputy Director- ADB Project	ddcmmb@yahoo.com	9867859888, 022-22655641
8	Maharashtra Maritime Board	Mr. Kiran Vijaykar, Deputy Director (Technical)	kiranvijayakar@gmail.com	9819674903
9	DES	Mr. Ranjeet Singhe, Additional Director	ranajeetso@gmail.com	9561052221, 022-26400053
10	DES	JR Sarnaik	sirjayraj@yahoo.com, jtdiredp.des@maharashtra.gov.in	9220504275
11	Directorate of Technical Education	Mr. Mahendra-Technical Education Officer	Mahendrawagh1988@gmail.com	
12	Maharashtra State Skill Development Society	Ms. Deepti, Programme Officer		+91 22 2216 0210
14	Directorate of Skill Development, Employment and Entrepreneurship	Mr. Navalkar		022-27571944

## 4.2. District level consultations- Raigad

Sl. No.	Stakeholder	Person	E-Mail	Cell/Phone
1	Fisheries Deaprtment	Pooja Bhalekar, Officer		99665632793
2	JSW	Parthasarthy Sengupta, President	partha.sengupta@jsw.in	2143-277501
3	Radisson Blu	Vishwas, Manager		2141-227777
4	Dharamtar Port	Jasbir Singh, Vice President	jasbir.singh@jsw.in	2143277501
5	Dighi Port	Vijay Kalantri	vijaykalantri@balaji.co.in	
5	JSW	Pravin Mhatre, HR	pravin.mhatre@jsw.in	2143-277501
6	Federation of CEPTS of Maharashtra	PP Bardeskar, Chairman	mahacetpfed@gmail.com	022-27402658
7	Elppe Chemicals	PP Bardeskar, MD	ppb@elppe.com	2194-263887
8	Caravan Logistics	Sanjeev Gupta, Director	sg@crvn.in	
9	DIC	S. Londe, General Manager		9822879113
10	Panvel Cooperative Industrial Estate	Vijay Lokhande, Chairman	vijay.lokkhande@gmail.com	9819356569
11	Premier Logistics	Manoj Mehera, Director & CEO	mmehera@pglindia.com	98200833336
12	JWC Logistics	Hannah Christian, Vice President	hannah@jwclogic.com	9821355042
13	JWL Logistics	Hannah Christian, Vice President	hannah@jwclogic.com	9821355042
14	Speedy Logistics Park			
15	JNPT	Sanjiv B Pagre, Deputy Manager	sbpagare@jnport.gov.in	9004208005
16	APM Terminals, Gateway Terminals Private Limited	Suhas R. Karandikar, Head Engineering	suhas.karandikar@apmterminals.com	9987561866
17	Taloja Manufacturers' Association	Shyamsundar N. Karkun, Committee Member	tma.taloja@gmail.com	9819484560
18	Government ITI Mahad	M.Patil, Principal	btrimahad@gmail.com	02145-224930
19	Government ITI Alibaug	B R Sharma, Principal	italibag.raigad@yahoo.com	02141-220224
20	U Tropicana	Russel, GM	NA	8390909437
21	CIDCO	P M Nair, Manger (Urban Housing), Retd.	NA	9594521169
22	Industries Department	Vinay Bhangre, Superitendent of Industries	NA	9223258466
23	Oshn Electricals	Kishore Padhnis, Director	NA	9821022154
24	State Bank of India	Vishal Digamnbar Jadhav, Branch Manager	sbi.12523@sbi.co.in	9029200602
25	ICICI	Rasmiranjan Mallick, Deputy Manager		8879769719
26	Bombay Marine Engineering & Works Private Limited	Viresh Chhabra, Director	vchhabra@bmew.com	9821417580
27	Tala Properties	Viresh Chhabra, Director	vchhabra@bmew.com	9821417580



28	Forstar Frozen Foods Private Limited	Dilip Parsanis		9870689002
29	BPCL	HD Kadam	kadamhd@bharatpetroleum.in	022-27240835
30	Das OffShore	BM Bhoshale		9821827699
31	JWC Logistics	Hannah Christian, Vice President	hannah@jwclogic.com	9821355042
32	Roha Industries Association	PP Bardeskar, MD	ppb@elppe.com	2194-263887
33	HKS Impex	Vijay Lokhande, Chairman	vijay.lokkhande@gmail.com	9819356569

### 4.3. District level consultations- Mumbai

Sl. No.	Stakeholder	Person	E-Mail	Cell/Phone
1	Mumbai Port Trust	Shri Sanjay Bhatia, IAS, Chairman	chairman@mbptmail.com	022-66564011
2	"K" Line Pvt Ltd	Managing Director	mumbai@in.kline.com	
3	Mumbai Port Trust	Mr Bose	tm@mbptmail.com	9820028543
4	Mumbai Port Trust	Mr.AS Thosar,Senior Deputy Traffic Manager	asthosar@yahoo.com	9820006542
5	Mumbai Port Trust	Mr. GS Durve -Senior Assistant Traffic Manager	gsdurve@mbptmail.com	022-66565491/ 9969449950
6	Mumbai Port Trust	Mr. Prashant	idoffice@mdpt.com	022-66565492
7	Shere e Punjab Restaurant	Taranjit Jeet Singh , (Partners)	sherepunjabmumbai@gmail.com	9833370031
8	Marco	Mr. Durai, Vessel Agent	gsdurve@mbptmail.com	9821242673
9	HDFC Bank	Mr. Rohit Raina, Vertical Head for Marketing	Rohit.raina@hdfcbank.com	7498186628
10	Yes Bank	Mr. Sourav Paul, Associate VP (Agri Banking)	saurav.paul@yesbank.in	7738005877
11	Mumbai Port Trust	RA sawant, Assistant Traffic Manager	rabindra0901@gmail.com	66565201, 986947030
12	Sea Green South Hotel	Mahimkare, Receptionist	mail@seagreensouth.com	66566535, 7798259341
13	Dighi Port	Mr. Sushanta Panda , Head of Operations	susanta_panda@balaji.co.in	022-22074824/25
14	DIC	D Y Patil, Joint Director of Industries		
15	NMIS	Captain M.M. Saggi, Director	admin@nmis.net, director@nmis.net, mmsaggi@	022-22024110/ 9769404098
16	DO, Fishries	Mr. Chogule, Assistant Commissionaire Fisheries, Mumbai	acfmumbai51@yahoo.in	8082601085
17	Maharashtra Tourism Development Corporation (MTDC)	Dinesh Kamble	kambledinesh73@gmail.com	842282201
18	Purse seine Fishermen Welfare Association Mumbai Maharashtra.	Mr. Ganesh Nakwa, Chairman,	ganeshnakhawa@gmail.com	9920445732
19	Karanja Fishing Coop society Ltd Sassoon dock, Mumbai	Mr. Ganesh Nakwa, Chairman,	ganeshnakhawa@gmail.com	9920445732

20	DIC	Mrs. S V Magar, Deputy Director, DIC	didicmumbai@gmail.com	24056199, 9892626131
21	BFSI SSC	Mr. Rakesh Bhatt, Head Operations	RAKESH.BHATT@BFSIS SC.Com	2222728121
22	Punjab National Bank	Mr. Sanjay Varshney, AGM,	varshneya@pnb.co.in	9987974479
23	Freight carriers Pvt. Ltd	Mr. Varun, Sales Manager	vms@fcpl.in	9819743161
24	Siraj Sea Foods	Mr. Abdul Aziz,	sirajdosani@gmail.com	9870199983
25	Rizwan Ice and Cold Storage	Mr. Siraj Dosani, MD	sirajdosani@gmail.com	9870199983
26	Mazgaon Machhimar Vividh Karyakari Sahakari	Mr. Siraj Dosani, Chariman	sirajdosani@gmail.com	9820050107
27	Maharashtra Rajya Machinmar Fedration	Mr. Siraj Dosani, Member	sirajdosani@gmail.com	9820050107
28	Madura Fashion & Lifestyle	Mr. Vikas gupta, Area Sales Manager (Louie Phillipe)	vikas.g@abfml.adityabirla.com	7026606476
29	Shrikrishna Motor Launch Service (ferry Operator)	Mr. Saurabh S Karmarkar,	ksaurabh1978@gmail.com	9820308864
30	Sea Green Hotel	Mr. Vilas Ovalekar,	mail@seagreenhotel.com	022-66336525, 22822294
31	Hotel Marine Plaza	Mr. Parvez Sheikh, Manager Food & Beverage	fbmanager@hotelmarineplaza.com	022-22851212, 9892485420
32	JNPT	Mr. Deshpandey , Manager-PPD	nitindeshpande@jnport.gov.in	022-27244158
33	JNPT	Mr. Sanjiv B Pagare	sbpagare@jnport.gov.in	022-27244029
34	APM Terminals (Gateway Terminals India Pvt. Ltd)	Mr. Suhas R Karandikar	suhas.karandikar@apmterminals.com	022-66811009
35	BPCL Terminal (Bharat Petroleum Corporation Ltd.)	Mr. D. Kadam, Manager Operation	kadamhd@bharatpetroleum.in	022-27240835
36	Dbc Port Logistics, CFS	Mr. Rajendra Patil, Dy General Manager- HR	rajendra.patil2@dbclogistics.com	8450971003
37	Keel Logistics	Mr. Sanjay Parekh, MD,	sparekh@keellog.com	9867696489
38	BLR Logististks	Mr. Sanjay Badgamia, Marketing Manager	sanjay.badgamia@blrlogistics.com	9323142490
39	Preety Logistics	Mr. Amit Potdar	amitpotdar99@gmail.com	9820094141
40	VHM Logistics Pvt. Ltd	Mr. Vinod Mahatre	vinod@vhmlogistic.com	7710088901
41	Thakur Infrasprojects Pvt. Ltd	Mr. Dhananjay, Contractor	dhananjaykaruturi@gmail.com	9769409031
42	Baba Tour and Travels			
43	Trust Travels and Tours Pvt. Ltd	Ashish Ujrekar, Senior Tour Executive	tours@trusttravel.in	022-43432283

44	Bharat Mumbai Container Terminals Pvt. Ltd	Mr. Avadhoot Savant, Head HR & Admin	avadhoot.savant@bmctpl.com	022-61273311
45	Mumbai Port Trust	Mr. Keshav, Projects and Planning Division	keshav@mbptmail.com	
46	Mumbai Port Trust	Mr. Kulkarni		9820937267
47	The Taj Mahal Palace	Mr. Hemant Jaiswal	hemant.jaiswal@tajhotels.com	022-66653366
48	Great Indian Holidays	Mr. Rafi Bhat	greatindianholidays@hotmail.com	8454989800
49	Baba Tours and Travels	Mr Swami	saibaba_travels@yahoo.co.in	02222841218, 8976314625
50	Brand Factory, South Bombay	Jssina Desouza,	hr.sobocentral@futurelifestyle.in	9967192950
51	Godrej	Kunal Dhatakar, Store Manager	nb_wardenroad@godrejnb.com	9820911828
52	Reliance Fresh	Sachin Mallap, Store Manager	sachin.malape@rif.com	8452844544
53	ILFS	Sunil Joseph, Regional Head	sunil.joseph@ilfsindia.com	9824054964
54	GJSCI	Binit Bhatt	coo@gjsi.org	022-28293940
55	Starbucks	Mr. Pawar	pawarmangesh13@yahoo.com	8108735509
56	ICICI Bank	Ms. Rajni	agarwal.ruchi@icicibank.com	7738161843
57	Naval Maritime Academy	Captain Bala Subramaniam	namac@namacindia.com,	022 22151790
58	Nainas Apparel Pvt. Ltd	Mr. Dhruvin Desai	dhruvin@nainasapparel.com	9819941027
59	Yogayatan Port	Mr. Chandra shekhar, General Manager Architecture and planning	shekhar.danave@yogayatangroup.com	9819824334

# *Section 10: Andhra Pradesh*

*Vishakhapatnam  
East Godavari*

# 1. District Profile

## 1.1. Visakhapatnam

### About Visakhapatnam

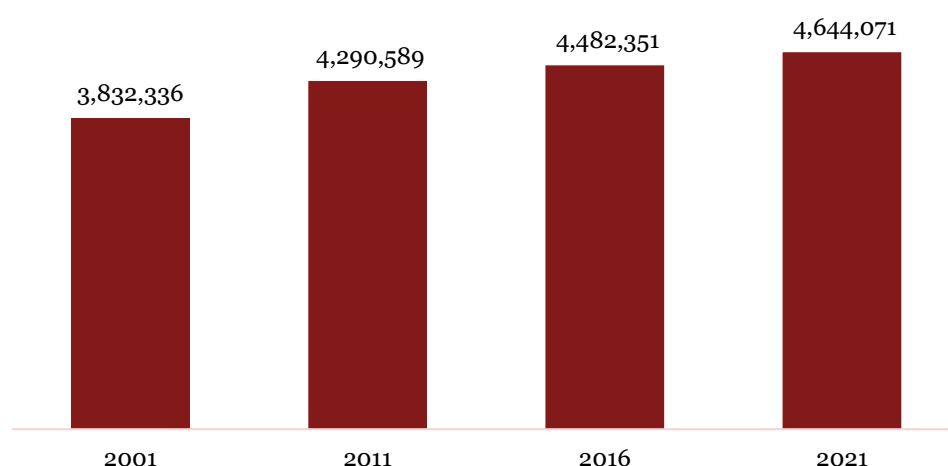
Around 40% of the area in the district is covered by forest and has rich mineral deposits. Bauxite deposits in Visakhapatnam district are considered to be the largest in the country. Agriculture is the main stay of nearly 45% of the households in Visakhapatnam district<sup>1</sup>. The district is the central hub for industry and education in the state of Andhra Pradesh and is known for its natural harbours, temples, beaches, valleys and Buddhist monastic complexes. The district houses a major port, Visakhapatnam port and a minor port, Gangavaram port.

### 1.1.1. Demographic Profile

Indicator	Value
Total population	42,90,589
Decadal rate of growth of population (2001-11)	12%
Rural population	52.5%
Female	50.1%
SC population	7.6%
ST population	14.4%
Workforce participation (As % of total population)	44%
Main Workers (As % of total population)	34%
Marginal (As % of total population)	10%
Non-workers (As % of total population)	56%
*Number of people with vocational training in the age group of 15+ <sup>2</sup>	30 per 1,000

### Population Trends<sup>3</sup>

Figure 1 Population Trends in Visakhapatnam (2001 -2021)



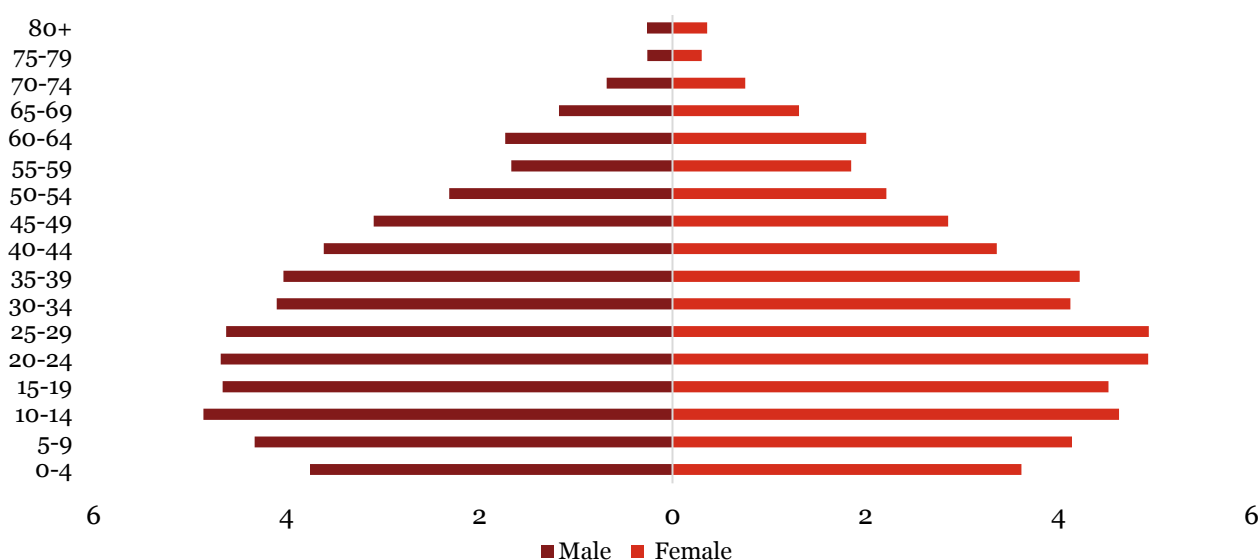
Visakhapatnam will continue to benefit from the young population for the coming 10-15 years. Visakhapatnam has 47% urban population, indicating a potential growth in services sector. Using proportional method for estimating the population for the period 2001-11 (10 years), the population is estimated to be 4,482,351 and 4,644,071 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 4%.

<sup>1</sup> (District Level Estimates, Employment and Unemployment Survey, Labour Bureau)

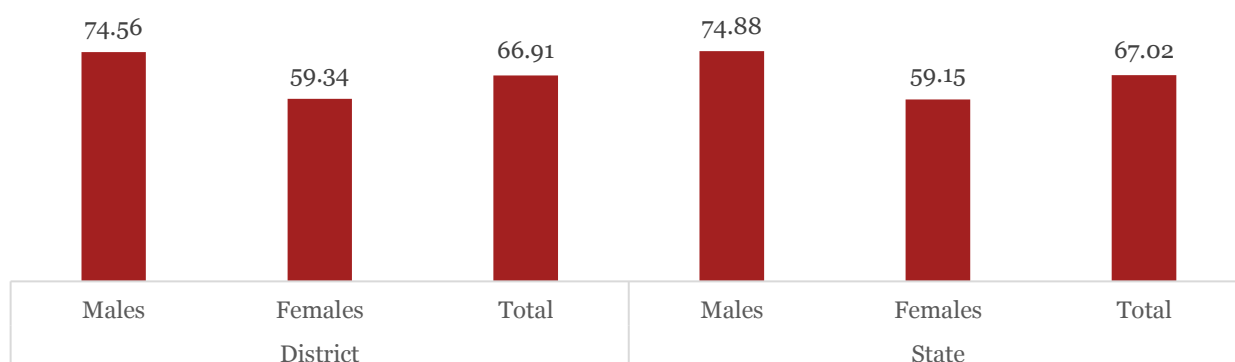
<sup>2</sup> (District Level Estimates, Employment and Unemployment Survey, Labour Bureau)

<sup>3</sup> Based on Census 2001 and 2011, PwC Analysis

**Figure 2 Population Pyramid Visakhapatnam -2011**



### *Literacy rates*



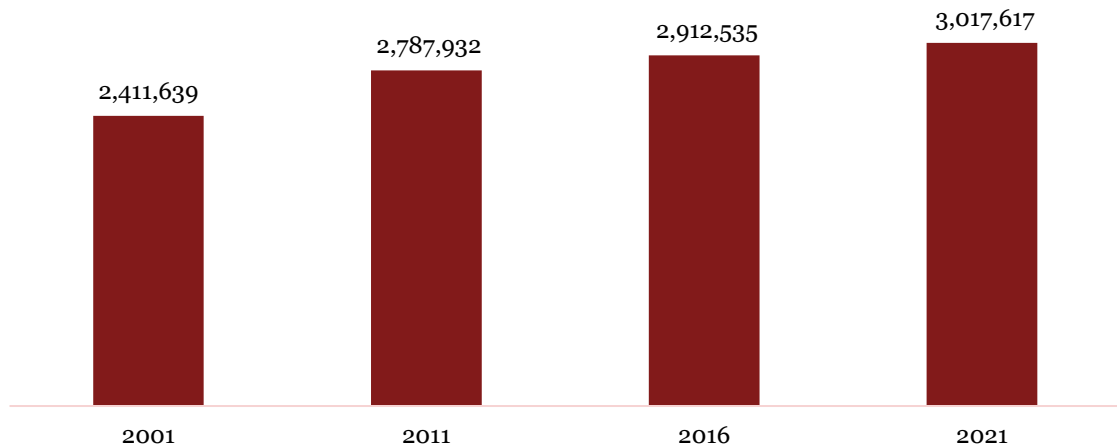
The total literacy rate of Visakhapatnam, as per Census 2011, is approximately 67%, which is around the state's literacy rate. Also, the female literacy rate of Visakhapatnam is 59.34% which is much lower than the male literacy rate, which is 74.56 % in 2011.

### *Age-specific population trends and education level for 2011<sup>4</sup>*

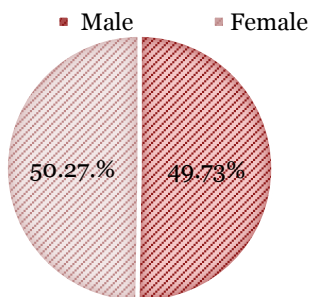
As per the Census 2011, the population in the age group of 15 to 24 years was 796,116 (18.5% of the overall population). Using proportional method, the population in the age group of 15-59 years is estimated to be 2,912,535 and 3,017,617 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 4%.

<sup>4</sup> Based on Census 2001 and 2011

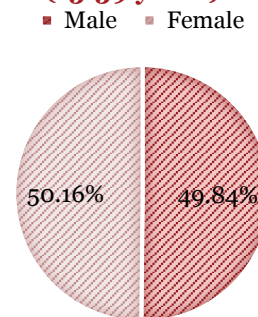
**Figure 3: Growth trend of population in the age group 15-59 year in Visakhapatnam (2001-2021)**



**Figure 5 Age Specific Population in Visakhapatnam (15-24 years)**

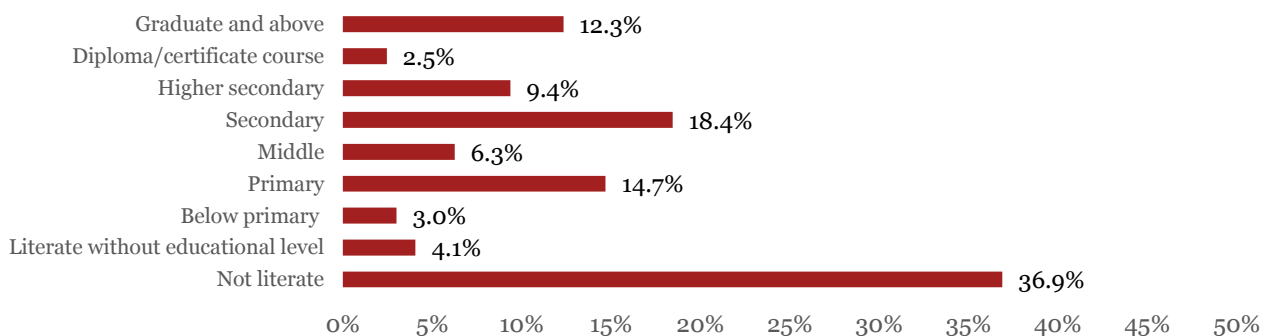


**Figure 4 Age Specific Population in Visakhapatnam (15-59 years)**



The share of population of males and females in total population of Visakhapatnam is around 50% each in both the age categories-15-59 and 15-24 years. The share of women in the 15-24 age bracket is marginally lower than in the 15-59 age bracket.

**Figure 6 Age specific education level in Visakhapatnam (15-59 years)**



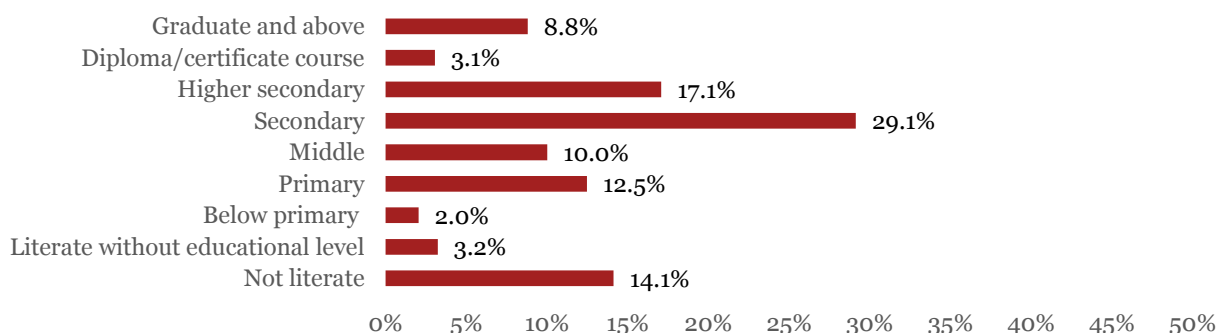
In the age category of 15-59 years, 36.9% of the population of Visakhapatnam is not literate, 4.1% of the population in the age category of 15-59 years are literate without any educational qualification, 3% have attended



school till below primary level and 14.7% have completed schooling only up to primary level. 6.3% of the population in 15-24 years category have completed schooling up to the middle level, whereas around 18.4% of the population in 15-24 years category have been educated till secondary. Only 2.5% of the population of this district have done a certificate/diploma course and 12.3% have at least graduated, indicating that a graduate/post-graduate degree is more sought after than a certificate/diploma.

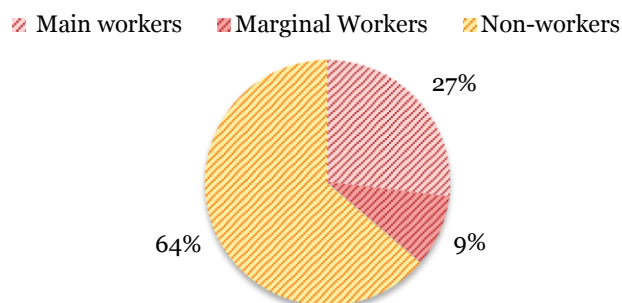
For the age category of 15-24 years, 14.1% of the population of Visakhapatnam is not literate, 3.2% are literate without any educational qualification, 2% have attended school till below primary level and 12.5% have completed schooling only up to primary level. 10% of the population in 15-24 years category have done schooling up to the middle level, whereas, around 29.1% of the population in 15-24 years category have been educated till secondary. Only 3.1% of the population of this district have done a certificate/diploma course and 8.8% have at least completed graduation.

**Figure 7 Age Specific Levels of Education (15-24 years)**

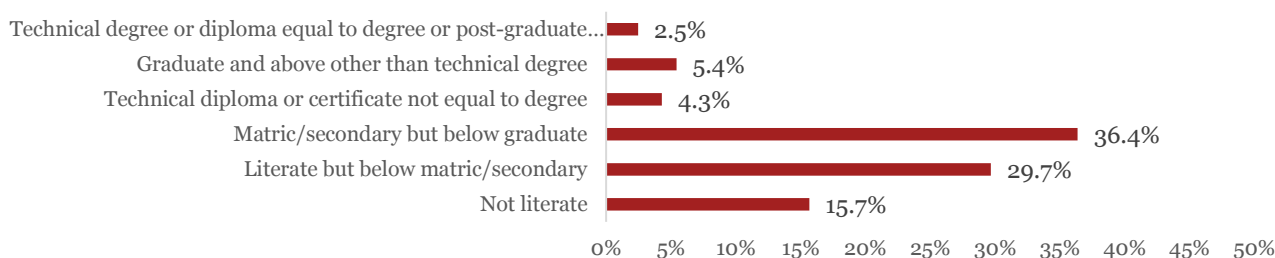


### *Age-specific distribution of workers and educational level*

**Figure 8: Age specific distribution of workers in Visakhapatnam (15-24 years)**



**Figure 9: Education level of marginal workers available for work in Visakhapatnam (15-24 years)**



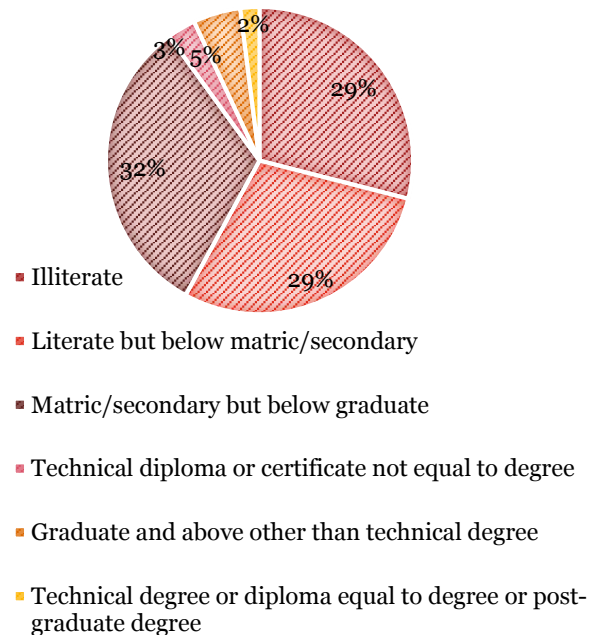
64% in the 15-24 age category are non-workers while 27% are main workers. 9% of the population are marginal workers.

Amongst the 52,727 marginal workers in the age group of 15-24 years, 1,091 (2.07%) hold a technical degree or a diploma equal to degree and 2,413 (4.58%) are graduates above holding degrees other than a technical one. 420 are at least graduate. 1,338 (2.54%) have a diploma or a certificate (not equal to degree). 16,205 (30.73%) are educated up to the matric/secondary level and 14,497 are (27.49%) literate with an educational qualification of below matric/secondary level. 14,239 (27.01%) marginal workers in this age group are not literate.

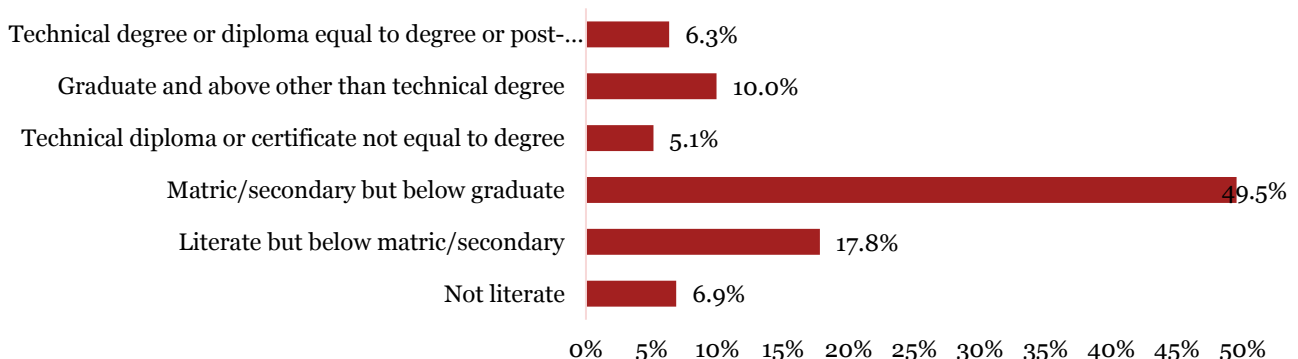
As illustrated from the census, the proportion of main workers who are illiterate (in the age category 15-24 years) is slightly less (3 percentage difference point between the two) than the proportion of marginal workers available for work and who are illiterate. We also find that the proportion of main workers who are literate but below matric/secondary (in the age category 15-24 years) is slightly more than (2 percentage difference point between the two) the proportion of marginal workers who are available for work and are literate but below matric/secondary.

The proportion of main workers who have attained a technical degree or diploma equal to degree or post-graduate degree (in the age category 15-24 years) is slightly more than (1 percentage difference point between the two) the proportion of marginal workers available for work and who have attained a technical degree or diploma equal to degree or post-graduate degree. For the remaining three educational levels, we find that the population shares are more or less the same across the two worker categories.

**Figure 10: Education level for main workers available for work in Visakhapatnam (15-24 years)**



**. Figure 11: Education level of non-workers available for work in Visakhapatnam (15-24 years)**



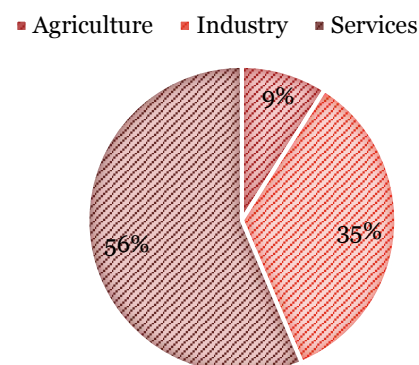
Amongst the 1,04,764 non- workers in the age group of 15-24 years, 6,646 (6.34%) hold a technical degree or a diploma equal to degree or post graduate degree and 10,425 (9.95%) have a graduate and above other than a technical degree at least. 5,382 (5.14%) have a diploma or a certificate (not equal to degree). 51,910 (49.55%) are educated up to matric/secondary level and 18,658 (17.81%) are with an educational qualification of below matric/secondary level. About 7,193 (6.87%) marginal workers in this age group are not literate.

### 1.1.2. Key Economic Drivers

The Gross Domestic Product of the district (at constant prices- 2004-05) was INR 32,423.25 Crore in 2012-13 and it has steadily grown at a CAGR of 7% over the period 2004-05 to 2012-13. The sectoral break up suggests that service sector contribution to district GDP is more than half (56%) followed by industries sector (35%). Further disaggregation suggests that Trade hotels and restaurants have a share of 20.51% and manufacturing sector has a share of 24.12% in the district GDP. Trade, hotels and restaurants have witnessed an impressive growth in their contribution to the district GDP with a growth rate of 107.6% between 2004 and 2012<sup>5</sup>

The key economic drivers of the district are illustrated below:

**Figure 12: Sectoral breakup of Visakhapatnam district GDP at constant prices (2004-05)**



#### Port, maritime and logistics

- Presence of one of the 13 major ports in the country- Vishakapatnam Port
- Extension of existing container terminal in outer harbour by 0.54 million TEUs are planned
- Multi-modal Logistic Skill Parks are expected to be fully operational by 2017-18 and will have the capacity to handle 0.3 million TEU

#### Industrial Development

- Houses a host of manufacturing industries- apparel, food processing, petrochemical, pharmaceutical industries are prominent
- SH Food Processing P. Limited to establish a food park with an investment of INR 300 crores, Jawaharlal Nehru Pharma City to be developed with an investment of INR 7000 Crores,

#### Infrastructure Development

- Vizag-Chennai Industrial Corridor spans across 800 kms is expected to spur growth by augmenting existing investment in world-class transport networks, infrastructure, and industrial and urban clusters
- Vizag Metro Rail runs across 43 kms through 3 corridors

#### Urbanization

- Vizag has been identified to be developed as a SMART City
- Vishakapatnam Special Economic Zone is set up in a sprawling 360 acres of prime land

### 1.1.3. Priority Sectors

In Vizag, the priority sectors that have been identified are **Port and Maritime sector** and other sectors: **logistics, fisheries, tourism and construction**. In addition, **manufacturing, food processing, apparel and petrochemical** have also been identified as priority sectors from the point of view of their contribution to district GDP.

### 1.1.4. About Ports

#### Ports & Maritime

<sup>5</sup> Andhra Pradesh State Planning and Development Society

<sup>6</sup> PwC Analysis

Major Ports: 1		Minor Ports: 1	
Shipyards: 1			
Details			
Visakhapatnam Port Trust			
Operations:	Land Lord Port model (PPP)	Capacity	34 mn tonnes P.A
Key Cargo	Thermal Coal (80%), Petroleum Oil and Lubricants (12%)	No of berths:	5
		Draft	13.5M
Description and key Trend	One of the few natural harbours along the eastern coast, the Visakhapatnam harbour is home to the Eastern Command of the Indian Navy and the Vizag Naval Dockyard. The harbour can be divided into three viz. the Inner Harbour, Outer Harbour and the Fishing Harbour. Major portion of the Cargo is bulk in terms of Coal and Oil. The Port is completely operated on Landlord Port Model.  In addition the minor port of Gangavaram boasts the deepest draught among the all-weather ports in the country.		
Terminal Operations			
	Vizag Seaport Private Limited	Vizag General Cargo Berth Pvt. Ltd	Visakha Container Terminal Pvt. Ltd
Annual Capacity	2 berths: 20,000 tons (per day) each	Coal vessel of 1.64 MTPA	30,000 TUEs (per month)
Type of Cargo handled	Bulk cargo, Gypsum, Manganese Ore, Iron Ore, Coking Coal	Coal	Containers
High Demand Job Roles	Crane operators, truck drivers	Supervisors, Electricians, technicians, crane operators, bridge operators, fitter, drivers, ship unloaders	Truck drivers, Equipment Operators (QC/RTG/Reach Stackers), Berth/Yard Executives
Gangavaram Port			
Operations:	Private	Capacity	20.68 MTPA
Key Cargo	Bulk cargo, Gypsum, Manganese Ore, Iron Ore, Coking Coal	No of berths:	5
		Draught	19.5 M
Description and key Trend	Port Gangavaram is the deepest port in India with a draught of 19.5 m. The Andhra Pradesh Govt. has a minor stake in the port. The port’s major client is currently the Vizag Steel Plant.		

### 1.1.5. Investments

As per the MoUs signed in the 'Partnership Summit-2016', investments to the tune of INR 54,666 Crores have been proposed and vary across a range of sectors which include power, chemical, industrial parks and pharmaceutical industries, to name a few. The proposed investment from this summit is expected to generate employment for 47,193 persons.

In the port and maritime sector, 2 multimodal logistics skill parks worth INR 600 Crores are expected to be operationalised in the coming years. The key players for the proposed projects are VTP, Concor, and Balmer and Lawrie. These logistics parks are expected to generate employment for 800-1000 persons in the construction phase and 200 persons in the operations phase.

In the manufacturing space too some significant investments are proposed, and these include expansion plans by Coca Cola worth INR 1000 Crores, establishment of Pepsico Plant worth INR 100 crores, Oil Refinery Project worth INR 18,400 Crores by HPCL, establishment of Aluminium Production Plant worth INR 6,700 Crores and expansion of Vizag Steel Plant worth INR 38,500 Crores.

- ✓ Vizag Metro Rail Project- Rs. 13,488 Crores; Total Kms- 42.55; Total Corridors-3
- ✓ 6 Lane National Highway- Anandapuram to Anakapalli- Rs. 500 crore
- ✓ NAD Kotha Road Flyover- Rs. 320 Crores
- ✓ Information Technology Investment Region (ITIR)- Rs. 50,000 to Rs. 60,000 crores. Employment- 9 lakh people.
- ✓ IT incubation center- Rs. 62.70 crore. Employment- 2,500.
- ✓ Society for Applied Microwave Electronics Engineering and Research (SAMEER)- Rs. 80 Crores.
- ✓ Electronic Hardware Manufacturing Cluster

**Table 1: Proposed Key Investments for the year 2016-22 in Visakhapatnam**

Sector	Proposed Investment (INR Cr)	Number of Projects	Expected Employment	Key Players
Port & Maritime	2,811	7	1,810 persons	Visakhapatnam Port, Vizag General Cargo Berth, CONCOR, Visakha Container Terminal, Vadinar Oil Terminal
Manufacturing	1,12,199	16	52,762 persons	Coco cola, Kaizen Power, Texport, Hareon Solar Company, Kerneos India Technologies, Pepsico, Asian paints, Rashtriya Ispat Nigam Ltd (RINL)
Smart City	1,51,613	25	--	Greater Visakhapatnam Municipal Corporation (GVMC)
Infrastructure	14,308	3	--	NHAI, Metro Rail
Port & Maritime	2,811	7	1,810 persons	Visakhapatnam Port, Vizag General Cargo Berth, CONCOR, Visakha Container Terminal, Vadinar Oil Terminal

**Figure 13: Proposed Projects under SMART City initiative-Visakhapatnam, Source: Visakhapatnam Smart City Corporation<sup>7</sup>**

Projects	Sector	Cost (In Cr.)
Solar Rooftop & Associated Projects	Solar Energy	600
Beautification of Beaches	Tourism	500
ICT and E-Governance	IT ITES	370

<sup>7</sup> Greater Visakhapatnam Smart City Corporation Limited

<b>Projects</b>	<b>Sector</b>	<b>Cost (In Cr.)</b>
Housing Project	Construction	107
Multi-Level Car Parks	Construction	200
Green Spaces	Construction	180

### 1.1.6. Youth Aspiration

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspirations, job aspirations, training aspirations and self-employment.

#### Respondent Profile

Profile	Details
Total Sample Size	384
Gender Profile	Male- 58% Female- 42%
Age Group	15-24 years
Education Level (top 3)	Senior Secondary schooling(Class 9 to 10)- 34.7% Higher secondary schooling with arts(Class 11 to 12)- 15.2% Higher secondary schooling with science (Class 11 to 12)- 13.9%
APL/BPL/AAY/Don't know	APL- 2 % BPL- 96% AAY- 1% Don't know- 1 %
Occupational Profile (top 3)	Agriculture (32.2%), Labourer outside village/town (12.2%), Own business (8.7%)

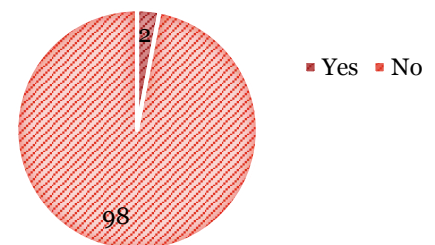
#### Exposure to Vocational Training and Educational Aspiration

Regarding the exposure to vocational training, most respondents reported that they had not completed any vocational training course. Overall, ~98% of the respondents had not enrolled in vocational training courses.

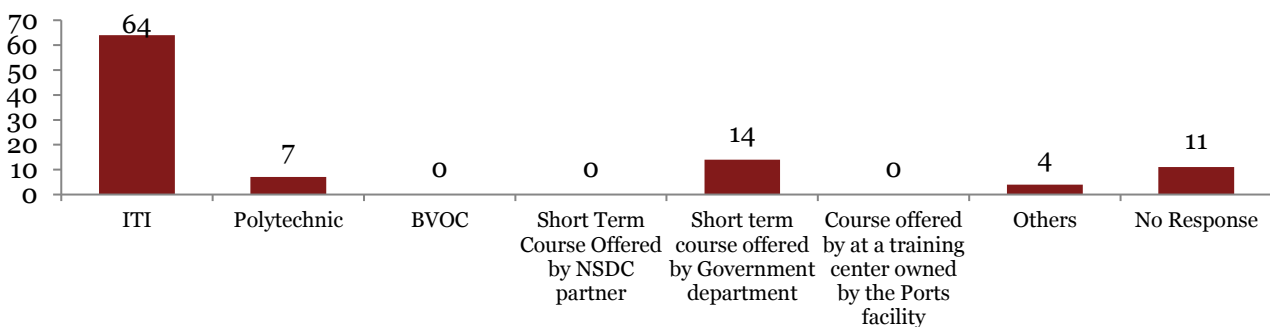
Of the total respondents who underwent vocational training (which is ~2%), majority were from ITI (64%) and polytechnics (7%).

Further, the respondents were asked about the level of education they wished to attain. Nearly three-fourth of the respondents (74%) aspired to attain graduation and post-graduation levels of education. The desire to attain technical education was relatively low, with only 22% of the respondents choosing it.

**Figure 14 : Percentage of respondents who completed vocational training courses - Visakhapatnam**



**Figure 15: Percentage of respondents who had completed courses in vocational training - Visakhapatnam**





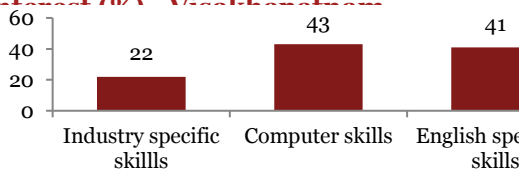
## Job Aspiration

One of the important findings of the survey has been the complete preference for wage employment over self-employment among the youth of the district, wherein all of the respondents reported to have preferred wage employment.

The respondents were further asked to identify the factors important for securing employment in the area of interest. Half (50%) of the respondents identified job opportunities as the most important factor for securing employment, followed by computer skills (43%), English speaking skills (41%) and industry specific skills (22%).

Regarding the job aspiration of the respondents, after completion of education or training, it can be observed that there is a demand for

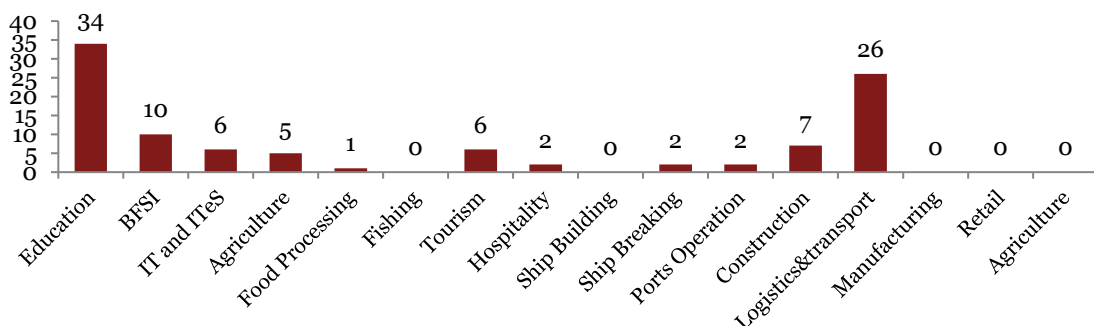
**Figure 17: Factors important for securing employment in area of interest (%) - Visakhapatnam**



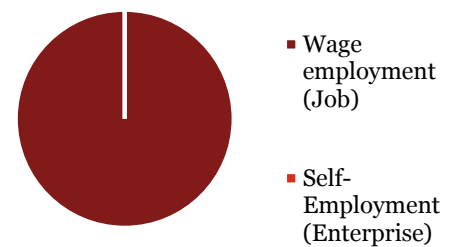
services sector with 34% aspiring for entry level jobs in service sector and 16% aspiring for middle level jobs. This is followed by middle level jobs (24%) and entry level jobs (15%) in manufacturing industry.

Further, Education (37%) Logistics & transport (18%), tourism (13%) and BFSI (12%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job in the service sector space.

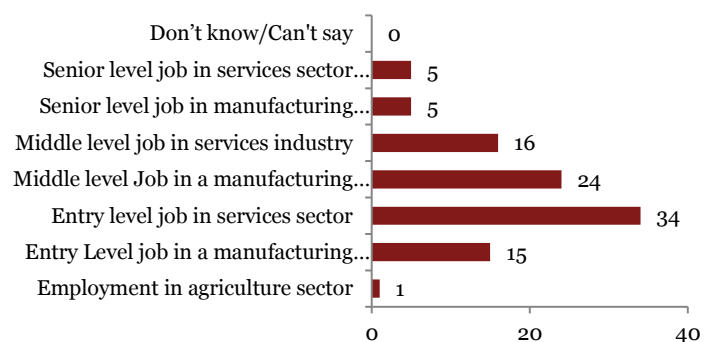
**Figure 19: Sectors in which respondents' foresee getting a desired job (%) - Visakhapatnam**



**Figure 16: Percentage of respondents aspiring for wage and self-employment -**



**Figure 18: Desired job profile after completion of education/training - Visakhapatnam**

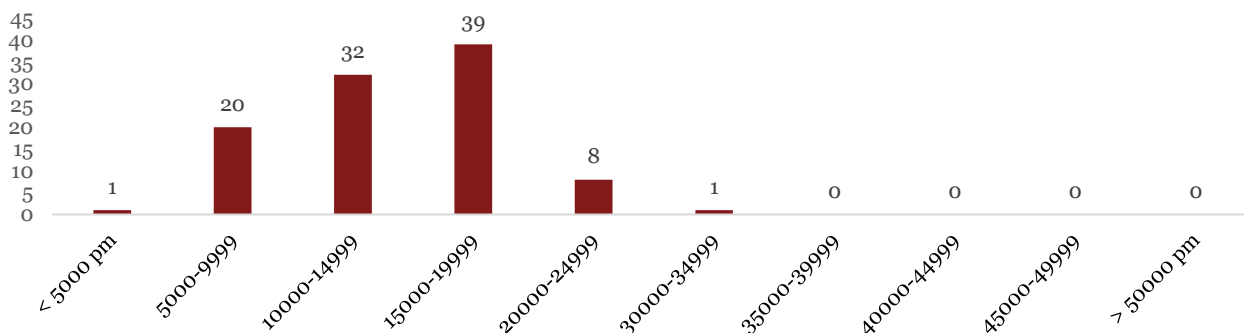




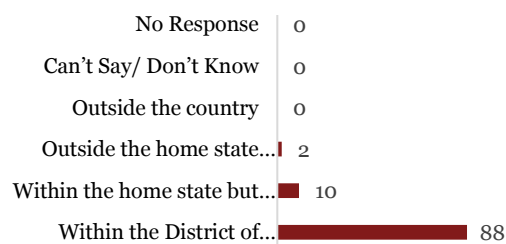
Out of total respondents, 98% preferred to work in the same state. It is important to note that 88% of the respondents preferred to work in the same district and 10% expressed willingness to migrate to other districts in the same state, suggesting lack of flexibility among the youth of the district.

For majority of the respondents (39%) the monthly salary expectation was INR 15,000-20,000. And for 32% of respondents the expected salary was reported to be range of 10,000-15,000 per month.

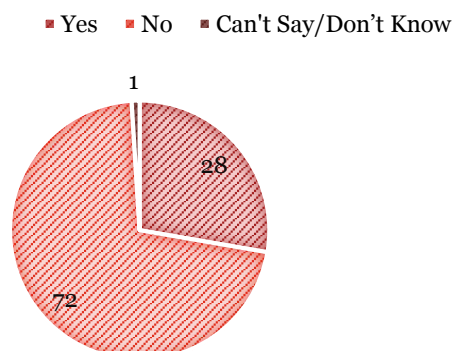
**Figure 21: Monthly salary expectation of respondents - Visakhapatnam**



**Figure 20: Preferred work location of candidates - Visakhapatnam**



**Figure 22: Willingness to participate in trainings (%) - Visakhapatnam**

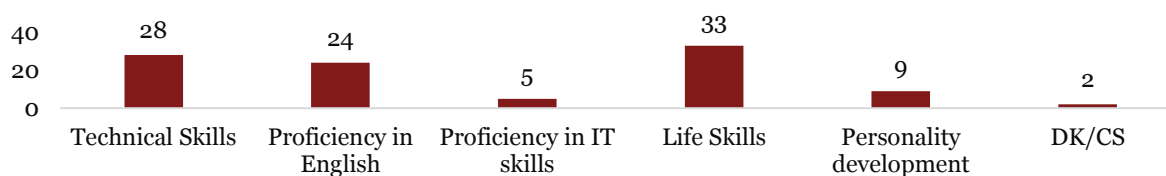


## Training Aspiration

Regarding willingness of the respondents to participate in the training programme in the next one year, 28% expressed interest whereas 72% expressed dis-interest.

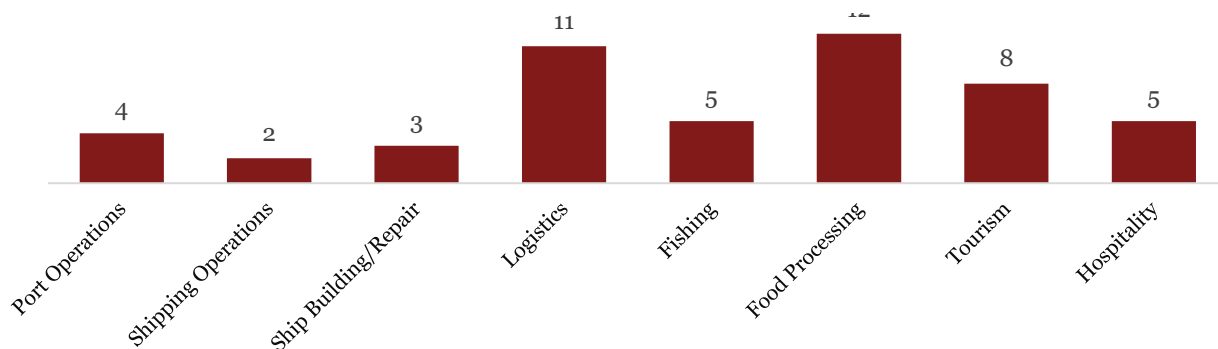
Further, when enquired about the key focus areas of skill training, 33% of respondents reported that emphasis must be placed on life skills followed by technical skills (28%) and proficiency in English (24%).

**Figure 23: Focus area on skills training - Visakhapatnam**



Overall there is demand for training in hospitality (47%), port operations (40%), food processing (34%) and logistics (31%).

**Figure 24: Willingness of respondents to participate in trainings of different sectors - Visakhapatnam**



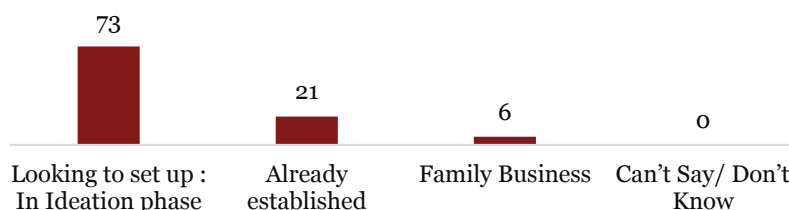
## Self-Employment

Regarding the current status of the Entrepreneurial Ventures of the respondents who aspired for self-employment, 6% were in family business, 21% have already established enterprises and 73% were in the ideation stage.

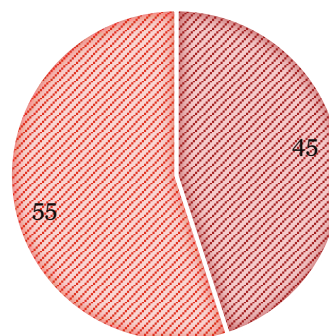
Further, only 45% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills.

Retail business (36%), food processing (21%) and trading (18%), manufacturing (engineering trades) (9%) have been identified as the most preferred sectors for setting up own enterprises.

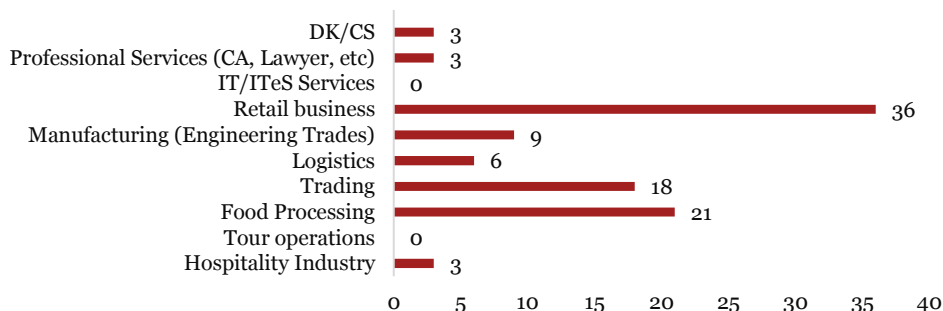
**Figure 25: Current Status of Entrepreneurial Venture (%) - Visakhapatnam**



**Figure 26: Interested in skill development for enhancing entrepreneurial skills (%) - Visakhapatnam**



**Figure 27: Sectors for establishing enterprises - Visakhapatnam**



### 1.1.7. Training Infrastructure

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
Industrial Training Institutes (ITIs)	65	31	Fitter, Electrician, Welder, MMV, COPA
Polytechnic	21	15	Civil Engineering, Electrical And Electronics Engineering, Mechanical Engineering, Civil Engineering Electronics & Communication Engineering
DDU-GKY: PIAs	8	-	
PMKVY	9	29	Retail Sales Associate, Field Technician – Computer and Peripherals, Domestic Data Entry Operator, Modeller
Directorate General of Shipping Courses	1	2	B.E.-Marine Engineering, Graduate in Marine Engineering (G.M.E)
Central Institute of Fisheries Nautical and Engineering Training (CIFNET)	1	43	Shore Mechanics, Advanced Diploma in Fishing Gear technology, Advanced Fishing Technology, Elementary Fishing Technology
APSSDC Centres of Excellence (Siemens)	4	18	
APSSDC – Youth Training Centre	4	12	Electrician, AC and Refrigeration, BPO, Sewing Machine Operator
Employability Skill Centres	37	3-4	Communication, IT, SAP, ERP
Visakha Institute of Port Management	1	60	Port Equipment Maintenance, Fire and Safety

The Training infrastructure in the district is dominated by the ITIs and Polytechnics. However, the state Govt. has initiated trainings through Centres of Excellence in partnership with Siemens in a hub and spoke model in high end Manufacturing trades.

- ITI-s - There are 65 ITI's providing training in 31 Different trades.
- Polytechnics – Core engineering sectors like Civil, Electrical & Electronics, Electronics & Communication and Mechanical remain the most dominant trades, however, new age trades like Hotel Management, Mechatronics, Production Technology, etc. are also gaining traction.
- PMKVY & PMKK – The Trades are focussed on the BPO sector with a sanctioned strength of around 1080 per year. No PMKKs have been sanctioned at present.
- CIFNET- Cifnet has been providing short term courses (3 days - 2 weeks) in its campus on various trades focussing on increased production.
- DG-Shipping- The DG Shipping courses available are in the Engineering category.
- APSSDC-Siemens – A centre of Excellence and three T-SDIs giving advanced lab training in 18 different trades in manufacturing have been set up in partnership with Siemens.

- 
- APSSDC-Tribal Welfare – To cater to the tribal areas, three Youth Training Centres are being run in partnership with the Tribal Welfare Department. The trades are currently oriented towards repair /servicing sectors and BPO.
  - APSSDC-ESCs – To boost the employability of college students in the districts, Employability Skills Centres have been established. These provide trainings across the program in Soft Skills and Information Technology. In addition, a core skill course in the field of Degree like Computer Programming, SAP,ERP etc are also being imparted in offline-online modes.
  - Visakha Institute of Port Management – The Visakha Container Terminal provides training (Diplomas) in Port related activities - one of the very few in the country.

## 1.2. East Godavari

### About East Godavari

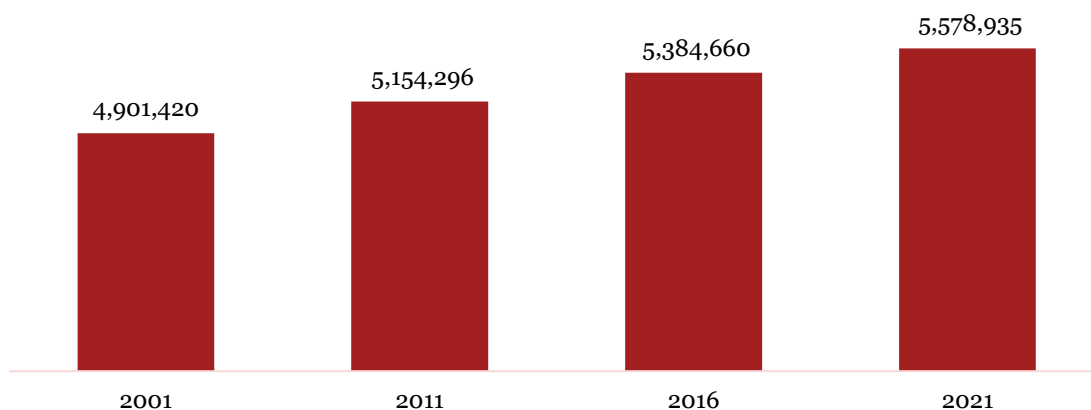
Natural resources form the mainstay of the district and its residents, as 55.7% of the total working population of East Godavari is employed in agriculture, with the district being the largest producer of paddy, coconut and banana in Andhra Pradesh. East Godavari District enjoys the unique distinction of having marine, inland and brackish water pisciculture<sup>8</sup> and the district thrives on tourism as it is bestowed with beaches, mangroves, and backwaters, to name a few. The key industries in the district include agro-based industries like rice mills, coir, soya bean oil, rice bran oil, and has rich mineral deposits including graphite, pegmatite along with the availability of natural gas deposits.

#### 1.2.1. Demographic Profile<sup>9</sup>

Indicator	Value
Total population (2011)	51,54,296
Decadal rate of growth of population (2001-11)	5%
Rural population	75%
Female population	50%
SC Population	18%
ST Population	4%
Workforce participation (As % of total population)	41%
Main Workers (As % of total population)	34%
Marginal (As % of total population)	7%
Non-workers (As % of total population)	59%
*Number of people with vocational training in the age group of 15+ <sup>10</sup>	56 per 1,000

### Population Trends<sup>11</sup>

Figure 28: Population trend in East Godavari (2001-2021)



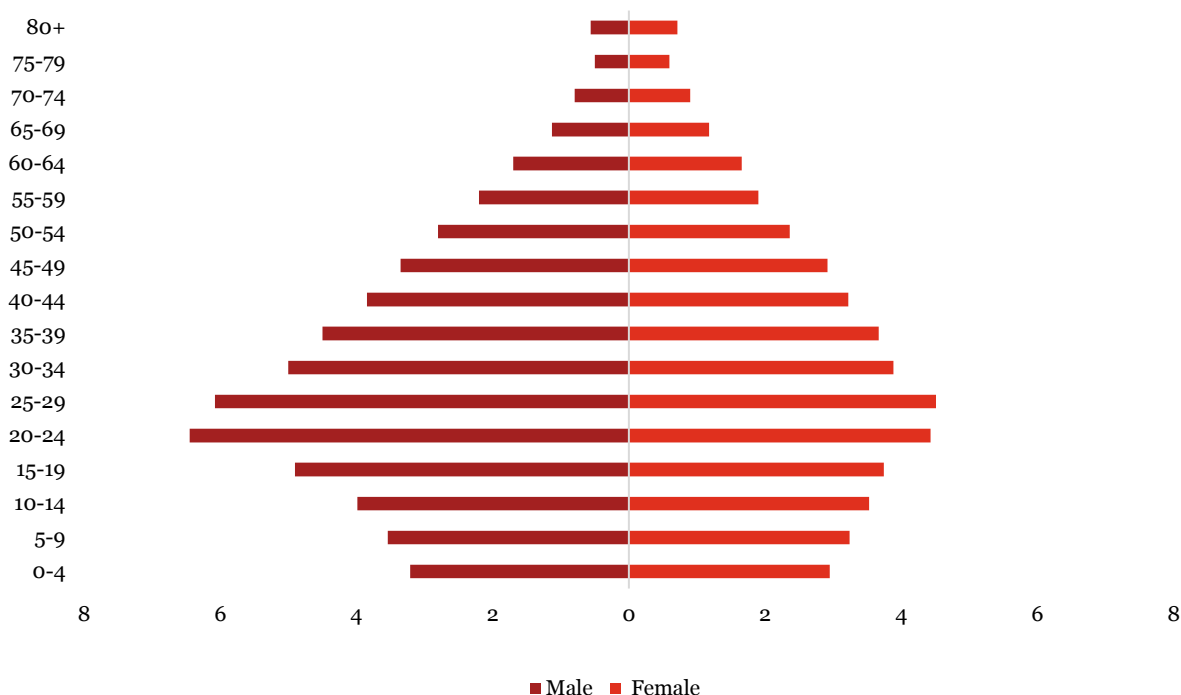
<sup>8</sup> Brief Industrial Profile of East Godavari District, MSME

<sup>9</sup> Census 2011

<sup>10</sup> Employment and Unemployment Survey, District Level Estimates for Andhra Pradesh - 2014

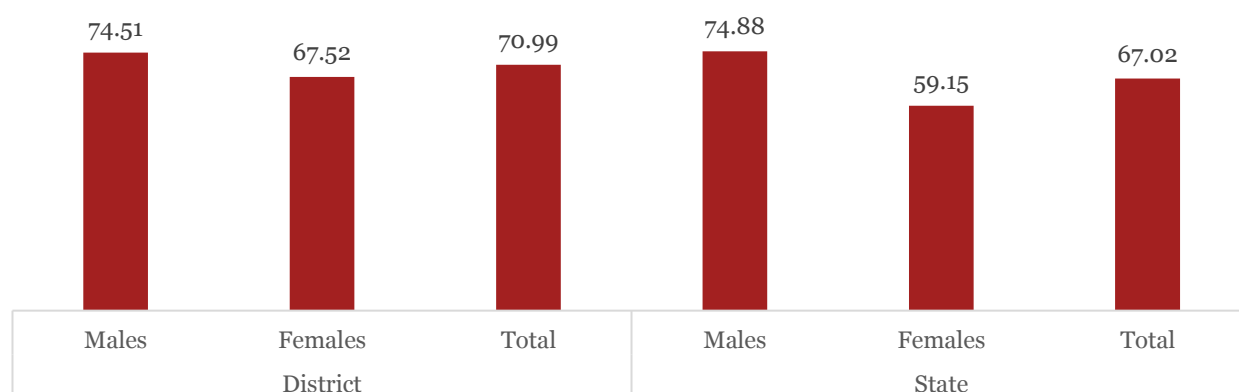
<sup>11</sup> Based on census 2001 and 2011

**Figure 29: Population Pyramid East Godavari - 2011**



East Godavari will gradually have an increased proportion of population over 35 Years, indicating aging of the population. Estimating the population for the period 2001-21 (10 years), the population is estimated to be 5,384,660 and 5,578,935 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 3%

### *Literacy rates*



The total literacy rate of East Godavari, as per Census 2011, is approximately 71%, which is higher than the state's literacy rate of 67%. Also, the female literacy rate of East Godavari is 67.34% though lower than the male literacy rate, (which is 74.56), is much higher than the state's female literacy rate in 2011.

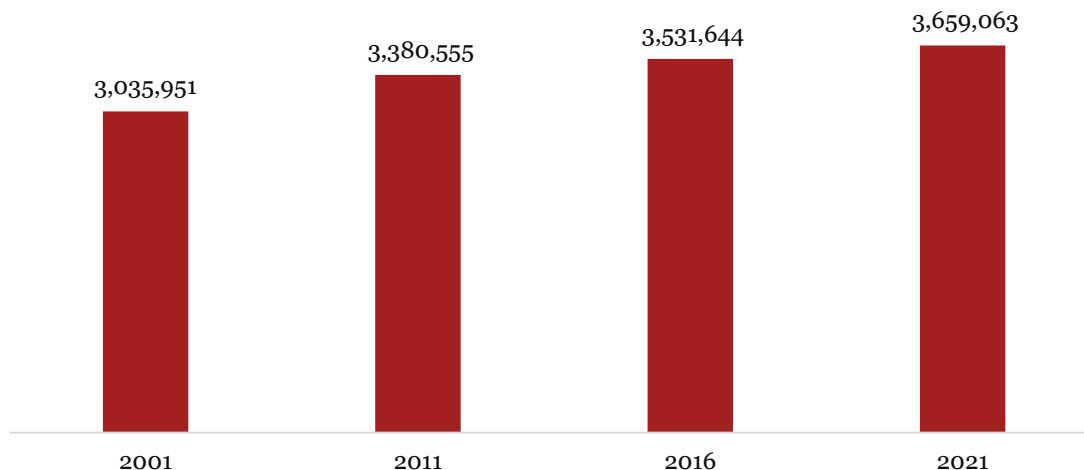
### *Age-specific population trends and education level for 2011<sup>12</sup>*

As per the Census 2011, the population in the age-group of 15 to 24 years was 1,001,200 (15.44% of the overall population). Using proportional method, the population in the age group of 15-59 years is estimated to be

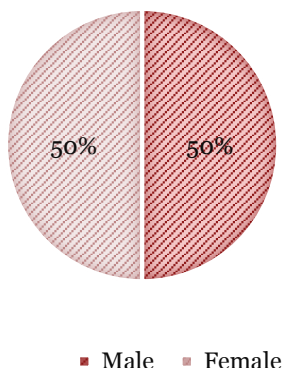
<sup>12</sup> Based on Census 2001 and 2011

3,531,644 and 3,659,063 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 4%.

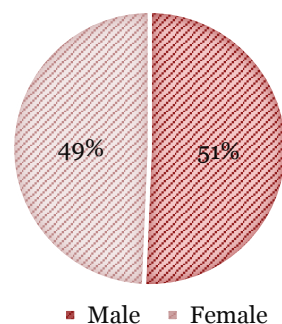
**Figure 30: Growth trend of population in the age group 15-59 years in East Godavari**



**Figure 31: Age specific population in East Godavari (15-59 years)**

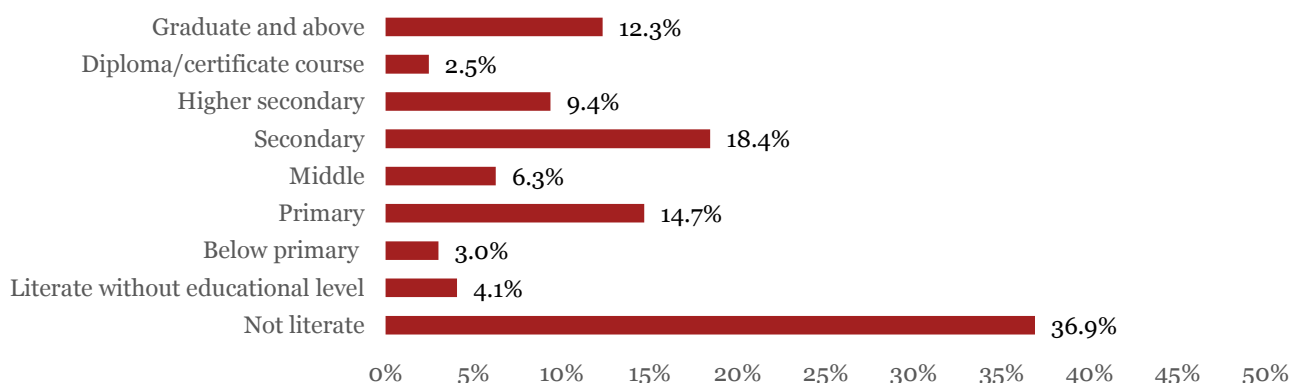


**Figure 32: Age specific population in East Godavari (15-24 years)**



The share of population of male and female in total population of East Godavari is around 50 % each in both the age categories-15-59 and 15-24 years.

**Figure 33 Age Specific Education Levels (15-59 Yrs.)**

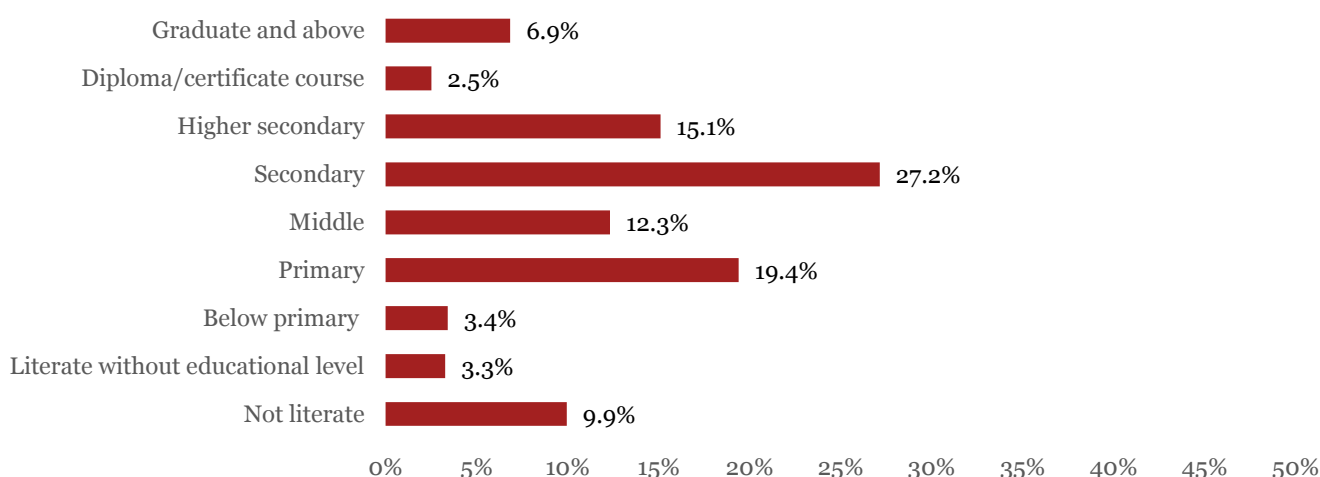


According to Census data, for the age category of 15-59 years, 36.9% of the population of East Godavari was not literate, 4.1% the age category of 15-59 years were literate without any educational qualification, 3% had attended

school till below primary level and 14.7% had completed schooling up to primary level. 6.3% of the population in the 15-59 years category had completed schooling up to the middle level, whereas around 18.4% of the population in 15-59 years category had been educated till secondary. Only 2.5% of the population of this district had done a certificate/diploma course and 12.3% had at least graduated, indicating that a graduate/post-graduate degree was more sought after than a certificate/diploma.

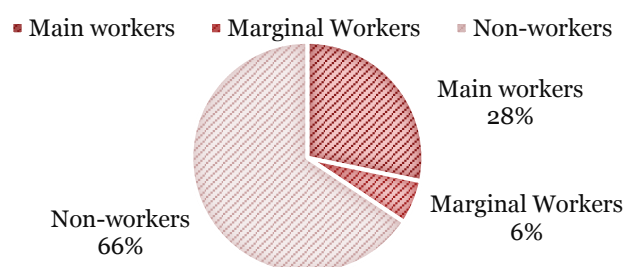
For the age category of 15-24 years, 9.9% of the population of East Godavari was not literate, 3.3% were literate without any educational qualification, 3.4% had attended school till below primary level and 19.4% had completed schooling only up to primary level. 12.3% of the population in 15-24 years category had done schooling up to the middle level, whereas around 27.1% had been educated till secondary level. Only 2.5% of the population of this district in 15-24 years category had done a certificate/diploma course and 6.9% had at least completed graduation.

**Figure 34 Age-Specific Education Level in East Godavari (15-24 Yrs.)**



Age specific distribution of workers and educational level

**Figure 35: Age-specific distribution of workers in East Godavari (15-24 yr)**

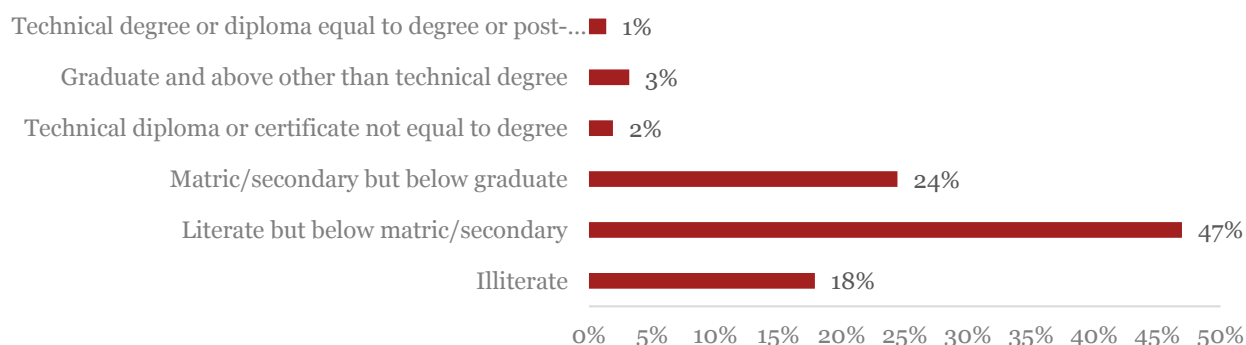


66% of the population in the age group of 15-24 years are non-workers. 28% of the population are main-workers, whereas 6% are engaged in marginal work i.e. work for 3-6 months during the year.

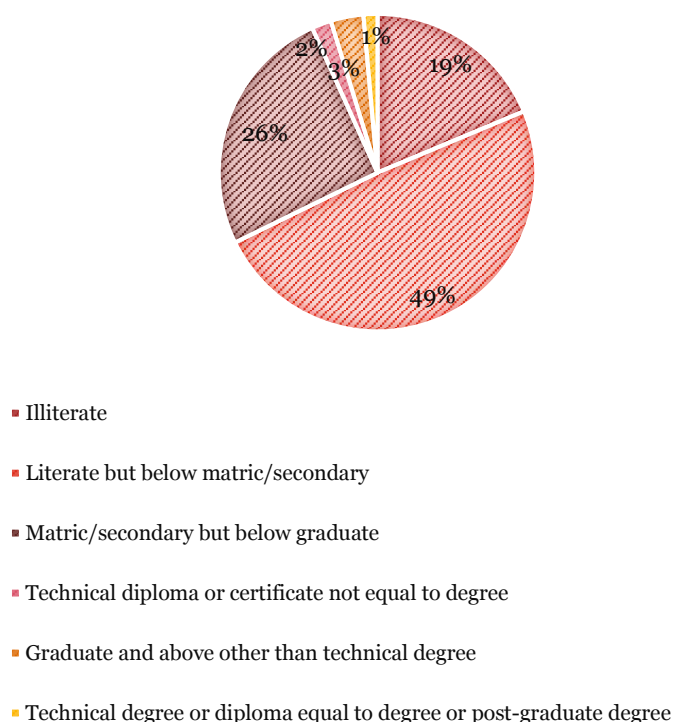
Amongst the 31,351 marginal workers in the age group of 15-24 years, 471 (2%) hold a technical degree or diploma equal to degree and 1,223 (4%) are graduate and above other than technical degree. 916 (3%) have a diploma or a certificate (not equal to degree). 11,211 (36%) are educated up to the matric/secondary level and 18,290 (58%) are literate with an educational qualification of below matric/secondary level, 7,249 (23%) marginal workers in this age group are not literate.



**Figure 36 Education Level of Marginal Workers in East Godavari (15-24 Yrs)**



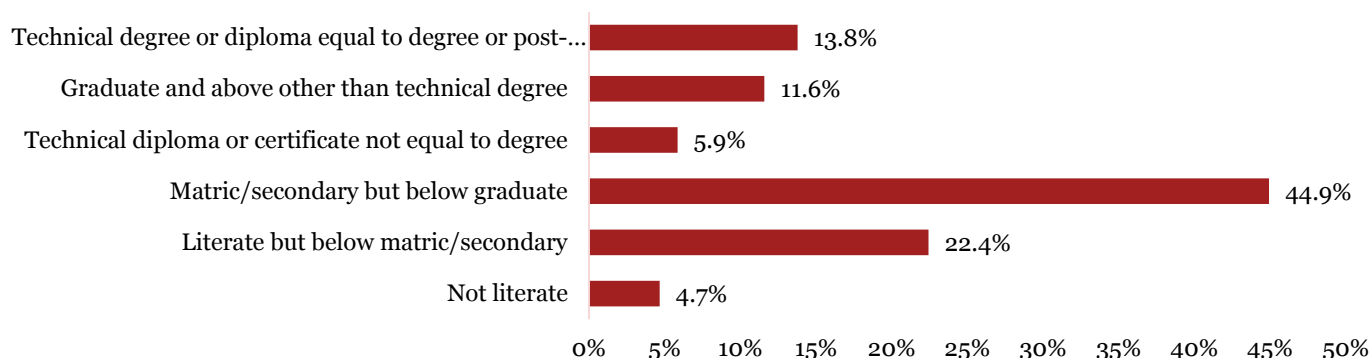
**Figure 37: Educational level for main workers available for work in East Godavari (15-24 years)**



From Census 2011, we find that the proportion of main workers who are illiterate (in the age category 15-24 years) is slightly more (4 percentage point difference between the two) than the proportion of marginal workers available for work and who are illiterate. We also find that the proportion of main workers who are literate but below matric/secondary (in the age category 15-24 years) is slightly more (3 percentage point difference between the two) than the proportion of marginal workers who are available for work and are literate but below matric/secondary. The proportion of main workers who are matric/secondary but below graduate (in the age category 15-24 years) is slightly less (4 percentage point difference between the two) than the proportion of marginal workers who are available for work and are matric/secondary but below graduate. For the remaining three educational levels, we find that the population shares are more or less the same across the two worker categories.

categories.

**Figure 38: Education level of non-workers available for work in East Godavari (15-24 years)**



Amongst the 106,858 non-workers in the age group of 15-24 years, 14,732 (14%) hold a technical degree or diploma equal to degree and 12,395 (12%) are graduate and above other than technical degree. 6,256 (6%) have a diploma or a certificate (not equal to degree). About 48,021 (45%) are educated up to the matric/secondary level and 23,973 (22%) are literate with an educational qualification of below matric/secondary level. Over 4,998 (5%) non-marginal workers in this age group are not literate.

### 1.2.2. Key Economic Drivers

The Gross Domestic Product<sup>13</sup> of the district (at constant prices-2004-05) was INR 23,999.81 crore in 2012-13 and it has steadily grown at a CAGR of 4.11% over the period 2004-05 to 2012-13. The sectoral break up suggests that service sector contribution to district GDP is nearly half (49%) followed by industries sector (30%) which is one third of the total district GDP. Further disaggregation suggests that Trade hotels and restaurants have a share of 15.61% and manufacturing sector has a share of 12% in the district GDP. Both sectors have witnessed impressive growth in their contribution to the district GDP with a growth rate of 24% and 20% between 2004 and 2012.

The main occupation of the district is agriculture, in which more than 24% of the population is engaged. At the same time, more than 60% of the population are non-workers which is a potential labour force.<sup>14</sup>

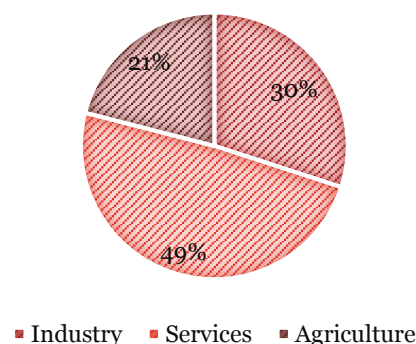
The key economic drivers of the district are illustrated below:

Agriculture and Allied	<ul style="list-style-type: none"><li>• The main occupation of the district is agriculture where more than 24% of the population is engaged</li><li>• It is the largest producer of Coconut and Banana in A.P</li><li>• With a coastline of 144 kms, it has a unique distinction of having marine, inland and brackish water pisciculture</li></ul>
Port and Maritime	<ul style="list-style-type: none"><li>• Presence of Kakinada Deep Water Port and Anchorage Port</li><li>• New port named Kakinada Port Special Economic Zone (KPSEZ) being developed by GMR</li><li>• Due to the seaport and port-based industry, Kakinada has a diverse industrial presence from textile to auto parts, from fishing to steel</li></ul>
Industrial Development	<ul style="list-style-type: none"><li>• Paper, Coir, Fertilisers, pharmaceutical and Edible Oil Industries along with Food Processing units (Shrimp, Fish) are dominant industries</li><li>• Major hub for Oil and Natural Gas generation and Exploration</li></ul>
Infrastructure Development	<ul style="list-style-type: none"><li>• Kakinada has been identified to be developed as a SMART City</li><li>• Kakinada Special Economic Zone being developed to be spread across 10500 acres</li></ul>
Tourism	<ul style="list-style-type: none"><li>• Replete with natural beauty, East Godavari with its beaches, Backwaters, temples, Buddhist Temples, Mangroves, wildlife sanctuary</li><li>• Government plans on investing 2186 Crores (Tourism Policy 2015-20)</li></ul>

### 1.2.3. Priority Sectors

In East Godavari, the priority sectors that have been identified are **Port and Maritime sector** and other sectors: **logistics, fisheries, tourism and construction**. Other sectors that have been identified as priority

**Figure 39: Sectoral breakup of East Godavari district GDP at constant prices (2004-05)**



<sup>13</sup> Andhra Pradesh State Planning and Development Society

<sup>14</sup> Brief Industrial profile of East Godavri District, MSME Development Institute

sectors from the point of view of their contribution to district GDP are **agriculture, manufacturing and food processing**.

#### 1.2.4. About Port

Ports & Maritime							
Major Ports: 0		Minor Ports: 1		Shipyards: 1			
Details							
Visakhapatnam Port Trust							
Operations:		Land Lord Port model (PPP)		Capacity		12.7 MTPA	
Key Cargo		Coal, fertilizer, rice, sugar Alumina		No of berths:		6	
				Draft		12.5	
Description and key Trend		Originally developed by the Govt. of AP, the Kakinada Port was privatized in 1999. The hinterland is primarily the districts of East and West Godavari, Krishna, Guntur and the entire Telangana region. Primary cargoes of this region include agricultural products, minerals, coal and fertilizers.					
Terminal Operations							
		Bothra Brothers			Vedanta		
Annual Capacity		Coal- 8 MT Fertilizer- 8 MT Container- 12,000 TEUs			Ship unloader- 400 TPH Silo storage- 67500 MT Bulk loading- 400T/Day		
Type of Cargo handled		Coal, fertilizer, rice, sugar			Alumina		
High Demand Job Roles		Harbor mobile crane operator, mechanics-repair of crane, electrician, drive, technician-repair of crane, welder, gas cutter			Technicians: electrical and mechanical, PLC operator		
Shipyard							
Infrastructure				Floating dock, slipway, floating jetty			
A joint venture between Sembawang Shipyard Pte Ltd and Kakinada Seaports Limited, is an integrated marine and offshore facility. SKL is operating within the vicinity of Kakinada Seaports and offers ship-owners and offshore operators, a one-stop integrated offshore service facility including the repairs and servicing of offshore vessels and ships, newbuilding, riser/equipment repairs and modules fabrication.							
Job Roles: Mechanical/steel fitter, brazers, machinists for lathe, drilling and cutting, dock rigger, blaster, painter, fire patrolling, fire watchmen, electrician, scaffolder							

#### 1.2.5. Investments

According to the information provided by the District Industries Centre, East Godavari, the proposed investments in the district for the year 2015-16 amount to INR 14,472 Crores and vary across a range of sectors which include Food, Agro and marine products, pharmaceuticals to name a few.

In the port and maritime sector, an LNG project with the capacity of 2.5 MMTPA and worth INR 1,600 Crores has been proposed for 2018. The key players for the proposed project are Andhra Pradesh Gas Distribution Corporation (APGDC), Shell and GDF Suez. It is expected to generate employment for 400 persons in the construction phase and 50 persons in the operations phase.

Some significant investments are also proposed in the petrochemical space, and these include operationalisation of Petrochemical Complex worth INR 30,000 Crores by 2021 by GAIL and ONGC, who are expected to invest INR 34,000 Crores to bring into production the Krishna-Godavari basin oil and gas field by 2020.

Details of some of the key investments proposed for the district are given below:

**Table 2: Proposed Key Investments, Source: District Industries Centre, East Godavari**

Sector	Proposed Investment (INR Cr)	Number of Projects	Expected Employment	Key Players
Port & Maritime	1,600	1	450 persons	APGDC, Shell, GDF Suez
Petrochemical and Gas Production	64,000	2	-	ONGC, GAIL
Smart City	1,993	69	-	Kakinada Municipal Corporation, Kakinada Smart City Corporation
Pharmaceuticals	809	2	4,050 persons	Tyche Industries Ltd., Divi's Laboratories
Food Agro and Marine products	455	6	2,132 persons	Nekkanti Sea Foods Ltd., Devi Sea Foods, Avanti Feeds
Other Projects Registered with DIC Data	2,688	6	4,190 persons	Aparna Enterprises, Synergy Bio Refineries

Kakinada, the district headquarter of East Godavari has been selected as one of the SMART cities. The total cost of developing Kakinada SMART City is estimated to be around INR 1,993.03 Crores. Some of the upcoming projects under the SMART City initiative and the sectors in which nature of employment which is expected to be generated are given in the table below.

**Table 3: Proposed Projects under SMART City initiative-Kakinada, Source: Kakinada Smart City Corporation**

Projects	Sector	Cost (In Cr.)	Likely Opportunities
Godavari Kalakshetrm	Tourism	30.46	Construction Workers, Artists
Beautification of Commercial canal for Green Waterfront Development (From Jagannaickpur bridge to Indrapalem Lock)	Tourism	92.00	Construction Workers
Development of Boat Building Yard	Boatyard	26.56	Welders, Electricians, Boat Repair Mechanics
Construction of Cold Storage at Yetimoga	Fisheries	5.00	Construction Workers
Hygienic markets for fish processing and packing units	Fisheries	2.60	
Skill Development Centre at Ramaraopeta	Skills	1.50	Construction Workers, Trainers
Skill Development Centre for Women	Skills	1.00	Construction Workers, Trainers
Solar rooftops for all govt. buildings in East Godavari (The total rooftop area available under ADB is 5,13,950 sq ft and it is possible to install 5 MW capacity solar rooftop systems)	Solar Energy	40.00	Solar Panel Technicians

Projects	Sector	Cost (In Cr.)	Likely Opportunities
Solar panels on roof top of apartments in Area Based Development*	Solar Energy	112.80	Solar Panel Technicians

### 1.2.6. Youth Aspiration

The key findings of the youth aspirations are include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

#### Respondent Profile

The table below provides an overview of the respondent profile:

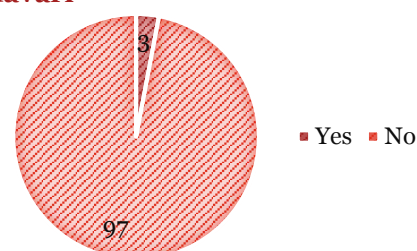
Profile	Details
Total Sample Size	384
Gender Profile	Male- 54% Female- 46%
Age Group	15-24 years
Education Level (top 3)	Senior Secondary schooling(Class 9 to 10)- 32.6 % Higher secondary schooling with science(Class 11 to 12)- 18.6% Higher secondary schooling with arts(Class 11 to 12)- 17.8%
APL/BPL/AAY/Don't know (118)	APL-3 % BPL- 95% AAY- 1% Don't know- 1 %
Occupational Profile (top 3) (112)	Agriculture (24.3%), Labourer outside village/town (20.6%), Agricultural labourer (14%)s

### Exposure to Vocational Training and Educational Aspiration

Regarding the exposure to the vocational trainings most respondents reported that they had not completed any vocational training course. Overall, ~97% of the respondents had not enrolled in vocational training courses (Figure 42).

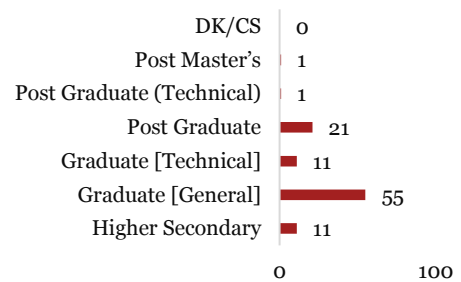
Of the total respondents who underwent vocational training (which is ~3%), majority were from ITI (40%) and polytechnic (33%). Figure 44 exhibits the percentage of respondents who completed different types of courses as part of their vocational training.

**Figure 40: Percentage of respondents who completed vocational training course – East Godavari**

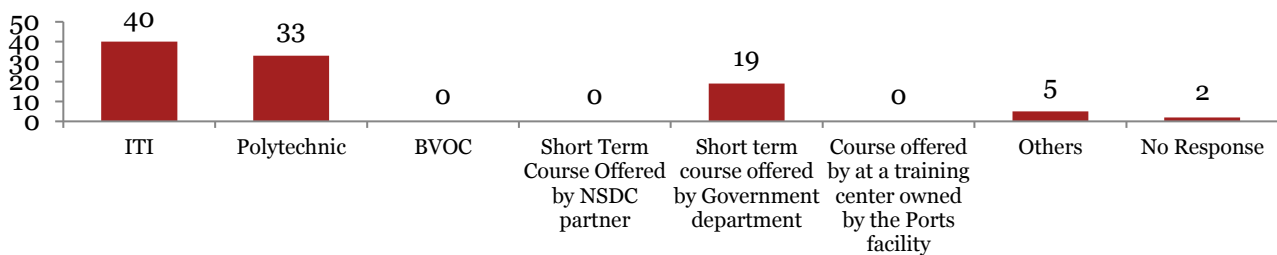


Further, the respondents were asked level about the level education they wished to attain. Nearly three-fourth of the respondents (76%) aspired to attain graduation and post-graduation level of education. The desire to attain technical education is relatively low with only 12% aspiring for graduation or post-graduation in technical fields (Figure 43).

**Figure 41: Desired level of education - East Godavari**



**Figure 42: Percentage of respondents who had completed courses in vocational training - East Godavari**



## Job Aspiration

One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 92% of the respondents reported to have preferred wage employment over self-employment (Figure 45).

The respondents were further asked to identify the factors important for securing employment in the area of interest.

One-third (33%) of the respondents identified computer skills as the most important factor for securing employment followed by job opportunities (26%), English speaking skills (25%) and industry specific skills (22%) (Figure 46).

**Figure 43: Percentage of respondents aspiring for wage and self-employment - East Godavari**



**Figure 44: Factors important for securing employment in area of interest (%) - East Godavari**

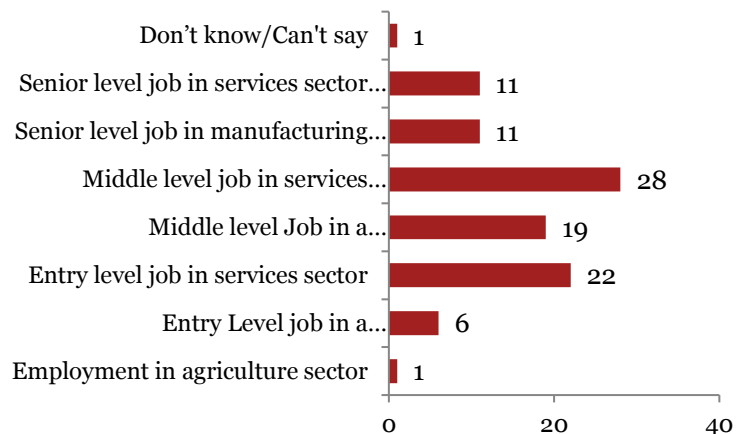




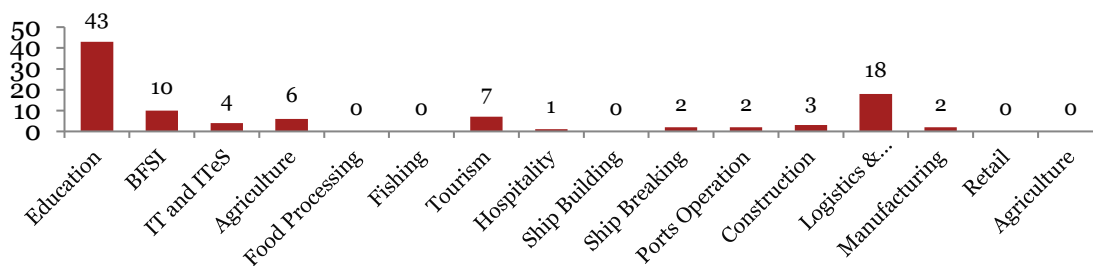
Regarding job aspiration of the respondents, after completion of education or training, it can be observed that there is a demand for services sector with 28% aspiring for middle level jobs and 22% aspiring for entry level jobs in service sector. This is followed by middle level jobs in manufacturing industry (19%), senior level jobs in services sector (11%) and manufacturing industry (11%) and entry level jobs in services sector (11%) and manufacturing industry (11%) (Figure 47).

Further, Education (43%) Logistics & transport (18%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job in the service sector space. The details of other sectors are mentioned in Figure 48.

**Figure 45: Desired job profile after completion of education/training - East Godavari**



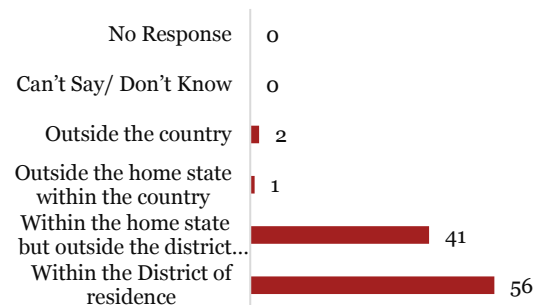
**Figure 46: Sectors in which respondents' foresee getting a desired job (%) - East Godavari**



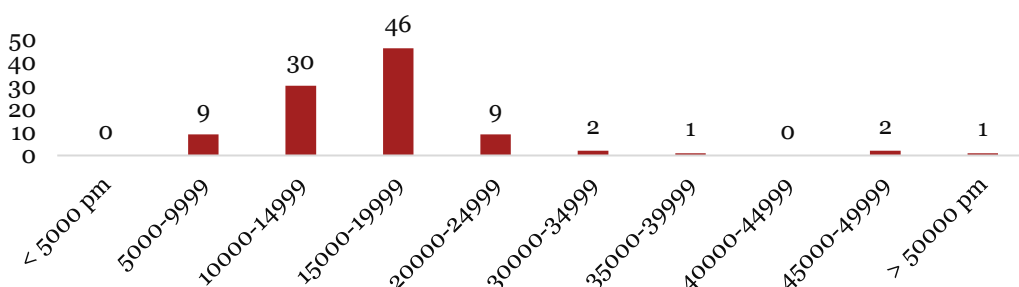
Out of total respondents, 97% preferred to work in the same state. It is important to note that over half of the of the respondents (56%) preferred to work in the same district and 41% expressed willingness to migrate to other districts in the same state suggesting lack of flexibility among the youth of the district.(Figure 49).

For majority of the respondents (46%) the monthly salary expectation was INR 15,000-20,000. And for 30% of respondents the expected salary is reported to be range of 10,000-15,000 per month.

**Figure 47: Preferred work location of candidates - East Godavari**



**Figure 48: Monthly salary expectation of respondents - East Godavari**



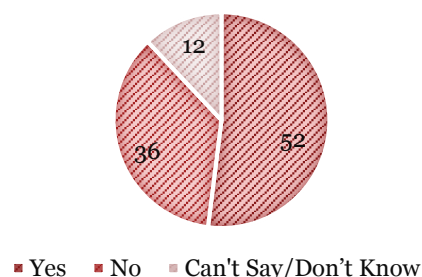


## Training Aspiration

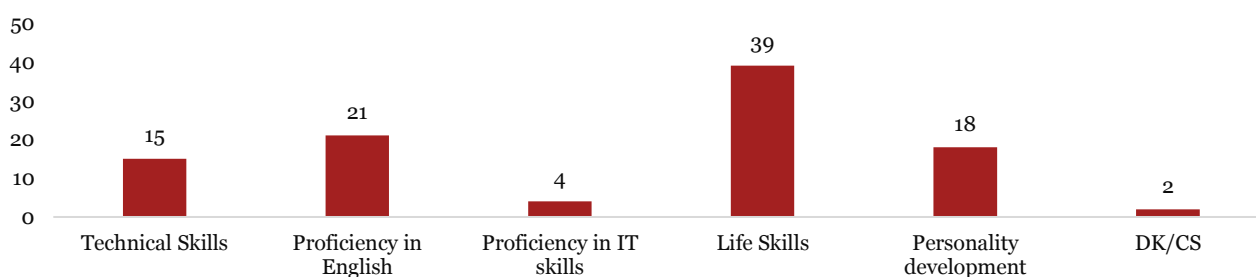
Regarding willingness of the respondents to participate in the training programme in the next year, 52% expressed interest whereas 36% expressed dis-interest (Figure 51).

Further, when enquired about the key focus areas of skill training, 39% of respondents reported that emphasis must be laid on life skills followed by proficiency in English (21%), personality development (18%) and technical skills (15%) (Figure 52).

**Figure 49: Willingness to participate in trainings (%) - East Godavari**

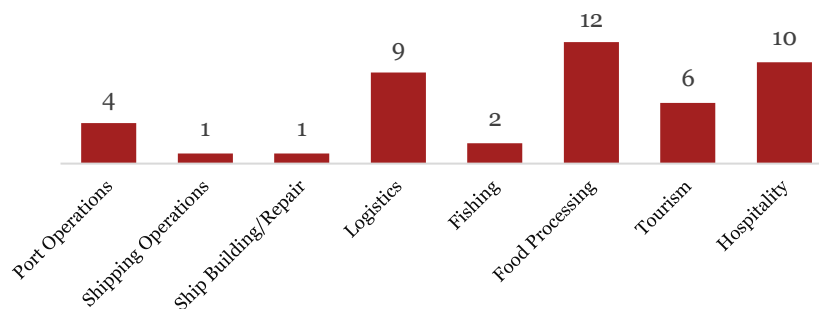


**Figure 50: Focus area on skills training - East Godavari**



Overall there is demand for training in food processing (12%), hospitality (10%), logistics (9%) and tourism (6%).

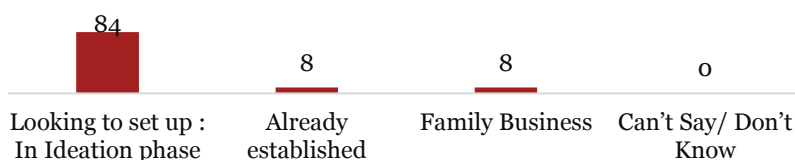
**Figure 51: Willingness of respondents to participate in trainings of different sectors - East Godavari**



## Self-Employment

Regarding current status of the Entrepreneurial Ventures of the respondents who aspired for self-employment, 8% were in family business and 84% were in the ideation stage (Figure 54).

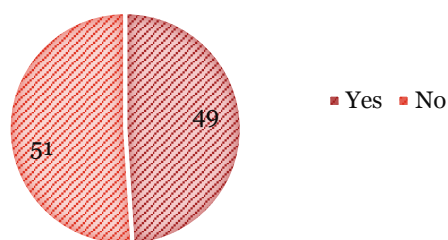
**Figure 52: Current Status of Entrepreneurial Venture (%) - East Godavari**



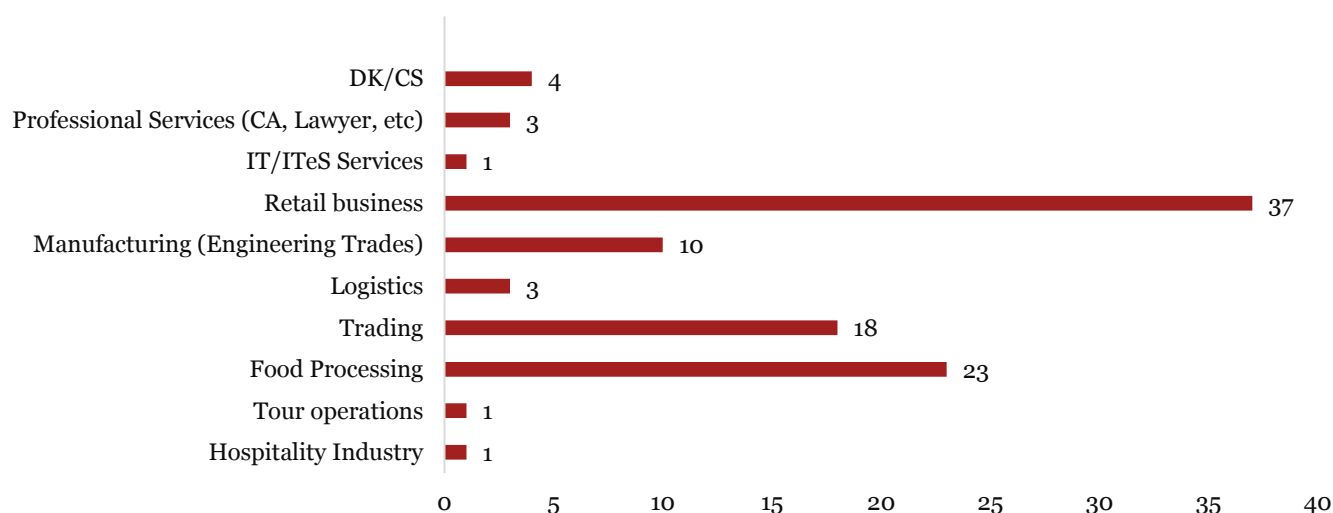
Further, only 49% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 55).

Retail business (37%), food processing (23%) and trading (18%), manufacturing (engineering trades) (10%) have been identified as most preferred sectors for setting own enterprise.

**Figure 53: Interested in skill development for enhancing entrepreneurial skills (%) - East Godavari**



**Figure 54: Sectors for establishing enterprise (%) -**



### 1.2.7. Training Infrastructure

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
ITI	35	22	Fitter, Electrician, Welder, MMV, COPA
Polytechnic	29	12	Civil Engineering, Electrical And Electronics Engineering, Mechanical Engineering, Civil Engineering Electronics & Communication Engineering
PMKK Training Centre	1	-	-
PMKVY	4	5	Documentation Assistant, F & B Service Steward, Unarmed Security Guard, Sewing Machine Operator
DDU GKY	4	--	
APSSDC Centres of Excellence (Siemens)	5	18	
APSSDC – Youth Training Centre	6	25	Handicraft- Coir, Logistic Executive, SMO, Driving
Employability Skill Centres	24	3-4	Communication, IT, SAP, ERP

The Training infrastructure in the district is dominated by the ITIs and Polytechnics. However, the trades are largely focused on technical and engineering trades.

- ITI-s - There are 35 ITI's providing training in 22 Different trades.
- Polytechnics – Core engineering sectors like Civil, Electrical & Electronics, Electronics & Communication and Mechanical remain the most dominant trades, however, new age trades like Hotel Management, Mechatronics, Production Technology, etc. are also gaining traction. The students prefer to move to full time engineering courses post diploma.
- PMKVY & PMKK – The Trades are focussed on the Hospitality sector with a sanctioned strength of around 200 per year.
- APSSDC-Siemens – A centre of Excellence and three T-SDIs giving advanced lab training in 18 different trades in manufacturing have been set up in partnership with Siemens.
- APSSDC-Tribal Welfare – To cater to the tribal areas, three Youth Training Centres are being run in partnership with the Tribal Welfare Department. The trades are currently oriented towards repair /servicing sectors and BPO.
- APSSDC-ESCs – To boost the employability of college students in the districts, Employability Skills Centres have been established. These provide trainings across the program in Soft Skills and Information Technology. In addition a core skill course in the field of Degree like Computer Programming, SAP,ERP etc are also being imparted in offline-online modes.

## 2. Skill Gap Assessment, Job Roles and Emerging Job Roles

### 2.1. Visakhapatnam

#### 2.1.1. Incremental Demand<sup>15</sup> for Skilled & Semi Skilled Manpower

The bifurcation of the unified state of Andhra Pradesh has made Visakhapatnam the most developed and industrialized city in the residual state. With the development of the Capital Region still awaited, it can safely be assumed that Visakhapatnam will remain the engine of economic growth and attract labour across sectors in the near future. An infrastructure and industrialization boom will require a huge volume of skilled resources with a steady decline in requirement in agriculture. Key drivers would include VCIC, Smart Cities, development of PCIPR, CSEZ in Sagarmala and the APSEZs in the various sectors.

**Table 4: Incremental Demand for Skilled & Semi Skilled Workers in Visakhapatnam**

Sector	2017	2018	2019	2020	2021	2022	Total
Core Sectors							
Ports & Allied	1,429	1,548	1,677	1,817	1,139	1,194	8,804
Logistics	5,909	6,365	6,856	7,386	7,956	8,569	43,041
Tourism	1,772	2,043	2,262	2,517	2,635	2,612	13,841
Construction	5,747	6,095	6,464	6,855	7,271	7,712	40,144
Fisheries		1,221	1,628	1,831	2,034	2,238	8,952
Other Dominant Sectors in the District							
Manufacturing	3,792	4,113	4,479	4,770	5,106	5,248	27,508
Trade (Retail & Wholesale)	4,826	5,170	5,538	5,931	6,354	6,806	34,625
Agriculture	-1,372	-1,371	-1,366	-1,363	-1,360	-1,356	-8,188
TOTAL							168,727

#### Key trends in Core Sectors

- **Ports and Allied Sectors:** Visakhapatnam and Gangavaram are deep water ports attracting modern vessels of cape size. The shipping sector can be expected to generate at least 8000 skilled jobs owing to the increasing requirement for port-led activities with the transformation of Visakhapatnam as a manufacturing hub.
- **Logistics:** A massive scale of industrialization is expected and the sector is expected to be augmented by two Multi-Modal Logistics Parks in the City to help faster clearance of the goods to make Visakhapatnam a favorable port with minimal turn-around time. The requirement of truckers, crane operators, 3 PL Logistics is naturally expected to increase to meet the demands of the proposed manufacturing growth in the medium term and the construction boom in the short term.
- **Tourism & Hospitality:** Visakhapatnam is the third most popular destination for tourists in the state after Chittoor and East Godavari Districts. With promised investments in areas including marine tourism, religious circuits, cruises beaches and resorts etc.; in the next five years the sector is expected to generate requirement for nearly 13,000 skilled workers especially in niche sectors.

<sup>15</sup> 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.

- **Construction:** The VCIC, Smart Cities, Metro Rail Project, and investments in the Tourism Sector are expected to drive the demand in the sector as the district will soon go into the construction mode for establishing several industrial parks and SEZs including the PCIPR, Medical City etc., and the supporting residential infrastructure.
- **Fisheries:** The promotion of deep line fishing, cage culture etc. are forecasted to promote the requirement of skilled workers in the fishing industry. The AP fishing policy also envisages the boosting of employment by around 1 Lakh.

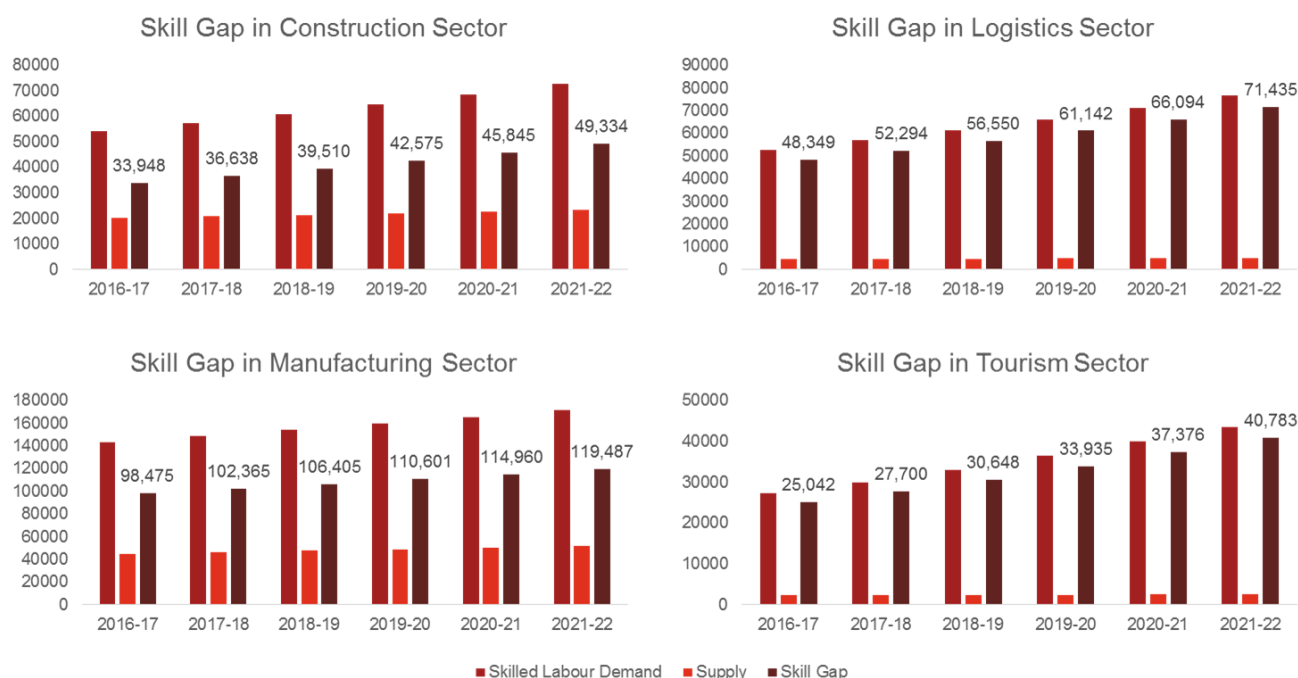
### **Key trends in other Dominant Sectors in the District.**

- **Manufacturing:** The Visakhapatnam PCIPR, APIIC SEZ, AP-SEZ, Jawaharlal Nehru Pharmaceutical City, Brandix Apparel City, etc. are some of the investment areas in the manufacturing sector expected to transform the economic nature of the city. Visakhapatnam is expected to have a major requirement for skilled workforce in Apparel, Pharmaceuticals, Petrochemicals, and Automobiles etc. totaling to about 27,000 in numbers during the next five years.
- **Trade:** Trade sector especially is expected to generate large amount of jobs of around 35,000, largely in organized retail to match with the changing characteristics of urbanization in the district. The promotion of tourism and industrial development can have spillover effects on the same.
- **Agriculture:** The impact of the priority of industrialization is set to have a negative impact on agriculture, with a reduction in the workforce in the next five years.

### **2.1.2. Gap between Total Demand<sup>16</sup> and Supply of Skilled Manpower in Select Sectors**

The gap in the existing total skilled workforce connotes the gap between the **total requirement of skilled manpower** and **workforce in the district with recognized trainings in the said sectors**.

**Figure 55: Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in Visakhapatnam**



- **Construction Sector:** The availability of skilled workforce is larger than other districts with an estimate of nearly 1/3<sup>rd</sup> of the manpower possessing recognizable trainings. However, at the present

<sup>16</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling

capacity, the gap between **total requirement of skilled manpower** and the availability is set to increase by 46% by 2022. Further, by 2022 only 25% of the required workforce demand will be met from within the residents. They will be required to be met either through informal trainings or through immigrant workers.

- **Logistics Sector:** The logistics sector has historically been characterized by its informal nature and this is reflected in the very low levels of recognized skilled workforce with less than 4,000 people with formal recognitions to meet the nearing **total requirement of skilled manpower** of around 52,000 workers. These are very exacerbated by the limited options available recognized trainings and certificates in the sector. The incremental requirement for workforce in the district is expected to increase the gap marginally by more than 50% (24,000 in next five years) indicating extreme shortage.
- **Manufacturing Sector:** Though as a share, close to 1/3rds of the **total requirement of skilled manpower is met**, in absolute numbers, the sector is expected to have a gap of nearly 120,000 skilled workers by 2022.
- **Tourism and Hospitality:** The district has limited capacity and presence of trained individuals, despite being a hotspot for tourism with less than 2,000 individuals with recognized trainings. Given the present trends of increased formalization of the sector and the requirement of skilled workers in the sector, the gap between the **total requirement of skilled manpower** and **availability of workforce with recognized trainings** is set to increase by 4,000 by 2022. The skill gap is set to increase from a present 25,000 to 41,000 by 2022.

### 2.1.3. Job Roles High in Demand

This sections captures the jobs that have been reported to be high in demand in Visakhapatnam by the key stakeholders interviewed during the study, and have been established through secondary analysis. Across the sectors a few of the job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describe the job roles that are high in demand across the sectors.

#### Port and Maritime Sector

The district has modern and mechanized ports along with road and rail connectivity. There are no specific institutes other than the in-house training division to impart skills development modules in operations and handling of port equipment. Well trained and skilled crane operators have been reported to be high in demand. Safety has been underpinned as one of the areas that could be focused on for training workforce in the port and maritime sector. Increasing automation in the sector will make few of the manual jobs redundant. Overall, the jobs in this sector will be driven by the growth in the volume of cargo.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Port operations	Findings
<ul style="list-style-type: none"> <li>• Rail Mounted Quay Crane Operator</li> <li>• Rail Mounted Gantry Crane Operator</li> <li>• Forklift Operator</li> <li>• Reach Stacker Operator</li> <li>• Crane Mechanic</li> <li>• Tippers</li> <li>• Stevedore</li> <li>• Supervisor</li> <li>• Hydraulic Floor Operator</li> <li>• Lashers</li> </ul>	<ul style="list-style-type: none"> <li>• Well trained crane operators are in high demand</li> <li>• Currently, the crane operators are trained by the port operators and CFSs before they are independent charge to operate the cranes</li> <li>• Safety issues must be included in the training programmes</li> <li>• The sector is currently demanding skilled workforce; the shortfall is being met with migrant labour</li> <li>• Job losses amongst the low skilled in the sector are likely to happen; there will be a need for (up-skilled) technicians to manage emerging and sophisticated port operations</li> </ul>
Job Roles: Ship Building and Repairs	Findings

<ul style="list-style-type: none"> <li>• Painter</li> <li>• Fitter</li> <li>• Welder</li> <li>• Dock Riggers, Riggers</li> <li>• Brazers</li> <li>• Gas Cutter</li> <li>• NDT- Non Destructive Technicians</li> <li>• Valve Repairer</li> </ul>	<ul style="list-style-type: none"> <li>• The small pool of local skilled workers contributes directly to shortages of qualified workforce</li> <li>• The more complex the skill, the more likely the shortage of suitably qualified local community members</li> <li>• Stakeholder indicated preference for hiring ITI graduates</li> </ul>
<b>Off shore operations</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Pipe laying technicians</li> <li>• Welders</li> <li>• Fitters</li> <li>• X-Ray shot technicians</li> <li>• Rigger</li> </ul>	<ul style="list-style-type: none"> <li>• The small pool of skilled local workers contributes directly to shortages of qualified workforce that is from Visakhapatnam</li> <li>• Mostly migrant labour is engaged in work streams that require high level of specialization and skills</li> <li>• No specialized training institutions are located in Visakhapatnam that could cater to off shore operations sector</li> </ul>

## Other Priority Sectors

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like port and maritime sector, sectors such as logistics, manufacturing, and construction will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature.

## Logistics

In logistics sector, truckers are in short supply to move containers and cargo. Some of the key stakeholders acknowledged that at any given time truckers are short of the requirement by over 30-40%. Further, it was highlighted that this shortage increases during the harvesting and sowing seasons, when the migrant workforce usually returns back to their respective villages. Therefore, truckers' training for logistics sector can be taken up to supply professionally trained drivers. Further, an RPL and training can be planned/ considered for the existing Trucking workforce. Truckers who could be equipped with skills for handling hazardous substances will be greatly demanded by the manufacturing firms that are located in the industrial areas.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Logistics</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Surveyors</li> <li>• Supervisors</li> <li>• Hydraulic Axle Operator</li> <li>• Truck Driver</li> <li>• Helper</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing volumes of cargo, the upcoming investments in port and maritime sector, and CFSs demand skilled manpower</li> <li>• The small pool of skilled local workers contributes directly to shortages of qualified supervisors who are from Visakhapatnam</li> <li>• Trainings required for drivers for handling hazardous substances</li> <li>• Life skills training required for truckers</li> <li>• Increased use of ICT and automation in work processes will impact manual jobs</li> </ul>

## Construction

Projects such as smart cities will demand skilled workforce that will be able to use smart technologies in not only building the smart cities but also maintaining them. As part of the Smart City programme, Visakhapatnam is expected to witness investments to the tune of INR 600 Crores in solar technology. The Andhra Pradesh Govt. in its policy on Solar Power hopes to improve its capacity addition of 5000 MW by 2020 with considerable focus on roof top power. There will be demand for workforce that can work in the renewable energy domain. Other infrastructure projects will require skilled workforce in structure design and maintenance, finishes, and electrical works for building huge infrastructural facilities.



The matrix below captures the jobs roles that are high in demand:

Job Roles: Construction	Findings
<ul style="list-style-type: none"> <li>Solar PV installer (Civil)</li> <li>Fabricator</li> <li>Supervisor-Structure</li> <li>Foreman Wet Finishing and Flooring</li> <li>Supervisor - Electrical Works</li> <li>Supervisor - Roads &amp; Runways</li> </ul>	<ul style="list-style-type: none"> <li>Smart city projects and other infrastructural development projects such as Vizag Chennai Industrial Corridor, Vizag Metro Rail will require skilled workforce that could work with sophisticated technology</li> <li>Site workers will require skills to use new, innovative technological devices and smart systems</li> <li>Skills to manage increased integration of technologies into the building structures</li> <li>Demand for new age installation and maintenance skills especially in renewable energy sector</li> <li>Limited apprenticeship arrangement exists, combining formal training off-the-job with on-the-job training</li> </ul>

## Manufacturing

Visakhapatnam is a manufacturing hub that has at least 2000 units catering to sectors such as Pharmaceuticals, Metals Petrochemicals, Plastics, Glass, Rubber, and Chemicals. These sectors demand skilled workforce that can work in manufacturing processes. Emerging technology such as 3D or additive manufacturing will shape the manufacturing sector in the next few years and the workforce engaged in manufacturing will have to upgrade its skills to be in tune with the emerging market requirements. This sector will also require technological literacy among the workers.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Manufacturing	Findings
<ul style="list-style-type: none"> <li>Welder</li> <li>Fitter</li> <li>Electrician</li> <li>Plumber</li> <li>Mechanic</li> </ul>	<ul style="list-style-type: none"> <li>Supervisory skills are also needed in the roles of foremen, leading hands and supervisors</li> <li>Limited apprenticeship arrangement exists, combining formal training off-the-job with on-the-job training</li> <li>Stakeholders indicated preference for hiring ITI graduates</li> <li>Additive manufacturing or 3D printing will impact the manufacturing processes</li> <li>There will be a general need for medium to high technology literacy throughout the sector</li> </ul>

## Tourism

The State is inviting investments up to the tune of INR 900 Crores in Beach & Water based tourism sector focusing on areas like Beaches, Sea Cruises, Marine Water Sports including kayaking, Lake Development, Oceanariums etc. In addition, Sea Plane services are also proposed. Local seafaring population may be trained in associated job roles which require familiarity with the sea. Training in the sector will require focus on English language skills.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Tourism	Findings
<ul style="list-style-type: none"> <li>Life Guard</li> <li>Boat Jetty Supervisor</li> <li>Counter Sales Executives</li> <li>Oceanarium</li> <li>Tour Guides</li> <li>Tank Cleaners</li> <li>Marine Sports</li> </ul>	<ul style="list-style-type: none"> <li>Limited on job training opportunities</li> <li>Focus required on communication skills/public relations; reporting skills; administration skills and financial skills</li> </ul>

## Fisheries



Trainings imparted in longline fishing and value addition could help the fishing community in increasing the volume of their catch and in getting a better price. Shrimp and fish export houses in Visakhapatnam will demand a skilled workforce.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Fisheries</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Longline fisherman</li> <li>• Cold Storage Technician</li> <li>• Warehouse Manager</li> <li>• Mechanic</li> <li>• Glass/Tunnel/Trolley Freezer Operator</li> <li>• Grading supervisor</li> <li>• De-heading supervisor</li> <li>• Aquaculture Technician</li> <li>• Mariculture Technician</li> </ul>	<ul style="list-style-type: none"> <li>• Visakhapatnam can hugely benefit from improved fisheries practices</li> <li>• Export potential for shrimps and fish</li> <li>• Unused land parcels can be used for aquaculture and mariculture</li> <li>• Improved skills are particularly needed for aquaculture and mariculture and longline fishing</li> </ul>

## *Apparel*

The apparel sector will see increasing reliance on designing software and automation of inventory management processes.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Retail and Apparel</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Supervisors</li> <li>• Store helpers</li> <li>• Quality checkers/controllers</li> <li>• Operators</li> <li>• Helpers</li> <li>• CAD Markers/Graders</li> </ul>	<ul style="list-style-type: none"> <li>• Focus required on training the workforce in using the designing software</li> <li>• Automation and software could render many lower skilled customer designing and production roles obsolete</li> <li>• Focus required on communication skills/public relations, administration skills and financial skills</li> </ul>

## 2.2. East Godavari

### 2.2.1. Incremental Demand<sup>17</sup> for Skilled & Semi Skilled Manpower

The Godavari Delta is poised to drive the economy of the district in the agriculture, natural gas and fisheries sectors apart from the industrialization expected from the Vizag - Chennai Industrial Corridor project, spillovers from the Amaravathi Capital Region development etc. Major contributors to the requirement of skilled labour would be from the Construction and Logistics Sector.

**Table 5: Incremental Demand for Skilled & Semi Skilled Workers in East Godavari**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
Ports & Allied	372	399	429	460	494	531	2685
Logistics	5,531	5,990	6,485	7,024	7,604	8,235	40,869
Tourism	927	1,181	1,353	1,567	1,577	1,385	7,990
Construction	9,044	9,834	10,694	11,627	12,643	13,747	67,589
Fisheries							
<b>Other Dominant Sectors in the District</b>							
Manufacturing	2,145	2,200	2,253	2,309	2,367	2,426	13,700
Trade (Retail & Wholesale)	1,155	1,191	1,229	1,269	1,307	1,348	7,499
Agriculture	1,591	1,595	1,596	1,601	1,603	1,606	9,592
<b>TOTAL</b>							149,924

#### Key trends in Core Sectors

- **Ports and Allied Sectors:** The development of offshore facilities of ONGC, Reliance etc. are expected to drive the throughput in the Kakinada Port in the near future. However considering high technology requirements, the sector is expected to generate between 300-550 jobs a year.
- **Logistics:** The Visakhapatnam Chennai Industrial Corridor (VCIC), where Rajhamundry, Kakinada and the port are expected to be important nodes of industrialization, development is expected to increase the demand for total employment in the logistics sector driven by the possible output from manufacturing and the construction phase of the corridor.
- **Tourism & Hospitality:** East Godavari is the second most popular destination for tourists in the state after Chittoor District which hosts the Tirupati Temple. With promised investments in areas including marine tourism, religious circuits, cruises etc., the sector is expected to generate requirement for nearly 8,000 skilled workers.
- **Construction:** The VCIC, Smart Cities, investments in the Tourism Sector are expected to drive the demand in the sector as the district will soon go into the construction mode for several industrial parks and SEZs. In addition, the decentralized development adopted by the residual state of Andhra Pradesh post the bifurcation will contribute to further urbanization and industrialization of the district.
- **Fisheries:** The promotion of deep line fishing, cage culture etc. are forecasted to promote requirement of skilled workers in the fishing industry.

#### Key trends in other Dominant Sectors in the District.

- **Manufacturing:** Investments that are in the pipeline in the Manufacturing Sector are mostly driven by the VCIC.

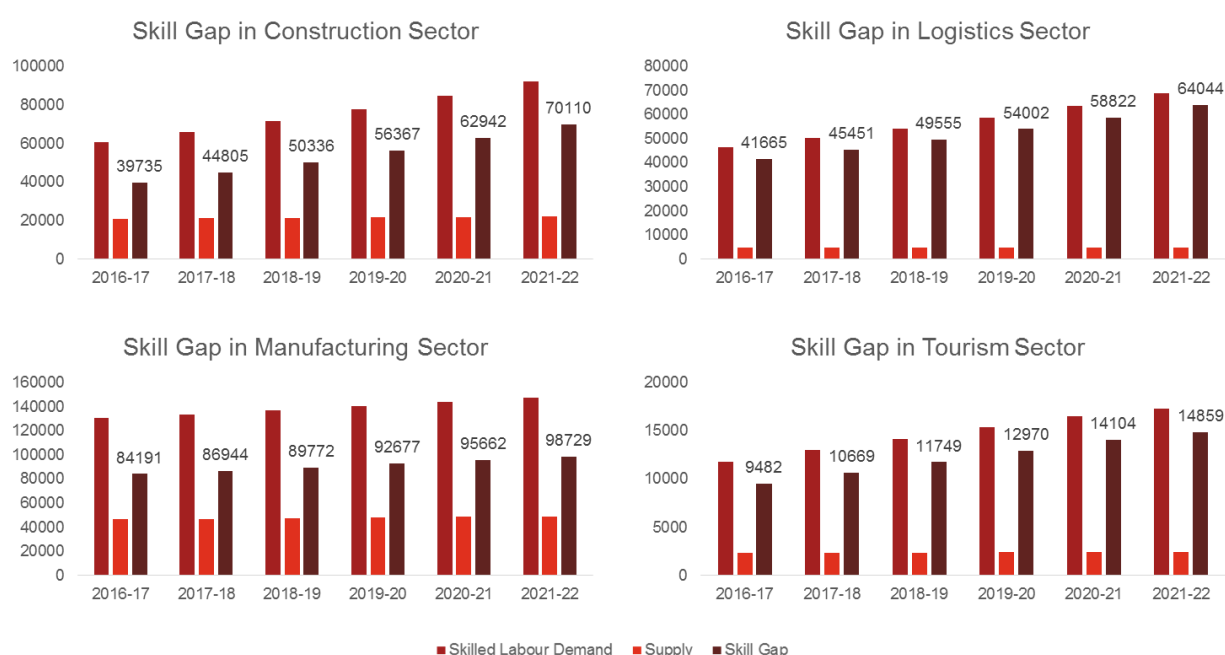
<sup>17</sup> Incremental Demand Estimates the additional stock of workforce that are to be created given the expected Economic Conditions in the period of study. This may help in estimating requirement for fresh trainings.

- **Trade:** This sector especially is expected to generate medium amount of jobs of around 7500 largely in organized retail to match with the changing characteristics of urbanization in the district. The promotion of tourism and industrial development can have spillover effects on the same.
- **Agriculture:** The Rice Bowl of Andhra Pradesh shall continue to demand skilled labour to meet the changing requirements in the agricultural practices and continued demand of food from the fertile banks of the Godavari Delta.

### 2.2.2. Gap between Total Demand<sup>18</sup> and Supply of Skilled Manpower in Select Sectors

The gap in the existing total skilled workforce connotes the gap between the **total requirement of skilled manpower** and **workforce in the district with recognized trainings in the said sectors**.

**Figure 56: Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in East Godavari<sup>19</sup>**



- **Construction Sector:** The availability of the skilled workforce is larger than other districts with an estimate of nearly 1/3<sup>rd</sup> the manpower possessing recognizable trainings. However, at the present capacity, the gap between **total requirement of skilled manpower** and the availability is set to increase by 76%.
- **Logistics Sector:** The logistics sector has historically been characterized by its informal nature and this is reflected in the very low levels of recognized skilled workforce with less than 5000 people with formal recognitions to meet the **total requirement of skilled manpower** of around 46,000 persons. This situation is exacerbated by the limited options available for recognized trainings and certificates in the sector. The incremental requirement for workforce in the district is expected to increase the gap marginally by more than 50%, indicating extreme shortage.
- **Manufacturing Sector:** The sector has historically been served by degrees in engineering, diplomas in polytechnics and certificates in ITIs in the region. In addition there have been certification programs in the MSME sector as well. Though as a share, close to 1/4<sup>ths</sup> of the **total requirement of skilled**

<sup>18</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling

<sup>19</sup> The representation is for cumulative requirement in the district for each year.

**manpower is met**, in absolute numbers, the sector is having a gap of nearly a lakh skilled workers in 2016. This gap is expected to increase by around 1% in numbers over the next five years.

- **Tourism and Hospitality:** Given the present trends of increased formalization and requirement of skilled workers in the sector, the gap between the **total requirement of skilled manpower** and **availability of workforce with recognized trainings** is set to increase by 4000 by 2022.

### 2.2.3. Job Roles High in Demand

This sections captures the jobs that have been reported to be high in demand in East Godavari. The job roles that are listed below have been identified by the stakeholders. Across the sectors a few of the job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describe the job roles that are high in demand across the sectors.

#### Port and Maritime Sector

The port and maritime sector in East Godavari is mostly driven by bulk cargo movement, ship repair and ship building, and offshore operations. Stakeholders have reported high demand for crane operators and other skilled workers such as welders and electricians. Safety has been underlined as one of the areas that could be focused on for training workforce in the port and maritime sector. Increasing automation in the sector will make a few of the manual jobs redundant. Overall, the jobs in this sector will be driven by the growth in the volume of cargo. The matrix below captures the jobs roles that are high in demand:

Job Roles: Port operations	Findings
<ul style="list-style-type: none"> <li>• RTG Crane Operator</li> <li>• RMG Crane Operator Pedestal Crane Operator</li> <li>• Straddle Crane Operator</li> <li>• Quay Crane operator</li> <li>• Forklift Operator</li> <li>• Reach Stacker Operator</li> <li>• Crane Mechanic</li> </ul>	<ul style="list-style-type: none"> <li>• Well trained and skilled crane operators are in high in demand</li> <li>• Port operators have to train the crane operators for at least three months; no formal and institutional arrangements for training of crane operators</li> <li>• Trainings required on safety issues especially in handling crane operations</li> <li>• There is a general range of technical skills related to the port and maritime that are in shortage; there have been unmet demand for skilled positions currently met with migrant labour.</li> <li>• Job losses amongst the low skilled in the sector are likely to happen; there will be a need for (up-skilled) technicians to manage emerging and sophisticated port operating</li> </ul>
Job Roles: Ship building and repairs	Findings
<ul style="list-style-type: none"> <li>• Painter</li> <li>• Blaster</li> <li>• Mechanical/steel fitter</li> <li>• Brazers, machinists for lathe</li> <li>• Drilling and cutting</li> <li>• Dock rigger</li> <li>• Electrician</li> <li>• Welder</li> </ul>	<ul style="list-style-type: none"> <li>• The small pool of local skilled workers contributes directly to shortages of qualified workforce</li> <li>• The more complex the skill, the more likely the shortage of suitably qualified local citizens</li> <li>• Shortages become even more acute where training avenues for specific occupations are limited and where access to high-quality work experience is needed</li> <li>• Stakeholders indicated preference for hiring ITI graduates</li> </ul>
Job Roles: Off shore operations	Findings
<ul style="list-style-type: none"> <li>• Pipe laying technicians</li> <li>• Welders</li> <li>• Fitters</li> <li>• X-Ray shot technicians</li> <li>• Rigger</li> </ul>	<ul style="list-style-type: none"> <li>• Mostly migrant labour workforce engaged in work streams that require high level of specialization and skills</li> <li>• No specialized training institutions are located in the district that could cater to off shore operations sector</li> </ul>

#### Other Priority Sectors

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like port and maritime sector, sectors such as logistics will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature.

## Logistics

Truckers are high in demand but the existing workforce that is engaged in trucking lack life skills.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Logistics	Findings
<ul style="list-style-type: none"> <li>Truck Drivers</li> <li>Surveyors</li> <li>Data Entry Operators</li> </ul>	<ul style="list-style-type: none"> <li>Life skills training required for truckers</li> <li>Increased use of ICT and automation in work processes will impact manual jobs</li> </ul>

## Construction

Smart City projects that are in the offing in East Godavari will demand skilled workforce that will be able to use smart technologies not only in building the smart cities but also maintaining them. There is skilled construction workforce expected to be required within the renewable energy domain. Others projects such as the upcoming GMR SEZ and Vizag-Chennai are also expected to require skilled workforce in construction sector.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Construction	Findings
<ul style="list-style-type: none"> <li>Solar PV installer (Civil)</li> <li>Fabricator</li> <li>Supervisor-Structure</li> <li>Foreman Wet Finishing and Flooring</li> <li>Supervisor - Electrical Works</li> <li>Supervisor - Roads</li> <li>Solid Waste Management Technician</li> </ul>	<ul style="list-style-type: none"> <li>Smart city projects and other infrastructural development projects such as Vizag-Chennai Industrial Corridor will require skilled workforce</li> <li>Site workers will require skills to use new, innovative technological devices and smart systems</li> <li>Skills to manage increased integration of technologies into the building structures</li> <li>There will be demand for new age installation and maintenance skills especially in renewable energy sector</li> </ul>

## Tourism

There are avenues to develop the tourism sector in East Godavari so that the potential for marine tourism is fully realized. Further, there are opportunities to engage local youth in this sector. Training in tourism sector will require focus on English language skills.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Tourism	Findings
<ul style="list-style-type: none"> <li>Front Office Executive</li> <li>Chef</li> <li>Kitchen Steward</li> <li>Housekeeping Supervisor</li> <li>Tour guide</li> <li>Facility Store Keeper</li> <li>Billing Executive</li> <li>Cab Drivers</li> </ul>	<ul style="list-style-type: none"> <li>Workforce is trained, but it generally lacks skills and experience required in the workplace</li> <li>Focus required on communication skills/public relations; reporting skills; administration skills and financial skills</li> </ul>

## Fisheries

Trainings imparted in aquaculture could help in providing the fishing community an insight into a more profitable way of doing business and also to properly utilize unutilized land parcels that are unfit for agriculture.

Trainings in value addition and better hygiene practices could help the fishermen in getting a better price for their catch. The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Fisheries</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Cold Storage Technician</li> <li>• Warehouse Manager</li> <li>• Mechanic</li> <li>• Glass/Tunnel/Trolley Freezer Operator</li> <li>• Grading supervisor</li> <li>• De-heading supervisor</li> <li>• Aquaculture Technician</li> <li>• Mariculture Technician</li> </ul>	<ul style="list-style-type: none"> <li>• East Godavari can hugely benefit from improved fisheries practices, especially the ones focusing on value addition and hygiene practices</li> <li>• Export potential for shrimps</li> <li>• Unused land parcels can be used for aquaculture and mariculture</li> <li>• Improved skills are particularly needed for aquaculture and mariculture</li> </ul>

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## ***3. District Action Plan***

### ***3.1. Background***

An actionable roadmap is one of the deliverables to be submitted to MoS for implementing skill training programmes in each of the districts. To develop these District specific plans, the team has mapped the emerging skilling opportunities across the 21 districts. Further, similar training opportunities or training requirements from the same sector have been clubbed in to one programme to ensure optimal use of resources and build economies of scale for delivery partners. This has been proposed to improve the chances of developing and proposing feasible and viable training delivery models.

Further, the team has also estimated the broad capital and operational expenditure expected to be incurred in operationalizing the training initiatives in the districts. Apart from this, critical operational aspects such as training delivery mechanisms, availability of curriculum and employers have also been explored. The current status of these critical aspects will help ascertain the feasibility of initiating these trainings immediately and assess the gaps that need to be bridged before these trainings can be rolled out.

### ***3.2. Objective of developing the plan***

The District action plans have been developed with the overall objective of providing a step by step skill implementation plan to the Ministry of Shipping in the 21 coastal districts. The specific objectives include the following:

- Mapping various skilling opportunities available in the district, keeping in mind the requirements of Port-led development and emergence of CEZs.
- Mapping the current status of various pre-requisites such as availability of qualifications, curriculum, funding for training, potential training delivery partners, availability of assessors and certification processes and institutions for the training programmes.
- Identify the potential/target beneficiaries for the training courses.
- Map the infrastructure and the investment that may be required to deliver the training programmes in the district.
- Provide an estimate of the investment required to create/hire the skilling infrastructure.
- Provide a step by step action plan for MoS to implement the skilling initiatives.

### ***3.3. Methodology***

Stakeholder consultations<sup>20</sup> that were held at national, state and district level and that included stakeholders from government, industries, associations, and private firms. A separate plan has been prepared for each of the 21 district. The plan has been divided into several sections and include sections on training delivery, potential partners, and investments. The investments component has been divided into two broad heads: capital expenditure and operational expenditure. Capital expenditure has only been proposed in cases in which there were very limited possibilities of using existing institutional framework for partnership and for using existing infrastructure and equipment. Operational expenditure includes the cost of the running the training programmes including the salary of the instructors. The common cost norms are the basis of calculating the operational expenditure. Capital expenditure has been worked out bearing in mind the infrastructure requirements of the programme and duration of training programmes. Wherever feasible, partnership with existing programmes such as DDU-GKY and PMKVY has been suggested.

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<sup>20</sup> Roughly 700 primary consultations informed the development of these plans for 21 districts

### 3.4. Summary for Visakhapatnam

SN	Project Name	Job Roles	Type of training	No. of people to be trained
1	Skill Development Centre for Ports and Logistics	Truck Drivers, Crane Operators, Fresh and Data Entry Operators, Stacking/Restacking, Surveyors	Upskilling	3,800 persons in next 5 years
2	Training for Travel and Tourism	Tour Guides, Tank Cleaners, Life Guard, Boat Jetty In-charge, Counter Sales Executives, Adventure sports, Tour Guide/Manager, Travel Consultant, Counter Sales Executive, Tour Vehicle Drivers	Fresh	1,000 persons in next 5 years
3	Pharmaceuticals Training	Pharma Quality Assurance/Control Chemist, Pharmacy Assistant	Fresh	900 persons in next 5 years
4	Green Jobs Training	Solar Panel Installation technicians, Landscapers	Fresh	1000 persons in next 5 years
5	Cage Culture and Value Addition	Training on Cage Culture Awareness/Value Addition training courses Longline Fishing	Fresh	2800 in next 5 years
6	Training for Improving Communication Skills especially in spoken English	-	Fresh	8000 in next 5 year



### 3.5. Action Plan for Visakhapatnam

<b>Project 1: Skill Development Center for Ports and Logistics</b>					
Key economic drivers		<ul style="list-style-type: none"> <li>One major port and minor Port – Visakhapatnam Port Trust and Gangavaram Port</li> <li>Multi-modal Logistic Skills Parks</li> <li>Extension of existing container terminal in outer harbor</li> <li>Development of mechanized coal terminal (EQ-1A berth), Vizag general Cargo berth</li> <li>Development of multi-purpose terminal by replacing EQ-2 o EQ-5 berths in Inner harbor</li> </ul>			
Rationale for a Training Center		The ports and associated logistics service providers such as the CFS, logistic firms, container yards, shipping agencies are located in close proximity. The number of such firms is expected to increase with the proposed new port, development of SEZ and upcoming smart city projects. Considering that there is a cluster of employers and potential beneficiaries available in close proximity in the district, MoS can explore the opportunity for establishing a Center for Excellence in Ports and Maritime sector.			
Trainings		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Training for Truckers and Heavy Vehicle drivers	<ul style="list-style-type: none"> <li>Existing Truckers/Reach Truck Operators</li> <li>Local community members</li> </ul>	Upskilling	500 persons in next 5 years
				Fresh Training	1,500 persons in next 5 years
		Crane Operators	<ul style="list-style-type: none"> <li>Existing crane operators</li> <li>Local community members</li> </ul>	Upskilling	100 persons in next 5 years
				Fresh Training	600 persons in next 5 years
		Training for data operators, stackers and surveyors	<ul style="list-style-type: none"> <li>Local community members</li> </ul>	Upskilling	500 persons in next 5 year
				Fresh Training	600 persons in next 5 years
Availability of curriculum	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Truck Drivers	<ul style="list-style-type: none"> <li>RPL – Current Truckers</li> <li>Training Programmes – for potential Truckers, Reach Truck Operators</li> </ul>	<ul style="list-style-type: none"> <li>Reach Truck Operator</li> </ul>	Course available for: <ul style="list-style-type: none"> <li>Driver HMV</li> <li>Driver LMV</li> </ul>	No course available
	Crane Operator	<ul style="list-style-type: none"> <li>Existing Crane operators</li> </ul>	<ul style="list-style-type: none"> <li>Crawler crane operator</li> <li>Hydra crane operator</li> <li>Tyre mounted crane operator</li> </ul>	No course available	No course available

			<ul style="list-style-type: none"><li>Junior crane operator</li><li>Overhead crane operator</li></ul>		
	<ul style="list-style-type: none"><li>Data Entry Operators</li><li>Stacking/Restacking</li><li>Surveyors</li></ul>	Surveyors	QP available for: <ul style="list-style-type: none"><li>Warehouse Supervisor</li><li>Warehouse Quality Checker</li><li>Warehouse Claims Coordinator</li><li>Consignment Booking Assistant</li><li>Shipment Classification Agent</li><li>Clearance Support Agent</li></ul>	No course available	No course available
Investment (INR In lakhs)		Truck and heavy vehicle drivers			
		Operational Expenditure	137		
		Training for data operators, stackers and surveyors			
		Operational Expenditure	84		
		Crane Operators			
		Operational Expenditure	150		
		Total operational expenditure	221		
		Capital Expenditure for training center <sup>21</sup>	650		
Potential Partners		Partner	Areas of Support		
		Port/CFS	<ul style="list-style-type: none"><li>Space and infrastructure for establishing the training center</li><li>Access to port facilities for practical training</li><li>Guest faculty</li><li>Input for designing curriculum</li><li>Provision of used equipment for training</li><li>Facilitate implementation of RPL for existing work force</li></ul>		
		Industry Association Automobile Association of India)	<ul style="list-style-type: none"><li>Facilitate implementation of RPL for existing workforce</li></ul>		
		Training Partner (Port/CFS/TSP)	<ul style="list-style-type: none"><li>Training delivery and establishment of training centers</li></ul>		

<sup>21</sup> The cost of crane and truck stimulators.

	Logistic Sector Skill Council	<ul style="list-style-type: none"> <li>• Co-management of the training facility</li> <li>• Development of QPs for the identified job roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
Training Delivery	<b>Option 1</b> <ul style="list-style-type: none"> <li>• Port/CFS or MoS creates the training facility</li> <li>• Training facility to be managed and maintained by Port/CFS or MoS</li> <li>• Port/CFS or MoS to deliver the training and provide qualified trainers and mobilize trainees</li> </ul> <b>Option 2</b> <ul style="list-style-type: none"> <li>• Private training provider to rent/develop the training facility and deliver the training programme</li> </ul>	

## Work Plan

Port and Logistics	in Months								
	1	2	3	4	5	6	7	8	9
Partnership with SSC, Industry Partners and Knowledge partners									
Development of QPs									
Establishment of Training infrastructure and facility									
Furnishing of the training centre									
Purchase and installation of lab equipment									
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)									
Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

Project 2: Training for Travel and Tourism				
Key economic drivers	<ul style="list-style-type: none"> <li>• Huge potential for investments in Heritage Tourism, Religious Circuits, Eco Tourism, Beach and Water based tourism, Marine water sports etc.</li> </ul>			
Rationale	<p>There is a huge demand for tour guides, and counter sales executives. The district holds huge potential investments in Beach &amp; Water based tourism, Heritage Tourism, Religious Circuits, Eco Tourism which will require guided travel. Araku Valley in specific is a pristine ecological spot which would require a trained workforce with understanding of the local conditions.</p>			
Trainings in high demand	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type Trainings of</b>	<b>Total Number of beneficiaries</b>
	Training for Marine Tourism and Hospitality trades	<ul style="list-style-type: none"> <li>• Fisherman population, coastal community members</li> </ul>	RPL	-
			Fresh Training	500 persons in next 5 years
			RPL	-

		Training for and Travel Tourism	• Coastal community members	Fresh Training	500 persons in next 5 years
Availability of curriculum	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<ul style="list-style-type: none"><li>• Tour Guides</li><li>• Tank Cleaners</li><li>• Life Guard</li><li>• Boat Jetty In-charge</li><li>• Counter Sales Executives</li><li>• Adventure sports</li></ul>	<ul style="list-style-type: none"><li>• Coastal community members</li></ul>	QP available for: <ul style="list-style-type: none"><li>• Tour Guide</li><li>• Water Tank Cleaner</li><li>• Boat Jetty In-charge</li><li>• Counter Sales Executives</li></ul>	MES available for: <ul style="list-style-type: none"><li>• Tour Assistant</li><li>• Ticket Reservation Assistant</li></ul>	Course available for: <ul style="list-style-type: none"><li>• Travel Tour Assistant</li><li>• Tour Guide</li></ul>
	<ul style="list-style-type: none"><li>• Tour Guide/Manager</li><li>• Travel Consultant</li><li>• Counter Sales Executive</li><li>• Tour Vehicle Drivers</li></ul>	<ul style="list-style-type: none"><li>• Coastal community members</li></ul>	QP available for: <ul style="list-style-type: none"><li>• Tour Guide</li><li>• Travel Consultant</li><li>• Counter Sales Executive</li><li>• Tour Vehicle Driver</li></ul>	MES available for: <ul style="list-style-type: none"><li>• Tour Assistant</li><li>• Ticket Reservation Assistant</li><li>• Tour Agent/Travel Operator</li></ul>	Course available for: <ul style="list-style-type: none"><li>• Travel Tour Assistant</li><li>• Tour Guide</li></ul>
<b>Investment (INR In lakhs)</b>		<b>Training for Marine Tourism and Hospitality</b>			
		Operational Expenditure		42.5	
		<b>Training for Travel and Tourism</b>			
		Operational Expenditure		57.5	
		<b>Total operational Expenditure</b>		100	
<b>Potential Partners</b>		<b>Partner</b>		<b>Areas of Support</b>	
		TSP		<ul style="list-style-type: none"><li>• Space and infrastructure for establishing training</li><li>• Training delivery/training facility</li></ul>	
		Hotel Management Institutes (HMIs)		<ul style="list-style-type: none"><li>• Input for designing curriculum</li><li>• Guest faculty</li></ul>	
		Industry Association (Hotel)		<ul style="list-style-type: none"><li>• Facilitate On-Job-Training</li><li>• Facilitate placements</li></ul>	
		Travel and Hospitality Sector Skill Council (THSSC)		<ul style="list-style-type: none"><li>• Development of QPs for the identified job roles</li><li>• Develop model training programmes for the identified Job Roles</li><li>• Identification and certification of Trainers</li><li>• Identification and certification of assessors</li><li>• Assessment of trainees</li><li>• Certification of Trainees</li></ul>	
<b>Training Delivery</b>		<ul style="list-style-type: none"><li>• Engage a TSP affiliated with DDU-GKY and PMKVY to deliver the training</li><li>• The training centre will be setup by a training provider who will be engaged</li></ul>			

## Work Plan

Travel and Hospitality Trades	in Months
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	1	2	3	4	5	6
TSP enplanement						
Training centre setup						
Appointment of trainers						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of centre and training programme						

Project 3: Pharmaceuticals Training					
Key economic drivers		<ul style="list-style-type: none"><li>Development of Jawaharlal Nehru Pharma City<sup>22</sup></li><li>Medical Devices Manufacturing Park (at Andhra Med tech Zone)</li></ul>			
Rationale		Quality control requires deeper understanding of the subject matter at hand and Pharmaceuticals require high-level skills and knowledge in the field of chemistry. Andhra Pradesh has a significant number of Engineering and Sciences students in Chemistry who can be tapped for the project, which can be administered to existing college students interested in the area alongside mainstream college education.			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Additional Skill Program for Pharma Quality Chemists	<ul style="list-style-type: none"><li>College students (B.Sc. Chemistry/B.Tech/B.Pharm/M.Pharm)</li></ul>	RPL	-
				Fresh Training	900 in next 5 years
Availability of curriculum	Job Role	Target groups	QP/NOS	MES	CTS
	<ul style="list-style-type: none"><li>Pharma Quality Assurance/Control Chemist</li><li>Pharmacy Assistant</li></ul>	<ul style="list-style-type: none"><li>College students(B.Sc . Chemistry / B.Tech/B.Pharm/M.Pharm)</li></ul>	QP available for: <ul style="list-style-type: none"><li>Pharmacy Assistant</li></ul>	MES available for: <ul style="list-style-type: none"><li>Pharmacy Assistant</li></ul>	No course available
Investment (INR In lakhs)		Additional Skill Program for Pharma Quality Chemists			
		Operational Expenditure		156	
Potential Partners		Partner	Areas of Support		
		Andhra University and Colleges	<ul style="list-style-type: none"><li>Guest faculty</li><li>Input for designing curriculum</li></ul>		
		[Viswanandha Institute of Pharmaceutical Science, Andhra University-College of Pharmaceutical Sciences, GITAM Institute of Medical Science and Research]			
		Training Service Provider	<ul style="list-style-type: none"><li>Provide infrastructure for training</li><li>Training delivery</li></ul>		
		Healthcare Sector Skill Council	<ul style="list-style-type: none"><li>Design model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li></ul>		

<sup>22</sup> <http://www.apiic.in/wp-content/uploads/2015/06/JNPC.pdf>

		<ul style="list-style-type: none"> <li>Assessment of trainees</li> <li>Certification of Trainees</li> </ul>
Training Delivery	<ul style="list-style-type: none"> <li>Engage a TSP affiliated with DDU-GKY and PMKVY to deliver the training</li> </ul>	

## Work Plan

Pharmaceuticals	in Months					
	1	2	3	4	5	6
Partnership with SSC, Industry Partners and Knowledge partners						
Affiliation of Training centre with HCSSC						
Appointment of additional staffs, if required						
Appointment of trainers						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

Project 4: Green Jobs Training					
Key economic drivers		<ul style="list-style-type: none"> <li>Smart city projects</li> </ul>			
Rationale		<p>As part of the Smart City program, Visakhapatnam is going to invest 600 Crores in solar technology. There would be a significant demand for solar panel technicians in the in the next 2- 3 years.</p> <p>Basic training in plant science, landscape construction and maintenance would be required.</p>			
Trainings in high demand		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Green Jobs Trainings- Solar Power	<ul style="list-style-type: none"> <li>Local youth</li> </ul>	RPL	-
				Fresh Training	600 persons in next 5 years
		Landscapers	Local Youth/College students	RPL	-
				Fresh Training	400 persons in next 5 years
Availability of curriculum	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Solar Panel Installation technicians	ITI (Electrical and Mechanical)/Diploma (Electrical and Mechanical) candidates	QP available for: <ul style="list-style-type: none"> <li>Solar Panel Installation technicians</li> </ul>	Course available for Solar electric System Installer & Service Provider, Solar Hot Water system installer, Assistant Solar PV Technician, Solar PV Technician	No course available
	Landscapers	Local youth	No course available	No course available	No course available
Investment (INR In lakhs)		<b>Green Jobs Training</b>			

	Operational Expenditure	48
	<b>Landscapers</b>	
	Operational Expenditure	26
	Total Operational Expenditure	74
Potential Partners	<b>Partner</b>	<b>Areas of Support</b>
	Training Institutes	<ul style="list-style-type: none"> <li>Provide infrastructure for training</li> <li>Training delivery</li> </ul>
	Industry Association	<ul style="list-style-type: none"> <li>Industry interface</li> <li>Facilitate On-Job-Training</li> <li>Facilitate in identifying the firms that could recruit the trained graduates in Vizag</li> </ul>
	Skill Council for Green Jobs	<ul style="list-style-type: none"> <li>Development of QPs for the identified job roles</li> <li>Develop model training programmes for the identified Job Roles</li> <li>Identification and certification of Trainers/assessors</li> <li>Assessment and Certification of trainees</li> </ul>
Training Delivery	<ul style="list-style-type: none"> <li>Engage a TSP affiliated with DDU-GKY and PMKVY to deliver the training</li> <li>Funding and regulation (Solar Panel technician training):- NULM, Corporation of Visakhapatnam</li> </ul>	

### Work Plan

Green Jobs Training	in Months					
	1	2	3	4	5	6
To establish a partnership with SSC, Industry Partners and Knowledge partners						
Development of QPs						
Purchase and installation of lab equipment						
Appointment of trainers						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

Project 5: Training on Cage Culture and Value Addition	
Key economic drivers	<ul style="list-style-type: none"> <li>The state has the largest area under cultivation<sup>23</sup> of fish and shrimps</li> <li>Cyclone protected and does not require going deep into the sea, fish harvesting is easier, environment friendly are the advantages of this technique</li> <li>Huge demand for activities such as handling catch, preservation of catch etc. which will increase the income of the fishermen and will also benefit the women who sell the catch</li> <li>Aqua and mariculture holds a lot of potential to create self-employment opportunities for the coastal communities</li> </ul>
Rationale	Hygienic handling of fishes and quality control of the catch will improve the fishermen's income by 10-20%. A five day training course comprising of sessions on appropriate ways of handling catch, usage of clean water, kind of ice used, preservation of catch will augment the income of the fisher-folk. This

<sup>23</sup> <http://mpeda.gov.in/MPEDA/cms.php?id=eWVhci13aXNlLXNwZWNPZXMtZ2lZS1ZdGFoZS13aXNl#>

will also help in reducing the ailments caused by unhygienic handling of catch to the fisher folk especially women who sell the catch.					
Trainings	<b>Training courses</b>		<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
	Training on Cage Culture		<ul style="list-style-type: none"> <li>Local Fishing community</li> <li>Fish Cooperative members</li> <li>Self Help Group (SHGs) members</li> </ul>	RPL	-
				Fresh Training	1000 persons in next 5 years
	Awareness/Value Addition training courses		Fishermen Community	RPL	-
				Fresh Training	800 persons in next 5 years
	Longline Fishing		Fishermen Community	RPL	-
				Fresh Training	800 persons in next 5 years
Availability of curriculum	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Technician	<ul style="list-style-type: none"> <li>Local fishing community</li> <li>SHG members</li> <li>Fish cooperative Members</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>Aquaculture technician</li> <li>Aquaculture worker</li> </ul>	No Course available	No Course available
	Fisherman	<ul style="list-style-type: none"> <li>Fishermen community</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>Aquaculture technician</li> <li>Aquaculture worker</li> </ul>	No Course available	No Course available
	Longline Fisherman	<ul style="list-style-type: none"> <li>Fishermen community</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>Aquaculture technician</li> <li>Aquaculture worker</li> </ul>	No Course available	No Course available
Investment (INR In lakhs)		<b>Cage Culture</b>			
		Operational Expenditure			146
		<b>Value Addition</b>			
		Operational Expenditure			64
		<b>Longline Fishing</b>			
		Operational Expenditure			64
		<b>Total operational expenditure</b>			274
Potential Partners		<b>Partner</b>	<b>Areas of Support</b>		
		Fishery Training Institute	<ul style="list-style-type: none"> <li>Provide infrastructure for training</li> <li>Training delivery</li> <li>Support in setting up/scaling up the training centre as per the required SSC norms</li> <li>Provide faculty members</li> <li>Integrate the proposed trainings in its training plan</li> </ul>		
		National Fisheries Development Board	<ul style="list-style-type: none"> <li>Setting up of Open Sea Cage</li> <li>Demonstration of model sea cage culture to fishermen</li> <li>Selection of farmers/fisherman for receiving the training</li> </ul>		



		<ul style="list-style-type: none"> <li>Funding and regulations</li> </ul>
	Agriculture Sector Skill Council	<ul style="list-style-type: none"> <li>Develop model training programmes for the identified Job Roles</li> <li>Identification and certification of Trainers</li> <li>Identification and certification of assessors</li> <li>Assessment of trainees</li> <li>Certification of Trainees</li> </ul>
Training Delivery	<ul style="list-style-type: none"> <li>Fishery Training Institute to deliver the training facility</li> <li>Funding and Regulation:- ICAR (Indian Council of Agricultural Research) for Longline Fishing training and value addition program; National Fisheries Development Board for Cage Culture</li> </ul>	

### Work Plan

Cage Culture	in Months					
	1	2	3	4	5	6
Upgradation of training centre						
Affiliation of Training centre with ASCI						
Initiation of residential facility construction work						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

<b>Project 6: Training for Improving Communication Skills especially in spoken English</b>					
Key economic drivers	<ul style="list-style-type: none"> <li>Lack of communication skills has been identified as a major contributor towards unemployment of the youth in Visakhapatnam</li> </ul>				
Rationale for the Training Center	Lack of communication skills has been identified as a major contributor towards un-employability of the youth. APSSDC has set up 37 Employability Skill Centres (ESCs) in the District. Training should be organised for the youth who have passed out of ITIs/Polytechnics in addition to the local colleges and are unemployed, to improve their chances of getting employed.				
Job Roles in Demand	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>	
	Training for Improving Communication Skills especially in spoken English	<ul style="list-style-type: none"> <li>Unemployed youth who have completed courses from ITI, Polytechnics</li> </ul>	Fresh Training	8,000 persons in next 5 years	
Availability of curriculum	<b>Job Roles</b>	<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
		<ul style="list-style-type: none"> <li>Unemployed youth who have completed courses from ITI, Polytechnics</li> </ul>	<ul style="list-style-type: none"> <li>No QP/NOS available</li> </ul>	Course available : Spoken English and Communication Skill	No course available
Estimated Investment for the training (INR in lakhs)	<b>Training in Communication Skills especially in spoken English</b>				
	Operational Expenditure	1110.4			

Potential Partners	<b>Partner</b>	<b>Areas of Support</b>
	Employability Skill Centers (APSDDC)	<ul style="list-style-type: none"> <li>• Input for designing curriculum</li> <li>• Funding and regulations</li> <li>• Providing Guest faculty</li> </ul>
	Local Colleges / Polytechnics / ITIs	<ul style="list-style-type: none"> <li>• Space and infrastructure for conducting the training</li> <li>• Access to facilities for training</li> </ul>
Training Delivery	<ul style="list-style-type: none"> <li>• Local colleges will be offering the infrastructure to undertake the training</li> <li>• ESCs will lead the curriculum preparation with help from the HRs from various organizations who come to recruit</li> </ul>	

### Work Plan

Training for Improving Communication Skills especially in spoken English	in Months					
	1	2	3	4	5	6
Partnership between ESCs and the local colleges/Polytechnics/ITIs						
Developing QP/NOS and curriculum						
Setting up the training center						
Appointment of trainers						
Mobilisation and enrolment of prospective trainees						
Roll-out of training programme						

## 3.6. Additional Training Courses

During the interaction with the State Skill Development mission, some additional training courses were also suggested with an objective to cater to female candidates. Further, most of these programmes offer an opportunities for self-employment.

The training courses have been offered traditionally by various TSPs under different schemes and programmes and have been listed in the tale below.

S. No	Sector	Trade - QP	Qualification
1.	Food Processing / Agriculture	Coffee Cultivation/ Processing	Literate
2.	Trade/Retail	Sales Executive, Entrepreneur	Literate

### 3.7. Summary for East Godavari

SN	Project Name	Job Roles	Type of training	No. of people to be trained
1	Skill Development Centre for Ports and Logistics	Truck Drivers, Crane Operators	Fresh and RPL	2,200 persons in next 5 years
2	Training for Travel and Tourism Skill Development and Entrepreneurial Courses to be taken up by State Institute of Fisheries Technology (SIFT)	Fish Farmer- Cage Culture, Seaweed Farmer, Pickle maker, Shellfish artisan , Fish Sellers	Fresh	3,200 persons in next 5 years
3	Self-Employment in the Coir Industry (2 ply yarn making entrepreneurial activity)	Weaver	Fresh	500 persons in next 5 years
4	Training for Improving Communication Skills especially in spoken English	-	Fresh	8000 in next 5 years

### 3.8. Action Plan for East Godavari

<b>Project 1: Skill Development Center for Port and Logistics</b>				
Key economic drivers	<ul style="list-style-type: none"> <li>• Presence of Kakinada Deep Water Port and Anchorage Port</li> <li>• Kakinada Special Economic Zone being developed, which would be spread across 10,500 acres</li> <li>• New port named Kakinada Port Special Economic Zone (KPSEZ) being developed by GMR</li> </ul>			
Rationale for the Training Center	The ports and associated logistics service providers such as the transport operators are located in close proximity due to their dependence on the port. Furthermore, as per the availability of land at the port the land can be used for installing crane and truck simulators. Considering that there is a cluster of employers and potential beneficiaries available in close proximity in the district, MoS can explore the opportunity for establishing the training center.			
Job Roles in Demand	Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
	Training for Truckers for Logistics Sector	<ul style="list-style-type: none"> <li>• Unemployed/Local Youth for fresh trainings</li> <li>• Existing truck drivers for RPL</li> </ul>	RPL	1000 in next 5 years
			Fresh Training	1000 in next 5 years
	Crane operators	<ul style="list-style-type: none"> <li>• Unemployed/Local Youth for fresh trainings</li> </ul>	RPL	100 in next 5 years
			Fresh Training	100 in next 5 years

			<ul style="list-style-type: none"><li>Existing truck drivers for RPL</li></ul>		
Availability of curriculum	<b>Job Roles</b>	<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Truck Drivers	<ul style="list-style-type: none"><li>Unemployed/Local Youth for fresh trainings</li><li>Existing truck drivers for RPL</li></ul>	<ul style="list-style-type: none"><li>Reach Truck Operator</li></ul>	Course available for: <ul style="list-style-type: none"><li>Driver HMV</li><li>Driver LMV</li></ul>	No course available
	Crane operators	<ul style="list-style-type: none"><li>Unemployed/Local Youth for fresh trainings</li><li>Existing crane operators for RPL</li></ul>	QP available for <ul style="list-style-type: none"><li>Crawler crane operator</li><li>Hydra crane operator</li><li>Tyre mounted crane operator</li><li>Junior crane operator</li><li>Overhead crane operator</li></ul>	Course available for: <ul style="list-style-type: none"><li>Truck Mounted/Crawler/ Rough Terrain Crane Operator</li></ul>	No course available
Estimated Investment for establishing a training center (INR in lakhs)		<b>Truck and heavy vehicle operators</b>			
		Operational Expenditure		120	
		<b>Crane operators</b>			
		Operational Expenditure		26	
		<b>Total Operational Expenditure</b>		146	
		<b>Capital Expenditure<sup>24</sup></b>		500	
Potential Partners		<b>Partner</b>		<b>Areas of Support</b>	
		Kakinada Deep Water Port		<ul style="list-style-type: none"><li>Space and infrastructure for establishing the training center</li><li>Access to port facilities for practical training</li><li>Input for designing curriculum</li><li>Provision of equipment and simulators for training</li><li>Facilitate implementation of RPL for existing workforce</li><li>Provide Guest faculty and facilitate on the job training</li></ul>	
		Lorry Association		<ul style="list-style-type: none"><li>Facilitate implementation of RPL for existing workforce</li><li>On the job training</li></ul>	
		Training Partner (Port/TSP)		<ul style="list-style-type: none"><li>Training delivery</li><li>Co-management of the training facility</li></ul>	
		Logistic Sector Skill Council		<ul style="list-style-type: none"><li>Development of QPs for the identified job role</li><li>Develop model training programme for the identified Job Roles</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>	
Training Delivery		<b>Option 1</b> <ul style="list-style-type: none"><li>Port or MoS creates the training facility</li><li>Training facility to be managed and maintained by Port or MoS</li><li>Port to deliver the training and provide qualified trainers and mobilize trainees</li></ul> <b>Option 2</b> <ul style="list-style-type: none"><li>Private training provider to rent/develop the training facility and deliver the training programme</li></ul>			

<sup>24</sup> Cost of 2 crane stimulators and 10 truck simulators

## Work Plan

Port and Logistics	in Months								
	1	2	3	4	5	6	7	8	9
Partnership with SSC, Lorry Association and Kakinada Deep Water Port									
Development of QPs									
Modification of Training Infrastructure along with purchase and installation of equipment and simulators									
Purchase and installation of lab equipment									
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)									
Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

<b>Project 2: Skill Development and Entrepreneurial Courses to be taken up by State Institute of Fisheries Technology (SIFT)</b>				
Key economic drivers	<ul style="list-style-type: none"> <li>• Prevalence of fishing community</li> <li>• High demand for shrimp and fish for consumption</li> <li>• Export potential post processing</li> </ul>			
Rationale for the trainings	<p>East Godavari has 76,777 active fishermen and a total fishermen population of 385,392. The state is the largest producer of fish and shrimp in terms of both quantity and quality. The state has come up with a Fisheries Policy, with a vision to emerge as the Aqua-hub of the country and to emerge as a supplier of fish and marine products domestically and internationally. Given the thrust on the sector, it is a logical step to introduce trainings which focus on the fisher-folk and would enhance their income. MoS can explore the option of imparting trainings in this domain as it would go a long way in delivering value to the fishermen community.</p>			
Job Roles in Demand	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
	Training on Cage Culture	<ul style="list-style-type: none"> <li>• Local Fishing community</li> <li>• Fish Cooperative members</li> <li>• Self Help Group (SHGs) members</li> </ul>	Fresh Training	500 persons in next 5 years
	Developing Skills for Seaweed Culture	<ul style="list-style-type: none"> <li>• Fishing Community</li> <li>• Women from Fisherwomen SHGs</li> </ul>	Fresh Training	600 persons in next 5 years
	Fish/Seafood Pickle making	<ul style="list-style-type: none"> <li>• Fisherwomen Self-Help Groups</li> </ul>	Fresh Training	600 persons in next 5 years
	Training for making products using shellfish	<ul style="list-style-type: none"> <li>• Fisherwomen Self-Help Groups</li> </ul>	Fresh Training	500 persons in next 5 year

		Hygienic handling of fish	• Fishermen community	Fresh Training	1000 persons in next 5 years -5
Availability of curriculum	<b>Job Role</b>	<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Fish Farmer-Cage Culture	• Local Fishing community • Fish Cooperative members • Self Help Group (SHGs) members	QP available for: • Aquaculture technician • Aquaculture worker	No course available	No course available
	Seaweed Farmer	• Fishing Community • Women from Fisherwomen SHGs	QP available for: • Aquaculture technician • Aquaculture worker	No course available	No course available
	Pickle maker	• Fisherwomen Self-Help Groups	QP does not exist	No course available	No course available
	Shellfish artisan	• Fisherwomen Self-Help Groups	QP does not exist	No course available	No course available
	Fish Sellers	• Fishermen community	QP available for: • Aquaculture technician • Aquaculture worker	No course available	No course available
Expenditure for carrying out trainings (INR in Lakhs)		<b>Cage Culture</b>			
		Operational Expenditure		70	
		<b>Developing Skills for Seaweed Culture</b>			
		Operational Expenditure		8	
		<b>Fish/Seafood Pickle making</b>			
		Operational Expenditure		48	
		<b>Training for making products using shellfish</b>			
		Operational Expenditure		40	
		<b>Hygienic handling of fish</b>			
		Operational Expenditure		80	
		<b>Total Operational Expenditure</b>		246	
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		<b>For Cage Culture</b>			
		National Fisheries Development Board (NFDB), Central Marine Fisheries Research Institute (CMFRI) or State Institute of Fisheries Technology (SIFT)	• Setting up of Open Sea Cages • Demonstration of model sea cage culture to fishermen • Provide Guest faculty and facilitate on the job training • Selection of farmers/fisherman for receiving the training • Funding and regulations		
		<b>For other Trainings at SIFT</b>			
		State Institute of Fisheries Technology and CIFNET	• Space and infrastructure for establishing the training center • Developing and fine tuning the curriculum • Provide Guest faculty and facilitate on the job training • Provision of material for training • Funding and regulations		
		Agriculture Sector Skill Council	• Develop model training programmes • Identification and certification of Trainers		

	<ul style="list-style-type: none"> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
Training Delivery	<ul style="list-style-type: none"> <li>• National Fisheries Development Board (NFDB) to create the training facility</li> <li>• Central Marine Fisheries Research Institute (CMFRI) or State Institute of Fisheries Technology (SIFT) to deliver the training</li> <li>• State Institute of Fisheries Technology will provide the infrastructure for providing the trainings</li> <li>• SIFT and CIFNET to partner for delivering the seaweed culture training</li> <li>• SIFT will provide qualified trainers and mobilize trainee</li> </ul>

## Work Plan

Skill Development and Entrepreneurial Courses	in Months					
	1	2	3	4	5	6
Partnership between SIFT, CIFNET, CMFRI and NFDB to be finalised						
Developing QP/NOS						
Appointment of additional staff members						
Mobilization and enrolment of prospective trainees						
Roll-out of training programme						

Project 3: Self-Employment in the Coir Industry (2 ply yarn making entrepreneurial activity)					
Key economic driver	<ul style="list-style-type: none"> <li>• East Godavari is the largest producer of coconut in Andhra Pradesh, thus ensuring availability of raw material for the coir industry<sup>25</sup></li> </ul>				
Rationale for the training	Self-employment in the coir industry is a feasible avenue for the local youth of the district as this is a sustainable entrepreneurial activity wherein the raw material is available in abundance and there exists a well-developed market for the output of the coir industry.				
Job Roles in Demand	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>	
	2 ply yarn making entrepreneurial activity	<ul style="list-style-type: none"> <li>• Local youth</li> </ul>	Fresh Training	500 persons in 5 year	
Availability of curriculum	<b>Job Role</b>	<b>Target Beneficiaries</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Weaver	Local youth	<ul style="list-style-type: none"> <li>• QP not available</li> </ul>	Not available	Not available
Estimated Investment (INR In lakhs)	<b>2 ply yarn making entrepreneurial activity</b>				
Potential Partners	<b>Partner</b>		<b>Areas of Support</b>		
	COIR Board		<ul style="list-style-type: none"> <li>• Inputs in designing the curriculum</li> <li>• Provide Guest faculty</li> <li>• Funding and regulations</li> </ul>		
	Training Service Provider		<ul style="list-style-type: none"> <li>• Training delivery</li> </ul>		
	Handicraft Sector Skill Council		<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified job roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> </ul>		

<sup>25</sup> Season and Crop Report 2014-15, Dept. of Economics and Statistics, Govt. of Andhra Pradesh,



		<ul style="list-style-type: none"> <li>Assessment of trainees</li> <li>Certification of trainees</li> </ul>
Training Delivery	<ul style="list-style-type: none"> <li>The empaneled TSP that could be from DDU-GKY and PMKVY</li> </ul>	

## Work Plan

2 ply yarn making entrepreneurial activity	in Months					
	1	2	3	4	5	6
Developing QP/NOS						
Appointment of additional staff members						
Mobilization and enrolment of prospective trainees						
Roll-out of training programme						

Project 4: Training for Improving Communication Skills especially in spoken English					
Key economic drivers		<ul style="list-style-type: none"><li>Lack of communication skills has been identified as a major contributor towards unemployment of the youth in East Godavari</li></ul>			
Rationale for the Training Center		Lack of communication skills has been identified as a major contributor towards un-employability for the youth. APSSDC has set up 24 Employability Skill Centres (ESCs) in the District. Training should be organised for the youth who have passed out of ITIs/Polytechnics in addition to the local colleges and are unemployed, to improve their chances of getting employed.			
Job Roles in Demand		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Training for Improving Communication Skills especially in spoken English	<ul style="list-style-type: none"><li>Unemployed youth who have completed courses from ITI, Polytechnics</li></ul>	Fresh Training	8,000 persons in next 5 year
Availability of curriculum	Job Roles	Target Groups	Available QP/NOS	MES	CTS
		<ul style="list-style-type: none"><li>Unemployed youth who have completed courses from ITI, Polytechnics</li></ul>	<ul style="list-style-type: none"><li>No QP/NOS available</li></ul>	Course available : Spoken English and Communication Skill	No course available
Estimated Investment for the training (INR in lakhs)		Training in Communication Skills especially in spoken English			
		Operational Expenditure		1110.4	
Potential Partners		Partner	Areas of Support		
		Employability Skill Centres (APSDDC)	<ul style="list-style-type: none"><li>Input for designing curriculum</li><li>Funding and regulations</li><li>Providing Guest faculty</li></ul>		
		Local Colleges / Polytechnics / ITIs	<ul style="list-style-type: none"><li>Space and infrastructure for conducting the training</li><li>Access to facilities for training</li></ul>		
Training Delivery		<ul style="list-style-type: none"><li>Local colleges will be offering the infrastructure to undertake the training</li><li>ESCs will lead the curriculum preparation with help from the HRs from various organizations who come to recruit</li></ul>			

## Work Plan

Training for Improving Communication Skills especially in spoken English	in Months					
	1	2	3	4	5	6
Partnership between ESCs and the local colleges/Polytechnics/ITIs						
Developing QP/NOS and curriculum						
Setting up the training center						
Appointment of trainers						
Mobilisation and enrolment of prospective trainees						
Roll-out of training programme						

## 4. List of Stakeholders consulted

### 4.1 State level consultations-Andhra Pradesh

SN	Stakeholders	Person	E-mail	Cell/Phone
1	Andhra Pradesh State Skill development Corporation	Avanish Kumar, COO	info@apssdc.org	040- 23410477
2	Andhra Pradesh Tourism Department	Dr. Rajendra Prasad Khajuria, Commissioner	edaptdevsp@gmail.com; secy_trsm@ap.gov.in	040-23262157
3	Labour Department	R.Ravibhushan Rao, Joint Labour Commissioner	Com.labour@gmail.com	94911 41057
4	Directorate of Economics and Statistics	Ms.V. Prathima, Joint Director		8978177113
5	School Education	RMSA Cell		
6	Fisheries Department	Jt. Director	mbraju4856@gmail.com	9440814702
7	Rural Development	Vijay Mappala, EGM		9866900079
8	Directorate of Employment and training	Jt. Director		8886882222
9	MEPMA	Mr. Rajasekhar ReddyAdministrative Officer	pppvani@ampmepma.gov.in	7702211125

## 4.2 District level consultations-East Godavari

S.No	Stakeholder	Person	E-mail	Cell/Phone
1	Kakinada Seaports Ltd.	Capt. Jacob Satyaraju, G.M Operations	capt@kakinadaseaports.in	9866556688
2	Kakinada Seaports Ltd.	M. Murali Krishna, G.M Business Development and Logistics	mkt@kakinadaseaports.in	8842365089
3	AKV Logistics Pvt. Ltd.	A.V. Chalam, MD	chalam@akvgroup.in	9885293205
4	Central Institute of Fisheries Education (CIFE)	2 Scientists	kakinada@cife.edu.in	0884-2373602
5	VIKASA (A Govt. Society for Training and Placement Services)	V.N. Rao, Project Director	projectdirector@vikasajobs.com	9640250400
6	VB Exports(P) Ltd.	C.V.N. Prasad, Plant Manager	pm@vbexports.com	8978734567
7	Vedanta, Terminal Operators	P. Sunil Kumar, Manager	p.sunilkumar@vedanta.co.in	8897270210
8	Municipal Corporation, Kakinada (Smart City)	Er. M.V. Suryanarayana, Executive Engineer	vvenkatasurya99@yahoo.com	9849906516
9	Chamber of Commerce	D. Surya Rao, Chairman	kkd.chamber@gmail.com	9848160446
10	Reliance	Nanduri Rao, Manager	nanduri.rao@ril.com	9866770412
11	District Collectorate	Sri. H. Arun Kumar, District Collector		
12	District Industrial Centre	A.V. Patel, General Manager		9949418222
13	District Industrial Centre	David, Deputy Director		
14	Fisheries Department	V. Pedi Babu, Fisheries Development Officer	ddfiskkd@gmail.com	9848350481
15	Kakinada SEZ Port (GMR)	Durga Prasad Rao, GM, Ports Development	durgaprasada.rao@gmrgroup.in	8008190567
16	GMR SEZ	Rama Raju, Head-Projects	ramaraju.bha@gmrgroup.in	9676997779
17	Kakinada Polytechnic	K.C.H Satyanarayana, Administrative Officer	vvenkatasurya99@yahoo.com	9849906516
18	State Institute of Fisheries Technology	Dr. Ram Mohan Rao,		9885144557
19	ITI	Vadrevu Srinivasan Rao, Principal		8886882167
20	Municipal Corporation, Kakinada (Smart City)	S. Aleem Basha, Commissioner		
21	Toursim Department	Prakash, Manager		
22	Lotus Marine Logistics	Bobby, Operations Manager		
23	Bothra Group	Ashok Rout, VP	rout@bothragroup.com	9437103402
24	Sembmarine Kakinada	Sidhardha Kumar, Asst. Commercial Manager		08842355741
25	Coir Board, MoMSME	M.Ramachandrarao	ramachandrarao@yahoo.com	9247798246
26	Industrial Promotion Officer, Rajahmundry	Srinivas Reddy		9440338164

### 4.3 District level consultations-Visakhapatnam

S.No	Stakeholder	Person	E-mail	Cell/Phone
1	Samsara Shipping Pvt Ltd	Mr. Bobby (General Manager)	lawrence@samsaras hipping.com	9010441000
2	Act Marine Agency	Mr. Kanaka Rao	actmarine@gmail.co m	9885108323
3	Atlantic Shipping Pvt Ltd	Mr. Apparao Manager		
4	Visakha Container Terminal	Mr. Sambamurthy, General Manager- HR	smurthy.s@vctpl.co m	7893500456
5	Hindustan Shipyard	Mr. Soorya Rao (General manager- HR)	gmhr.hsl@gov.in	9493792200
		Mr. Perumal – Senior Manager (Training division)		9493792904
6	SVK Shipping Services	Mr. Satish Kumar, General Manager	satish@svkshipping. com	9391965559
7	K.RAMABRAHMAM & SONS PVT LIMITED	Mr. Sudarshan- GM marketing	krsons@vsnl.com	9248023044
8	Gateway Hotel	Mr. Ravi Kumar HR Manager	Ravi.kumar@tajhote ls.com	0891 662 3670
9	Visakhapatnam Port Trust	Mr. Venugopal- secretary: Mr. Kapardee, Sr. Dy. Director	Secretary.vizagport @gmail.com rnp.mvk-vpt@gov.in	9705182199 9948979500
10	Sprints Exports Private Limited	Mr. Pavan Kumar	pawan@sprintexpor ts.com	9848197789
11	Gangavaram Port	Mr. Brahmaiah, Director (Strategy and Planning)	brahmaiah@gangav aram.com	0891- 2701177
12	Vizag Sea Port Private Limited	Mr. Chakraborti (General Manager- operations) Mr. Shakhti (Senior Manager- Operations)	chakri@vizagseaport .com	9866344757 9866398106
13	District collector office- vizag	Mr. Pravin Kumar		
14	Vizag General Cargo Berth Pvt. Ltd.	Mr. Rahul (HR Manager) Ms. Divya (Assistant Manager)	divya.nagar@vedant a.co.in	8501855599
15	Continental Warehousing	Mr. Srinivas, Senior Executive	stevvizfin@cwcnsl.c om	9246649986
16	CMR Shopping Mall			
17	Hotel Dolphin	Navin, HR Manager		
18	International Clearing & Shipping Agency			
20	Datapro Computers			
21	Indo German Institute of Advanced Training	Mr. Srinivas Murthy	mposmurthy@igiat.c om	9246646002
22	Smart City PMU			
23	Tourism Department			
24	District Industries Centre			
25	Sky Choppers Logistics Private Limited			
26	Visakha Tourism			
27	Concor India Ltd	Mr. Gouri Sankara Rao, General Manager- Civil	agsr_2007@rediffm ail.com	9618499255
28	Voltas Fashion	Mr. RamKishore Reddy, Factory Manager	vfpl@voltafashions.c om	9985700970

29	Hindustan Petroleum Corporation Limited	Mr. Sarma, Senior Manager-Public Relations	sarmaus@hpcl.in	9490132034
31	CIFNET	Mr. Rangari, Deputy Director		8125410712
32	CMFRI	Mr. Sekar	sekarrajaqua@gmail.com	9505768370
33	Fisheries Department	Mr. Venkatesh, Joint Director		9440814716
34	Vijay Nirman	Krishna Mohan		9490438588
35	Hotel Meghalaya	Mr. Jagadish Kumar		8885524242

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## *Section 10: Gujarat*

*Kutch*

*Bhavnagar*

# 1. District Profile

## 1.1. Kutch

### About Kutch

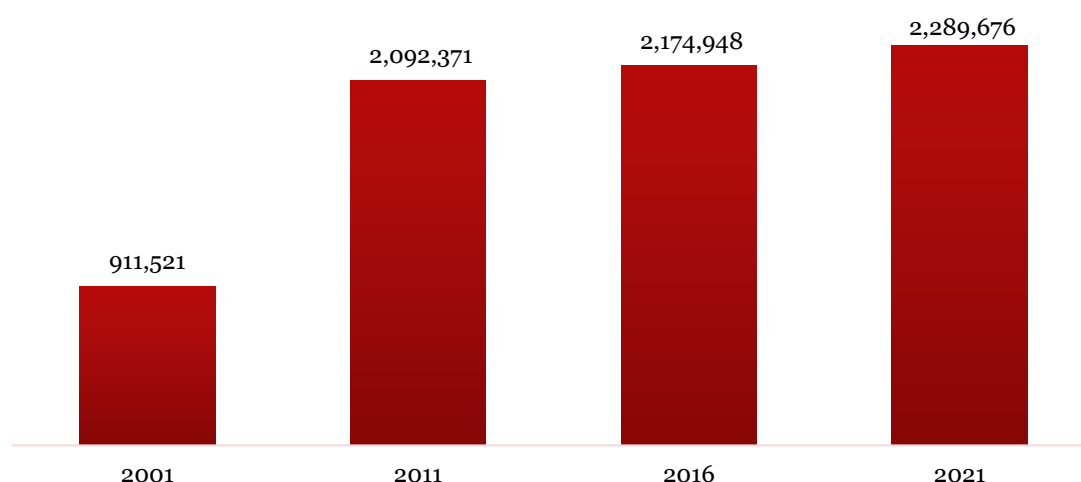
The key industries in Kutch include engineering, power, minerals, steel pipes, cement, handicrafts, timber, and salt<sup>1</sup>. Nearly 75 % of the total minerals of the Gujarat State are produced in Kutch district alone and it also has the largest lignite reserves in Gujarat. The district contributes to over 60% of Gujarat's Salt production which is largely exported to countries like Bangladesh and Korea. Kutch also has one of the major ports in India, Kandla Port and the largest private port, Mundra port which acts as the driver for the dominant industries in the district.

### 1.1.1. Demographic Profile<sup>2</sup>

Indicator	Value
Total population	2,092,371
Decadal rate of growth of population (2001-11)	19%
Rural population	65%
Female	48%
SC population	12%
ST population	1%
Workforce participation	37%
Main Workers (As % of total population)	33%
Marginal (As % of total population)	4%
*Number of people with vocational training in the age group of 15+ in the state	65 per 1000

### Population Trends<sup>3</sup>

Figure 1: Population trend in Kutch (2001-2011)



<sup>1</sup> Brief Industrial Profile of Kutch District, MSME

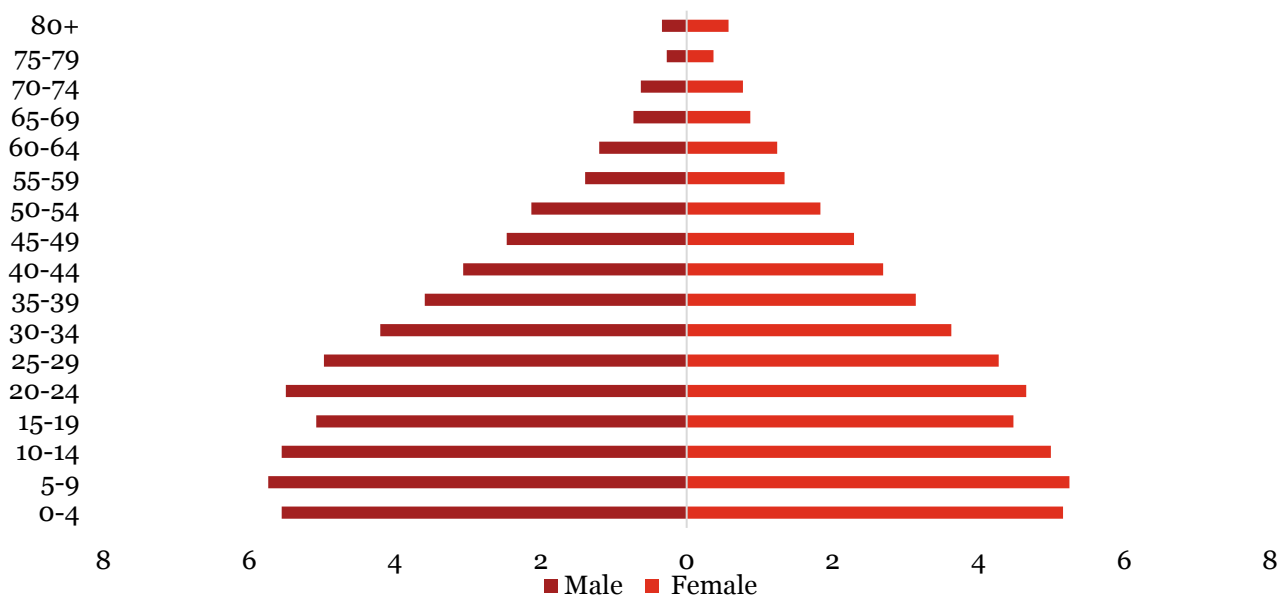
<sup>2</sup> Census 2011

<sup>3</sup> (Census of India, 2001 and 2011), PwC Analysis



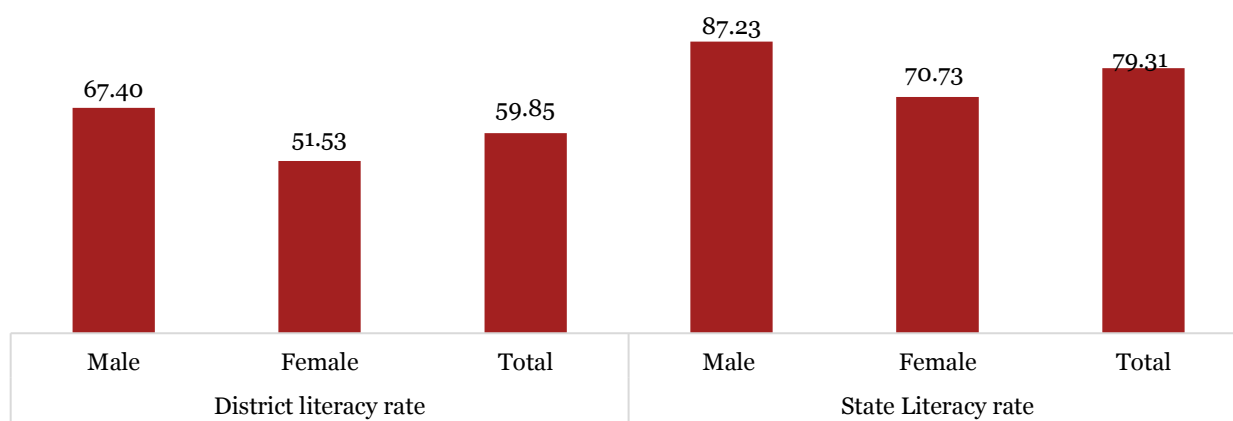
Estimating the population for the period 2011-21 (10 years), the population is estimated to be 2,174,948 and 2,289,676 in 2016 and 2021. The projected absolute growth in the population from 2016 to 2021 is 5 %.

**Figure 2: Population pyramid Kutch - 2011**



### Literacy rates<sup>4</sup>

**Figure 3: Kutch vs Gujarat literacy rates (2011)**



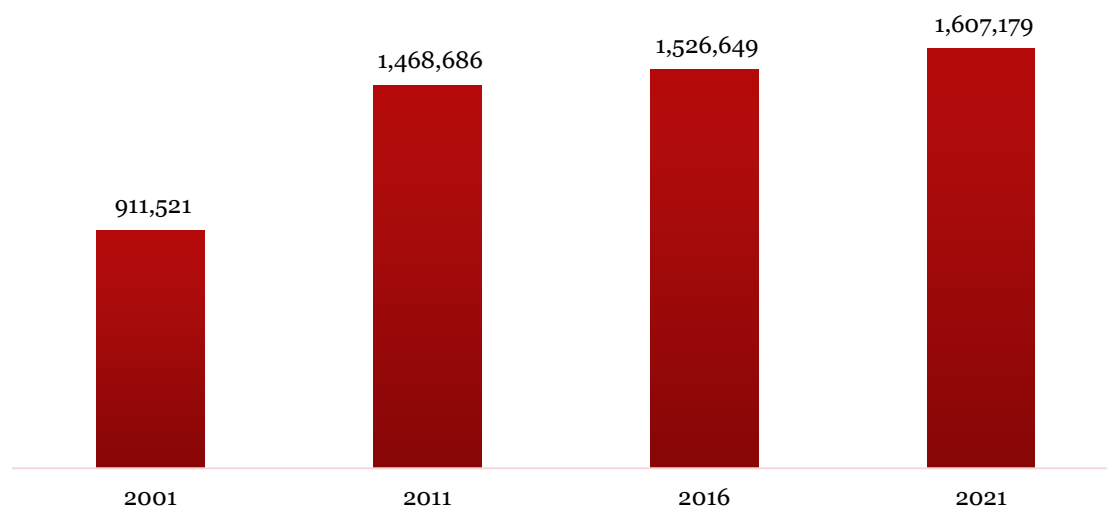
Total literacy rate of Kutch, as per Census 2011, is approximately 60%, which is far below the State's literacy rate of around 79%. Also, the female literacy rate of Kutch (51.5%) is substantially lower than the male literacy rate, which is 67.4 % as per Census 2011.

<sup>4</sup> (Census of India, 2011)

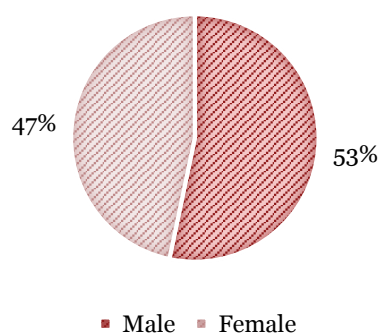
### *Age specific population trends and education levels for 2011<sup>5</sup>*

As per Census 2011, the population in the age-group of 15 to 24 years was 611,485 (29 of the overall population). Using proportional method, the population in the age group of 15-59 years is estimated to be 1,526,649 and 1,607,179 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 5%.

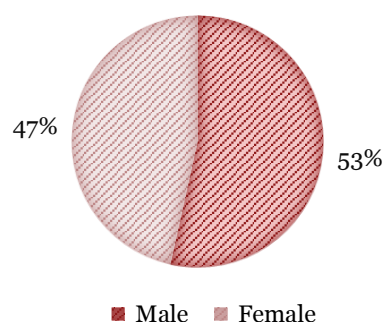
**Figure 4: Growth trend of population in the age group 15-59 year in Kutch (2001-2011)**



**Figure 6: Age specific population in Kutch (15-59 years)**



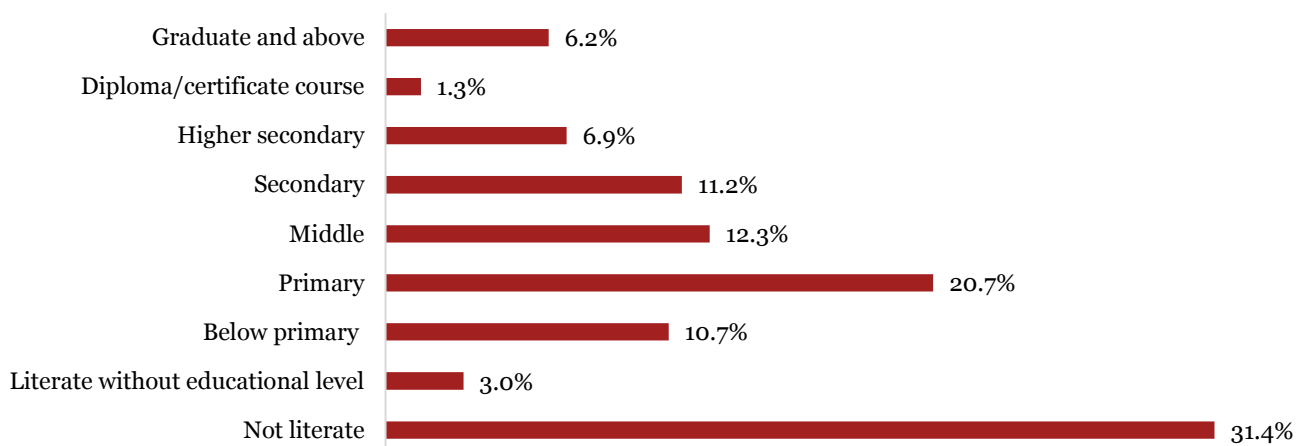
**Figure 5: Age specific population in Kutch (15-24 years)**



The share of female population in the total population is around 47% and 53% in the age categories 15-59 years and 15-24 years respectively.

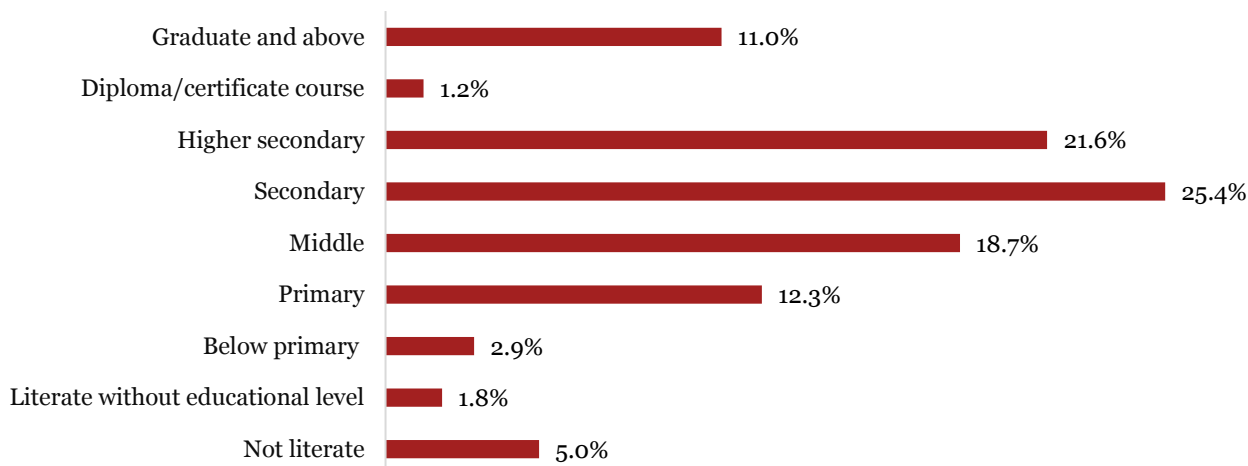
<sup>5</sup> (Census of India, 2001 and 2011)

**Figure 7: Age specific education level in Kutch (15-59 years)**



The chart above indicates that for the age category of 15-59 years, 31.4% of the population of Kutch is not literate. 3% of the population in the age category of 15-59 years is literate without any educational qualification, 10.7% has attended school till below primary level and 20.7% has completed schooling only up to primary level. Roughly, 12.3% of the literate population has completed schooling up to the middle level, whereas around 11.2% of the literate population has been educated till secondary. Only 1.3% of the population of this district has done a certificate/diploma course and 6.2% has at least graduated, indicating that a graduate/post-graduate degree is more sought after than a certificate/diploma.

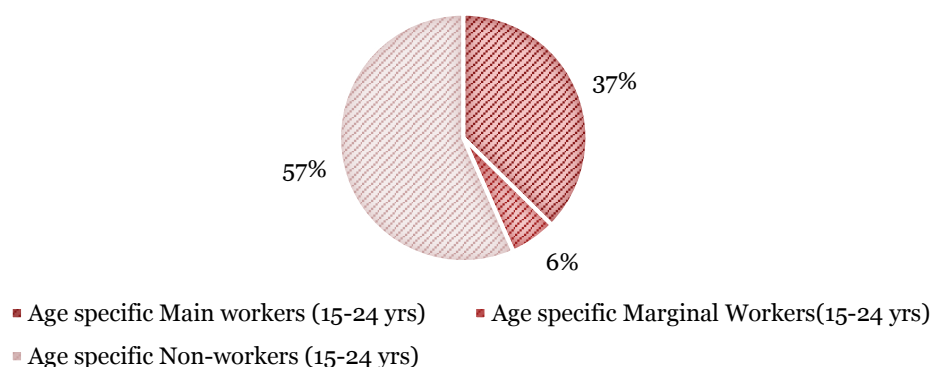
**Figure 8: Age specific education level in Kutch (15-24 years)**



For the age category of 15-24 years, 5% of the population of Kutch is not literate. 1.8% is literate without any educational qualification, 2.9% has attended school till below primary level and 12.3% has completed schooling only up to primary level. Roughly 18.7% of the literate population has done schooling up to the middle level, whereas, around 25.4% of the literate population has been educated till secondary. Only 1.2% of the population of this district has done a certificate/diploma course and 11% has at least completed graduation.

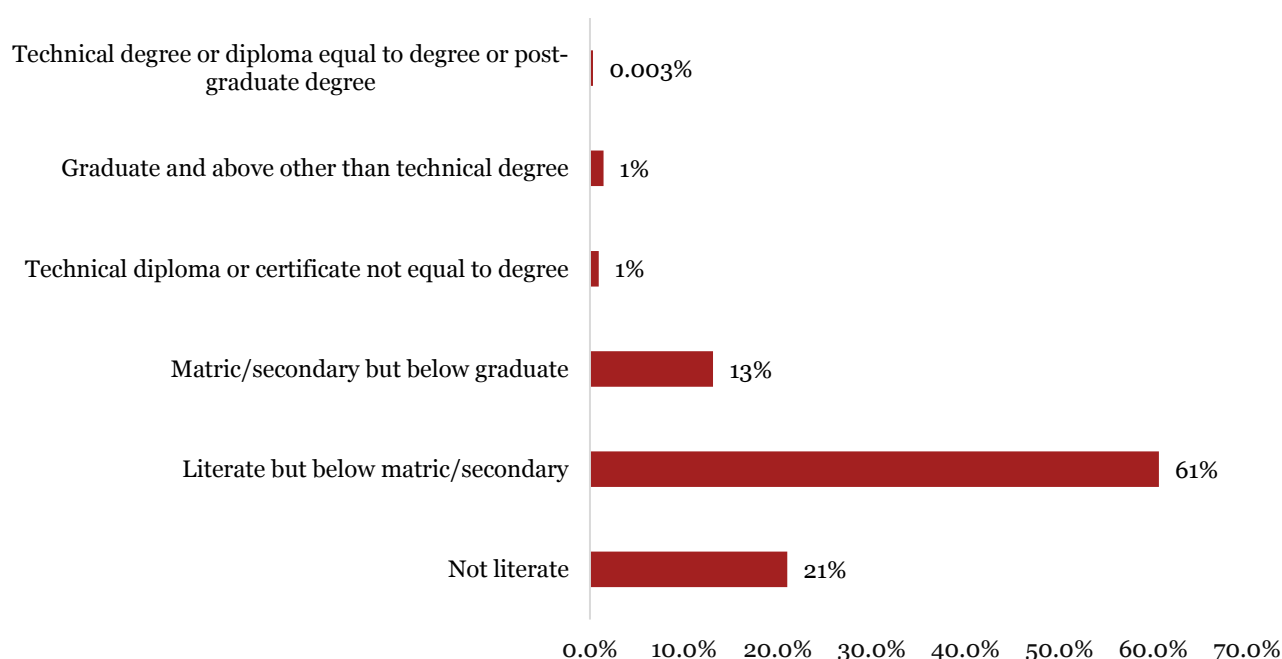
## Age specific distribution of workers and educational level<sup>6</sup>

**Figure 9: Age specific distribution of workers in Kutch 15-24 years**



57% of the people in the age group of 15-24 years are non-workers. 6% of the people are main-workers, whereas 37% are engaged in marginal work i.e. work for 3-6 months during the year. The main and marginal labour force participation rate are 32.8% and 4.3% respectively.

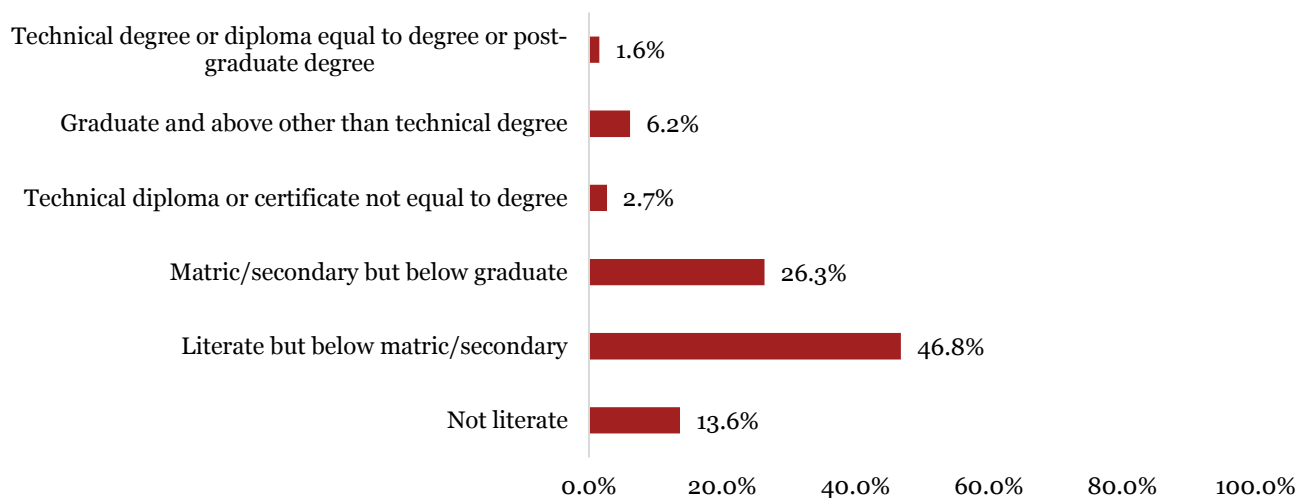
**Figure 10: Education level of marginal workers available for work in Kutch (15-24 years)**



Amongst the 9,044 marginal workers in the age group of 15-24 years, around 30 (0.003%) hold technical degree or a diploma equal to degree and 130 (1%) are graduate and above other than a technical degree. 84 (1%) have a diploma or a certificate (not equal to degree). 1,185 (13%) are educated up to the matric/secondary level and around 5,481 are (61%) literate with an educational qualification of below matric/secondary level. 1,902 (21%) marginal workers in this age group are not literate.

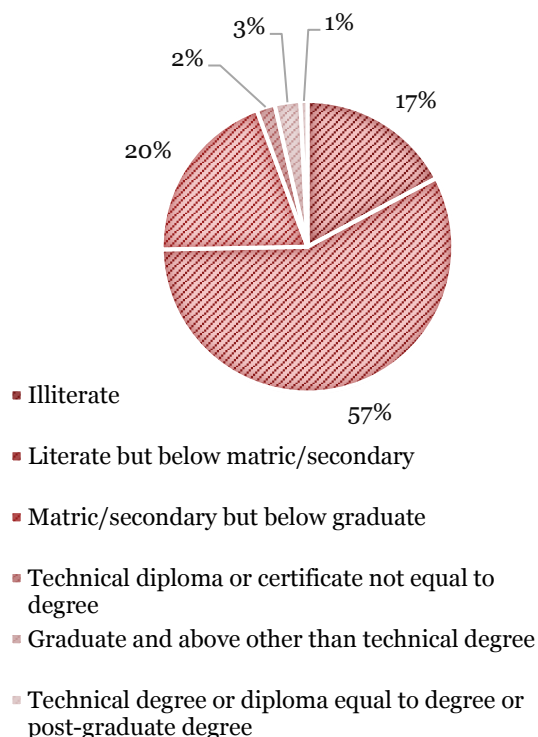
<sup>6</sup> (Census of India, 2011)

**Figure 11: Education level of non-workers available for work in Kutch (15-24 years)**

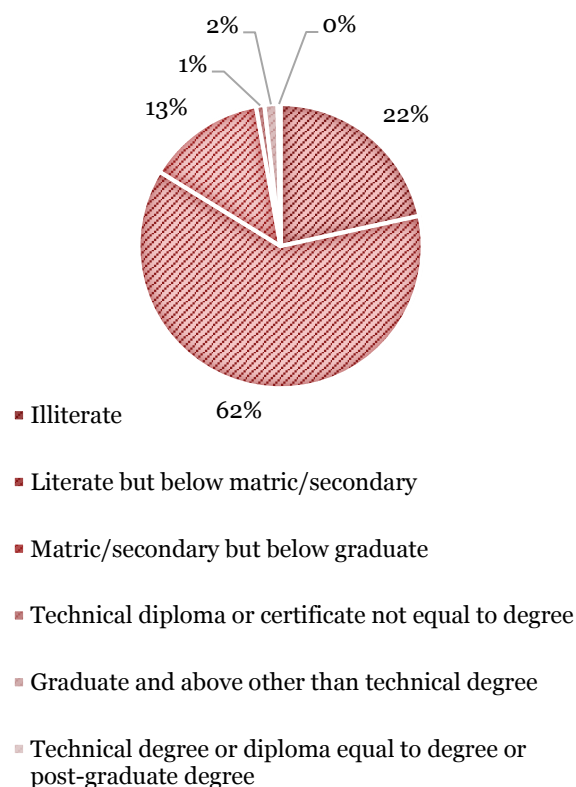


Amongst the 18,920 non-workers in the age group of 15-24 years, 298 (2%) hold a technical degree or a diploma equal to degree or post graduate degree, and 1,171 (6%) have a graduate and above other than a technical degree. 509 (3%) have a diploma or a certificate (not equal to degree). About 4,983 (26%) are educated up to the matric/secondary level and around 8,858 (47%) are with an educational qualification of below matric/secondary level. 2,581 (14%) marginal workers in this age group are not literate.

**Figure 13: Education level for main workers available for work in Kutch (15-24 years)**



**Figure 12: Educational level for marginal workers available for work in Kutch (15-24 years)**

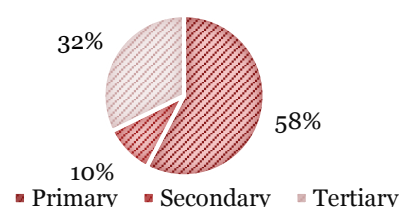


From the chart given above, we find that the proportion of main workers who are illiterate (in the age category 15-24 years) is slightly less (5 percentage point difference between the two) than the proportion of marginal workers available for work and who are illiterate. We also find that the proportion of main workers who are literate but below matric/secondary (in the age category 15-24 years) is slightly more (5 percentage point difference between the two) than the proportion of marginal workers who are available for work and are literate but below matric/secondary. The proportion of main workers who are matric/secondary but below graduate (in the age category 15-24 years) is more (7 percentage point difference between the two) than the proportion of marginal workers who are available for work and are matric/secondary but below graduate. For the remaining three educational levels, we find that the population shares are more or less the same across the two worker categories.

### 1.1.2. Key Economic Drivers

In the absence of district level GDP figures for Gujarat, we have considered the state level GDP figures which (at constant prices 2004-05) are INR 4,52,625 Crore in 2013-14. The workforce distribution<sup>7</sup> of the district suggests that across sectors more than half (58%) of the district population is engaged in the primary sector followed by tertiary sector which employs nearly one third of the total workforce (32%).

**Figure 14: Workforce distribution in Kutch district across sectors**



The key economic drivers of the district are illustrated below:

<b>Port, maritime and logistics</b>	<ul style="list-style-type: none"> <li>• Presence of Mundra and Kandla: handle more than 30% of country's total cargo</li> <li>• KPT has massive expansion as well as mechanisation plans worth USD 700 Mn</li> <li>• Green ports envisaged by Adani port</li> </ul>
<b>Mining and Mineral based industries</b>	<ul style="list-style-type: none"> <li>• Nearly 75% of Gujarat's mineral reserves are in Kutch</li> <li>• Setting up of 2.4 million TPA of Cement Plant in JV with M/s. Jaiprakash Associates Limited, New Delhi, in Kutch along with Mineral based SEZ, based on limestone to be supplied from GMDC</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• In 2015, Of the total investments, 31% constituted tourism in (DIC investments)</li> <li>• Diverse tourist attractions in the form of Spiritual Sites, Architectural &amp; Heritage Sites, Natural Ecosystems/ Wildlife Sanctuaries, Beaches/ Water Based Attractions etc.</li> <li>• Govt is expected to sign MOUs worth Rs.1,500 crore for 18 districts. Incl Kutch</li> </ul>
<b>Manufacturing</b>	<ul style="list-style-type: none"> <li>• Salt production in Kutch was approx. 60 Lakh MT in 2013-14 which constituted about one third of the total salt production of the state.</li> <li>• SAW Pipes: World's 2nd largest hub in terms of capacity for SAW pipe manufacturing</li> <li>• Engineering units/mechanical parts: Rs 1659 Lakhs worth investments were sanctioned by DIC</li> <li>• Edible Oil: Palm Oil, soya, ground nut</li> </ul>
<b>Timber</b>	<ul style="list-style-type: none"> <li>• Average growth rate of the timber import volumes has been over 20% on YOY bases</li> <li>• 952 licensed wood working factories and over 2000 saw mills around Kandla served by two ports</li> </ul>

<sup>7</sup> District wise skill gap study for the State of Gujarat (2012-17, 2017-22), NSDC Report

### 1.1.3. Priority Sectors

In Kutch, the priority sectors that have been identified are **Ports and Maritime sector** and other sectors closely linked to port led activities such as **fisheries, logistics and tourism**.

Other sectors/industries that are prominent from the point of view of their contribution to district economy are identified to be **mines and mineral based, timber, edible Oil, handicrafts/handlooms and salt**.

### 1.1.4. Investments

Over the last couple of years, Kutch has witnessed rampant investments in the industrial space. Between 2006 and 2014, approximately 1636 MSME units have been established for which around INR 1458 Crores worth investments have been made and the employment has been generated for approximately 27,000 persons.

Infrastructure has also been an important component of the past investments in the district. Under Critical Infrastructure Projects (CIP) scheme, 3 projects with an investment of INR 1,894 Crores have been sanctioned under Non-Gujarat Infrastructure Development Corporation (GIDC) projects between 2012 and 2015.

As far as projects registered with District Industries Centre, Kutch are concerned, overall investments worth INR 80 Crores have been made across 55 projects which are expected to generate employment for over 700 persons.

In Kutch, ports and maritime is a growing sector with investments to the tune of INR 28,000 crore which is expected to generate employment for over 2,000 individuals in the coming years. The nature of investments vary from upgradation and improvement of existing terminals, mechanization and establishment of green ports.

Details of some of the key investments proposed for the port and maritime sector in the district are given below:

**Table 1: Proposed Key Investments in Port and Maritime Sector in Kutch**

Project	Proposed Investment (in USD Million)	Expected Employment	Key Players <sup>8</sup>
Development of marble based furniture cluster in Kutch	353.8	N/A	KPT
Setting up of a container terminal (2.19 Million TEUs ) at Tuna Tekra, Kandla Port	346.2	200-250 persons	KPT
Development of 14th multipurpose berth on BOT basis, Kandla Port	36.7	100-150 persons	KPT
Development of 16th multipurpose cargo berth on BOT basis, Kandla Port	36.7	100-150 persons	KPT
Setting up of 10 liquid Storage Tank farms	Information Not Available	100-150 persons	KPT
Development of Multi-Purpose Cargo Berth at Tuna Tekra on BOT basis, Stage-II Kandla Port	192.3	300-400 persons	KPT
Augmentation of Kandla LPG Import Terminal	46.15	N/A	
Setting up of 14 MW solar power plant at Kandla Port Trust	12.9	20-50 persons	KPT

<sup>8</sup> Investments related to Adani Port, Mundra were not shared on account of confidentiality

### 1.1.5. Youth Aspiration

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

#### Respondent Profile

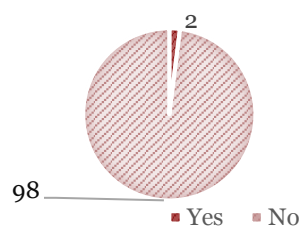
Profile	Details
Total Sample Size	384
Gender Profile	Male- 61% Female- 39%
Age Group	15-24 years
Education Level (top 3)	Senior Secondary schooling(Class 9 to 10)- 35.7% Secondary schooling( Class 6 to 8)- 26.7% Higher secondary schooling with science (Class 11 to 12)- 14.1%
APL/BPL/AAY/Don't know (118)	APL-68 % BPL- 32% AAY- 0% Don't know- 0%
Occupational Profile (top 3) (112)	Salary from employment (34.1%), Agriculture (32.2%), Own business (28%), Labourer in village (7.8%)

#### Exposure to Vocational Training and Educational Aspiration

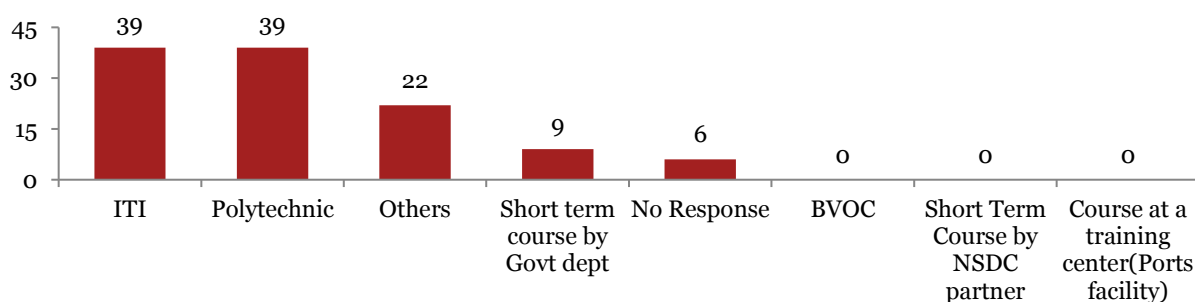
Regarding the exposure to the vocational training, most students reported that they had not completed any vocational training course. Overall, ~98% of the respondents had not enrolled in vocational training course (Figure 15).

Of the total respondents who underwent vocational training (which is ~2%), majority were from ITI (39%) and polytechnic (39%). Figure 16 exhibits the percentage of respondents who completed different types of courses as part of their vocational training

**Figure 15: Percentage of respondents who completed vocational training courses - Kutch**



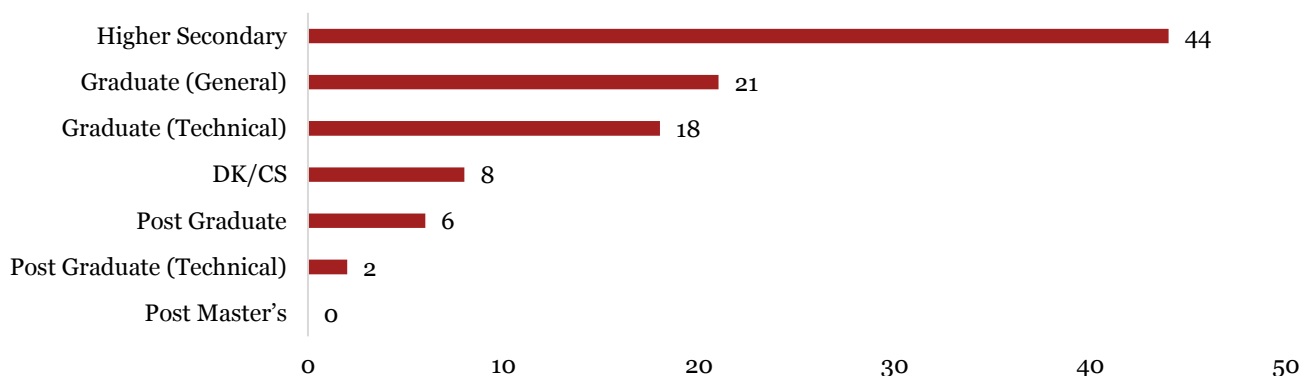
**Figure 16: Percentage of respondents who completed courses in vocational training - Kutch**





Further, the respondents were asked about the level of education they wished to attain. While 44% of the respondents aspired to attain higher secondary, 27% aspired to attain graduation and post-graduation level of education. The desire to attain technical education is relatively low with only 20% aspiring for graduation or post-graduation in technical fields (Figure 17).

**Figure 17: Desired level of education - Kutch**



## Job Aspiration

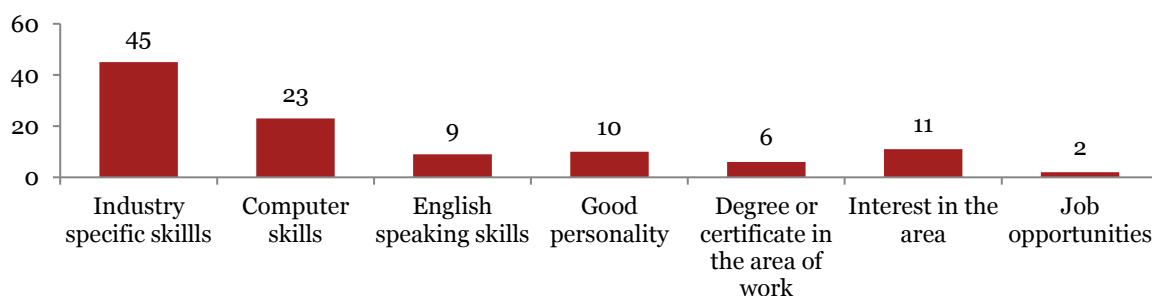
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 91% of the respondents reported to have preferred wage employment over self-employment (Figure 18).

The respondents were further asked to identify the factors important for securing employment in the area of interest. Nearly half (45%) of the respondents identified industry specific skills as the most important factor for securing employment followed by computer skills (23%), interest in area (11%) and good personality (10%) (Figure 19).

**Figure 18: Percentage of respondents aspiring for wage and self-employment - Kutch**

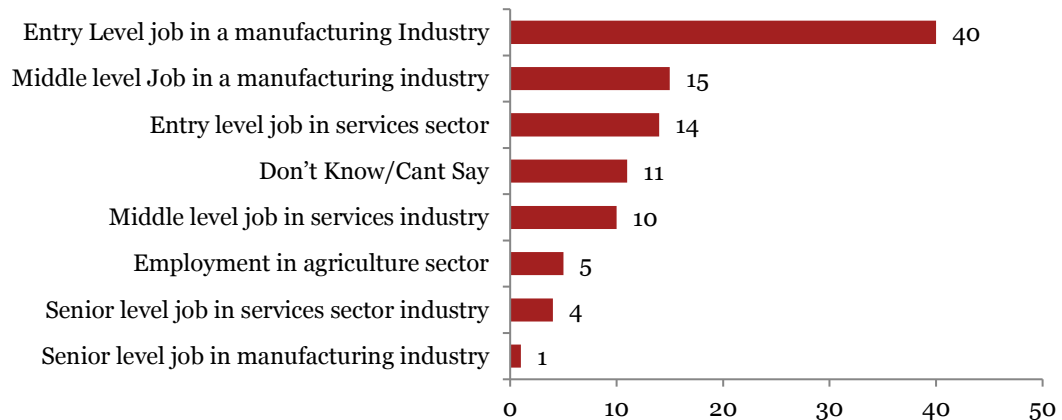


**Figure 19: Factors important for securing employment in area of interest (%) - Kutch**



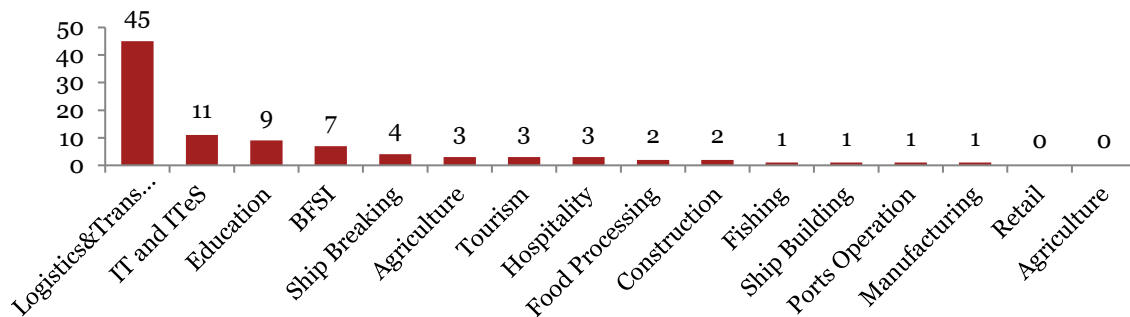
Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for manufacturing sector with 15% aspiring for middle level jobs and 40% aspiring for entry level jobs in manufacturing sector. This is followed by demand for service sector with 14% aspiring for entry level jobs and 10% for middle level jobs. (Figure 20).

**Figure 20: Desired job profile after completion of education/training - Kutch**



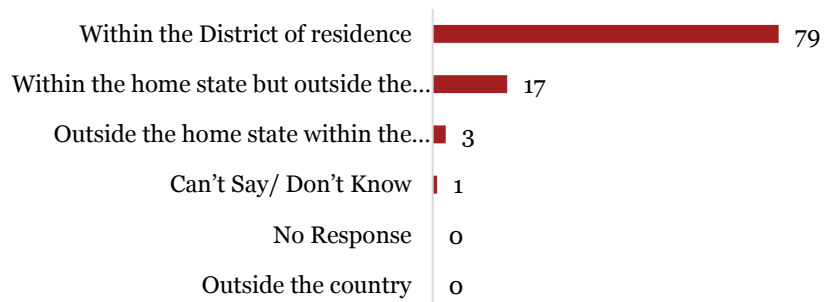
Further, Logistics & transport (45%), IT & ITeS (11%) and Education (9%) have been identified as sectors in which the respondents feel that they are mostly likely to get a job which is in alignment with their aspiration for a job in the service sector space. The details of other sectors are mentioned in Figure 21.

**Figure 21: Sectors in which respondents foresee getting a desired job (%) - Kutch**



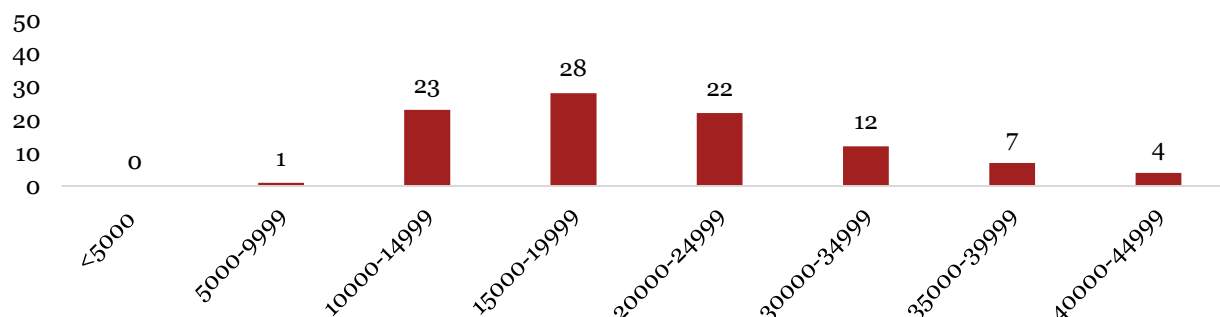
Out of the total respondents, 967 preferred to work in in the same State. It is important to note that nearly fourth-fifth of the respondents (79%) preferred to work in the same district and 17% expressed willingness to migrate to other districts in the same state suggesting lack of flexibility among the youth of the district (Figure 22).

**Figure 22: Preferred work location of candidates - Kutch**



For majority of the respondents (50%), the monthly salary expectation was INR 15,000-25,000. And for 23% of respondents the expected salary is reported to be in range of 10,000-15,000 per month (Figure 23).

**Figure 23: Monthly salary expectation of respondents - Kutch**

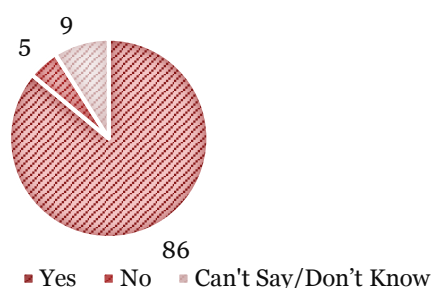


## Training Aspiration

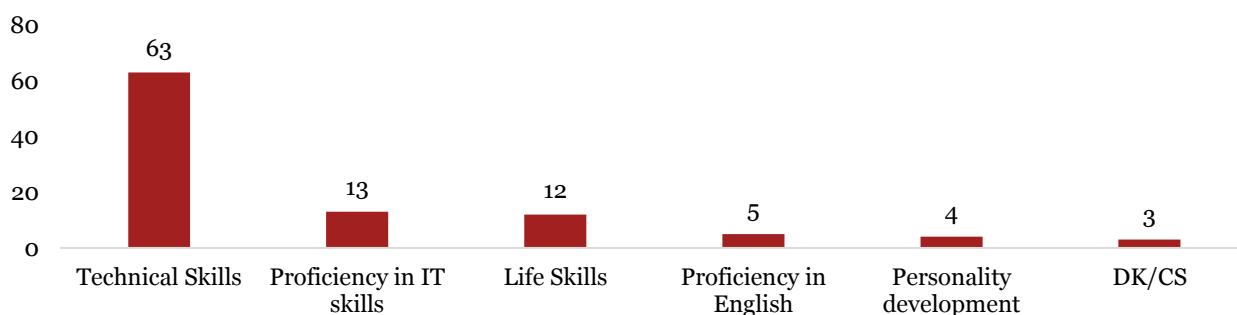
Regarding willingness of the respondents to participate in the training programme in next one year, 86% expressed interest whereas only 5% expressed dis-interest which reflects a great demand for skilling courses (Figure 24).

Further, when enquired about the key focus areas of skill training, 63% of the respondents reported that emphasis must be laid on technical skills, followed by proficiency in English (21%) and life skills (12%) (Figure 25).

**Figure 24: Willingness to participate in trainings (%) - Kutch**



**Figure 25: Focus area on skills training - Kutch**

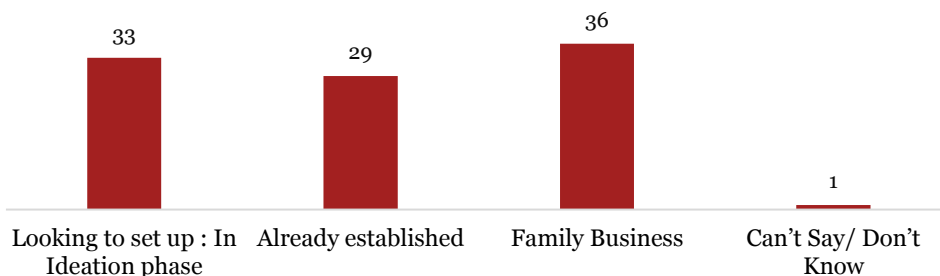


Overall there is a demand for training in tourism (44%), ship building and repair (43%), logistics (42%), shipping operations (41%), port operations (36%) and food processing (36%) (Figure 27)

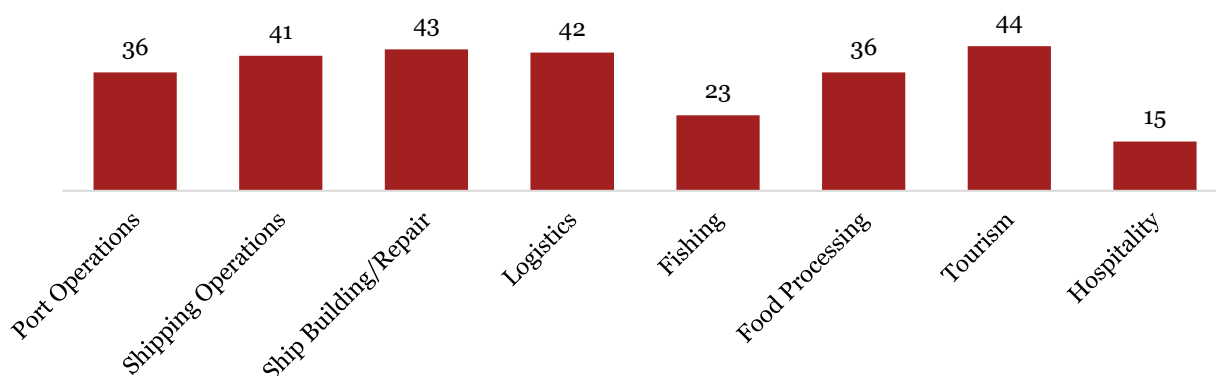
## Self-Employment

Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, 36% were in family business and 33% were in their ideation stage (Figure 26).

**Figure 26: Current Status of Entrepreneurial Venture (%) - Kutch**

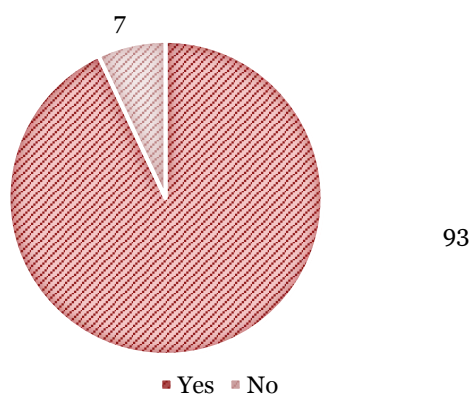


**Figure 27: Willingness of respondents to participate in trainings of different sectors - Kutch**



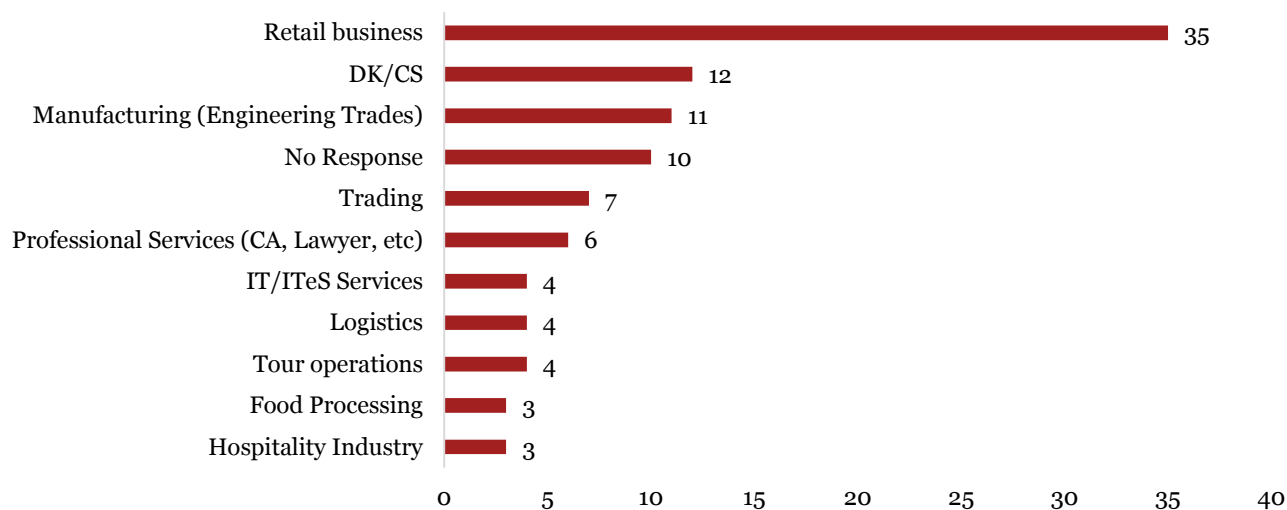
It is noteworthy that 93% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 28).

**Figure 28: Interested in skill development for enhancing entrepreneurial skills (%) - Kutch**



**Figure 29: Sectors for establishing enterprise - Kutch**

Retail business (35%), manufacturing (engineering trades) (11%) and trading (7%) have been identified as most preferred sectors for setting own enterprise (Figure 29).



## 1.2. Bhavnagar

### About Bhavnagar

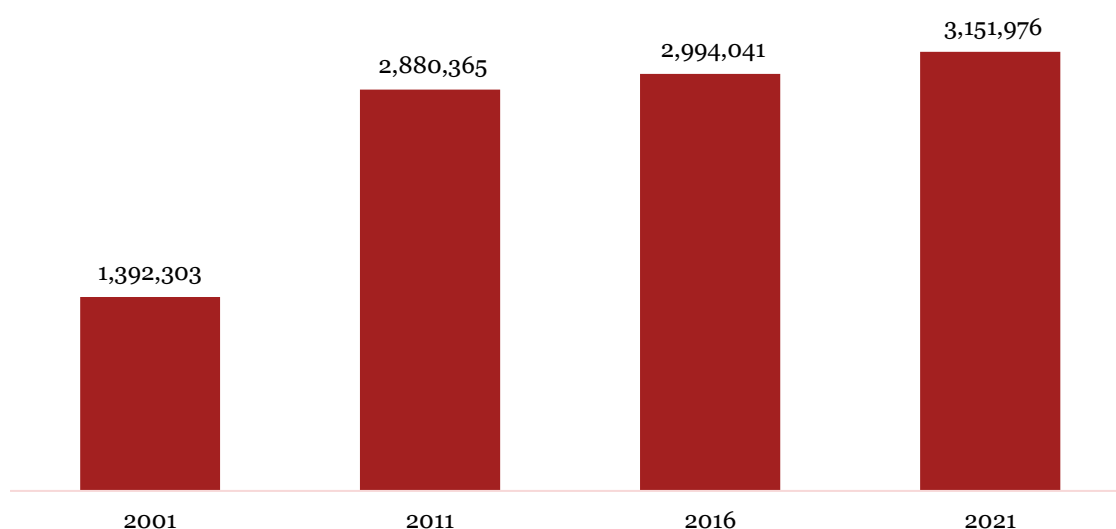
Ship breaking/recycling is the biggest industry in the district. It is considered as the largest graveyard of ships in the world. At present, 131 Plots at Alang and Sosiya have been allotted for ship breaking activity, which in turn support the down-stream industries like rolling mills and induction furnace. Bhavnagar also has one of its kind lockgate port in India which helps keep the ship afloat during the low tide. Another major industry in the district is diamond cutting and polishing which provides employment to approximately 74,000 employees<sup>9</sup>. Bhavnagar is also an emerging hub for cement, chemicals and food processing industries.

### 1.2.1. Demographic Profile<sup>10</sup>

Indicator	Value
Total population	2,880,365
Decadal rate of growth of population (2001-11)	17%
Rural population	59%
Female	48%
SC population	6%
ST population	.3%
Workforce participation	40%
Main Workers (As % of total population)	34%
Marginal (As % of total population)	6%
*Number of people with vocational training in the age group of 15+ in the state	65 per 1000

### Population trends<sup>11</sup>

Figure 30: Population trend in Bhavnagar (2001-2021)



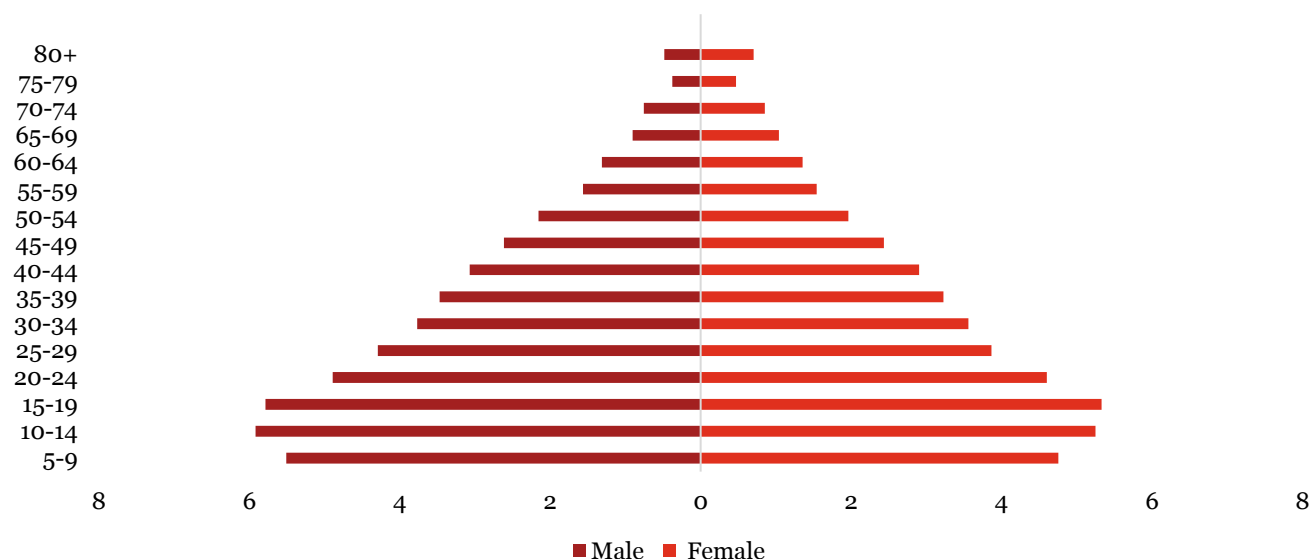
<sup>9</sup> Brief Industrial Profile of Bhavnagar District, MSME

<sup>10</sup> Census 2011

<sup>11</sup> Based on census 2001, 2011

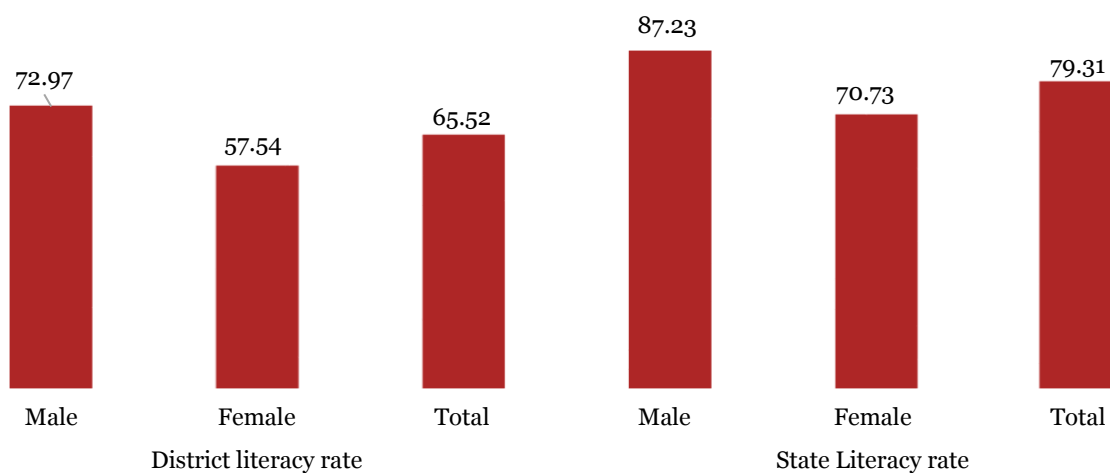
In the next decade (2021), the demographic dividend bulge in Bhavnagar will hold the same pattern that it held in the last decade; based on the extrapolation done on the Census 2011 figures, it is estimated that the population in 2016 and 2021 will be 2,994,041 and 3,151,976 respectively. The projected absolute growth in the population from 2016 to 2021 will be 5%.

**Figure 31: Population pyramid Bhavnagar - 2011**



## Literacy rates<sup>12</sup>

**Figure 32: Bhavnagar vs Gujarat literacy rates (2011)**



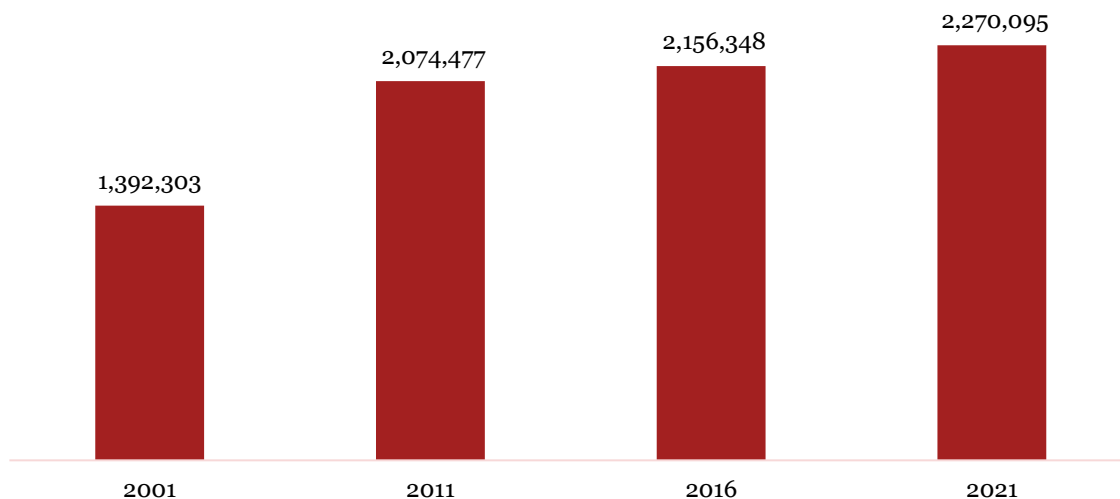
<sup>12</sup> Census 2011

Total literacy rate of Bhavnagar, as per the Census 2011, is approximately 65.5%, which is far below the State's literacy rate of around 79%. Also, the female literacy rate of Bhavnagar is 57.5% which is substantially lower than the male literacy rate of 73% as per Census 2011.

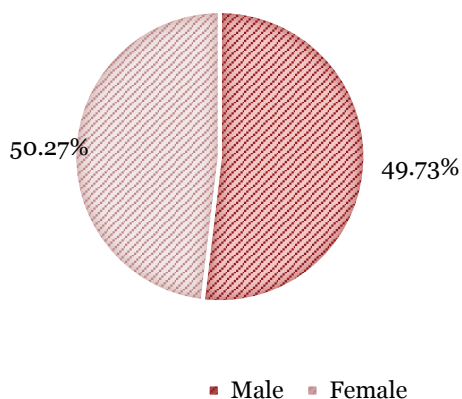
### *Age specific population trends and education levels for 2011<sup>13</sup>*

As per Census 2011, the population in the age-group of 15 to 24 years was 912,011 (31.6% of the overall population). Estimating the population in the age group of 15-59 years is expected to be 2,156,348 and 2,270,095 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 5%.

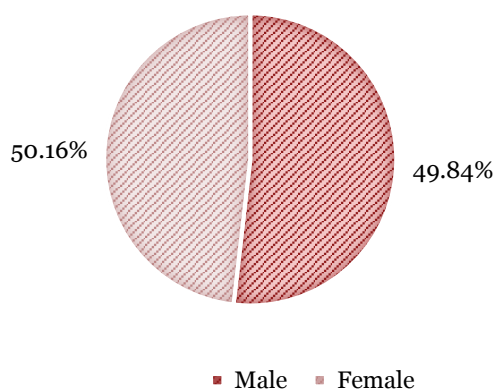
**Figure 33: Growth trend of population in the age group 15-59 years in Bhavnagar (2001-2021)**



**Figure 34: Age specific population in Bhavnagar (15-24 year)**



**Figure 35: Age specific population in Bhavnagar (15-59 year)**

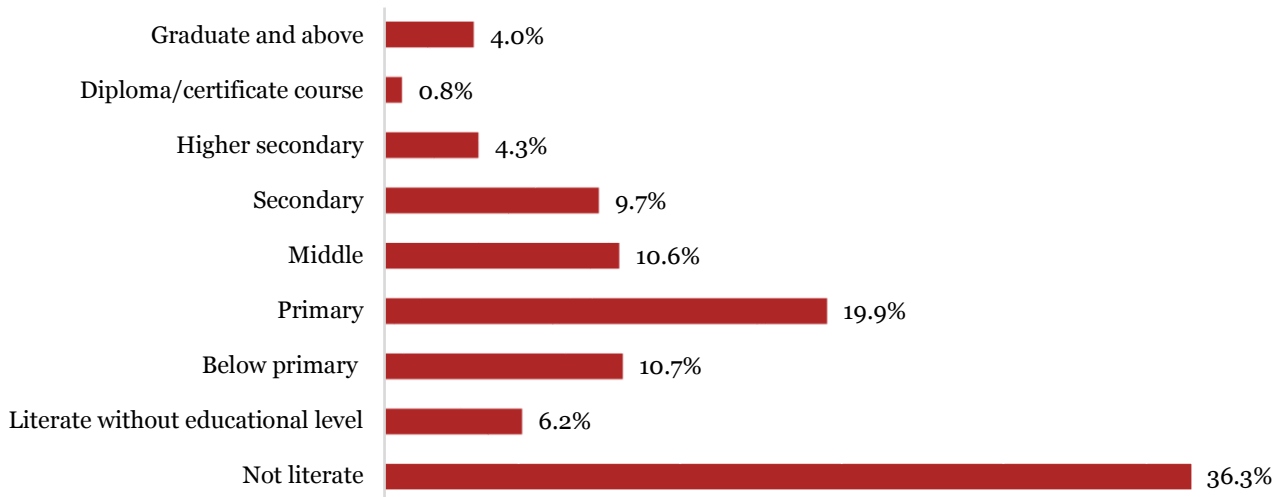


The share of population of both males and females in total population of Bhavnagar is around 50 % each in both the age categories-15-59 and 15-24 years.

<sup>13</sup> Based on Census 2011 and 2011

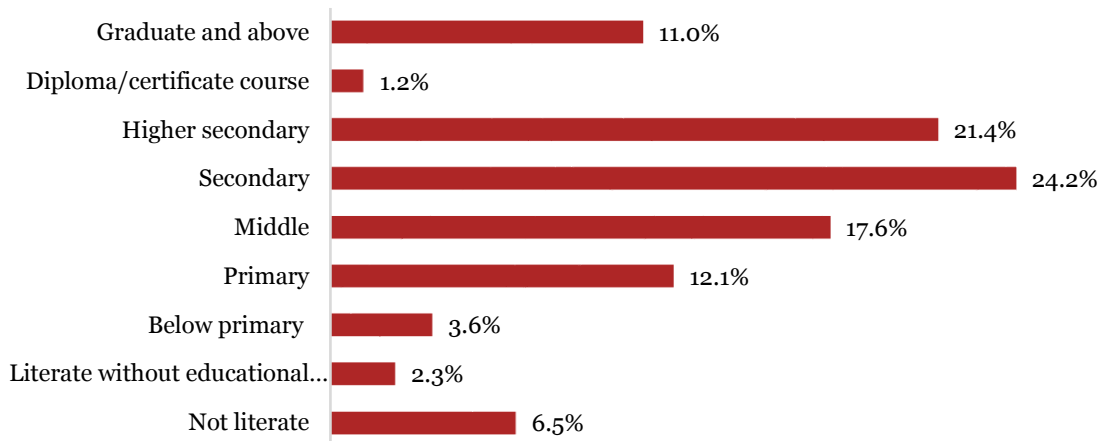


**Figure 36: Age specific education level in Bhavnagar (15-59 years)**



The chart above indicates that for the age category of 15-59 years, 36.3% of the population of Bhavnagar is not literate. 6.2% of the population in the age category of 15-59 years are literate without any educational qualification, 10.7% have attended school till below primary level and 19.9% has completed schooling only up to primary level. Roughly, 10.6% of the literate population has completed schooling up to the middle level, whereas around 9.7% of the population in the 15-59 year age group have been educated till secondary. Only 0.8% of the population of this district have done a certificate/diploma course and 4% have at least graduated, indicating that a graduate/post-graduate degree is more sought after than a certificate/diploma.

**Figure 37: Age specific education level in Bhavnagar (15-24 years)**

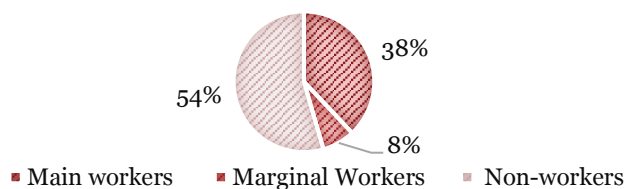


For the age category of 15-24 years, 6.5% of the population of Bhavnagar is not literate. 2.3% of the population in this category is literate without any educational qualification, 3.6% has attended school till below primary level and 12.1% has completed schooling only up to primary level. Roughly 17.6% of the population has done schooling up to the middle level, whereas, around 45.6% of the literate population has been educated till secondary or senior secondary level. Only 1.2% of the population of this district has done a certificate/diploma course and 11% have at least completed graduation.

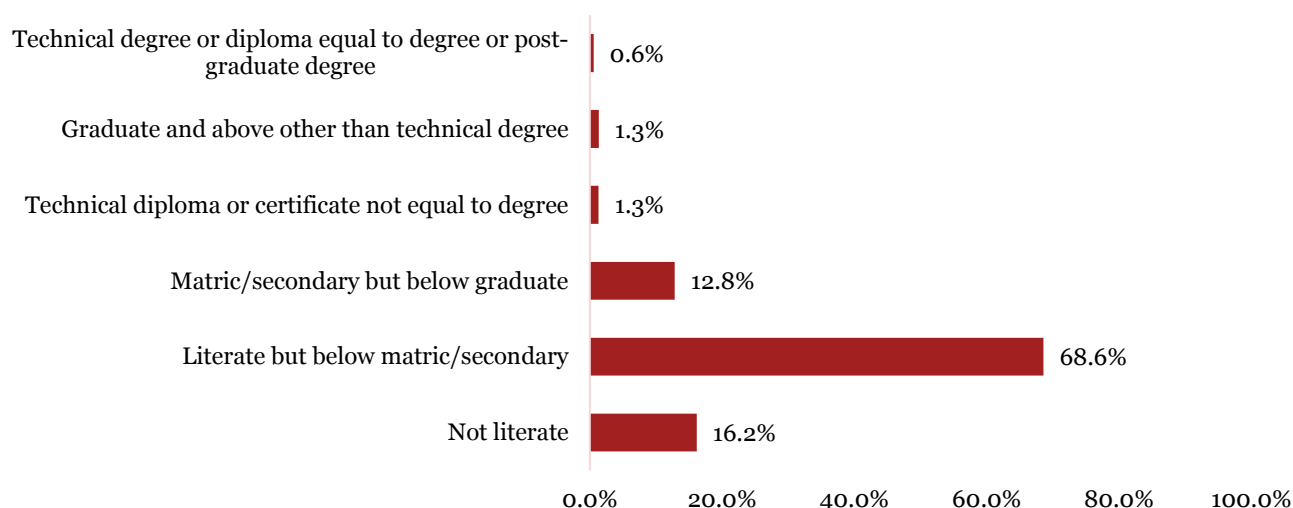
## Age specific distribution of workers and educational level

54% of the population in the age group of 15-24 years are non-workers. 38% of the population are main-workers, whereas 8% are engaged in marginal work i.e. work for 3-6 months during the year. The main and marginal labour force participation rate are 34.4% and 5.5% respectively.

**Figure 38: Age specific distribution of workers in Bhavnagar (15-24 years)**

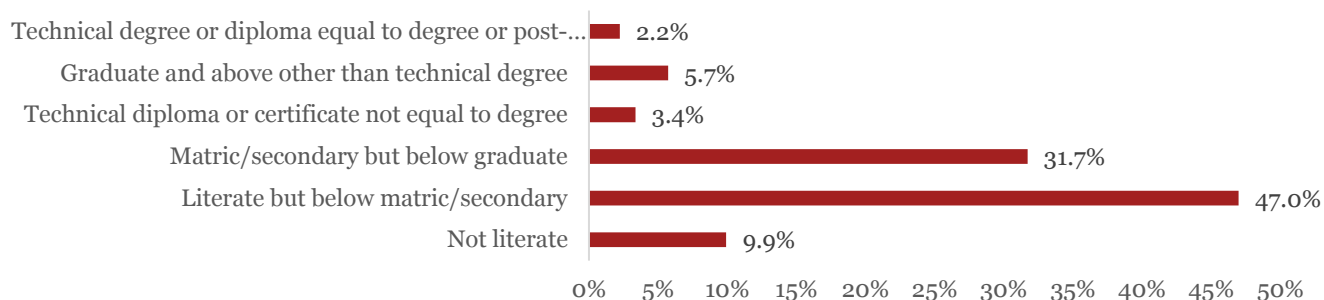


**Figure 39: Education level of marginal workers available for work in Bhavnagar (15-24 years)**



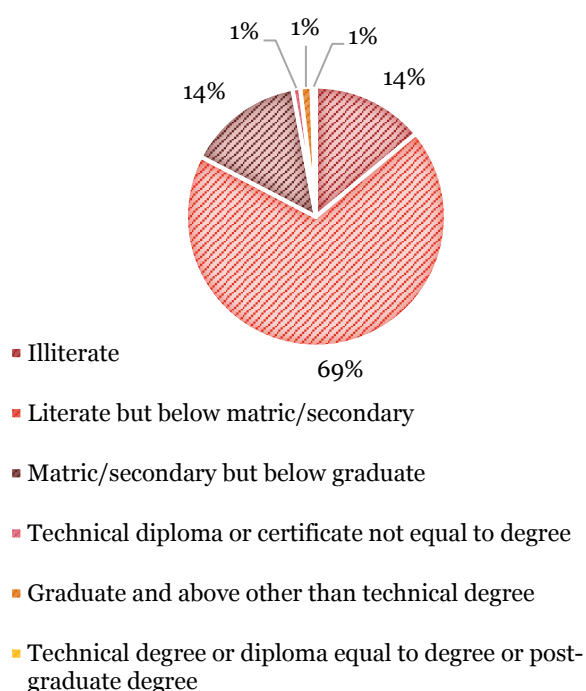
Amongst the 13,002 marginal workers in the age group of 15-24 years, 79 (1%) hold technical degree or a diploma equal to degree and 174 (1%) are graduate and above, other than a technical degree. 170 (1%) have a diploma or a certificate (not equal to degree). 1,668 (13%) are educated up to the matric/secondary level and 8,916 are (68%) literate with an educational qualification of below matric/secondary level. 2,103 (16%) marginal workers in this age group are not literate.

**Figure 40: Education level of non-workers available for work in Bhavnagar (15-24 years)**

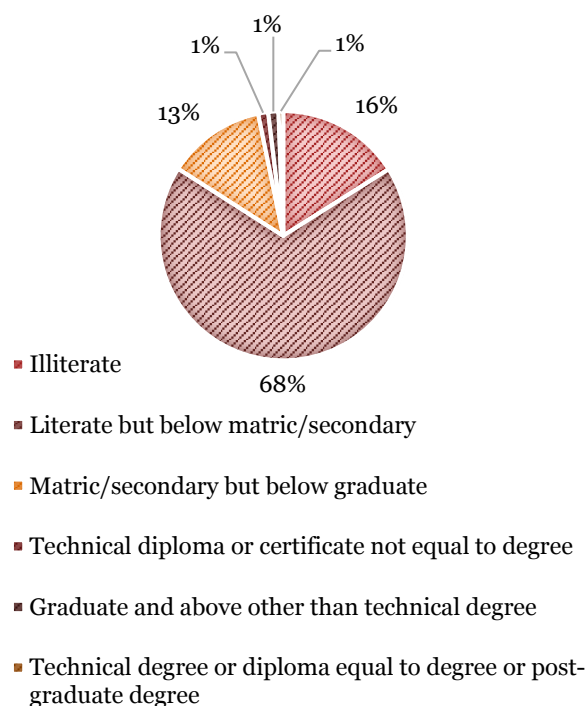


Amongst the 29,938 non-workers in the age group of 15-24 years, around 2% hold a technical degree or a diploma equal to degree or post graduate degree, around 6% have a graduate and above other than a technical degree. 3% have a diploma or a certificate (not equal to degree). 32% are educated up to the matric/secondary level and 47% are with an educational qualification of below matric/secondary level. Approximately 10% marginal workers in this age group are not literate.

**Figure 42: Educational level for main workers available for work in Bhavnagar (15-24 years)**



**Figure 41: Educational level for marginal workers available for work in Bhavnagar (15-24 years)**



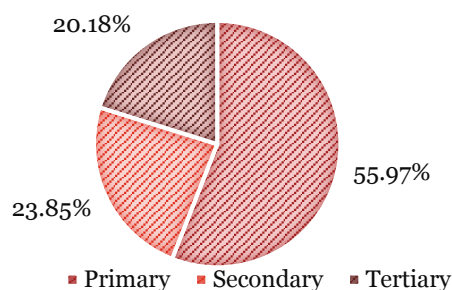
From the charts given above, we find that the proportion of main workers who are illiterate (in the age category 15-24 years) is slightly less (2 percentage point difference between the two) than the proportion of marginal workers available for work and who are illiterate. For the remaining four educational levels, we find that the population shares are more or less the same across the two worker categories (roughly 1 percentage point difference between the two categories).

### 1.2.2. Key Economic Drivers

In the absence of district level GDP figures for Gujarat, we have considered the state level GDP figures which (at constant prices 2004-05) was INR 4,52,625 Crore in 2013- The workforce distribution<sup>14</sup> of the district has been analyzed. It suggests that across sectors more than half (56%) of the district population is engaged in the primary sector while secondary and tertiary sectors witnessed similar patterns in their workforce distribution.

The key economic drivers of the district are illustrated below:

**Figure 43: Workforce distribution in Bhavnagar district across sectors**



#### Port, maritime and logistics

- Development of the fourth terminal at JNPT
- Development of Multi-Product Port-based SEZ (textiles, multi services, electronics, logistics, engineering)

#### Industrial Development

- DMIC- 100 sq. km in Dighi
- National Manufacturing Zone- 230 sq. km in Dighi
- Establishment of chemical clusters

#### Infrastructure Development

- 4 laning of NH 17
- Jindal and POSCO setting up production
- International airport
- CIDCO's Railway & METRO Projects

#### Urbanization

- Two Smart City Projects: CIDCO Navi Mumbai (South) – Brownfield and Pushpak Nagar – Greenfield
- CIDCO's NAINA city development

### 1.2.3. Priority Sectors

In Bhavnagar, the priority sectors that have been identified are **Ports and Maritime sector** and other sectors which are **ship recycling and breaking yards, logistics, fisheries, tourism and construction**. Other sectors that have been identified as priority sectors from the point of view of their contribution to district GDP are **manufacturing, gems and jewelry (diamond cutting), salt and plastic**.

<sup>14</sup> District wise skill gap study for the State of Gujarat (2012-17, 2017-22), NSDC Report

### 1.2.4. Investments

According to the information provided by the District Industries Centre, Bhavnagar, the proposed investments in the district for the year 2015-16 amount to INR 8,000 Crores and vary across a range of sectors which include Cement, power, and ship-breaking to name a few.

In the ports and maritime sector, up-gradation and improvement of Bhavnagar port has been identified as an important area of investment and has attracted investments worth INR 20 Crores operationalised in the coming years and includes activities such as upgradation of stacking platforms, provision of security office building etc. The key players for the proposed projects are Gujarat Maritime Board (GMB) and Ship Recycling Industries Association (SRIA). At Alang ship breaking yard, soft loan of USD 180 Million (@ interest of 1.4%) from JICA is currently being reviewed for upgradation of Shipbreaking yards at Alang-Sosiya in order to match the HKC standards. Apart from this, investments planned for Gogha-Dahej RoRo Ferry service include development of terminal worth INR 223 Crores and capital dredging worth INR 233 Crores.

In the manufacturing space too, some significant investments are proposed in the cement industry which include production of Portland Cement by Ultratech worth INR 2750 Crores, manufacturing of cement by NIRMA worth INR 830 crores, and production of Portland cement by NIRMA worth INR 152 crores. These investments in the cement industry is expected to generate employment for over 800 persons.

Power related investments in the district include power generation project worth INR 1394 Crores by Pradip Energy Ltd., generation and transmission of electricity worth INR 452 crores by Aasrit Energy Pvt Ltd. worth INR 452 crores by Suryachakra Energy & Infrastructure Pvt Ltd. These investments in the power sector is expected to generate employment for over 350 persons.

Details of some of the key investments proposed for the district are given below:

**Table 2: Proposed Key Investments for the year 2016-22 in Bhavnagar**

Sector	Proposed Investment (INR cr)	Number of Projects	Expected Employment	Key Players
Port & Maritime	USD 180 Million (soft loan from JICA)	1	525 persons Construction: 700 persons	GMB, SRAI, JICA
Infrastructure	2,460	4	-	NHAI
Gogha – Dahej Ro Ferry	500	2 (Resultant development of Gogha)	-	GMB, Saruashtra Invero
Projects registered with DIC	8,603	28	4,543 persons	NIRMA, UltraTech
Port & Maritime	USD 180 Million (soft loan from JICA)	1	525 persons Construction: 700 persons	GMB, SRAI, JICA

### 1.2.5. Youth Aspiration

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

#### Respondent Profile

The table below provides an overview of the respondent profile:

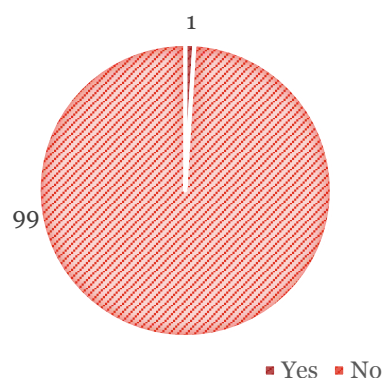
Profile	Details
Total Sample Size	384
Gender Profile	Male- 57% Female- 43%
Age Group	15-24 years
Education Level (top 3)	Primary schooling (Class 1 to 5)- 21.3 % Higher secondary schooling with arts(Class 11 to 12)- 15.5% Engineering- 11.4%
APL/BPL/AAY/Don't know	APL-56 % BPL- 31% AAY- 0% Don't know- 13 %
Occupational Profile (top 3)	Self Employed (14%), Labourer outside village/town (14.5%), Agricultural labourer (24.1%)

#### Exposure to Vocational Training and Educational Aspiration

Regarding the exposure to the vocational training most students reported that they had not completed any vocational training course. Overall, ~99% of the respondents had not enrolled in vocational training course.

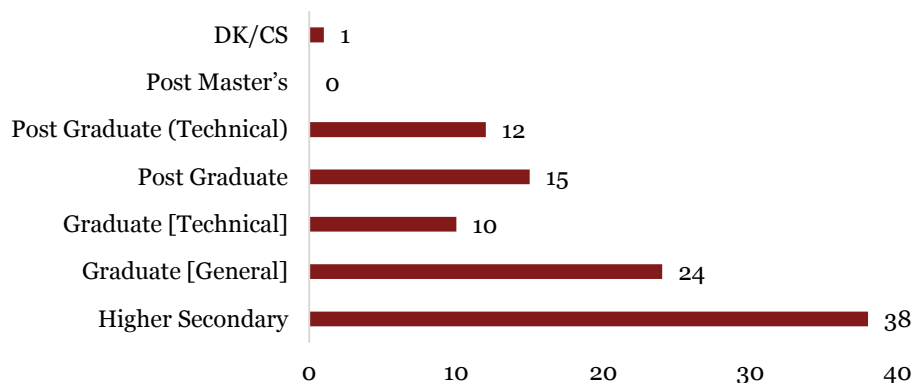
Of the total respondents who underwent vocational training (which is ~1%), majority were from ITI (31%) and polytechnic (25%). Figure 44: Percentage of respondents who completed vocational training courses - Bhavnagar

**Figure 44: Percentage of respondents who completed vocational training courses - Bhavnagar**

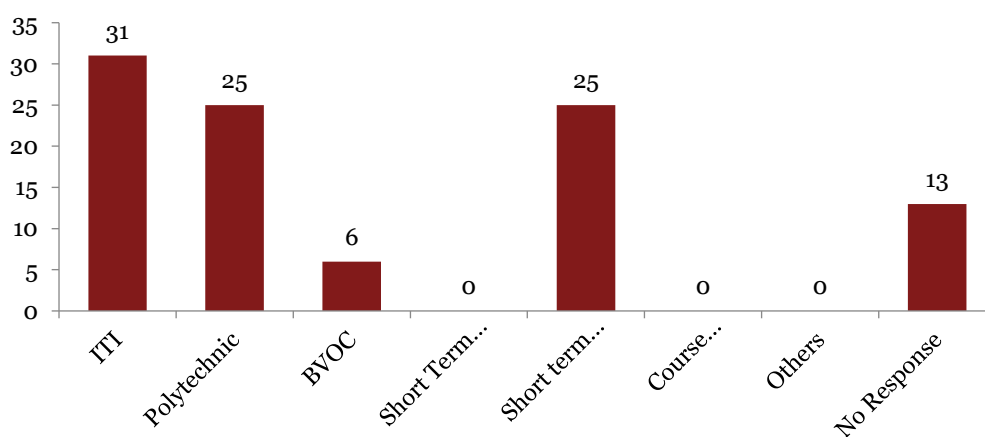


Further, the respondents were asked level about the level of education they wished to attain. Nearly two-fifth of the respondents (39%) aspired to attain graduation and post-graduation level of education. Whereas 38% of respondents wished to attain higher secondary. The desire to attain technical education is relatively low with only 22% of respondents aspire for graduation or post-graduation in technical fields.

**Figure 46: Desired level of education - Bhavnagar**



**Figure 45: Percentage of respondents completed courses in vocational training - Bhavnagar**



## Job Aspiration

One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 91% of the respondents reported to have preferred wage employment over self-employment.

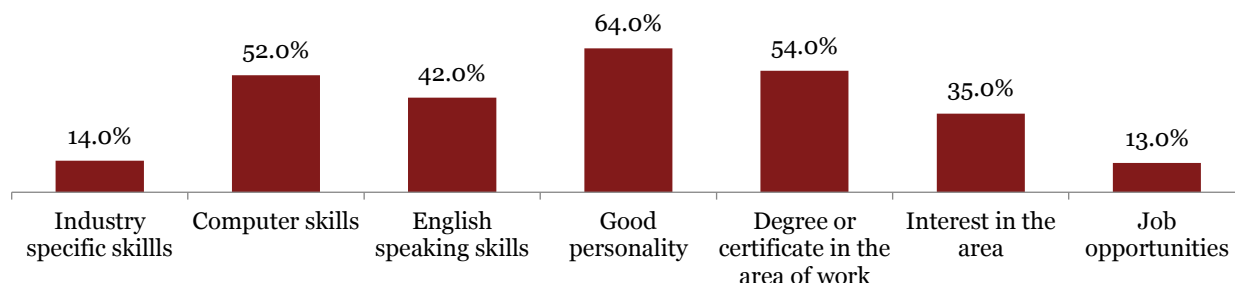
The respondents were further asked to identify the factors important for securing employment in the area of interest. Nearly two-third (64%) of the respondents identified good personality as most important factor for securing employment followed by degree or certificate in area of work (54%), computer skills (52%) and English speaking

**Figure 47: Percentage of respondents aspiring**

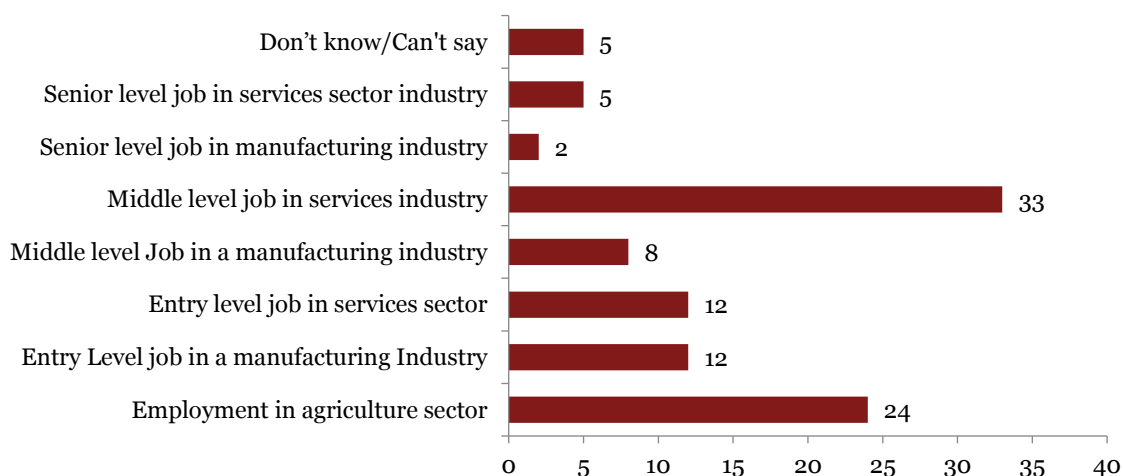


skills (42%) followed by computer skills (23%), degree or certificate in area of work (19%) and industry specific skills (22%) (Figure 49: Factors important for securing employment in area of interest (%) - Bhavnagar).

**Figure 49: Factors important for securing employment in area of interest (%) - Bhavnagar**



**Figure 48: Desired job profile after completion of education/training - Bhavnagar**

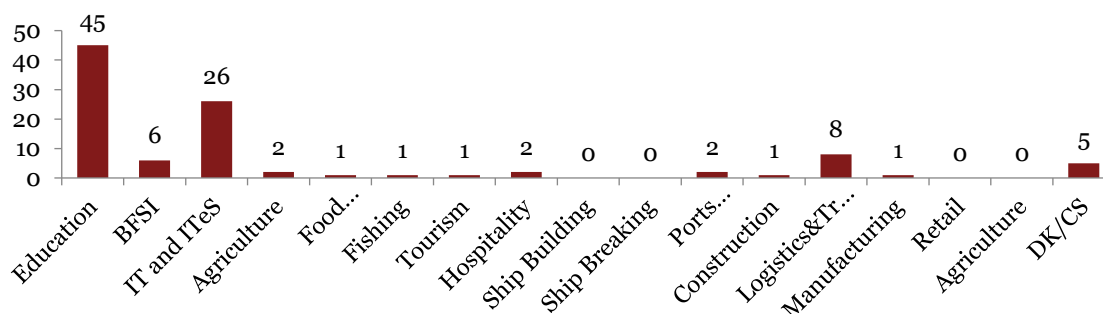


Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for services sector with 33% aspiring for middle level jobs and 12% aspiring for entry level jobs in service sector. This is followed by employment in agriculture sector (24%) and manufacturing sector (20%) (Figure 48: Desired job profile after completion of education/training - Bhavnagar)

Further, Education (37%), Logistics & transport (18%), tourism (13%) and BFSI (12%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job in the service sector space Figure 50: Sectors in which respondents' foresee getting a desired job (%) - Bhavnagar

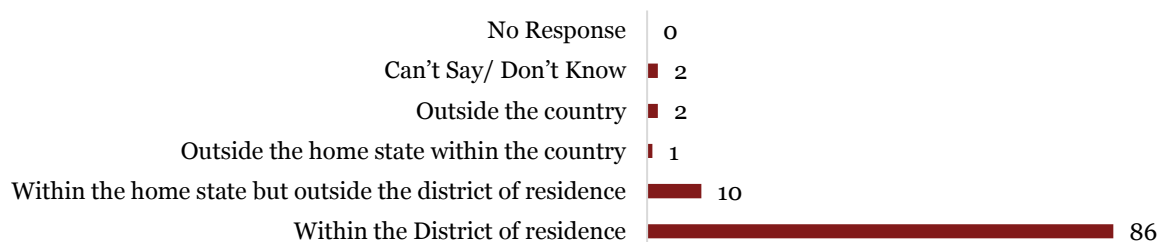


**Figure 50: Sectors in which respondents' foresee getting a desired job (%) - Bhavnagar**



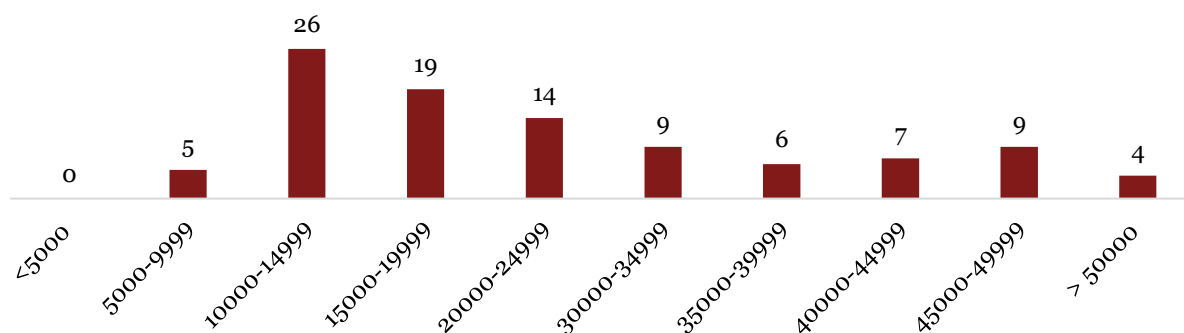
Out of the total respondents, 96% preferred to work in the same State. It is important to note that 86% of the respondents preferred to work in the same district and 10% expressed willingness to migrate to other districts in the same state suggesting lack of flexibility among the youth of the district.

**Figure 51: Preferred work location of candidates - Bhavnagar**



For majority of the respondents (26%), the monthly salary expectation was INR 10,000-15,000. And for 19% of respondents the expected salary is reported to be range of 15,000-20,000 per month (Figure 52: Monthly salary expectation of respondents - Bhavnagar)

**Figure 52: Monthly salary expectation of respondents - Bhavnagar**

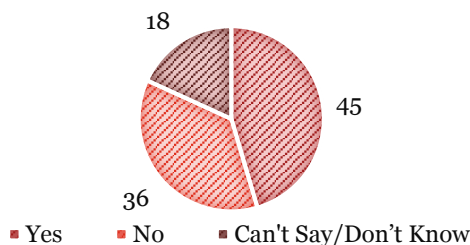


## Training Aspiration

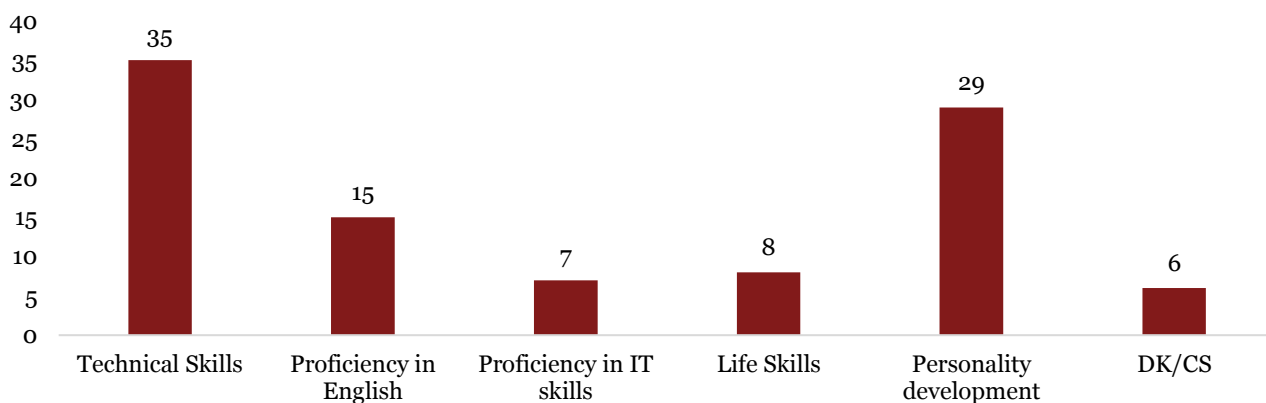
Regarding willingness of the respondents to participate in the training programme in next one year, 45% expressed interest whereas 36% expressed dis-interest

Further, when enquired about the key focus areas of skill training, 35% of respondents reported that emphasis must be laid on technical skills followed by personality development (29%) and proficiency in English (15%).

**Figure 53: Willingness to participate in trainings (%) - Bhavnagar**

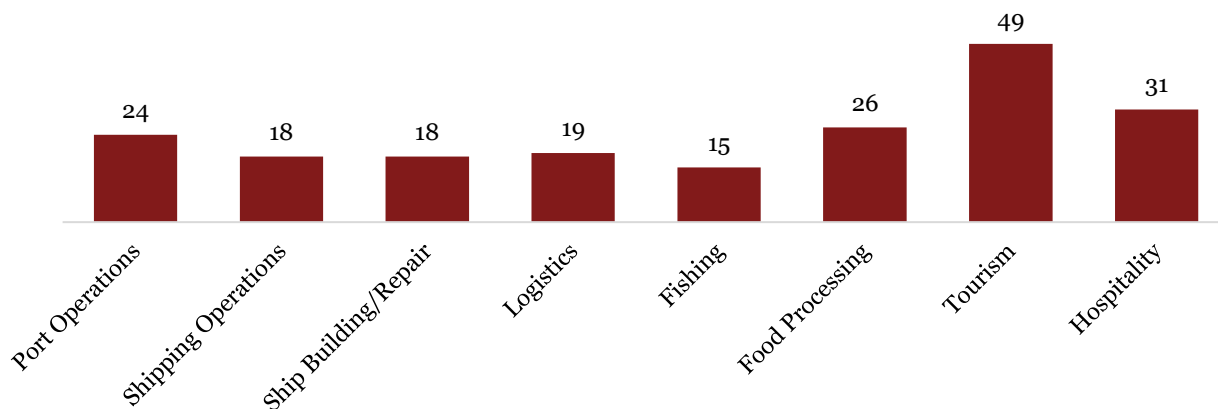


**Figure 54: Focus area on skills training - Bhavnagar**



Overall there is demand for training in tourism (49%), hospitality (31%), food processing (26%) and port operations (24%) (Figure 55: Willingness of respondents to participate in trainings of different sectors -

**Figure 55: Willingness of respondents to participate in trainings of different sectors - Bhavnagar**



Bhavnagar

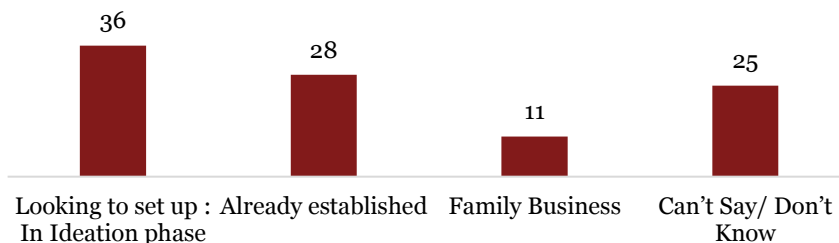
## Self-Employment

Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, 11% were in family business and 36% were in their ideation stage.

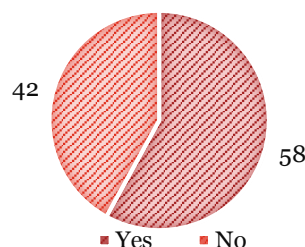
Further, only 58% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills.

Retail business (14%), hospitality (14%), IT/ITeS services (14%), trading (14%), manufacturing (engineering trades) (14%) and tour operations (14%) have been identified as most preferred sectors for setting own enterprise.

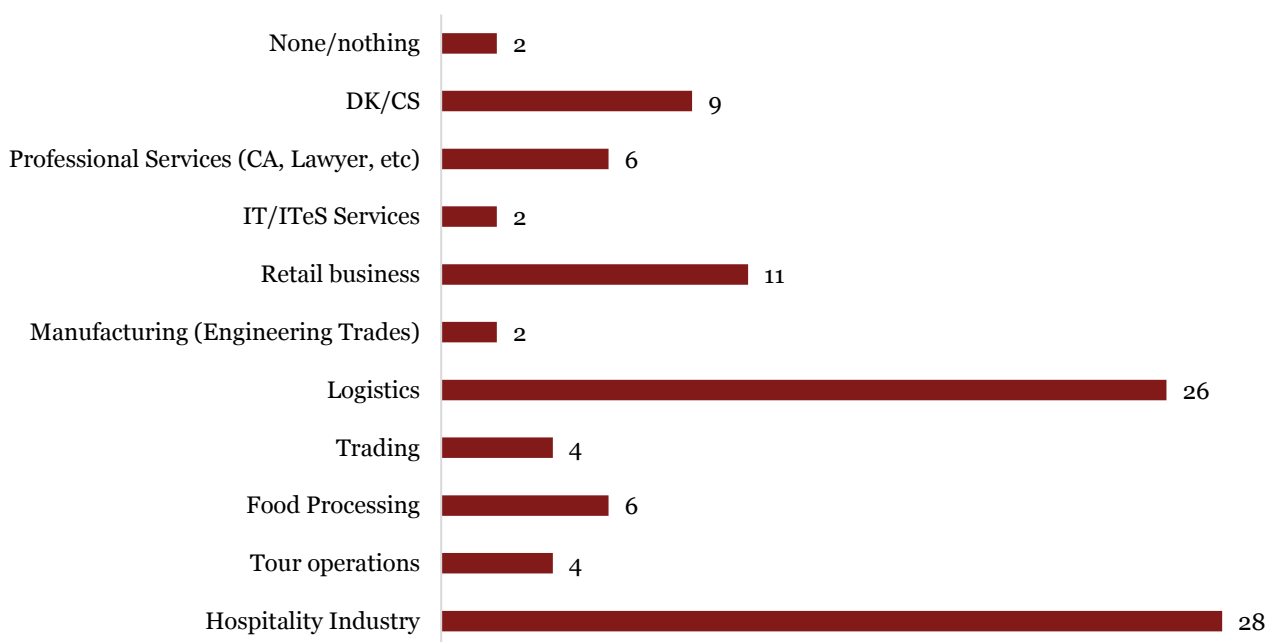
**Figure 56: Current Status of Entrepreneurial Venture (%) - Bhavnagar**



**Figure 57: Interested in skill development for enhancing entrepreneurial skills (%) - Bhavnagar**



**Figure 58: Sectors for establishing enterprise (%) - Bhavnagar**





## 2. Skill Gap Assessment, Job Roles and Emerging Job Roles

### 2.1. Bhavnagar and Kutch

#### 2.1.1. Incremental Demand for Skilled & Semi Skilled Manpower<sup>15</sup>

The economy of Gujarat is set to be dominated by the Manufacturing Sector, greatly boosted by the strong growth in infrastructure and crucial projects like the Delhi Mumbai Industrial Corridor and emergence of ports of Kandla and Mundra, encouraging an export oriented market. Trade continues to be a driver of the state's economy and is expected to continue its demand for skilled workforce.

**Table 3: Incremental Demand for Skilled & Semi Skilled Workers in Gujarat**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
<b>Logistics</b>	5,909	6,365	6,856	7,386	7,956	8569	43,041
<b>Tourism</b>	10,973	11,681	12,331	13,042	13,573	13927	75,527
<b>Construction</b>	27,760	29,138	30,580	32,097	33,689	35359	188,623
<b>Manufacturing</b>	55,754	56,969	58,210	59,478	60,774	62098	353,283
<b>Trade (Retail &amp; Wholesale)</b>	263,104	34,822	36,387	38,024	39,733	41518	43,386
<b>Agriculture</b>	30,838	30,946	31,053	31,161	31,270	31381	186,649
<b>Total</b>							<b>890,509</b>

#### Key trends in Core Sectors in the selected districts for Skilled Employment

- **Ports and Allied Sectors:**

- **Bhavnagar:** Largely driven by the ship recycling yard at Alang, the world's largest, and nearing saturation, future demand will be driven for skilled workers for ensuring compliance to Hong Kong Convention, whereby techniques and disposal of hazardous material will get increased focus. The Ro-Pax ferry service between Gogha and Dahej and future connections as part of the Sagarmala project may increase the requirement of skilled manpower in the sector albeit marginally. The minor port of Bhavnagar is increasingly falling into disuse with larger ships unable to use the facility with low draft.
- **Kutch:** The Kandla Port's mechanization is expected to reduce the employment requirements in the medium term while the process of mechanization can be expected to employ skilled workers in the mechanical and construction trades. Operators of the equipment might be required in the future. Skilled workers in green jobs will be required to support Adani Port's green initiative.

- **Logistics:**

- **Bhavnagar:** The district acts as an important transit between Ahmedabad and the Port Pipavav and in future the connection to Surat via the Ro-Pax service may increase the requirement of workforce in the sector. In addition, the proximity to the Dholera SIR may add to the traffic to Pipavav. However currently, the district is plagued by problems in connectivity over road, rail, by air and by sea.

<sup>15</sup> District level GDDP/ Employment figures currently unavailable with Govt. of Gujarat. 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.

- **Kutch:** The continued expansion of traffic in Kandla and Mundra can be expected to drive the requirement of the truckers, 3 PL workers etc.

- **Tourism & Hospitality:**

- **Bhavnagar:** Though currently tourism is bleak and greatly dependent on staff from outside of the State, the operationalization of the Ro-Pax Ferry, the first of its kind in India and the Dholera SIR are expected to provide some spill-over effects into Bhavnagar. Key areas would include tourism in Dahej and in Alang.
- **Kutch:** The tourism sector has received boost in the form of initiatives like the Rann Festival. These will generate requirement for general tourism and hospitality workers, Food & beverage executives, front office managers etc. In addition, the requirement of language translators might be required to cater to the increased influx of foreign tourists.

- **Construction:**

- **Bhavnagar:** The lack of major industrial projects or infrastructure development is hindering the growth of construction in a big way in the district. Key projects in the pipeline like the four lane of the Ahmedabad-Pipavav highway are expected to generate marginal increase in demand for labour in the sector.
- **Kutch:** Supported by availability of minerals and land and port proximity, the Kutch region is expected to attract investments worth INR 40,000 crore in next 2 years. Firms such as Reliance ADA, Binani and DLF are setting up cement plants in the district, and the likes of IL&FS and OPG Power are constructing coal and gas based power plants.

- **Fisheries:**

- **Bhavnagar:** The muddy shallows of the Gulf of Khambhat are uncondusive to development of fisheries or related activities. However brackish water pisciculture is being explored by the Govt. of Gujarat in a small scale
- **Kutch:** The salt flats of the Rann are pretty uncondusive for inland fishing. However initiatives are on to promote aquaculture on the Gulf of Kutch in a small scale.

### ***Key trends in other Dominant Sectors in the District.***

- **Manufacturing:**

- **Bhavnagar:** The diamond processing industry, one of India's largest, is currently seeing migrations to Surat due to logistical challenges in the district and resultant increase in costs. This is decreasing opportunities in the sector. However, the food processing (peanut butter and dehydration of onions and garlic), rolling mills processing steel from the Alang Shipyard can be expected to drive requirement for skilled workforce in the manufacturing sector in the district.
- **Kutch:** Requirement in the manufacturing sector is expected to be driven by the furniture processing sector which has witnessed consistent growth. In addition, the investments in SAW pipe manufacturing, edible oils are other key areas of skill requirements.

- **Trade:**

- **Bhavnagar:** Organized retail is in its infancy in the district and can be expected to grow further especially with focus of Jewelry, apparel etc. The growth of tourism around Gogha and Alang can be expected to also contribute to the requirements.

- **Kutch:** The potential for trade in the sector is dependent on the tourism and the port sector and organized retail can be expected to be a pull in Gandhidham.

- **Agriculture:**

- **Bhavnagar:** Cotton, groundnuts, and onions dominate the agriculture sector apart from breeding of cattle for dairy. Programmes like the Better cotton initiative to train farmers to get better yield, the Pradhan Mantri Krishi Sinchalan Yojana (PMKSY) for promoting irrigation and the increased contractual farming of Onions have increasingly demanded upskilling and training in the sector in the district and can be expected to drive the demand for skilled labour.

## 2.1.2. Bhavnagar

### 2.1.2.1. Job Roles High in Demand

This sections captures the jobs that have been reported to be high in demand in Bhavnagar. The job roles that are listed below have been identified by the stakeholders. The sub-sections below describe the job roles that are high in demand across the sectors.

#### 2.1.2.1.1. Port and Maritime Sector

In Bhavnagar, gas cutters, crane operators, crane mechanics are high in demand at Alang Shipyard. The training on safety and operations requires further strengthening through specific QP-NOSs at the Alang Safety Training Institute and requires inclusion of full time courses in crane operations.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Port operations	Findings
<ul style="list-style-type: none"> <li>• Crane Operator</li> <li>• Master/Captain</li> <li>• Driver/Chief Engineer</li> <li>• Excavator Operator</li> <li>• Loader Operator</li> </ul>	<ul style="list-style-type: none"> <li>• Poor road and rail infrastructure undermines the developments for Bhavnagar, Pipavav, Alang and Jaffarabad</li> <li>• Trainings required on safety issues</li> </ul>
Job Roles: Ship recycling	Findings
<ul style="list-style-type: none"> <li>• Safety Officer</li> <li>• Safety Supervisor</li> <li>• Mukadam</li> <li>• Crane Operator</li> <li>• Winch Operator</li> <li>• Gas Cutter</li> </ul>	<ul style="list-style-type: none"> <li>• Ship building is currently very minimal/non-existent</li> <li>• Well trained crane operators are high in demand</li> <li>• The small pool of local skilled workers contributes directly to shortages of qualified workforce</li> <li>• The more complex the skill, the more likely the shortage of suitably qualified local community members</li> </ul>
Job Roles: Ro-Ro Services	Findings
<p><b>On Board</b></p> <ul style="list-style-type: none"> <li>• Boatswain and Assistants</li> <li>• Stewards</li> <li>• Kitchen Steward</li> <li>• Executive Chef</li> <li>• Motormen</li> <li>• Lasher</li> </ul> <p><b>On Shore</b></p> <ul style="list-style-type: none"> <li>• Boat Jetty Operator</li> <li>• Terminal Executive</li> <li>• Front office Desk Personnel</li> <li>• Maintenance Personnel</li> <li>• Electrician / Plumber</li> </ul>	<ul style="list-style-type: none"> <li>• The Ro-Pax Ferry Service between Gogha and Dahej is eagerly anticipated and has the scope to create employment opportunities</li> <li>• The small pool of skilled local workers may contribute directly to shortages of skilled workforce that is from Bhavnagar</li> </ul>

### 2.1.2.2. Other Priority Sectors

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section.

#### 2.1.2.2.1. Logistics

Truckers are high in demand but the existing workforce that is engaged in trucking lacks life skills. The matrix below captures the jobs roles that are high in demand:

Job Roles: Logistics	Findings
<ul style="list-style-type: none"><li>• Surveyors</li><li>• Supervisors</li><li>• Hydraulic Axle Operator</li><li>• Truck Driver</li><li>• Helper</li></ul>	<ul style="list-style-type: none"><li>• Life skills training required for truckers</li><li>• Increased use of ICT and automation in work processes will impact the manual jobs such as gate clerks</li></ul>

#### 2.1.2.2.2. Manufacturing

Emerging technology such as 3D or additive manufacturing will shape the manufacturing sector in next few years and the workforce engaged in manufacturing sector will have to upgrade its skills to be in tune with the emerging market requirements. This sector will also require technological literacy among the workers.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Manufacturing	Findings
<ul style="list-style-type: none"><li>• Production Assistants</li><li>• Welder</li><li>• Fitter</li><li>• Mechanic</li><li>• Plumber</li><li>• Electrician</li><li>• Turner</li><li>• Motor Binding</li></ul>	<ul style="list-style-type: none"><li>• Supervisory skills are needed in the roles of foremen, leading hands and supervisors</li><li>• Limited apprenticeship arrangement exists, combining formal training off-the-job with on-the-job training</li><li>• Stakeholders indicated preference for hiring ITI graduates</li><li>• Additive manufacturing or 3D printing will impact the manufacturing processes</li><li>• There will be a general need for medium to high technology literacy throughout the sector</li></ul>

#### 2.1.2.2.3. Fisheries

Shrimp cultivation in brackish water along the coast of Bhavnagar is picking up pace with 1000 acres having been notified by the Government for this purpose. Priority while allotting the land for carrying out shrimp cultivation should be given to the fishermen as they live in abysmal conditions and way below poverty line. They should be given trainings to teach them how to undertake shrimp cultivation with follow ups to see them through in this venture. Further, shrimp export houses in Bhavnagar area demand skilled workforce.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Fisheries	Findings
<ul style="list-style-type: none"><li>• Cold Storage Technician</li><li>• Warehouse Manager</li><li>• Mechanic</li><li>• Glass/Tunnel/Trolley Freezer Operator</li><li>• Grading supervisor</li><li>• De-heading supervisor</li><li>• Aquaculture Technician</li></ul>	<ul style="list-style-type: none"><li>• Bhavnagar can hugely benefit from improved mariculture practices</li><li>• Export potential for shrimps</li><li>• Unused land parcels can be used for mariculture</li><li>• Improved skills are particularly needed for mariculture</li></ul>



<b>Job Roles: Fisheries</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Mariculture Technician</li> </ul>	

### **2.1.3. Kutch**

#### **2.1.3.1. Job Roles High in Demand**

This section captures the jobs that have been reported to be high in demand in Kutch district. The job roles that are listed below have been identified by the stakeholders. The sub-sections below describe the job roles that are high in demand across the sectors.

##### **2.1.3.1.1. Port and Maritime Sector**

In Kutch, crane operators, pay loaders, truck drivers, surveyors are high in demand. Job roles that require specialized training include on-board stevedoring, crane operators, railway handling operations at the port such as Gangman, Sr. Gangman, and gagging plant operator. LNG terminals are being planned; there may be a need for skilled professionals in petroleum engineering, mechanical and electrical instrumentations.

The matrix below captures the jobs roles that are high in demand:

<b>Port operations and Shipping</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• RTG Crane Operator</li> <li>• RMG Crane Operator Pedestal Crane Operator</li> <li>• Straddle Crane Operator</li> <li>• Reach Stacker Operator</li> <li>• Quay Crane operator</li> <li>• Tippers</li> <li>• Mobile Harbour Crane operators</li> <li>• Gangman</li> <li>• Track Cleaning</li> <li>• Winchman</li> <li>• Rivetter</li> <li>• Safety Officers/ Safety Supervisor</li> <li>• Truckers</li> <li>• Surveyors</li> </ul>	<ul style="list-style-type: none"> <li>• Trainings required on safety issues especially in handling crane operations</li> <li>• Well trained crane operators are difficult to find in the job market</li> <li>• Port operators have to train the crane operators for at least three months</li> <li>• High demand for surveyors who could required to assess, monitor and report condition of vessels, containers and cargos as well as inspect damages caused to vessel, containers and cargos</li> <li>• The shortfall in skilled workforce in the sector is being met with migrant labor</li> <li>• Job losses amongst the low skilled in the sector are likely to happen; frequent upskilling of workforce is required</li> </ul>

#### **2.1.3.2. Other Priority Sectors**

The job roles that are high in demand in the priority sectors are listed in this sub-section.

##### **2.1.3.2.1. Mining and Mineral Based Industries**

Cement industries in the district are heavily mechanized and require specialized technical skills and knowledge of cement technology operations. Skill development could focus on developing technical knowledge as well as safety norms. The workforce engaged in this sector will have to upgrade its skills to be in tune with the emerging market requirements. This sector will also require technological literacy among the workers.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Mining and Mineral Based Industries</b>	<b>Findings</b>

<ul style="list-style-type: none"> <li>• Mining Engineers</li> <li>• Mining Sirdar</li> <li>• Mining Mate</li> <li>• Overman</li> <li>• Safety Officers</li> <li>• Heavy Earth Moving Machinery-Mechanic</li> <li>• Excavator Operators</li> <li>• Loader operator</li> </ul>	<ul style="list-style-type: none"> <li>• Given the specialized nature of mining operations, there is shortage of skilled and certified professionals</li> <li>• Supervisory skills are needed in the roles of foremen, leading hands and supervisors</li> <li>• Limited apprenticeship arrangement exists, combining formal training off-the-job with on-the-job training</li> <li>• Stakeholders indicated preference for hiring ITI graduates</li> <li>• There will be a general need for medium to high technology literacy throughout the sector</li> </ul>
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### 2.1.3.2.2. Timber

Timber industry mainly employs unskilled labour with little or no training on safety norms which lead to accidents. Skill development with focus on safety norms is essential. Given that timber is extensively imported, value addition in the form of carpentry, furniture production or other wood based products need to be focused upon.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Timber	Findings
<ul style="list-style-type: none"> <li>• Saw Mill Machine Operators</li> <li>• Timber Mill/ Saw yard worker</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Trainings could focus on safety issues</li> <li>• Limited apprenticeship arrangement exists, combining formal training off-the-job with on-the-job training</li> <li>• The shortfall in skilled workforce in the sector is being met with migrant labor</li> </ul>

### 2.1.3.2.3. Tourism

The matrix below captures the jobs roles that are high in demand:

Job Roles: Tourism	Findings
<ul style="list-style-type: none"> <li>• Tour Guides, Tour Escort</li> <li>• Tour Operators</li> <li>• Chef-de partie</li> <li>• Multi-Cuisine Chef</li> </ul>	<ul style="list-style-type: none"> <li>• Small pool of adequately skilled personnel at the skilled worker level results in a small pool of people from which to draw for higher positions</li> <li>• Work-force is trained, but it generally lacks skills and experience required in the workplace</li> <li>• Focus required on communication skills/public relations; reporting skills; administration skills and financial skills</li> </ul>

## 2.2. Emerging Job Roles

In light of the upcoming projects in the identified sectors across the six districts and interactions with the representatives of the industry and sector experts certain emerging job roles are identified that may be poised to become high demand job roles in near future:

Job Roles	Sector Skill Council	Description
Cross-logistics operator	Logistics	Selects the optimal methods of cargo and delivery, controls and adjusts traffic throughout a multimodal network; monitors logistics hubs; manages traffic flows in transportation networks
Intermodal transport Technician	Logistics	Services technologically driven logistics structures and intermodal cargo hubs, infrastructure, and port facilities
Automated transportation system operator	Logistics	Manages the operations and servicing of robotic transportations networks and drone enabled logistics

<b>Job Roles</b>	<b>Sector Skill Council</b>	<b>Description</b>
Port ecologist	Green Jobs	Specializes in monitoring and controlling the environmental characteristics of the ports, vessels, and the surrounding ecology
Marine infrastructure system	Construction/ Green Jobs	Specialist who implements technologies to augment the resilience of shoreline structures and vessels to different threats
Environmental analyst	Mining	Specializes in environmental threat analysis, and environment protection during resource extraction and recovery activities
Industrial robot operator	Manufacturing	Manages and operates robotic devices for manufacturing (painting, welding, packing and stamping jobs)
3D printing designer in manufacturing	Construction	Designs structural models and selects the best sets of components for their printing; supports the factory floor printing process
Specialist in old structure renovation/ reinforcement	Construction/ Green Jobs	Determines the degree of wear and tear of historical structures and buildings, works out for the renovation and reinforcement of buildings and monuments such as forts
Construction technology upgrade specialist	Construction/ Green Jobs	Professional with a solid knowledge of advanced construction technologies for upgrading existing historical structures and buildings, utilizing advanced solutions for electricity and water supply
Smart house infrastructure designer	Construction/ Green Jobs	Specialist in the designing, installing, and managing smart home management systems
Foreman watcher	Construction	Construction specialist who will use digital structure designs to evaluate the construction progress and adjust the construction processes based on the data analysis
Accessible environment Designer	Construction	Specialist who develops infrastructural solutions for children, senior persons and disabled persons around smart city properties
3D printing designer in construction	Construction	Designs structural models and selects the best sets of components for their printing; supports the house printing process
Solar Panel Technician	Construction/ Green Jobs	Designs and operates structural models for generating power, using renewable energy
Advanced fabrics designer	Apparel	Engages in designing new synthetic fabrics and materials with defined properties
Destination brand manager	Tourism	Works on the web and creates the images and legends of a tourist destinations, and adds designs, news, tourist services, and various events
Robot attendant	Tourism	Specializes in managing and maintaining hotel robots
Integrated industrial security auditor	Security	Specializes in assessment of the state of security at manufacturing industrial and port facilities and monitors all types of threats such as physical damage, fire, environmental threats, and cyber attacks

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## **3. District Action Plan**

### **3.1. Background**

An actionable roadmap is one of the deliverables to be submitted to MoS for implementing skill training programmes in each of the districts. To develop these district specific plans, the team has mapped the emerging skilling opportunities across the 21 districts. Further, similar training opportunities or training requirements from the same sector have been clubbed in to one programme to ensure optimal use of resources and to build economies of scale for delivery partners. This has been proposed to improve the chances of developing and proposing feasible and viable training delivery models.

Further, the team has also estimated the broad capital and operational expenditure expected to be incurred in operationalizing the training initiatives in the district. Apart from this, critical operational aspects such as training delivery mechanisms, availability of curriculum and employers have also been explored. The current status of these critical aspects will help ascertain the feasibility of initiating these trainings immediately and assess the gaps that need to be bridged before these training can be rolled out.

### **3.2. Objective of developing the plan**

The District action plans have been developed with an overall objective of providing a step by step skill implementation plan to the Ministry of Shipping in the 21 coastal districts. The specific objectives include the following:

- Mapping various skilling opportunities available in the district, keeping in mind the requirements of Port led development and emergence of CEZs.
- Mapping the current status of various pre-requisites such as availability of qualifications, curriculum, funding for training, potential training delivery partners, availability of assessors and certification processes and institutions for the training programmes.
- Identify the potential/target beneficiaries for the training courses.
- Map the infrastructure and the investment that may be required to deliver the training programmes in the district.
- Provide an estimate of the investment required to create/hire the skilling infrastructure.
- Provide a step by step action plan for MoS to implement the skilling initiatives.

### **3.3. Methodology**

Stakeholder consultations<sup>16</sup> were held at national, state and district level and included stakeholders from government, industries, associations and private firms. A separate plan has been prepared for each of the 21 districts. The plan has been divided into several sections and include sections on training delivery, potential partners and investments. The investments component has been divided into two broad heads: capital expenditure and operational expenditure. Capital expenditure has only been proposed in cases in which there were very limited possibilities of using existing institutional framework for partnership and for using existing infrastructure and equipment. Operational expenditure includes the cost of running the training programmes including salary of the instructors. The common cost norms inform the calculation of the operational expenditure. Capital expenditure has been worked out bearing in mind the infrastructure requirements of the programme and duration of training programmes. Wherever feasible, partnership with existing programmes such as DDU-GKY and PMKVY has been suggested in the plan.

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<sup>16</sup> Roughly 300 primary consultations inform the development of this plan

### 3.4. Summary for Bhavnagar

Sl. No.	Project Name	Job Roles	Type of training	No. of people to be trained
1	Skill Development Centre for Ports and Logistics	Safety Officers and Workers	Fresh and RPL	1500 persons in next 5 years
2	Training for Food Technicians	Food Dehydration Technician, Food Processing Worker	Fresh and RPL	1200 persons in next 5 years
3	Shrimp Cultivation in Brackish Water	Technician	RPL	1500 persons in next 5 years
4	Micro Irrigation Technician and Rain Water Harvesting	Micro Irrigation Technician	Fresh	750 persons in next 5 years

### 3.5. Action Plan for Bhavnagar

Project 1: Skill Development in Ports and Logistics Sector					
Key economic drivers		<ul style="list-style-type: none"> <li>JICA grant for making Alang Ship breaking yard Hong Kong Convention Compliant</li> <li>Four laning of Ahmedabad-Pipavav Highway</li> <li>Gogha-Dahej RoPax Ferry Service</li> </ul>			
Rationale		While the Safety Training institute, Alang is providing a mandatory basic safety and equipment handling training for all workers at the yard, it has been felt that a constant updation of safety training is required, to handle increasingly sophisticated ship design. In addition, the HKC compliance requires that there are increased number of safety officers.			
Trainings		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Course on Best Practices to be followed while Ship Recycling for Safety Officers	<ul style="list-style-type: none"> <li>Existing Safety Officers / Muqadams</li> <li>Graduates from the District</li> </ul>	Fresh Training	500 persons in the next 5 years
		“Monitoring of Worker Safety” Trainings for Muqadams	<ul style="list-style-type: none"> <li>Muqadams in Alang Shipyard</li> </ul>	RPL	500 persons in next 5 years
		Refresher Course on Basic Safety for All Workers	<ul style="list-style-type: none"> <li>Workers in Alang</li> </ul>	RPL	500 persons in next 5 years
Availability of curriculum	<b>Job Role</b>	<b>Target Groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Safety Officer	Existing Muqadams, Graduates in the District	No course available	No course available	No course available
	Workers	Workers in the Alang Shipyard	<ul style="list-style-type: none"> <li>QP does not exist</li> </ul>	No course available	No course available
Investment (INR In lakhs)		<b>Course on Best Practices to be followed while Ship Recycling for Safety Officers</b>			
		Operational Expenditure			40
		<b>“Monitoring of Worker Safety” Trainings for Muqadams</b>			
		Operational Expenditure			19
		<b>Refresher Course on Basic Safety for All Workers</b>			
		Operational Expenditure			10
		<b>Total operational expenditure</b>			69
Potential Partners		<b>Partner</b>	<b>Areas of Support</b>		
		Safety Training Institute – Alang ( Gujarat Maritime Board)	<ul style="list-style-type: none"> <li>Space and infrastructure for establishing the training center</li> <li>Input for designing curriculum</li> <li>Provision of used equipment for training</li> <li>Facilitate implementation of RPL for existing work force</li> <li>Management of Training Facility</li> </ul>		
		Ship Recycling Association of India	<ul style="list-style-type: none"> <li>Industry interface</li> <li>Input for designing curriculum</li> <li>Provision of used equipment for Training</li> <li>Provision of practical and OJT for trainees</li> </ul>		
		Training Service Provider	<ul style="list-style-type: none"> <li>Training delivery</li> <li>Co-management of the training facility</li> </ul>		

	Strategic Manufacturing Sector Skill Council	<ul style="list-style-type: none"> <li>• Development of QPs for the identified job roles</li> <li>• Develop model training programs for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• Safety Training Institute to upgrade/allocate training space</li> <li>• Training facility to be managed and maintained by Safety Training Institute- GMB</li> <li>• Private training operator to provide qualified trainers and mobilize trainees</li> <li>• SRAI to facilitate practical trainings and OJT</li> <li>• Private players to use the training facility to deliver training programme</li> <li>• Strategic Manufacturing Sector Skill Council to assess and certify</li> <li>• SRAI to bring on industry partners</li> </ul>	

## Work Plan

Port and Logistics	in Months								
	1	2	3	4	5	6	7	8	9
Partnership with SSC, Industry Partners and Knowledge partners									
Development of QPs									
Establishment of Training infrastructure and facility									
Furnishing of the training centre									
Purchase and installation of lab equipment									
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)									
Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

Project 2: Training for Food Technicians	
Key economic drivers	<ul style="list-style-type: none"> <li>• Gujarat produces nearly 50% of the countries peanut and onions, of which Bhavnagar is a major contributor</li> <li>• High demand for processed onions, peanuts domestically and internationally.</li> </ul>
Rationale for Training	There is an increased demand for processed foods like Peanut butter and powdered onion and garlic both in the domestic and international markets. Potential demand in the upcoming years for food technicians in the next 2-3 years. A shortage of skilled labour in the form of food technicians is predicted by the industry due to the remoteness of the district. Trainings of the same can be taken alongside efforts to promote the food processing industry. The industry employs a large number of minimally skilled women. Such trainings can boost their productivity and their own self esteem.

Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Food Dehydration Technician	• Local youth	Fresh Training	300 persons in next 3 years
		Food Processing Worker	• Local youth	Fresh Training	300 persons in next 3 years
				RPL	600 persons in next 3 years
Availability of curriculum	Job Role	Target Group	QP/NOS	MES	CTS
	Food Dehydration	Graduates in the district	• Fruits and Vegetables Drying or Dehydration Technician	Fruits & Vegetables Processing	No course available
	Food Processing Worker	Existing and Potential Food Processing Workers	• Industrial Production Worker – Food Processing	No Generic Course but available for Processing of sugar and Cocoa Confectionary products	No course available
Investment (INR In lakhs)		Incubation and training center			
		Operational Expenditure (in Lakhs)		89	
		Capital Expenditure (in Lakhs)		15	
Potential Partners		Partner		Areas of Support	
		Industries/ MSME		• Classification of Food processing Cluster in Mahuva – Pipavav belt	
		Industry Associations (Food Processing)		• Industry interface • Facilitate recruitment	
		Training Partner		• Training delivery • Co-management of the training facility	
		Food Processing Sector Skill Council		• Develop model training programmes for the identified Job Roles • Identification and certification of Trainers • Identification and certification of assessors • Assessment of trainees • Certification of Trainees	
		DDU-GKY/ PMKY/ DET		• Funding	
		Training Delivery		• The training center will be setup by a training provider in an existing and underutilized infrastructure in Bhavnagar/ Mahuva. The TSP has to be empaneled with FICSI and provide trainings under DDU-GKY/ PMKVY/ Schemes under DET- Gujarat	



## Work Plan

Food Technician	in Months				
	1-3	4	5	6	7
Cluster Development					
TSP Affiliation					
Center setup					
Appointment of additional staff members					
Mobilization of prospective trainees					
Enrolment of trainees					
Roll-out of training programme					

Project 3: Shrimp Cultivation in Brackish Water					
Key factors		<ul style="list-style-type: none"><li>1000 acres having been notified by the government for this purpose</li><li>100 acres have been allotted for this purpose and 300 acres will be allotted in the coming year to individuals, cooperatives and companies</li></ul>			
Rationale for the Trainings		The quality of sea water around Bhavnagar is poor and unfit for marine fishing, thus fishing is a miniscule activity in the district and the fisher folk are impoverished. Shrimp cultivation may enable them to access better livelihoods.			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Aquaculture Technician/Worker	<ul style="list-style-type: none"><li>Primary education</li></ul>	Fresh Training	-
				RPL/Up Skilling	1500 persons in next 5 year
Availability of curriculum	Job Roles	Target Groups	QP/NOS	MES	CTS
	Technician	Fisher folk	<div>QP Available for<ul style="list-style-type: none"><li>Aquaculture technician</li><li>Aquaculture worker</li><li>Aquaculture worker</li><li>Brackish water aquaculture farmer</li><li>Mariculture operator</li><li>Shrimp farmer</li></ul></div>	No course available	No course available
Investment (INR In lakhs)		Incubation and training center			
		Operational Expenditure		72	
Potential Partners		Partner	Areas of Support		
		Fisheries Dept. and District administration	<ul style="list-style-type: none"><li>Classification of Food processing Cluster in Mahuva – Pipavav belt</li><li>Funding of Training through RSETI</li></ul>		

	CSMCRI/ CMFRI	<ul style="list-style-type: none"> <li>• Knowledge partnership and identification of conducive stretches</li> </ul>
	TSP	<ul style="list-style-type: none"> <li>• Training delivery</li> </ul>
	ASCI (SSC)	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
	DDU-GKY/ PMKVY	<ul style="list-style-type: none"> <li>• Funding</li> </ul>
Training Delivery	<ul style="list-style-type: none"> <li>• The training center to be setup by a training provider in an existing and underutilized infrastructure in Mahua Block with access to agricultural land</li> <li>• District Administration to identify locations suitable for Brackish water Shrimp Cultivation with CSMCRI/ CMFRI</li> <li>• District Administration to allocate land plots to suitable beneficiaries</li> <li>• SSC Empaneled TSP to be Selected by Fisheries Dept. / DDU-GKY</li> </ul>	

### Work Plan

Shrimp Cultivation	in Months				
	1	2	3	4	5
Allocation of Land for Cultivation					
Selection of Beneficiaries					
TSP Affiliation					
Center setup					
Appointment of additional staff members					
Mobilization of prospective trainees					
Enrolment of trainees					
Roll-out of training programme					

Project 4: Micro Irrigation Technician and Rain Water Harvesting				
Key factors	<ul style="list-style-type: none"> <li>• Cotton is a dominant crop in the district owing to the rich soil. Cotton is 40% of the kharif produce in the district</li> <li>• Irrigation is largely through bore wells and is dependent on rainfall for its dominant crop. Similarly erratic rainfall in recent years has made the yields unpredictable</li> </ul>			
Rationale for Training	Drip irrigation, rainwater harvesting can be used to conserve water and for targeted irrigation of the crop to increase productivity and provide self-employment for youth.			
Trainings	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
	Micro Irrigation Technician	<ul style="list-style-type: none"> <li>• Secondary Education</li> </ul>	Fresh Training	750 persons in next 5 years

				RPL / Up Skilling	-
Availability of curriculum	Job Role	Target Groups	QP/NOS	MES	CTS
	Micro Irrigation Technician	Farmers, Secondary Education completed youth in the district	Micro Irrigation Technician	No course available	No course available
Investment (INR In lakhs)		Incubation and training center			
		Capital Expenditure		4 Lakhs in existing RSETI Centre/ Extension Centre	
		Operational Expenditure		90	
Potential Partners		Partner	Areas of Support		
		Agriculture Dept./ Pradhan Mantri Krishi Sichalan Yojana	<ul style="list-style-type: none"><li>• Design of Scheme</li><li>• Awareness Generation on Micro Irrigation among farmers</li><li>• Funding of Training through RSETI</li></ul>		
		Agriculture University and Better Cotton Initiative (BCI)	<ul style="list-style-type: none"><li>• Knowledge partnership and identification of conducive stretches</li><li>• Promotion of micro irrigation among farmers</li></ul>		
		TSP	<ul style="list-style-type: none"><li>• Mobilization and Training of beneficiaries</li></ul>		
		ASCI (SSC)	<ul style="list-style-type: none"><li>• Develop model training programs for the identified Job Roles</li><li>• Identification and certification of Trainers</li><li>• Identification and certification of assessors</li><li>• Assessment of trainees</li><li>• Certification of Trainees</li></ul>		
Training Delivery		<ul style="list-style-type: none"><li>• The training center will be setup by a training provider in an existing and underutilized infrastructure in the District with access to agricultural land preferably an RSETI Extension Training Centre</li><li>• SSC to design curriculum</li><li>• SSC Empaneled TSP to be Selected by Agriculture Dept. / Rural Development Dept.</li></ul>			

### Work Plan

<i>Micro Irrigation and Rain harvesting</i>	<b>in Months</b>				
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Partnership with SSC, Industry Partners and Knowledge partners					
TSP Affiliation					
Center setup					
Appointment of additional staff members					
Mobilization of prospective trainees					
Enrolment of trainees					
Roll-out of training programme					

### 3.6. Summary for Kutch

Sl. No.	Project Name	Job Roles	Type of training	No. of people to be trained
1	Skill Development Centre for Ports and Logistics	Drivers, Machine Operators, Fresh and RPL Crane Operators, Technical Surveyors, Security Guard (particularly at CFS)		2500 persons in next 5 years
2	Incubation and training centre for artisans (with focus on entrepreneurial development)	Mud Mirror, Wood work, leather, handloom, metal bell, and embroidery artisans; producers	Fresh and RPL	500 persons in next 5 years
3	Training in Cement Technology	Cement Technician, Production Staff, Control Staff	Fresh	1250 persons in next 5 years
4	Value addition courses in timber industry through carpentry/product designer courses in furniture	Carpenter, Designer	Fresh	750 persons in next 5 years

### 3.7. Action Plan for Kutch

<b>Project 1: Skill Development Center for Ports and Logistics</b>				
Key economic drivers	<ul style="list-style-type: none"> <li>One major port - Kandla and one non-major port – Mundra (Adani)</li> <li>KPT has massive expansion plans as well as mechanization plans worth USD 700 Mn</li> <li>Construction of LNG terminal envisaged by Adani port</li> <li>Proposed SIR in Anjar with an area of 690 sq km</li> </ul>			
Rationale	<p>Containerization has drastically changed the trade scenario in Shipping. The requirement for surveyors in the sector is continuous as staff is required to assess, monitor and report condition of vessels, containers and cargos as well as inspect damages caused to vessel, containers and cargos. There are several types of surveys that are required to be carried out at the Port on docking of the vessel including Produce Cargo surveys, Container Surveys, Vessel Surveys, Bunker Surveys etc. Bunker surveys are carried out to measure and ascertain the quantity of Bunker (usually Fuel Oil (FO), Diesel Oil (DO), and sometimes Lubricating Oil (LO)) on board at the specific time. Bunker surveyors particularly require technical knowledge (to identify and record depth of Tank, Reference Height, and recommend Measuring Method to be used (Sounding) for each Oil Tank). Other forms of Technical Surveys include Container Inspection Survey to ensure that the container is suitable for the transportation of goods, will it be able to withstand the load, and the maintenance has not been compromised for any other unique and specific rating the container might have. Tally surveys of cargo, inspection of produce cargos are some other surveys which are not technical in nature and require mainly literates. The potential employers for trained surveyors will be Shipping Lines firms and Surveyor Agencies.</p> <p>On account of presence of several shipping line firms particularly Customer Freight stations (CFS)/ Inland Container Depots and Shipping line agencies handling containers, the requirement for security personnel is high in Kutch. Cargoes are stationed at CFS and ICD's for several days, hence security is a round the clock requirement. Based on interactions with CFS players, the need for trained security personnel emerged considering the crucial role they play in keeping the cargo's safe at CFS or warehouses.</p>			
Job roles in demand	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
	Drivers	<ul style="list-style-type: none"> <li>Existing Drivers</li> <li>Coastal communities</li> </ul>	RPL	150 persons in 5 years
			Fresh training	150 persons in 5 years
	Machine Operators	<ul style="list-style-type: none"> <li>Existing operators</li> <li>Coastal communities</li> </ul>	RPL	300 persons in 5 years
			Fresh training	300 persons in 5 years
	Crane Operators	<ul style="list-style-type: none"> <li>Existing crane operators</li> <li>Project affected people</li> <li>Coastal communities</li> </ul>	RPL	300 persons in 5 years
			Fresh training	200 persons in 5 years
	Technical Surveyors	<ul style="list-style-type: none"> <li>Coastal communities</li> </ul>	Fresh Training	600 persons in 5 years
	Security Guard (particularly at CFS)	<ul style="list-style-type: none"> <li>Coastal communities</li> <li>Migrants</li> </ul>	Fresh training	500 persons in 5 years

Availability of curriculum	Job Roles	Target Groups	Available QP/NOS	MES	CTS
	Drivers	Drivers	<ul style="list-style-type: none"><li>Commercial vehicle driver</li><li>Locomotive driver</li></ul>	Course available for: <ul style="list-style-type: none"><li>Driver HMV</li><li>Driver LMV</li></ul>	No course available
	Machine Operators	Machine operators	QP available for <ul style="list-style-type: none"><li>Goods packaging machine operator</li></ul>	No course available	No course available
	Crane Operators	Crane operators	QP available for <ul style="list-style-type: none"><li>Crawler crane operator</li><li>Hydra crane operator</li><li>Tyre mounted crane operator</li><li>Junior crane operator</li><li>Overhead crane operator</li></ul>	No course available	No course available
	Technical Surveyors	Technical Surveyors	QP not available	No. course available	<ul style="list-style-type: none"><li>Surveyor</li></ul>
	Security Guards	Security guards	QP available for <ul style="list-style-type: none"><li>Unarmed security guard</li><li>Armed security guard</li><li>Security supervisor</li></ul>	<ul style="list-style-type: none"><li>Industrial security guard</li><li>Security guard (general)</li><li>Security supervisor (general)</li></ul>	No course available
Investment (INR In lakhs)		Drivers			
		Operational Expenditure		20	
		Machine operators			
		Operational Expenditure		36	
		Crane operators			
		Operational Expenditure		22	
		Technical surveyors			
		Operational Expenditure		48	
		Security Guards			
		Operational Expenditure		72	
		Total operational expenditure		198	
		Capital Expenditure for training centre <sup>17</sup>		500	
Potential Partners		Partner		Areas of Support	
		Kandla port/Adani Port		<ul style="list-style-type: none"><li>Space and infrastructure for establishing the training center</li><li>Access to port facilities for practical training</li><li>Guest faculty</li><li>Input for designing curriculum</li></ul>	

<sup>17</sup> The cost of building a facility of 11,000 sq feet that will have the training centre and residential quarters for trainees and cost of procuring three stimulators. The cost of building the facility is applicable for option 1.

		<ul style="list-style-type: none"> <li>• Provision of used equipment for training</li> <li>• Facilitate implementation of RPL for existing work force</li> <li>• Provide guest faculty and facilitate on the job training</li> </ul>
	Industry Associations	<ul style="list-style-type: none"> <li>• Industry interface</li> <li>• Facilitate implementation of RPL for existing workforce</li> <li>• On the job training</li> </ul>
	Industry Partner	<ul style="list-style-type: none"> <li>• Training delivery</li> <li>• Co-management of the training facility</li> </ul>
	Logistic Sector Skill Council Security Sector Skill Council	<ul style="list-style-type: none"> <li>• Development of QPs for the identified job roles</li> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
Training Delivery	<b>Option 1</b> <ul style="list-style-type: none"> <li>• Kandla port/Adani Port or MoS creates the training facility</li> <li>• Training facility to be managed and maintained by Kandla port/Adani Port or MoS</li> <li>• Kandla port/Adani Port to deliver the training and provide qualified trainers and mobilize trainees</li> </ul> <b>Option 2</b> <ul style="list-style-type: none"> <li>• Private training provider to rent/develop the training facility and deliver the training programme</li> </ul>	

## Work Plan

Port and Logistics	in Months								
	1	2	3	4	5	6	7	8	9
Partnership with SSC, Industry Partners and Knowledge partners									
Development of QPs									
Establishment of Training infrastructure and facility									
Furnishing of the training centre									
Purchase and installation of lab equipment									
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)									
Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

<b>Project 2: Incubation<sup>18</sup> and training centre for artisans (with focus on entrepreneurial development)</b>					
Key economic drivers		<ul style="list-style-type: none"> <li>Kutch is home to around 4000 artisans</li> <li>The variety of art and craftwork present in the district is immense and includes lacquer work, pottery, mud work, embroidery, block printing, pen knives and nutcrackers to name a few</li> <li>Export potential of handicrafts</li> </ul>			
Rationale for the project		<p>The district is home to artisans spread across 4000 villages. The variety of art and craftwork present in the district is immense and includes lacquer work, pottery, mud work, embroidery, block printing, pen knives and nutcrackers to name a few. While most artisans have a home-based business, they are often faced with the issue of sufficient market linkage opportunities or lack the ability to identify and pursue such opportunities. For this reason, entrepreneurship development for these artisans will enable them to understand the market beyond the local, establish strong forward linkages and thus reduce dependence on intermittent wage labour. An incubation centre will have common facility centres, laboratories for product testing, provision of design input, marketing support, and support for patents, etc. It will essentially support artisans and young entrepreneurs to devise business plans, provide an infrastructure to kick-start their enterprise and facilitate links that are congenial for their survival and growth. An important component within the incubation centre will be to provide skilling to enhance the entrepreneurial abilities of the artisans as it is an immediate requirement for them and majority of them depend on exhibitions/expos alone, for selling their produce which results in inconsistent source of income. Thus, support in the form of market linkages as well as development of entrepreneurial skills will enable establishment of self-run businesses and hence provide financial stability.</p>			
Job roles in demand		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Handicrafts and Handloom Artisans (Mud Mirror, Wood work, leather, handloom, metal bell, embroidery etc.)	<ul style="list-style-type: none"> <li>Local artisans</li> <li>Local youth and young entrepreneurs</li> </ul>	Fresh Training	500 in 5 years
Availability of curriculum	<b>Job roles</b>	<b>Target Group</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Mud Mirror, Wood work, leather, handloom, metal bell, embroidery etc.)	<ul style="list-style-type: none"> <li>Handicraft and Handloom artisan</li> <li>Project affected people</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>Artisans</li> </ul>	No course available	
	Entrepreneurial Skills	Entrepreneur	QP does not exist	No course available	No course available
Investment (INR In lakhs)		<b>Incubation and training centre</b>			
		Operational Expenditure			87
		Capital Expenditure <sup>19</sup>			45

<sup>18</sup> The incubation centre will have common facility centres, laboratories for product testing, provision of design input, marketing support, and support for patents etc. It will essentially support artisans and young entrepreneurs to devise business plans, provide an infrastructure to kick-start their enterprise and facilitate links that are congenial for their survival and growth. An important component within the incubation centre will be to provide skilling to enhance the entrepreneurial abilities of the artisans.

<sup>19</sup> Cost of establishing the incubation centre



Potential Partners	Partner	Areas of Support
	MoSDE (through one of its scheme on Entrepreneurship)	<ul style="list-style-type: none"> <li>Space and infrastructure for establishing the incubation and training center</li> </ul>
	Entrepreneurship development Institute	<ul style="list-style-type: none"> <li>Inputs in designing curriculum on entrepreneurship skill development</li> <li>Guest faculty</li> </ul>
	NID	<ul style="list-style-type: none"> <li>Input for designing curriculum for various art crafts</li> <li>Guest faculty</li> </ul>
	Industry Associations	<ul style="list-style-type: none"> <li>Industry interface</li> <li>Facilitate sourcing of crafts to retails chains</li> <li>Facilitate exports of crafts</li> </ul>
	Training Partner	<ul style="list-style-type: none"> <li>Training delivery</li> <li>Co-management of the training facility</li> </ul>
	Handicraft Sector Skill Council	<ul style="list-style-type: none"> <li>Development of QPs for the identified job roles</li> <li>Develop model training programmes for the identified Job Roles</li> <li>Identification and certification of Trainers</li> <li>Identification and certification of assessors</li> <li>Assessment of trainees</li> <li>Certification of Trainees</li> </ul>
Training Delivery	<b>Option 1</b> <ul style="list-style-type: none"> <li>The incubation centre to be set up and run by MoSDE</li> </ul> <b>Option 2</b> <ul style="list-style-type: none"> <li>The incubation centre to be set up by MSME but run by empaneled TSP</li> </ul>	

### Work Plan

Handicraft	in Months					
	1	2	3	4	5	6
TSP Empanelment						
SSC affiliation						
QP development						
Training centre setup						
Incubation centre setup						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of incubation centre and training programme						

Project 3: Training in Cement Technology	
Key economic drivers	<ul style="list-style-type: none"> <li>Proximity to ports resulting in high requirement of professionals in the construction sector with expertise in cement technology and production/quality</li> <li>Two major cement players: Sanghi Cements and UltraTech</li> </ul>
Rationale for the project	The cements firms demand skilled workforce.

Job roles in demand		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Cement Technician	• Local youth	Fresh Training	500 in 5 years
		Production Staff	• Local youth	Fresh Training	450 in 5 years
		Control Staff	• Local youth	Fresh Training	300 in 5 years
Availability of curriculum	Job roles	Target group	Available QP/NOS	MES	CTS
	Cement Technician	Cement technician	No QP available	No course available	No course available
	Production Staff	Production technician	No QP available	No course available	No course available
	Quality Staff	Quality	QP available for • Quality technician	Course available for • Quality Inspector-Concrete	No course available
Investment (INR in Lakhs)		Cement technology			
		Operational Expenditure		120	
		Production technology			
		Operational Expenditure		93	
		Quality technology			
		Operational Expenditure		62	
		Total operational expenditure		275	
Potential Partners		Partner	Areas of Support		
		Training Partner	• Space and infrastructure for establishing the training center • Training delivery • Co-management of the training facility		
		Industry Associations (Cement Association)	• Industry interface • Facilitate in On-Job-Training		
		Construction Skill Development Council of India	• Development of QPs for the identified job roles • Develop model training programmes for the identified Job Roles • Identification and certification of Trainers • Identification and certification of assessors • Assessment of trainees • Certification of Trainees		
Training Delivery		• Engage a TSP that is affiliated with DDU-GKY and PMKVY to deliver the training • The training partner will be responsible for managing the entire operations of the training centre			

### Work Plan

<b>Cement Technology</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
TSP Empanelment						
SSC affiliation						
QP development						

Training centre setup						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

<b>Project 4: Value addition courses in timber industry through carpentry/product designer courses in furniture</b>					
Key economic drivers		<ul style="list-style-type: none"> <li>Kutch handles almost 60-70% of Timber imports from the country</li> <li>Several saw mills/units are located in Kutch region</li> <li>Kandla also has been declared as an import zone for timber with 952 licensed wood working factories and over 2000 saw mills</li> </ul>			
Rationale for a training centre		Kutch handles almost 60-70% of Timber imports from the country. This has led to establishment of several saw mills/units in the region. Kandla also has been declared as an import zone for timber with 952 licensed wood working factories and over 2000 saw mills. Ease of raw material availability here presents the opportunity for the district to engage in further value additions and capitalise on the cost economics in timber industry value chain. Local youth can be targeted to take up courses in carpentry and furniture designing and also be supported in setting up furniture studios. While training programmes on carpentry will impart skills training on cutting and trimming of different types of wood, assembling furniture parts, repairing fixtures, etc.; the course on furniture design will include skilling on developing contemporary designs in 2-D and 3-D forms, use of different types of furniture technology, etc. The project will involve delivery of carpentry course at the ITIs in the district and the course on furniture design could be delivered through labs or units set up by specific institutes such as National Institute of Design (NID)			
Job roles in demand		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Carpentry	<ul style="list-style-type: none"> <li>Local wood workers with min. 2 year experience</li> </ul>	Fresh Training	250 in 5 years
				RPL	150 in 5 years
		Furniture Design	<ul style="list-style-type: none"> <li>Local youth</li> </ul>	Fresh Training	350 in 5 years
Availability of curriculum	<b>Job roles</b>	<b>Target group</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Carpentry	Carpentry	QP available for <ul style="list-style-type: none"> <li>Carpenter wooden furniture</li> </ul>	Building carpenter	Carpenter
	Furniture design	Furniture design	QP available for <ul style="list-style-type: none"> <li>Assistant carpenter wooden furniture</li> <li>Carpenter wooden furniture</li> </ul>	Wooden furniture	No course available
Investment (INR in Lakhs)		<b>Carpentry</b>			
		Operational Expenditure			65
		<b>Furniture design</b>			
		Operational Expenditure			Needs to be calculated

	Total operational expenditure	Needs to be calculated
Potential Partners	<b>Partner</b> Training Partner Industry Associations Furniture and Fitting Sector Skill Council	<b>Areas of Support</b> <ul style="list-style-type: none"> <li>• Space and infrastructure for establishing the training center</li> <li>• Training delivery</li> <li>• Co-management of the training facility</li> <li>• Industry interface</li> <li>• Facilitate On-Job-Training</li> <li>• Facilitate placements</li> <li>• Development of QPs for the identified job roles</li> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
Training Delivery	<ul style="list-style-type: none"> <li>• Engage a TSP that is affiliated with DDU-GKY and PMKVY to deliver the training</li> <li>• Furniture and Fitting Sector Skill Council will affiliate the training centre</li> <li>• The training partner will be responsible for managing the entire operations of the training centre</li> </ul>	

### Work Plan

Carpentry and furniture design	in Months					
	1	2	3	4	5	6
TSP empanelment						
SSC affiliation						
QP development						
Training centre setup						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

## 4. List of Stakeholders consulted

### 4.1 State level consultations- Gujarat

Sl. No.	Stakeholder	Person	E-mail	Cell/Phone
1	Gujarat Maritime Board	Chief Engineer, B.B. Talavia	bhaveshtalavia@gmbports.in	9925153002
2	Directorate of Employment and Training	Shri R.K.Patel Addl. Director (GAS)		
3	Commissionerate of Technical Education	Shri Anis M. Mankad, IAS Commissioner		
4	Gujarat Skill Development Mission (Falls under DET)	Manish Dave Deputy Director	manishmdave@yahoo.com	9825069793
5	Commissionerate of Fisheries	Fisheries Commissioner	commi-fisheries@gujarat.gov.in	9978405983
6	Tourism Department	Mr. N. Srivastava (IFS), Commissioner of Tourism and Managing Director		
		K. Biswas	kbiswas@gujarattourism.com	7923977209
7	Urban Development and Urban Housing Development	Shri Y. B. Patel Secretary (Budget/Estt./ Coordination / T.P. Admin / MGSM / NULM)		
8	Commissionerate of Rural Development	Dr. Jayanti S. Ravi, Commissioner & Principal Secretary, Rural Development, Rural Development		
9	Commissionerate of Labour, Labour and Employment Department	Assistant Labour Commissioner, Mr. Shah		
10	Gujarat Fisheries Central Co-operative Association Limited	Shri M.Y.Daxini, Managing Director		
11	Directorate Of Economics and Statistics	R.R Pandya, Joint Director	rakeshpandya3171@yahoo.in	9377298620

## 4.2 District level consultations- Kutch

Sl. No.	Stakeholder	Person	E-mail	Cell/Phone
1	District Collector Office	District Collector, Shri M. A. Gandhi		Bhavin: 7600290052
2	District Collector Office	District Development Officer		02832-250080
3	District Labour Office	J R Jadeja, Assistant Commissioner of Labour		9727762105
5	District Collector Office	District Statistical Officer		
6	District Employment Office	District Employment Officer, IR Malik	dee-kut@gujarat.gov.in	9904371810
10	Mundra Port (Adani Ports and Special Economic Zone Limited)	Director, Skills and Training Incharge (Rakshit Shah and Mrityunjay)		Mrityunjay: 9376577739
11	Mystic Shipping	Satish Juttika - Joint M.D.	satish@mysticshipping.com	9825693397
12	VELJI P. & Sons	Manager		
13	Empezar	Divij, Director	divij@empezargroup.com	9913388188
14	Kandla Port Trust	Chairman, Secretary		P.S. to chairman: 9979893028
15	JR Roadlines Pvt. Ltd.	Director	jayesh@jrgroupindia.com	9825015129
16	Hotel Clicks	Hotel Manager, jay nair	hm.bhuj@theclickhotels.com	7229076777
17	ITD Cementation India Limited	Deputy Manager		
18	Adani Construction Cell	General Manager		
19	ITI, Gandhidham	Arpit Patel (, Payal Mangukiyu, D.M. Detroja Foreman and Instructor		Arpit: 9426659138
20	IKVK	Ravi Ranjan, Assistant Manager		
21	Vishwakarma Edu Comp Matruchaya Skill Development Centre (VTP)	Bhavesh and Rajendra Joshi Principal , Owner		9909930088
22	Indian Salt Manufacturers Association	President, Bachubhai D Ahir		9825225770
23	Federation of Kutch	Radhika Thacker, Admin Manager	bhuj@fokia.org	9925993819

	Industries Association			
24	Gandhidham Chamber of Commerce	Ashish S Joshi, Hon. Jt. Secretary	india@malargroup.com	9825225143
25	Shreeramchemfood	Rajendra Aggarwal, Director	rajendra@shreeramchemfood.com	9825237382
26	Handloom Design Centre	Vankarji Devji Premji	hdcbhujodi@gmail.com	9429042587
27	Kandla Timber Association	R K Rawal, Executive Secretary	katna.gdm@gmail.com	9376666140
28	Adani Ports and SEZ Ltd.	Mitesh Thacker, Deputy Manager	mitesh.thacker@adani.com	9879012985
29	DIC	Mukesh Pandya, General Manager	gm-dic-kut@gujarat.gov.in	9879661250
30	Swayam Shipping Services Pvt. Ltd.	Tejas Khakhria, Executive	tejas@swayamshipping.com	9825730199
31	All Cargo Logistics Ltd	Gatlikrushna Sutar, Manager	gatilkrushna.sutar@allcargologistics.com	9909031290
32	Regenta Resorts	Madhu, Head		02832-230166
33	Adani Wilmar	Sanjay Sharma, HR Manager	ss.sharma@adaniwilmar.in	9935923795
34	Friends Group of Companies	Santosh Pal HR Manager		02836-234973
35	Ultratech	Samdar Singh, HR Manager		02831-279200
36	Gujarat Mineral Development Corporation	Himanshu Bhushan, DGM		7574818576
37	MSC Agency Private Limited	Prithvi Raj Singh Rathore, Port Captain	prithviraj@mscindia.com	9825112497
38	Master Marine Services	Harshendu Gor, Manager	mgrmdr@mastergroups.com	9377995858
39	Hiralakshmi Memorial Craft Skill Park	Artisians		02832-240495
40	Adani Ports and SEZ Ltd	Mrityunjai Gupta, HR	mrityunjai.gupta@adani.com	
41	Gujarat Industrial Development Corporation	Ashwin Patel		9824232969
42	Emplyment Exchange Dept.	N M Patel		9428397042
43	Sarang Maritime Logistics Pvt ltd	Jaymin Thakkar, Branch Manager	j.thakkar@sarangmaritime.com	9913331434
44	KSR Freight Forwarders	Chauhan Ramesh, OPE Executive	kandla@ksrindia.net	99650832007
45	Kandla Port Trust	S Kirupandanasamay, Sr. Deputy Traffic Manager	kiruba_tn@yahoo.com	9823227049
46	Kandla Port Trust	Rajkumar K Motwani	rajkumarmotwani92@gmail.com	9825435658
47	TransAsia Lines	Vinod Karwani,		02836 - 225410/225433
48	Aarkay Group	Kalpesh Bhadra, Director	info@aarkaygroup.com	98252261519

49	Bharat Food Cooperative Ltd	General Manager(Tech), J K Bhadauria	jk_bhadauria@bharatfoods.com	9375383025
50	Gupta Timbertrader Pvt Ltd	Director, Atul Gupta		9909525354/9638152151
51	Hari Om Travels	Vijay Soni, Head Tour Operations	hariomtours74@gmail.com	9898629858
52	Commissionerate of Fisheries	HG Palanpura, Assistant Commissioner		9274705581
53	ITI, Bhuj	J.P. Chotai, Principal	prlbhujiti@yahoo.co.in	9427768915



### 4.3 District level consultations-Bhavnagar

Sl. No.	Stakeholder	Person	Designation	E-mail	Cell/Phone
1	District Officer	Brijesh k. Joshi	District Planning Officer	dpo-bav@gujarat.gov.in	0278-2421878
2	Ship Recycling Industries Association	Ramesh Aggarwal	Hon. Secretary	hooghly@gmail.com	9727766701
3	Priya Blue	Rohith Aggarwal	Sustainable Ship Recycling Manager	rohit@priyablue.com	9879121262
4	Hooghly Shipbreakers Limited	Ramesh Aggarwal	Hon. Secretary	hooghly@gmail.com	9727766701
5	Bhavnagar Salt Association	Prakash Gorasiya	President		9426221101
6	Diamond Association	Vithalbhai Medapara	President		9426210351
7	Bhavnagar Polytechnic				
8	Rolling Mill	Ram Vilas			9825200170
9	Ro Ferry				
10	Safety Training Institute	Narendra Upadhyay			9909961622
11	GMB Official				
12	Shivam Trade link (Marine machinery and spare parts supplier)	Nilesh Joshi		Shivam@shivamtradelink.com	9825205365
13	Machinery Association of Bhavnagar	Ramesh			
14	Dainik Bhaskar	Maheebub Kureshi	Chief Sub-Editor	mehboob@dainikbhaskargroup.com	9374254994
15	Chamber of Commerce and Industry	Mahesh Bhatt	President	scci.bhavnagar@gmail.com	9825206833
16	Chamber of Commerce and Industry	Kirit M. Soni	Hon Treasurer	scci.bhavnagar@gmail.com	9824215360
17	Shree Sagar Stevedores Pvt. Ltd.	Shreyas Thakkar	General Manager	admin@shreesagarstevedores.com	9879594813
18	Gujarat Maritime Board	Mahaveer Singh	Safety Officer		9099950565
19	Bhavnagar Port	Mr. Kharadi	Asssistant Port Officer		9925153032
20	Bhavnagar Port		Supervisor		
21	Plastic Association	Bupatbhai Vyas	President		9824293105
22	Bhavnagar University, Marine Science Department	Dr. I R Gadhvi	Head of Department		9427182755
23	The Basil Park Hotel & Parag Travels	Ganesh Das	Manager	manager@basilpark.com	8866096573

24	Misam Naqvi	All India Veg. Dehydrated Manufacturers Association	Manager	aivdmda@gmail.com	9974191472
25	Vitalbhai Koradia	Maharaja Foods			
26	Vishal Ruparel	Ruparel Foods	Propereitor	ruparel@ruparelindia.com	284422625
27	Vishal Ruparel	Ruparel Plastics	Propereitor	ruparel@ruparelindia.com	284422625
28	Pidilite : Triveni Kalyani Foundation Kalsar				9909971556
29	Central Salt and Marine Chemical Research Institute	Ankkur Goel	Professor	ankkurgoel@csmc.org	
30	District Industries Centre	Harish Vikani	Deputy Managaer		9824873910
31	District Agricultural Office		Dy. DAO	dao.bhavnagar.agri@gmail.com	
32	District Fisheries Centre	Dr. I R Gadhvi	DFO		9427182755
33	KVK Kalsar	Gagan Macwan	Centre Manager	macwansg@gmail.com	9925184813
34	ITI Bhavnagar	PM Pandit	ITI & ATS In Charge	prlbhavnagariti@yahoo.co.in	9879581801

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# *Section 11: Andaman and Nicobar Islands*

## *South Andaman*

# 1. District Profile

## South Andaman

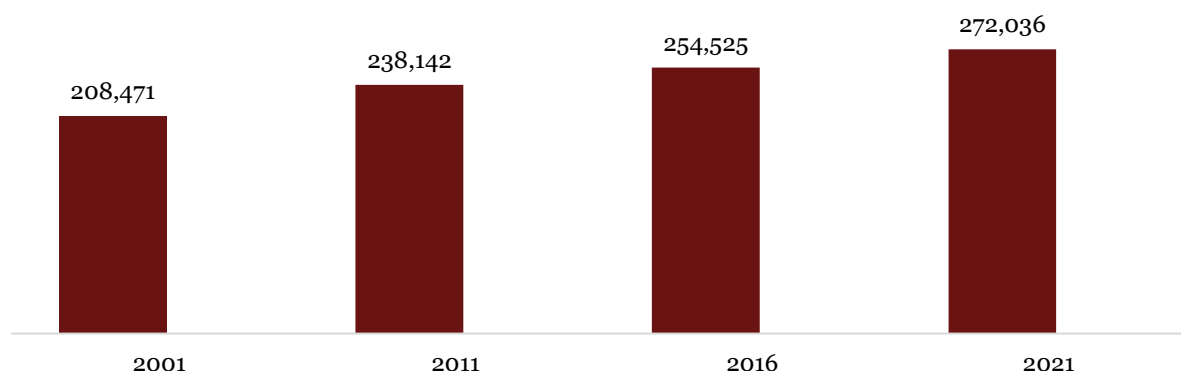
One of the three districts of the Union Territory of Andaman and Nicobar Islands, the district was bifurcated from the erstwhile unified Andaman District. Home to historical locations including the Cellular Jail and Chatham, the district is home to more than 60% of the population<sup>1</sup> of the union territory (97% of the urban population) and 80% of the industrial base<sup>2</sup>. The islands of Havelock and Neil Island are popular tourist destinations. The Sentinelese people who have had no contacts with the outside world for millennia also form a part of the district in North Sentinel Island.

### 1.1. Demographic Profile<sup>3</sup>

Indicator	Value
Total population	2,38,142
Decadal rate of growth of population (2001-11)	14.23 %
Rural population	40.9%
Female	47%
SC population	-
ST population	1.72%
Workforce participation (As % of total population)	40.66%
Main Workers (As % of total population)	35.79%
Marginal (As % of total population)	4.88%
Non-workers (As % of total population)	59.34%
Number of people with vocational training in the age group of 15+ <sup>4</sup>	172 per 1,000

### Population trends<sup>5</sup>

Figure 1: Population Trends in South Andaman 2001-2021



The demographic dividend bulge in South Andaman is nearing its end. However, the nature of the union territory is to also attract a considerable amount of people in the working age population, who migrate back to the mainland upon retirement. Estimating the population for the period 2011-21 (10 years), the population is

<sup>1</sup> District Census Handbook, Census 2011

<sup>2</sup> Dept. of Industries, Govt. of Andaman & Nicobar

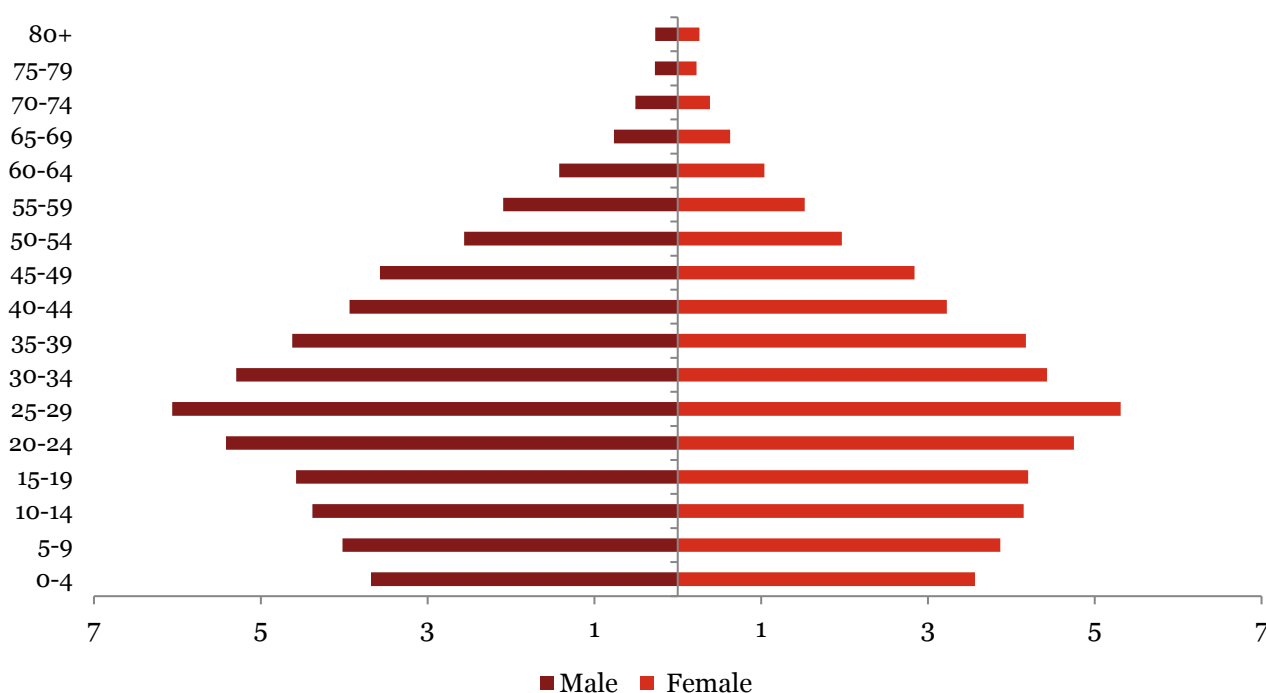
<sup>3</sup> Census 2011

<sup>4</sup> Employment and Unemployment Survey, Vol III, Labour Bureau 2015-16,

<sup>5</sup> Based on Census 2001 and 2011

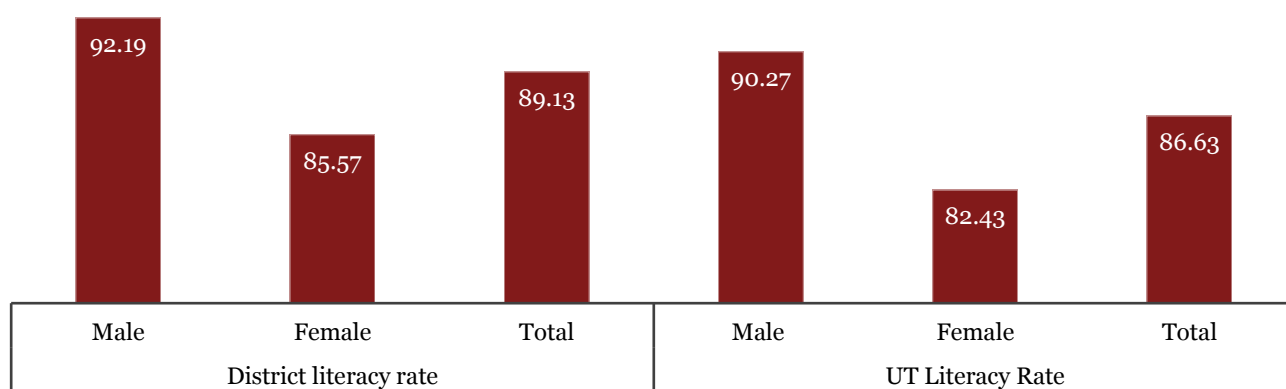
estimated to be 2,54,600 and 2,72,196 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 14.3%.

**Figure 2: Population Pyramid South Andaman 2011**



## Literacy rates<sup>6</sup>

**Figure 3: South Andaman District vs Andaman UT literacy rates (2011)**



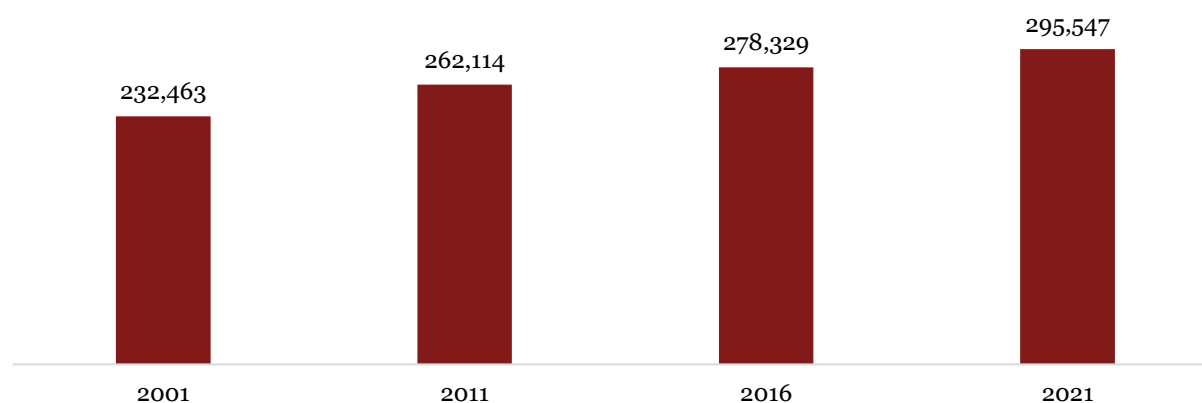
Total literacy rate of South Andaman, as per the Census 2011, is around 89.93%, which is higher than the UT's literacy rate of around 86.63%. The female literacy rate of South Andaman is 85.57% which is lower than the male literacy rate of 92.19% but better than the UT level literacy amongst women.

<sup>6</sup> Census 2011

## Age specific population trends and education levels for 2011<sup>7</sup>

Projecting from the Census 2011, the population in the age-group of 15 to 24 years was 45,064 (18.9% of the overall population). Projecting the population for Andaman and Nicobar Islands in the age group of 15-59 years, it is estimated to be about 278,329 and 295,547 in 2016 and 2021 respectively. The projected absolute growth in the population from 2016 to 2021 is 12.6%.

**Figure 4: Growth trend of population in the age group 15-59 years in Andaman & Nicobar Islands (2001-2021)<sup>8</sup>**



**Figure 5: Age Specific Population (15-24 years)      Figure 6: Age Specific Population (15-59 years)**

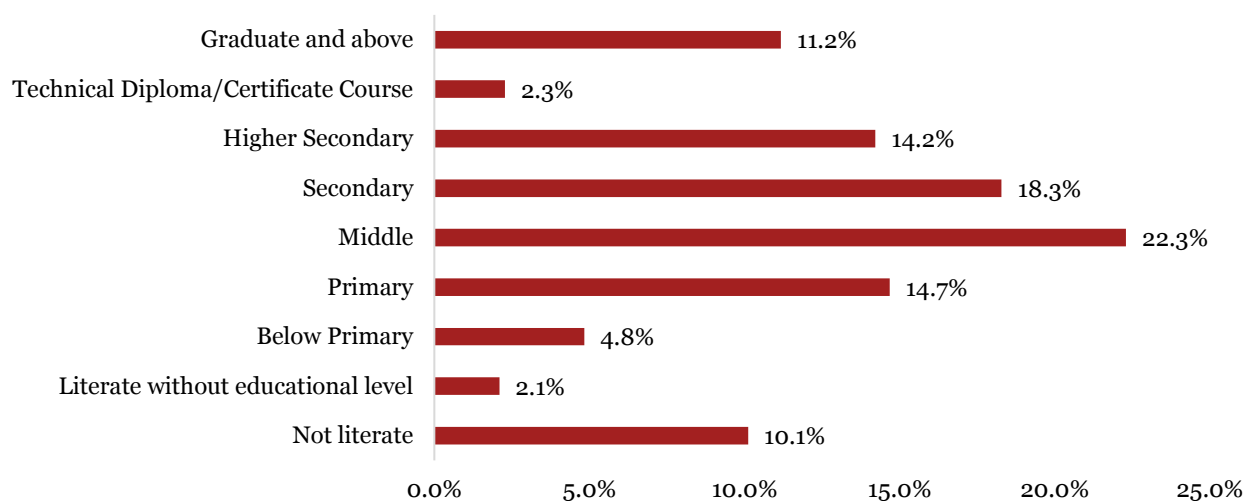


The share of population of females in total population in working age of South Andaman is around 45.6 %. The share of female in the 15-24 age category is marginally higher at 47.25%. This could indicate an increasing sex ratio.

<sup>7</sup> Census 2011

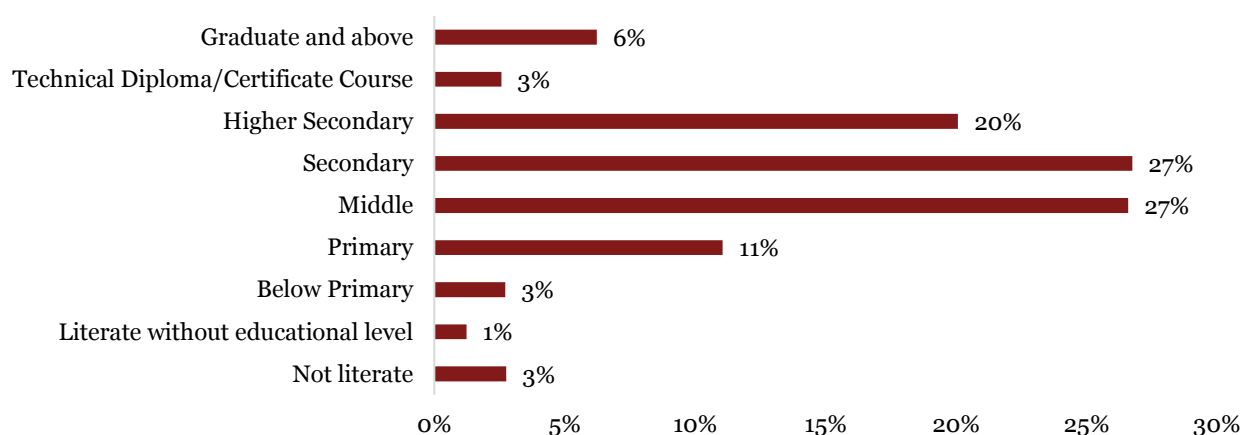
<sup>8</sup> Calculated for All Andaman and Nicobar due to lack of sufficient data for 2001 Census.

**Figure 7: Age specific education level in South Andaman (15-59 yrs.)**



From the Census 2011, we understand that for the age category of 15-59 years, literacy in the working age group is 89.9%. Graduates and Technical Diploma holders make about 13% of the population. Taken together with Secondary (18.3%) and Higher Secondary (14.2%) education, more than 40% of the population is educated with secondary or higher education. In addition, there is only 17% of the population with education levels below primary.

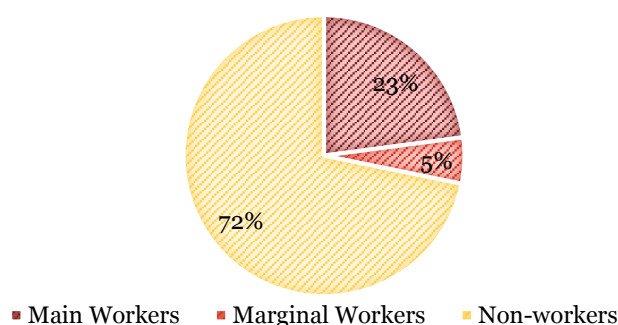
**Figure 8: Age specific education level in South Andaman (15-24 yrs.)**



For the age category of 15-24 years, 2.4% of the population of South Andaman is not literate, 1% are literate without any educational qualification, 3% have attended school till below primary level and 11% have completed schooling only up to primary level. Roughly 26% of the population in 15-24 years category has done schooling up to the middle level, whereas, around 27% of the population in 15-24 years category have been educated till secondary. Only 3% of the population of this District in this age category has done a certificate/diploma course and 6% have at least completed graduation.

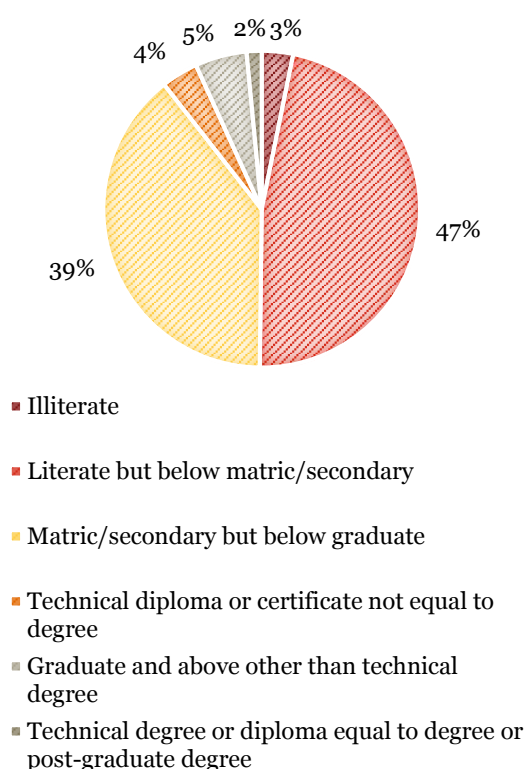
## Age specific distribution of workers and educational level<sup>9</sup>

**Figure 9: Age specific distribution of workers in South Andaman (15-24 yrs.)**

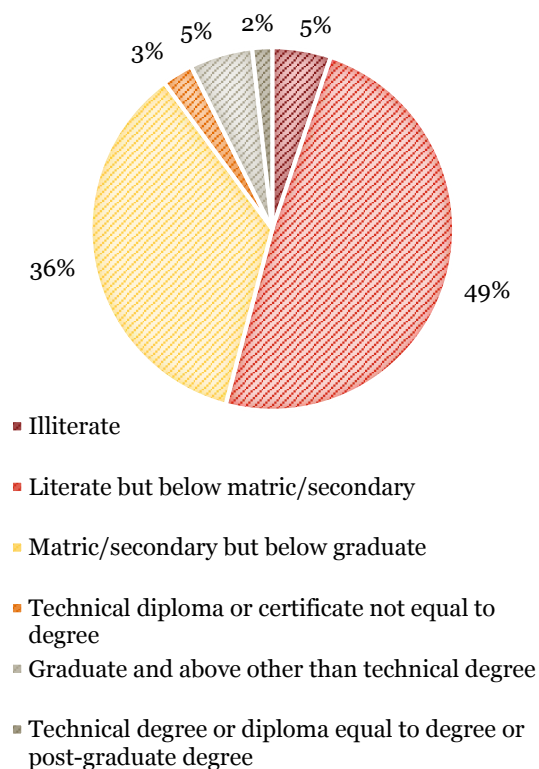


The total workforce participation rate for the district, according to census 2011, is 28.74% and 72% of the population in the age group of 15-24 years is reported as non-workers. 23% of the population is main-worker, whereas 5% is engaged in marginal work i.e. working for 3-6 months during the year.

**Figure 11: Educational level for marginal workers in South Andaman (15-24 yrs.)**



**Figure 10: Educational level for main workers in South Andaman (15-24 yrs.)**

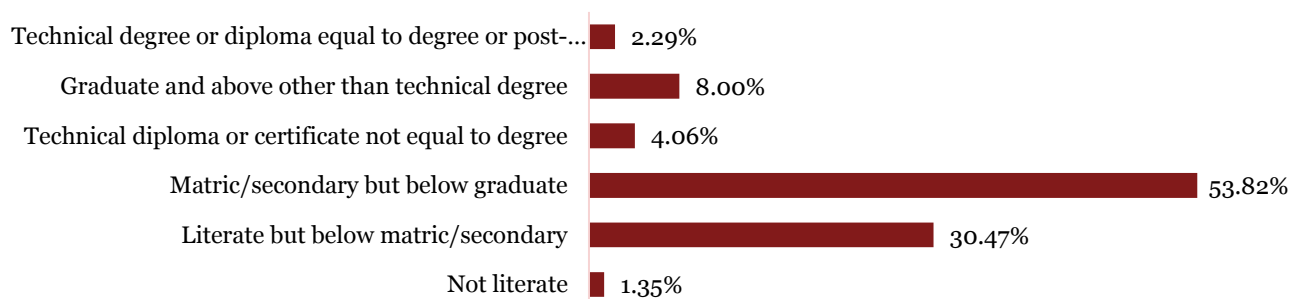


The proportion across the education levels across the main and marginal workers in the relevant age group are similar and lie within a margin of 1-3 %.

<sup>9</sup> Census 2011



**Figure 12: Education level of non-workers available for work in South Andaman (15-24 yrs.)**

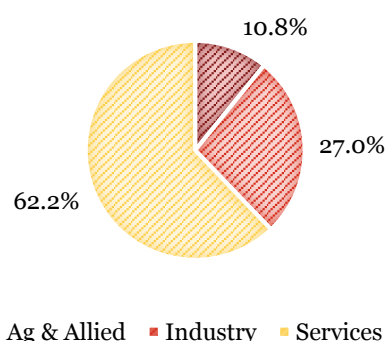


Amongst the 12,476 non-workers available for work in the age group of 15-24 years, 2.29% hold a technical degree or a diploma equal to degree or post graduate degree and 8% have a graduate and above other than a technical degree. 5668 (47.52%) are educated up to the matric/secondary level but below graduate and 30.47% are literate but below matric/secondary level. 1.35% marginal workers who are available for work in this age group are not literate.

## 1.2. Key Economic Drivers

According to Directorate of Economics and Statistics data, the Gross Domestic Product of the UT (at constant prices- 2004-05) was INR 525,329 lakh in 2015-16 and grown at 6.8% over the period 2011-12 to 2015-16. The sectoral break up suggests that services sector contribution to GSDP is more than half (62%) followed by industries sector (27%). Further disaggregation suggests that public administration has a share of 17% and construction has a share of 13% in the District GDP. Other sectors driving the District economy are agriculture (10-14%) and tourism and trade (10%). Construction (experiencing a boost after the 2004 Tsunami) and manufacturing have experienced severe slowdown in recent years.

**Figure 13: Sectoral breakup of South Andaman GDP at constant prices (2004-05)**



The key economic drivers of the District are illustrated below:



### 1.3. Priority Sectors

In South Andaman, the priority sectors that have been identified are **Port and Maritime sector** and allied sectors: **logistics, fisheries, tourism and construction.**

### 1.4. About Port

Ports & Maritime			
Major Ports: 0		Minor Ports: 3	Shipyards: 1
Details			
Port Blair Port			
Operations:	Port Management Board	Capacity	17 Mn Tonnes P.A
Key Cargo	Containers, Bulk, Ferry Movement	No of berths:	7
		Draft	11 m
Description and key Trend	A system of jetties across the Port Blair bay at Chatham, Haddo, Phoenix Bay, harbour make up the Port. In addition jetties in Bamboo Flat, Havelock, Neil Island etc. allow inter island transportation through ferry services		

### 1.5. Investments

The table below summarizes the investments that are in pipeline in next few years:

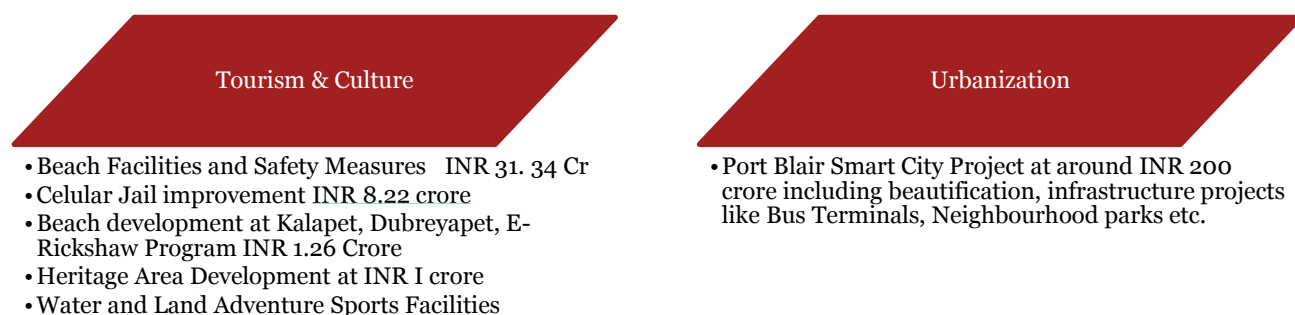
**Table 1: Proposed Key Investments for the year 2016-22 in South Andaman**

Sector	Proposed Investment (INR cr)	Number of Projects	Expected Employment	Key Players
Port & Maritime	-	3	-	Port Management Board, Directorate of Shipping Services, Sagarmala Cell
Tourism	592.15	>10	--	Town and Country Planning Department, Smart Cities Mission, NHAI

Under the Smart Cities program, several Projects are to be executed in the district in Urban Planning, Retro-fitting, Sanitation, Transport, etc.

Tourism & Trade is one of the major drivers of the South Andaman economy as South Andaman is the gateway to the Islands. There are promotions planned in Havelock, Neil islands to develop resorts of the highest standards. Considerable attention is being paid to adventure sports and safety. The Govt. of Andaman is also planning to tap the heritage aspect of tourism to boost production of Handicrafts through an Artist's villages.

**Figure 14: Details of proposed investments across different sectors**



## 1.6. Youth Aspiration<sup>10</sup>

The key findings of the youth aspirations include youths' exposure to vocational training and educational aspiration, job aspirations, training aspirations and self-employment.

### Respondent Profile

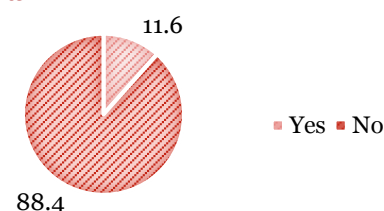
The table below provides an overview of the respondent profile:

Profile	Details
<b>Total Sample Size</b>	397
<b>Gender Profile</b>	Male – 57.4% Female -42.6%
<b>Age Group</b>	15-24 years
<b>Education Level (top 3)</b>	Senior Secondary Schooling (Class 9 to 10)- 25.6% Higher secondary schooling with commerce (Class 11 to 12)- 16.4% Secondary schooling(Class 9 to 10)- 11.6%
<b>APL/BPL/AAY/Don't know</b>	APL -63.7 % BPL – 31.4 % Don't know/Can't Say – 4.9 %
<b>Occupational Profile (top 3)</b>	Student (26.4%), Salaried (22.7%), Unemployed (22.2%)

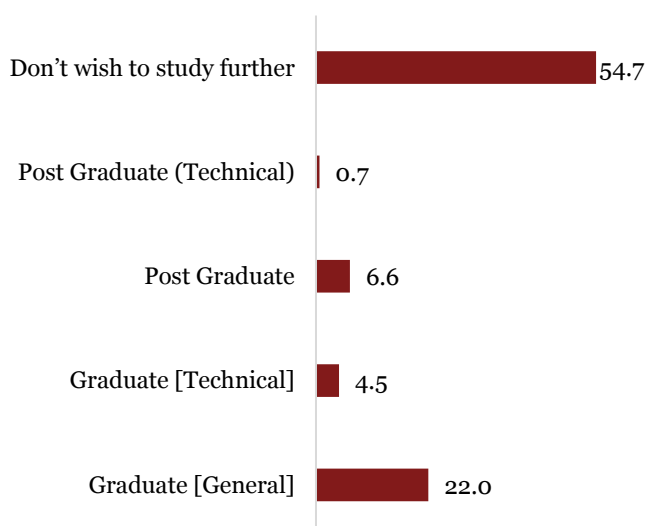
### Exposure to Vocational Training and Educational Aspiration

Regarding the exposure to the vocational training, most students reported that they had not completed any vocational training course. Overall, ~88% of the respondents had not enrolled in vocational training course. The 11.6% registered in vocational courses is one of the highest in the districts covered. (Figure 16).

**Figure 16: Percentage of respondents who completed vocational training course - South Andaman**



**Figure 15: Desired level of education - South Andaman**

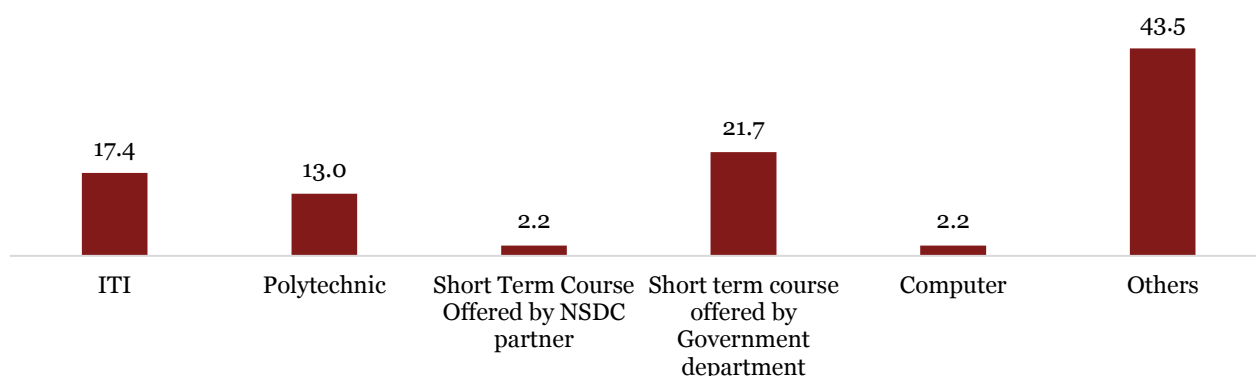


The respondents were asked about the level of education they wished to attain. More than half of the respondents (55%) didn't aspire for further education. The desire to attain technical education is relatively low with only 5.4% aspiring for graduation or post-graduation in technical fields with general degrees preferred (22%) (Figure 15: Desired level of education - South Andaman). Of the total respondents who underwent vocational training (which is 11%), most were from other informal institutions (43.5%) and other Govt. run short term courses (21%). The low numbers through ITIs, Polytechnics also points out to the low capacity in the districts. Figure 17: Percentage of respondents completed courses in vocational training - South Andaman exhibits the percentage of

<sup>10</sup> PwC Analysis based on aspiration survey

respondents who completed different types of courses as part of their vocational training.

**Figure 17: Percentage of respondents completed courses in vocational training - South**

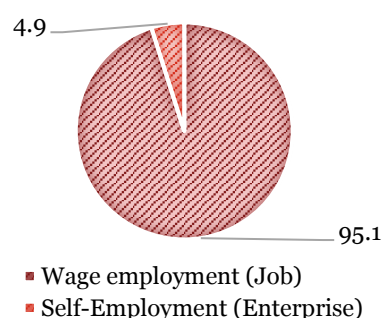


### *Job Aspiration*

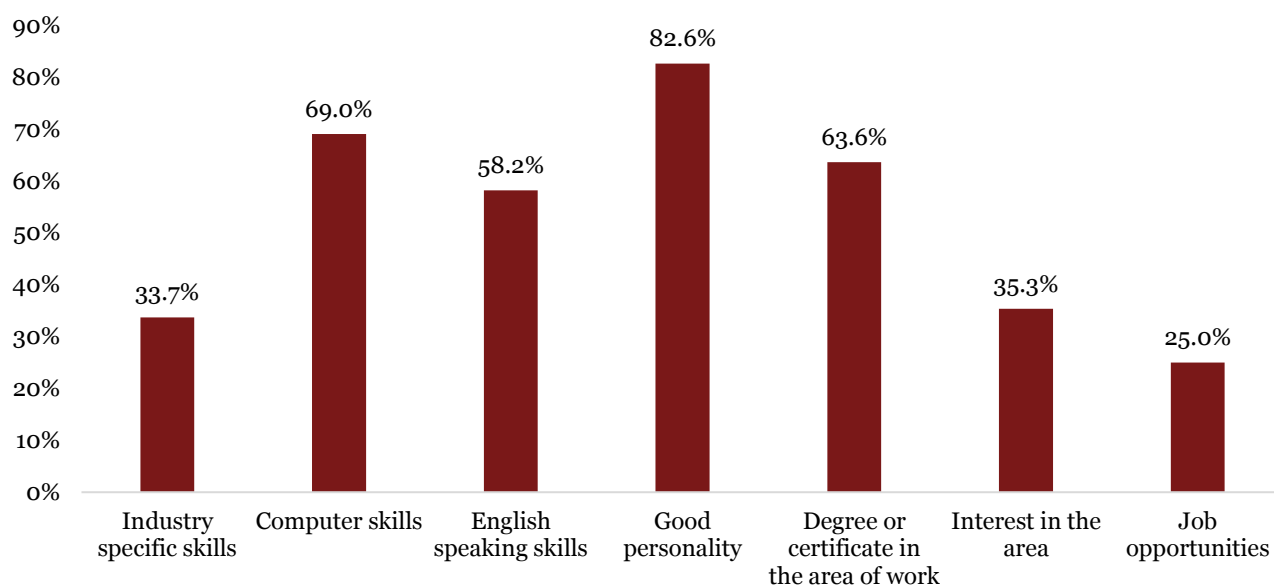
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the District. Over 95% of the respondents reported their preference for wage employment over self-employment (Figure 18: Percentage of respondents aspiring for wage and self-employment).

The respondents were further asked to identify the factors important for securing employment in the area of interest. 82.6% of the respondents identified good personality skills as the most important factor for securing employment followed by computer skills and (69%) and degree (63.6%) (Figure 19).

**Figure 18: Percentage of respondents aspiring for wage and self-employment - South Andaman**

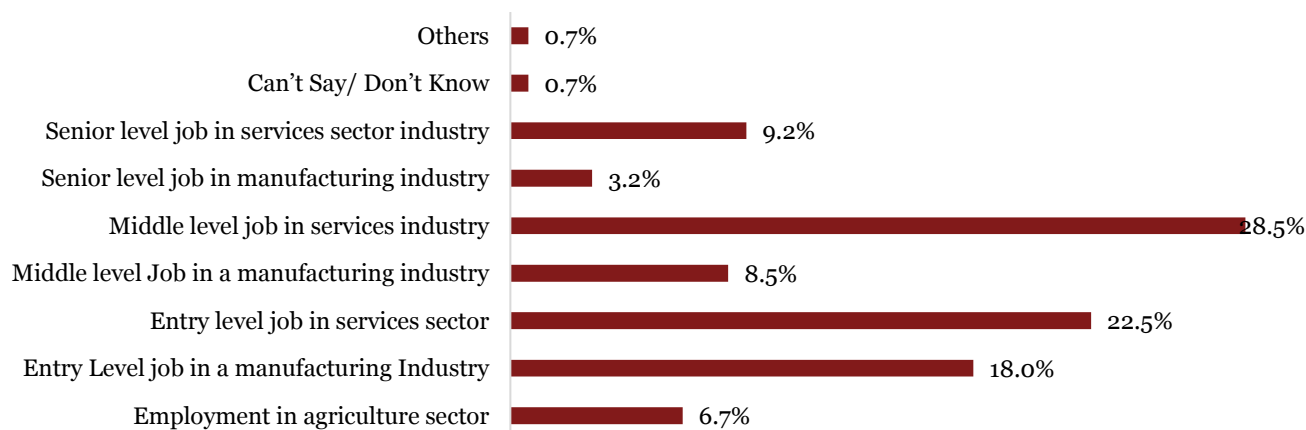


**Figure 19: Factors important for securing employment in area of interest (%) - South Andaman**



Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for services sector with 28.5% aspiring for middle level jobs and 22.5% aspiring for entry level jobs. This is followed by manufacturing sector entry level jobs (18%) (Figure 20: Desired job profile after completion of education/training - South Andaman).

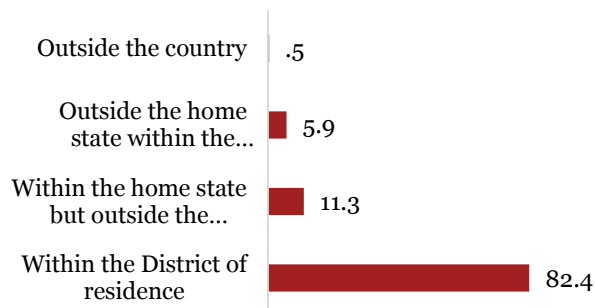
**Figure 20: Desired job profile after completion of education/training - South Andaman**



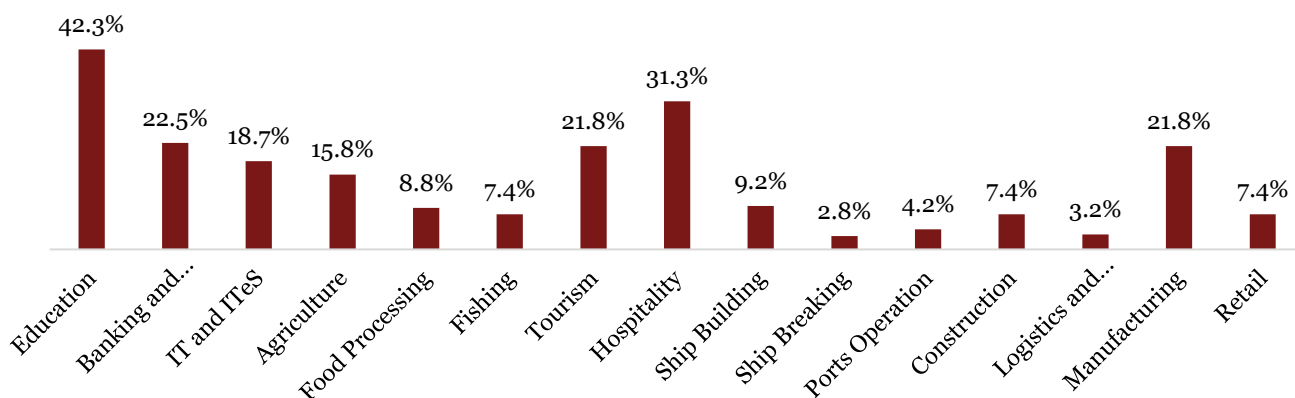
Further, Education (42.3%), Hospitality (31.3%), BFSI (22.5%), Tourism (21.8%) and Manufacturing (21.8%) have been identified as sectors in which the respondents feel that they are mostly likely to get a job which is in alignment with their considerable interest for a job in all three sectors. The details of other sectors are mentioned in (Figure 21: Sectors in which respondents' foresee getting a desired job (%) - South Andaman).

Out of the total respondents, 82% preferred to work in the same district. 11.3% expressed willingness to migrate to other Districts in the same state suggesting low

**Figure 22: Preferred work location of candidates - South Andaman**



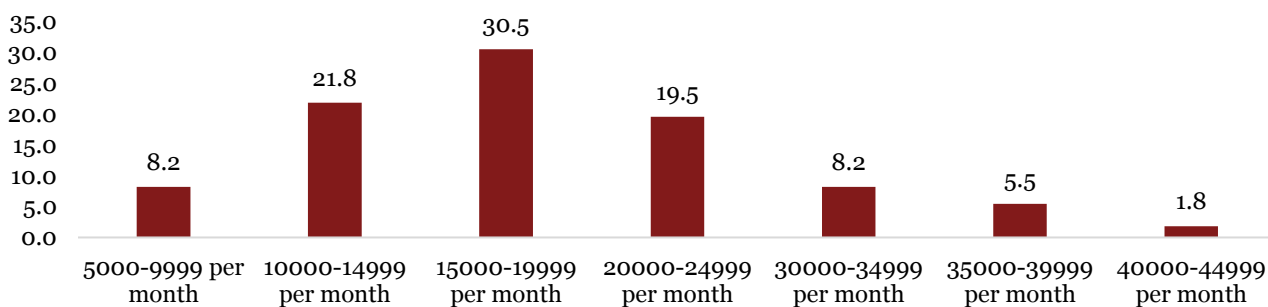
**Figure 21: Sectors in which respondents' foresee getting a desired job (%) - South Andaman**



flexibility among the youth of the District (Figure 22: Preferred work location of candidates - South Andaman)

A high proportion of the respondents' (30.5%) reported that their monthly salary expectation was in the range of INR 15000-19999. For 21.8% of respondents the expected salary is reported to be range in 10000-14999 per month. For 19.5% the salary expectation was around 20000-24999 per month. The mean salary expectation is thus around the 15000-1999 category which is higher than other districts. (Figure 23: Monthly salary expectation of respondents - South Andaman).

**Figure 23: Monthly salary expectation of respondents - South Andaman**

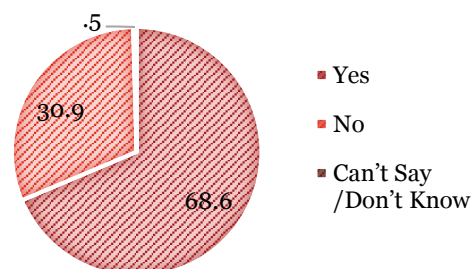


## Training Aspiration

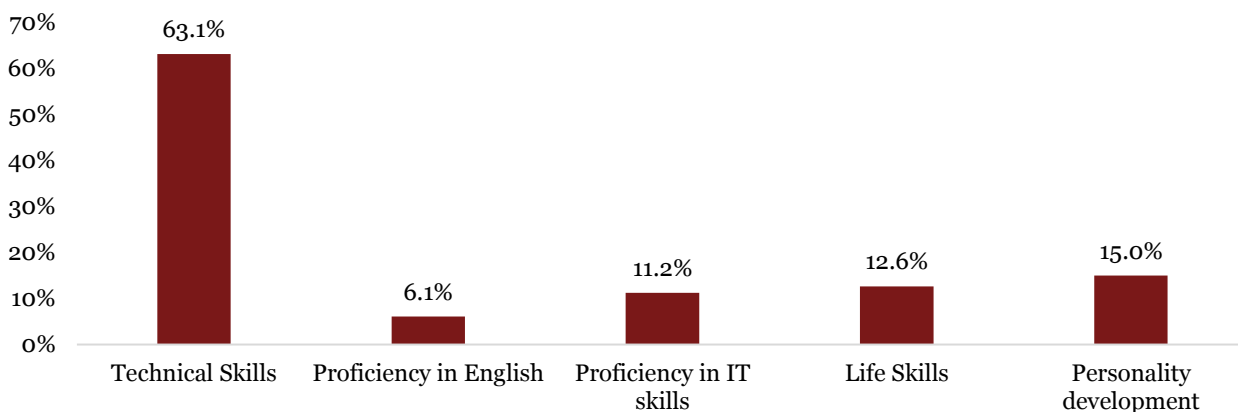
Regarding willingness of the respondents to participate in the training programme in next one year, more than two thirds expressed interest. (Figure 24: Willingness to participate in trainings (%) - South Andaman)

Further, when enquired about the key focus areas of skill training, 63.1% of respondents reported that emphasis must be laid on technical skills followed by personality development (15%) and life skills (12.6%) (Figure 25).

**Figure 24: Willingness to participate in trainings (%) - South Andaman**

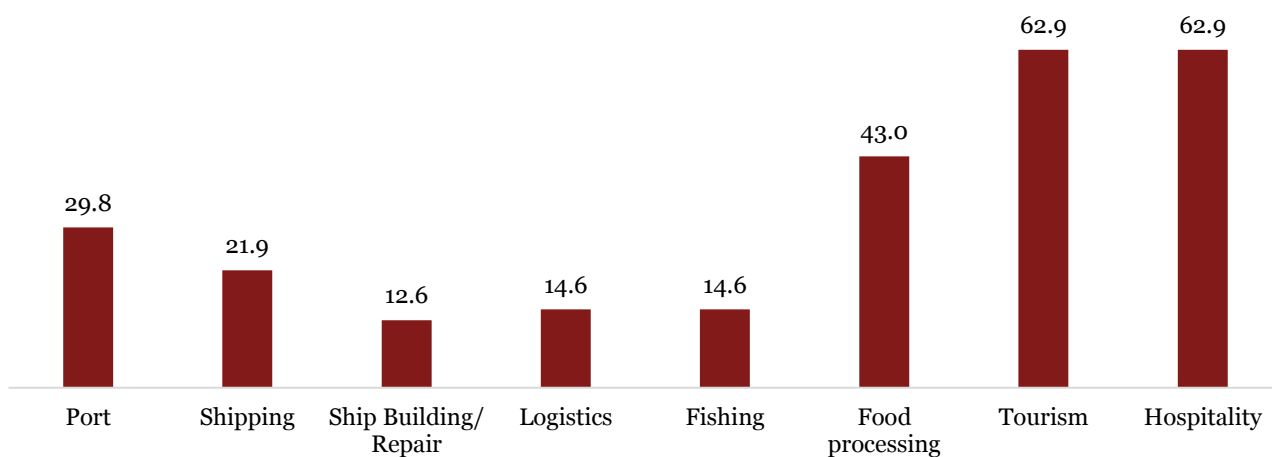


**Figure 25: Focus area on skills training - South Andaman**



Overall there is low acceptability for training in port (29.8%), shipping (21.9%), logistics and fishing (14.6%) and ship building (12.6%) show demand for the core sectors of this study. Hospitality, Tourism and Food Processing have been identified as more preferred sectors) (Figure 26).

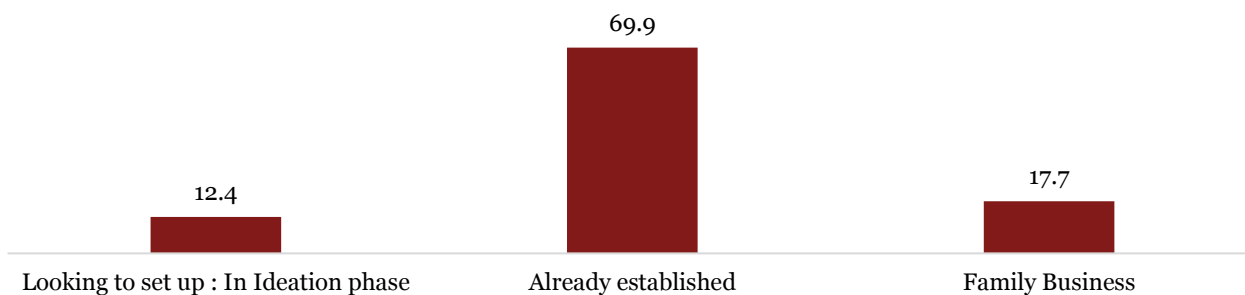
**Figure 26: Willingness of respondents to participate in trainings of different sectors -**



## Self-Employment

Regarding current status of the Entrepreneurial Venture of the respondents who are in self-employment, 12.4% were looking to set up a venture, 69.9% had already established businesses and only about 17.7% were in family business (Figure 27).

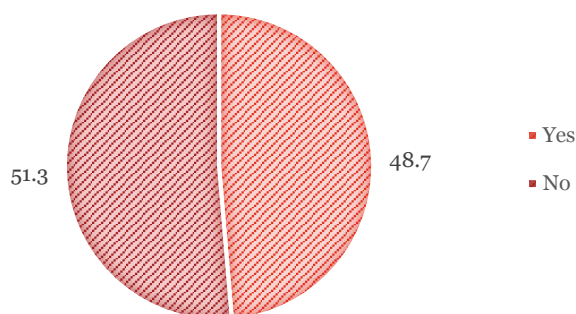
**Figure 27: Current Status of Entrepreneurial Venture (%) - South Andaman**



Further, 51.3% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 28).

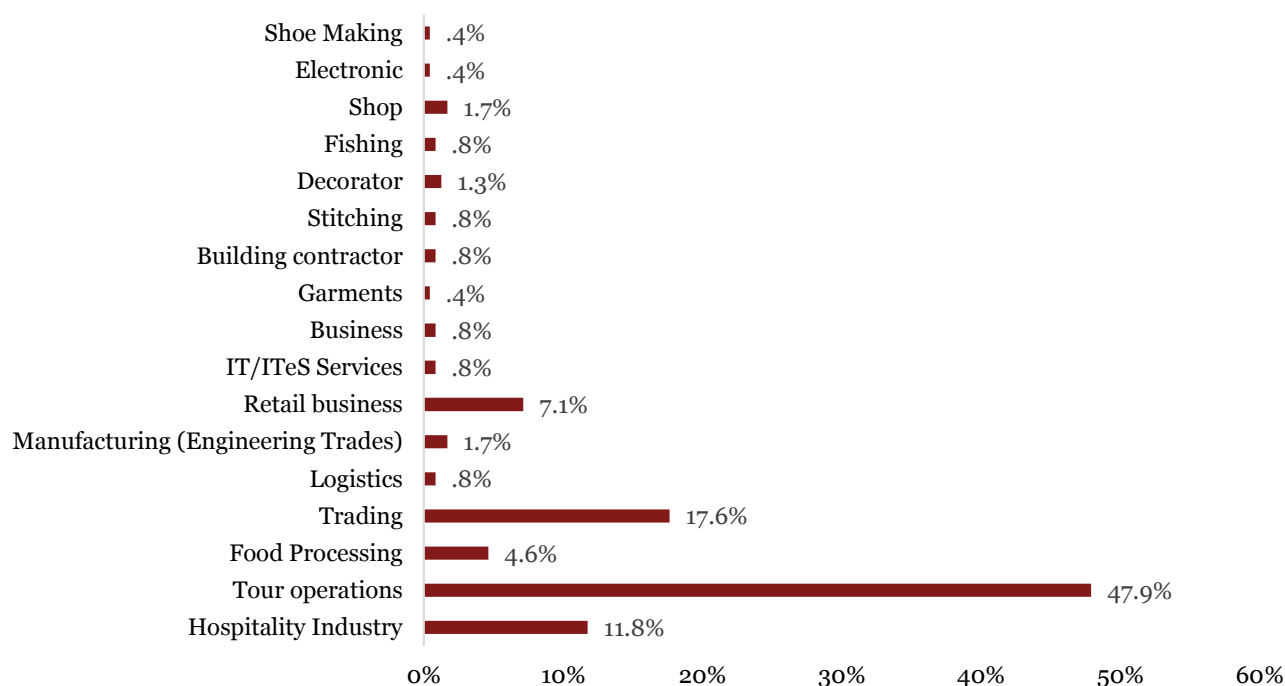
Tour Operations (47.9%), Trading (17.6%), retail (12%) and Hospital Industry (11.8%) emerge as the key sectors which the respondents want to set up ventures in. (Figure 29).

**Figure 28: Interested in skill development for enhancing entrepreneurial skills (%) - South Andaman**





**Figure 29: Sectors for establishing enterprise (%) - South Andaman**



## 1.7. Training Infrastructure

Type of training infrastructure	Total number of institutions	No of trades	Top 5 trades based on enrolment and seat capacity
ITI	1	11	Surveyor, Fitter, Draughtsman, Motor Mechanic, Construction and Woodwork
Polytechnic	1	11	Engineering: Electrical, Electronics & Communication, Civil, Information Technology Computer, Others: Food Production, Front Office Operation, Nautical Science, GP Rating
Training centers under PMKVY <sup>11</sup>	Not Allotted	Not Allotted	Not Allotted
PMKK	Not Allotted	Not Allotted	Not Allotted
DDU GKY	Not Allotted	Not Allotted	Not Allotted

The Training infrastructure in the District is dominated by the ITI and Polytechnic.

- **ITIs:** There is one ITI providing training in 15 different trades. However according to the Dept. of Training & Employment information of the sanctioned seats, there is an average of 65% placements across all trades.
- **Polytechnics:** Core engineering sectors like Civil, Electrical & Electronics, Electronics & Communication and Mechanical remain the most dominant trades. Though there exists infrastructure for port and maritime courses, the lack of due recognition from Directorate General of Shipping is preventing further increased demand. Currently these courses are taken from mainland.
- **PMKVY & PMKK, DDU-GKY:** There has been no allotment.

## 2. Skill Gap Assessment, Job Roles and Emerging Job Roles

### 2.1. Incremental Demand<sup>12</sup> for Skilled & Semi Skilled Manpower

The Andaman is experiencing a slump in industrial sectors like Manufacturing, Construction, etc. Most of the scope lies in the improved logistics and communication sectors which are set to receive a boost through the undersea optical fiber cable which will provide high speed internet, sea bridges connecting the North, Middle and South Andaman and the Sagarmala Initiatives opening up more Islands for tourism. Considering the unique nature of the Islands and their economy, the sectors have been clubbed together for estimation purposes.

**Table 2: Incremental Demand for Skilled & Semi Skilled Workers in South Andaman**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
Ports & Allied	35	37	40	43	47	50	252
Logistics & Communication	597	624	653	680	712	743	4,009
Tourism & Trade	226	233	241	248	256	264	1468
Construction	-98	-96	-96	-95	-95	-93	-573
<b>Other Dominant Sectors in the District</b>							
Public Administration and Other Services	626	639	653	666	680	695	3,959
Agriculture	-840	-613	-446	-323	-236	-173	-2,631
<b>TOTAL</b>							<b>6,484</b>

#### Key trends in Core Sectors

- **Ports and Allied Sectors:** The ports in the district are primarily used for inter-island travel and import of material from the Mainland. However plans are on the anvil to attract more cruise shipping activities in the port.
- **Logistics:** The undersea optical fiber cable which will provide high speed internet, sea bridges connecting the North, Middle and South Andaman will open up avenues for Telecommunication and Logistic Jobs.
- **Tourism & Trade:** A major tourist attraction, Andaman & Nicobar attracted more than 4 lakh tourists in FY2015-16, greater than its resident population of 3.8 Lakhs<sup>13</sup>. With increasing possibility of formalization, opening up of more islands for tourism, there can be an expected increase in the jobs in these sectors.
- **Construction:** Though infrastructure projects are in the anvil, there is a considerable downturn. Feedback from consultations attributed this to the slowdown of the frenetic activity in construction post Tsunami in 2004, which has now returned to normal levels.

<sup>12</sup> 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.

<sup>13</sup> Dept. of Tourism

- **Fisheries:** The promotion of sustainable fishing and deep sea fishing has considerable scope in the islands. However, the lack of incentives for mainland agencies to invest in fishing is holding the sector back.

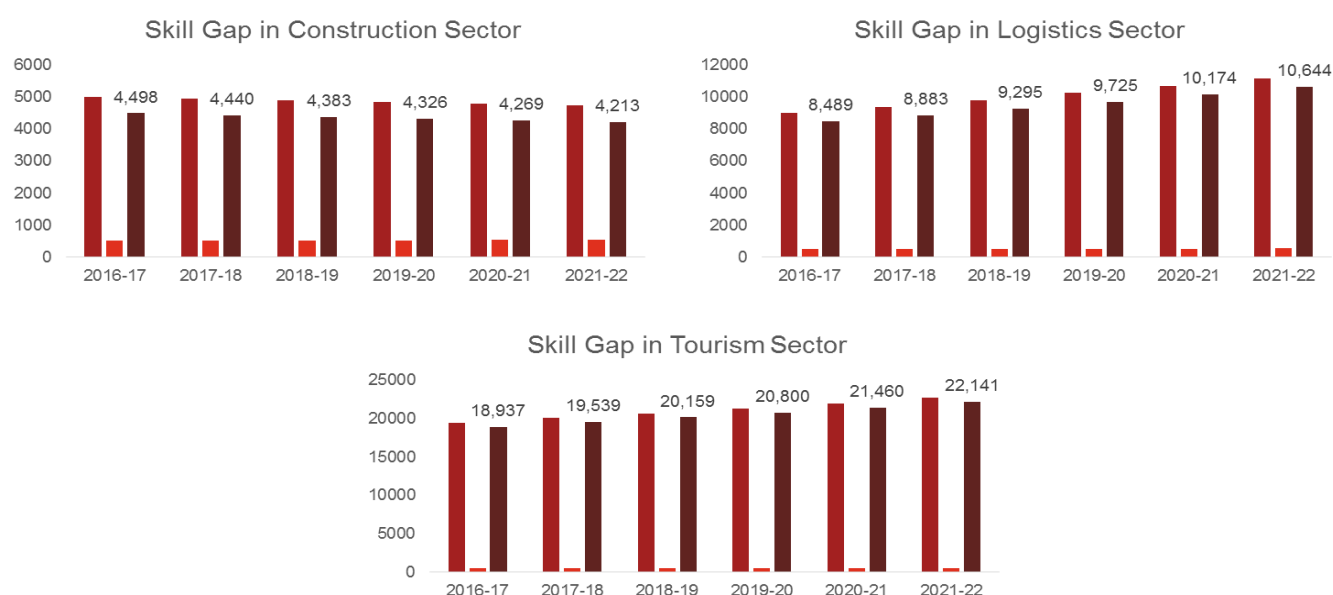
### *Key trends in other Dominant Sectors in the District*

- **Manufacturing & Industry:** South Andaman<sup>14</sup> is home to more than 80% of all industries in the islands. The industry is dominated by small scale establishments in carpentry, wood processing, engineering, etc. However restrictions on timber cutting and environmental issues have slowed down the industry.
- **Agriculture:** There is considerable stagnation in the sector and improving productivity and automation is resulting in job losses in the sector.
- **Public Administration and Other Services:** The Public Services is the largest sector in the GDP along with the Other Services category. The requirement for new services are likely to emerge with new age technology enabled through the undersea high speed optic fiber cable.

## **2.2. Gap between Total Demand<sup>15</sup> and Supply for Skilled workforce in Select Sectors**

The gap in the **existing total skilled workforce** connotes the gap between the total requirement of skilled manpower and workforce in the District with recognized trainings in the said sectors

**Figure 30: Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in South Andaman**



- **Construction Sector:** Though the sector is experiencing a slowdown, there is a shortage of skilled workforce.

<sup>14</sup> Directorate of Industries Data

<sup>15</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling

- **Logistics Sector:** Less than 1000 skilled workers are available to meet the **total requirement of skilled manpower** of 8000-10000 people. These are exacerbated by the limited options available for recognized trainings and certificates in the sector. In addition, the incremental requirement for workforce in the district is expected to increase the gap further by nearly a quarter.
- **Tourism and Hospitality:** Given the present trends of increased formalization and requirement of skilled workers in the sector, the gap between the **total requirement of skilled manpower** and **availability of workforce with recognized trainings** is set to increase by more than 3000 by 2022. The requirement for initiating new trainings and recognizing prior learning in the sector is thus a priority.

## 2.3. Job Roles High in Demand

This section captures the jobs that have been reported to be high in demand in South Andaman. The job roles that are listed below have been identified by the stakeholders. Across the sectors few job roles are susceptible to be impacted by technological disruptions and automation. The sub-sections below describe the job roles that are high in demand across the sectors.

### Ports and Maritime Sector

The sector has been seeing little activity because of the reason that the economy of Andaman is import oriented. All the food items and other items of daily use are imported but nothing is exported out of the island district. This makes shipping a costly affair for the operators since it increases the operational expense and makes cargo shipping unviable. Cargo ships operate only to meet the requirements of the local population. The main traffic at the ports are the jetties and inter island ships used to carry passenger traffic. Passenger ships operate intra-island and inter island. 79 vessels are being operated by DSS and 5 vessels are operated by private players. The port handled 17.57 lakh ton of cargo in 2016. 9760 vessels, 18.92 lakh passengers, 10 cruise and 45 yachts were handled by the port in 2016.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Port & Terminal operations	Findings
<ul style="list-style-type: none"> <li>• <b>Jetty in charge</b></li> <li>• <b>Surveyor</b></li> <li>• <b>Welder</b></li> <li>• <b>Mechanic</b></li> <li>• <b>Painter</b></li> <li>• <b>Electrician</b></li> <li>• <b>Gang man</b></li> </ul>	<ul style="list-style-type: none"> <li>• There is a requirement of jetty operators for operating the intra-island and inter-island jetties.</li> <li>• There is also requirement of ship building and ship repair activities. Currently, the ships are sent to Chennai or Cochin for repair activities.</li> <li>• In the ship repair activities, there is a requirement of job roles such as welder, electrician, painter, etc. Currently the quality of students coming out of ITI is not up to the mark.</li> </ul>

### Other Priority Sectors

The job roles that are high in demand in the sectors and have been identified within the priority sectors are listed in this sub-section. Like port and maritime sector, sectors such as logistics, construction, tourism & hospitality and fisheries have been identified as priority sectors for South Andaman district.

### Logistics

Within the logistics sector, the main demand is for truckers and lorry operators. Once the cargo arrives at the port, distribution of the material to wholesalers and retailers is done.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Logistics</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• <b>Surveyors</b></li> <li>• <b>Supervisors</b></li> <li>• <b>Truck Driver</b></li> <li>• <b>Helper</b></li> </ul>	<ul style="list-style-type: none"> <li>• Proposed investments in port and increased cargo traffic will require more skilled manpower in the logistics sector</li> <li>• Skills shortage for handling hazardous substances</li> <li>• Life skills training required for truckers</li> <li>• Increased use of ICT and automation in work processes will impact the manual jobs.</li> </ul>

### *Construction*

Construction sector is booming with a lot of construction being done in resorts, hotels and residential complexes. After the tsunami of 2004, the construction sector boomed since everything was demolished. This resulted in a huge manpower requirement for the next 5-6 years. With increasing urbanization and construction in port Blair and nearby islands, there is a deficiency in availability of resources in these sectors which is being fulfilled by construction workers from mainland.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Construction</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• <b>Mason</b></li> <li>• <b>Carpenter</b></li> <li>• <b>Bar bender</b></li> <li>• <b>Painter</b></li> <li>• <b>Plumber</b></li> </ul>	<ul style="list-style-type: none"> <li>• Demand increased after the 2004 tsunami</li> <li>• With increased urbanization, housing requirement and ban on timber cutting, the demand for construction has slowly and steadily been decreasing.</li> </ul>

### *Tourism & Hospitality*

Tourism sector is set to further develop on new areas of skill trainings via beach tourism, adventure sports, etc. With an increased influx of domestic and foreign tourists, the requirement of hotels, restaurants and tourism activity related people has been increasing.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Tourism</b>	<b>Findings</b>
<p><b>Tourism</b></p> <ul style="list-style-type: none"> <li>• Tourist guide</li> <li>• Auto driver</li> <li>• Beach tourism</li> <li>• Adventure sports coordinator</li> <li>• Tourism police</li> </ul> <p><b>Hospitality</b></p> <ul style="list-style-type: none"> <li>• Chef/Cruise ship chef</li> <li>• Housekeeping</li> <li>• Attendant</li> <li>• Housekeeping</li> </ul>	<ul style="list-style-type: none"> <li>• A promising sector with a lot of investment potential and skilled manpower requirement</li> <li>• Requirement of hospitality staff due to lot of influx of domestic and foreign tourists</li> <li>• Potential of trained manpower in the tourism sector with the coming up of beach tourism and adventure tourism related activities</li> </ul>

### *Fisheries*

Fishing is the primary source of economic activity for almost 10,322 fishermen from the South Andaman district. Currently fishing is being done in traditional ways. Deep sea fishing is proposed to be promoted in a planned manner which will require trained manpower to operate the DSFVs. The current fishermen also require training in safe fishing practices and efficient fishing techniques.

The matrix below captures the jobs roles that are high in demand:

<b>Job Roles: Fisheries</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• <b>Deep Sea Fisherman</b></li> <li>• <b>Fish handler</b></li> <li>• <b>Sorter</b></li> <li>• <b>Spotter</b></li> <li>• <b>Mechanic</b></li> <li>• <b>Captain/boat operator</b></li> </ul>	<ul style="list-style-type: none"> <li>• Potential for employment of fishermen on DSFVs</li> <li>• Export potential for produce if cold storage plants and other required infrastructure is provided on the islands.</li> <li>• Training of existing fishermen on safety and hygiene issues can result in greater catch</li> <li>• Significant potential to catch fish outside of the 12 nautical mile area</li> </ul>

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## ***3. District Action Plan***

### ***3.1. Background***

An actionable roadmap is one of the deliverables to be submitted to MoS for implementing skill training programmes in each of the districts. To develop these District specific plans, the team has mapped the emerging skilling opportunities across the 13 districts. Further, similar training opportunities or training requirements from the same sector have been clubbed in to one programme to ensure optimal use of resources and to build economies of scale for delivery partners. This has been proposed to improve the chances of developing and proposing feasible and viable training delivery models.

Further, the team has also estimated the broad capital and operational expenditure expected to be incurred in operationalizing the training initiatives in the districts. Apart from this, critical operational aspects such as training delivery mechanisms, availability of curriculum and employers have also been explored. The current status of these critical aspects will help ascertain the feasibility of initiating these trainings immediately and assess the gaps that need to be bridged before these training can be rolled out.

### ***3.2. Objective of developing the plan***

The District action plans have been developed with an overall objective of providing a step by step skill implementation plan to the Ministry of Shipping in the 21 coastal districts. The specific objectives include the following:

- Mapping various skilling opportunities available in the district, keeping in mind the requirements of Port led development and emergence of CEZs.
- Mapping the current status of various pre-requisites such as availability of qualifications, curriculum, funding for training, potential training delivery partners, availability of assessors and certification processes and institutions for the training programmes.
- Identify the potential/target beneficiaries for the training courses.
- Map the infrastructure and the investment that may be required to deliver the training programmes in the district.
- Provide an estimate of the investment required to create/hire the skilling infrastructure.
- Provide a step by step action plan for MoS to implement the skilling initiatives.

### ***3.3. Methodology***

Stakeholder consultations<sup>16</sup> were held at National, State and District level and included stakeholders from government, industries, associations, and private firms. A separate plan has been prepared for each of the 13 districts. The plan has been divided into several sections and includes sections on training delivery, potential partners and investments. The investments component has been divided into two broad heads: capital expenditure and operational expenditure. Capital expenditure has only been proposed in cases in which there were limited possibilities of using existing institutional framework for partnership and for using existing infrastructure and equipment. Operational expenditure includes the cost of running the training programmes including the salary of the instructors. The common cost norms inform the calculation of the operational expenditure. Capital expenditure has been worked out bearing in mind the infrastructure requirements of the programme and duration of training programmes. Wherever, feasible partnership with existing programmes such as DDU-GKY and PMKVY has been suggested in the plan.

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<sup>16</sup> Roughly 300 primary consultations inform the development of this plan

### 3.4. Summary of projects for South Andaman

Sl. No.	Project Name	Job Roles	Type of training	No. of people to be trained
1	Skill Development Training in Ship Building/Ship Repair	Painter, Blaster Mechanical/Steel Fitter, Electrician, Welder, Safety Officer, Safety supervisor Surveyor	Fresh Training/ Upskilling	1500 persons in 5 years
2	Training in Fisheries Sector	Fish handler, Sorter, Spotter Mechanic, Captain/boat operator	Fresh Training Upskilling	1000 persons in 5 years 1250 persons in 5 years
3	Skill Development Training in Tourism & Hospitality Sector (Beach Tourism)	Chef/Cruise ship chef Attendant, Housekeeping Cleaning gang/staff Boat/Jetty Operator Lifeguard Tourist Guides	Fresh Training / Upskilling	500 persons in 5 years 500 persons in 5 years



### 3.5. Action Plan for South Andaman

Project 1: Skill Development Training in Shipping					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Presence of 4 mainland island vessels, 6 inter island vessels, 4 cargo vessels, 17 foreshore ferries, 27 vehicle ferries (operated within harbour limit), 6 motor launch vessels, 2 water barge vessels and 13 other vessels</li> <li>• Current ship repair facilities present on the island are inadequate and only cater to small ships.</li> <li>• No certification possible for locals in the Island for offshore jobs.</li> <li>• 76 Cr investment being done for a dry dock facility</li> <li>• Huge investment in sending ships to mainland or nearby countries for repair activities</li> </ul>			
<b>Rationale for the project</b>		<p>Currently the ship repair facilities present on the islands are inadequate. The ones which are present can only cater to small ships/boats. This is one of the main reasons why fishing is not being taken up in the area and the vessels do not operate from the island.</p> <p>It has been proposed that there is a requirement of a ship repair facility in South Andaman which will cater to the jetties/boats/ships operating from Port Blair. The quality of manpower currently being present is substandard and skilled manpower is brought from mainland for any kind of ship repair activity that needs to be done on the island.</p> <p>There is increased demand for courses in the maritime sector as identified by the Dept. of Training. Diploma program at D-BRAIT Polytechnic is yet to be recognized by DG-Shipping. Deckhands, pilots would be required in considerable numbers once new Islands are opened up for tourism. Opportunities exist in the mainland and other countries too.</p> <p>With strengthening of the port infrastructure and creation of a ship building/repair activity, there would be a requirement of trained and skilled manpower in the sector</p>			
Job roles in demand		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		<ul style="list-style-type: none"> <li>• Welder</li> <li>• Mechanic</li> <li>• Painter</li> <li>• Electrician</li> </ul>	• Local youth	Fresh Training	1,200 persons in 5 years
		• Deckhands	• Higher Secondary	Fresh Training	200 persons in 5 years
		• Pilots	• Graduates	Fresh Training	100 persons in 5 Years
Availability of curriculum	Job roles	Target Group	Available QP/NOS	MES	CTS
	Welder, mechanic, painter, electrician	Local youth	<ul style="list-style-type: none"> <li>• Repair welder</li> <li>• Repair painter</li> <li>• Mechanical fitter</li> </ul>	<ul style="list-style-type: none"> <li>• Welder (repair and maintenance)</li> <li>• Metal surface painter</li> <li>• Basic marine mechanic</li> </ul>	<ul style="list-style-type: none"> <li>• Welder (Fabrication &amp; Fitting)</li> </ul>
	Pilot / Captain	• Local Youth	• QP does not exist	No course available	No course available
	Deck Hands	• Local Youth	• QP does not exist	No course available	No course available

<b>Investment (INR In lakhs)</b>	<b>Ship repair</b>	
	Operational Expenditure	183
	<b>Deck hands</b>	
	Operational Expenditure	30
	<b>Pilot</b>	
	Operational Expenditure	15
<b>Total Expenditure</b>		228
<b>Potential Partners</b>	<b>Partner</b>	<b>Areas of Support</b>
	Ministry of Shipping	• Training centre infrastructure cost and setup
	Local industry player	• On the job training support
	ITI	• Training delivery
	Strategic Manufacturing Sector Skill Council	• Course curriculum development • Trainer certification
	Port Management Board / DG Shipping	• Recognition of Trainings
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>Port Management Board will be the nodal agency for the implementation of the project</li> <li>Strategic manufacturing SSC will be required to prepare and provide the course curriculum.</li> <li>DG Shipping to provide recognition.</li> <li>The training centre will be setup in ITI or Polytechnic and the infrastructure setup cost will be borne by MoS</li> <li>On the job training will be provided to the trainees on ships that come for repair work on the port</li> </ul>	

### Work Plan

<b>Handicraft</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Training centre setup						
Course curriculum preparation						
Onboarding of training partner for training delivery						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out training programme						

<b>Project 2: Training in Fisheries Sector</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>Fishing is a primary source of economic activity for around 10322 fishermen in South Andaman district<sup>17</sup></li> <li>Availability of huge fish catch in and around the island district.</li> <li>Proposed plan by the Fisheries department to promote Deep Sea Fishing</li> <li>Proposed establishment of two DSF harbours preferably one each at Port Blair and Campbell Bay</li> <li>Proposed facilities for direct export from A&amp;N Islands including the establishment of Export Inspection Agency (EIA) and Customs.</li> </ul>
<b>Rationale</b>	South Andaman has a total population of 10322 fishermen. There are 428 traditional boats, 570 motorized boats and 78 mechanized boats in the district. Photo ID cards have been issued to 2873 fishermen. Currently the

<sup>17</sup> Marine Fisheries Census 2010

		<p>fishing activities being carried out in South Andaman as well as the entire A&amp;N Islands is traditional in nature. It has been estimated<sup>18</sup> that the annual potential yield of fishes in this region is 1.48 lakh tons whereas the current harvest is about 37,000 tons per annum from the territorial waters. The current low levels of catch are primarily due to lack of fishing capacity, negligible skilled manpower, low levels of entrepreneurship, lack of modern technology, inadequate deep sea fishing vessels, no boat/ship building yards, lack of readily available market, lack of large processing units and lack of supporting infrastructure.</p> <p>It has also been noticed that the local fishermen fish within the prescribed 12 nautical miles territory whereas bigger vessels with LoP catch and export the fishes and do not report the same. In order to increase the knowledge amongst the local fishermen community, their upskilling/training in proper fishing practices is required which can be achieved through RPL program.</p> <p>The Fisheries department has also proposed to promote DSF in the area wherein deep sea fishing liners will be used so that the coral belt is not exploited and the fishermen are able to go deep into the sea to catch fish. Increase of DSFVs will also result in requirement of trained manpower which can cater to the fishing requirement and work on these vessels.</p>			
Trainings		Training courses	Target Beneficiaries	Type of Trainings	Total Number of beneficiaries
		Deep sea fishing and navigation	<ul style="list-style-type: none"><li>Fishermen community</li><li>Local youth</li></ul>	Fresh Training	1000 persons in 5 years
		RPL Training for fishermen and crew members	<ul style="list-style-type: none"><li>Fishermen community</li></ul>	Upskilling	1250 persons in 5 years
Availability of curriculum	Job Roles	Target Groups	QP/NOS	MES	CTS
	<ul style="list-style-type: none"><li>Sorters, spotters, Mechanics, fish handlers, captain/boat operators</li></ul>	<ul style="list-style-type: none"><li>Fishermen community</li><li>Local youth</li></ul>	Fishing Boat Mechanic, Marine Capture Fisherman	Not Available	Not Available
	<ul style="list-style-type: none"><li>Fish handling and marketing, safety and hygiene</li></ul>	Fisherman Community	Not Available	Not Available	Not Available
Investment (INR In lakhs)		Training for Fishermen			
		Capital Expenditure		10	
		Operational Expenditure		228	
		Total Expenditure		238	
Potential Partners		Partner		Areas of Support	
		Department of Fisheries, Private industry players willing to invest in DSFVs		<ul style="list-style-type: none"><li>Source of funding</li><li>Provide infrastructure for training</li></ul>	
		CIFNET, MPEDA and Fisherman Co-operatives		<ul style="list-style-type: none"><li>Training delivery</li><li>Provide faculty members</li></ul>	

<sup>18</sup> Fishery survey of India

		<ul style="list-style-type: none"> <li>Integrate the proposed trainings in its training plan</li> </ul>
	CMFRI	<ul style="list-style-type: none"> <li>Input for designing the curriculum</li> <li>Guest faculty</li> </ul>
	Agriculture Sector Skill Council	<ul style="list-style-type: none"> <li>Develop model training programmes for the identified Job Roles</li> <li>Identification and certification of Trainers</li> <li>Identification and certification of assessors</li> <li>Assessment of trainees</li> <li>Certification of Trainees</li> </ul>
<b>Training Delivery</b>		<ul style="list-style-type: none"> <li>Department of Fisheries to be the nodal agency for implementation of the project</li> <li>Training centre setup to be done by Dept. of Fisheries from funds of Ministry of Agriculture or Ministry of Shipping</li> <li>DSFV equipment and on the job training can be provided by industry players in South Andaman who are willing to operate these vessels.</li> <li>Training delivery to be provided by Master Trainers certified from Agriculture SSC</li> <li>Agriculture Sector Skill Council could certify the training programmes</li> </ul>

### Work Plan

<b>Fisheries</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Training centre setup and establishment						
Collaboration and MoU with local industry players						
Preparation of course curriculum						
Trainer certification and availability						
Mobilization of prospective trainees (fishermen and local youth)						
Enrolment of trainees						
Purchase of consumables						
Roll-out of centre and training programme						

<b>Project 3: Skill Development Training in Tourism and Hospitality Sector (Beach Tourism)</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>A&amp;N Islands saw a tourist footfall of around 284,552 domestic tourists and 15,466 international tourists in 2016<sup>19</sup>.</li> <li>Although the tourist season is round the year but the majority of tourists visit the islands from October – March</li> <li>Proposed creation, maintenance of tourism accommodation, infrastructure and destination worth Rs. 10 Cr</li> <li>Proposed tourism promotional activities worth Rs. 1.53 Cr</li> <li>Approval of Swadesh Darshan scheme worth 42.18 Cr. The scheme would include upgradation of facilities at cellular jail, beach safety measures, beach amenities, eco-friendly tourist transport, scuba diving centre, signage and illumination of Andaman club.</li> </ul>
<b>Rationale</b>	A&N Islands are a very popular tourist destination. Both domestic and international tourists visit the islands and the season is all through the year

<sup>19</sup> Data from Immigration authorities of Port Blair

		<p>with most of the tourists visiting between October - march. Trade and tourism accounts for 11% of the GSDP.</p> <p>Tourism is one of the major growth drivers of A&amp;N Islands and provides employment to a large section of the workforce, both directly and indirectly. With over 100 private hotels in Port Blair, 5 govt. guest houses outside port Blair and 17 private accommodations outside port Blair there is a huge requirement for trained manpower in the hospitality sector<sup>20</sup>. Currently, because of shortage of manpower in the hospitality sector, people from other parts of the country come to Andaman for work. Apart from this there are around 100 private accommodations in Neil and Havelock islands. With the growing influx of both domestic and international tourists, the expectation in terms of the service being provided has been increasing. Thus, there is a dire need to have skilled manpower in the hospitality sector.</p> <p>The tourism department also has plans for setting up a scuba diving centre and creation of beach facilities on the nearby islands which are popular amongst the tourists. A lot of inter-island ferries and jetties operate carrying tourist passengers. Around 79 govt. jetties and 5 private ships operate in Andaman. Jetty operators, cleaning staff, chefs, and cruise ship chefs are a few main job roles in which there is a demand for trained workforce. Currently, this demand is met from both the local Andamanese people and workers who come from mainland. The workers sourced from mainland are expensive since their travel, food and accommodation also needs to be arranged by the employer and so industry players are more receptive towards recruiting local trained people.</p>			
<b>Trainings in high demand</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		<ul style="list-style-type: none"> <li>Chef/Cruise ship chef</li> <li>Attendant</li> <li>Housekeeping</li> </ul>	<ul style="list-style-type: none"> <li>Current workforce</li> <li>Local youth</li> </ul>	Fresh Training	300 persons in 5 years
				Upskilling	200 persons in 5 years
		<ul style="list-style-type: none"> <li>Cleaning gang/staff</li> <li>Boat/Jetty Operator</li> <li>Lifeguard</li> <li>Adventure sports</li> </ul>	<ul style="list-style-type: none"> <li>Current workforce</li> <li>Local youth</li> </ul>	Fresh Training	300 persons in 5 years
				Upskilling	200 persons in 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target Group</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Chef/Cruise ship chef, attendant, housekeeping	<ul style="list-style-type: none"> <li>Current workforce</li> <li>Local youth</li> </ul>	<ul style="list-style-type: none"> <li>Trainee Chef</li> <li>Commis Chef</li> <li>Tandoor Chef</li> <li>Sous chef</li> <li>Housekeeping attendant</li> <li>Room attendant</li> </ul>	No course available	No course available
	Cleaning gang/staff, boat/jetty	<ul style="list-style-type: none"> <li>Current workforce</li> <li>Local youth</li> </ul>	<ul style="list-style-type: none"> <li>Boat jetty in charge</li> </ul>	No course available	No course available

<sup>20</sup> Dept. of Tourism, Govt. of Andaman & Nicobar Islands

	operator, Lifeguards, adventure sports		<ul style="list-style-type: none"><li>Life guard – pool and beach</li></ul>		
<b>Investment (INR In lakhs)</b>		<b>Training in Tourism and Hospitality</b>			
		Capital Expenditure		0	
		Operational Expenditure		58	
		<b>Total Expenditure</b>		58	
<b>Potential Partners</b>		<b>Partner</b>		<b>Areas of Support</b>	
		TSP		<ul style="list-style-type: none"><li>Space and infrastructure for establishing training centre</li><li>Training delivery/training facility</li></ul>	
		Hotel Management Institutes (HMIs)		<ul style="list-style-type: none"><li>Input for designing curriculum</li><li>Guest faculty</li></ul>	
		Industry Association (Hotel)		<ul style="list-style-type: none"><li>Facilitate On-Job-Training</li><li>Facilitate placements</li></ul>	
		Travel and Hospitality Sector Skill Council (THSSC)		<ul style="list-style-type: none"><li>Development of QPs for the identified job roles</li><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>	
<b>Training Delivery</b>		<ul style="list-style-type: none"><li>Dept. of Tourism will be the nodal agency for implementation of the project</li><li>Training centre can be established by the private training partner</li><li>On the job training can be provided on jetties in collaboration with Directorate of Shipping Services.</li><li>Local industry participation for on the job training delivery and placements</li></ul>			

### Work Plan

Tourism and Hospitality (Beach tourism)	in Months					
	1	2	3	4	5	6
TSP empanelment						
Course curriculum preparation						
Mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of centre and training programme						

# Appendix A. - Consultations

## A.1. Union Territory level consultations- South Andaman

Sl. No.	Stakeholder	Person	E-mail	Cell/Phone
1	District Collector	Shri. Udit Prakash Rai (IAS)	dcand@and.nic.in	03192-233089,245444(F)
2	Dept. of Labour Employment and Training	Madhu Sudhan Baidya, Labour Commissioner, & Director Employment and Training	lcdet@and.nic.in	9434270182
3	ITI- Dollygunj	Venketesh.Ch, Principal	Venketesh_ch@rediffmail.com	09434262620
4	D-BRAIT – Polytechnic/ Enginering College	Arun Shrivastav, HoD Electrical (Principal In charge)	arun_shrivastava_2001@yahoo.com	09434288234
5	Dept.of Industries	Ajit Anand, Director of Industries	dirind@and.nic.in	03192-200548
6	Dept. of Industries	Industrial Promotion Officer - Training	Indpb.trgcell@gmail.com	
7	Dept. of Industries	Abdul Haneef, Industrial Promotion Officer		099320989915
8	Directorate of Economics and Statistics	Gaurang Mishra, Director,	dires.and@nic.in	03192-232476
9	Directorate of Tourism	Amit Anand, Director,	thedirectortourism@gmail.com	03192-232747
10	Directorate of Tourism	Sunil Haldare, Senior Investigator	tourismplanning2013@gmail.com	09434262752
11	Directorate of Tourism	Anil Kumar, Asst. Manager	andamantourismsaba@gmail.com	09434290456
12	Port Blair Municipal Corporation			
13	Port Management Board	HS Pabla, Assistant Engineer (P&S)		9434260280
14	Seashell Hotel	Girish Arora, Managing Partner	arorapb@gmail.com	09434280295
15	Andaman Chamber of Commerce and Industry	C.V Verghese, Executive Secretary	cvvarghese@gmail.com	09474213349
16	Dept. of Fisheries	D. Jagadeesan, Fisheries Inspector		
17	VP Operations, TCI Seaways	Pradeep Kumar Kaushik	pk.kaushik@tciseaways.com	9434285644
18	TSG Aqua / Emerald View Hotel / Automobiles	G. Bhaskar	tsgbh@rediffmail.com	9933244404, 09434281560
19	Agriculture/Food Processing	Mr. Shyamal Chowdhary	Kunalsales3060@gmail.com	9434281046

20	Chief Port Administrator	Dr. R.D. Tripathi	rdt1232001@yahoo.com	03192-232773 /9013105254/99580663691
21	Cruise Operations	Md. Jadvet		9932080315, 09434280314
22	Wood Industries	Mr. Verghese	Varghese.kvpbl@yahoo.com	9434280758
23	Fisheries Dept.	Mr. Mohammad Tahlil (Asst. Dir)	Dirfish.and@nic.in	03192-240095
24	Fisheries Dept.	Mr. Chandrashekhar	Dirfish.and@nic.in	03192-240095
25	Hotel, The Royal Palace	Mr. Venkat		03192230999, 9434269999
26	Directorate of Shipping Services	Mr. Veeriah, Deputy Director of Shipping	Ddss.and@nic.in	03192-232725
27	Fairmacs Shipping &Transport	Janardhan Uprethi	janardhan@fairmacs.com	09932081841



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## *Section 13: Lakshadweep*

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# 1. District Profile

## 1.1. About Lakshadweep

Lakshadweep, an archipelago of 36 small islands located 220-440 kilometres off the Malabar Coast, is the tiniest Union Territory of India with just 32 square kilometres in area and a population of about 64 thousand. The population of Lakshadweep experienced a decadal growth of 6.13% during the period of 2001-2011. The demography of Lakshadweep exhibits some unique and significant features. For instance, the population density of the Union Territory is 2,013 per square kilometre which is much higher than the average of India (382 per square kilometre) and its gender ratio at 946 females per 1000 males is skewed but better than the national average of 940 females per 1000 males. Muslims constitute the largest religious community with 97% population of Lakshadweep. The entire indigenous population of this island territory has been classified as Schedule Tribe and constitutes 94.8% of the island population. The literacy rate at 82% is significantly better than the national average of 74%<sup>1</sup>.

### *Agriculture and allied sector*

Agriculture, along with fisheries, is the most widely prevalent economic activity in the territory. Coconut is the main crop in all the islands of Lakshadweep and has been grown for centuries. The total harvest of coconut varies year to year, and stood at 2,05,000 metric ton coconuts in 2014-15<sup>2</sup>. Even though it is a small region and has only 2,570 hectare land for harvesting coconut, its production of 27,591 per hectare is significantly higher than the national average of 10,345 coconuts per hectare<sup>3</sup>. Other farm produces include fruits, vegetables, tuber crops, jaggery and vinegar<sup>4</sup>. Animal husbandry in Lakshadweep mainly consists of poultry and goat rearing. In addition to being subsidiary economic activity, this also provides useful by-products for preparation of organic manure. As per the data available with the Department of Planning and Statistics, the number of cattle was 4, 347, goats 46,497, and poultry 1, 38,444 in 2013-14 and the total production of milk and eggs by government and private sector in Lakshadweep was 2795.66 thousand liters and 99.41 lakhs respectively<sup>5</sup>.

### *Port and Maritime Sector*

Lakshadweep islands are separated by deep sea and lie at an average distance of 60 kms to 300 kms which makes shipping the only source of connectivity between the islands. Given that traditional occupation of the population is fishing and coconut cultivation, all food items (rice, wheat, pulses, vegetables etc.) and essential commodities (diesel for electricity generation, clothing, building materials etc.) are transported from the mainland. The present Port facilities in various islands include jetties with lengths varying from 60m to 260 m

### *Fisheries*

Marine fisheries is one the core activities in Lakshadweep. The number of fishermen (active and allied) engaged in this sector is 14,309, which is roughly 22% of the total population in 2013-14. The number of fishermen engaged in this sector has increased from 6, 710 in 2004-5 to 14, 309 in 2013-14, an increment of 113% during the period. Of the total fishermen engaged in 2013-14, only 5, 841, which is 41% of the total fishermen, are full time active fishermen; remaining 59% are part-time fishermen engaged in fishing and allied activities. Total fish catch ranges from 11 to 15 thousand tonnes annually, with 10,512 tonnes valued at INR 21.02 crore in 2004-05 and 15,611 tonnes valued at INR 14.83 crore in 2013-14. Tuna fish constituted 86% of the total fish catch in 2013-14.

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<sup>1</sup> (Census of India , 2011)

<sup>2</sup> (6th Economic Census of Lakshadweep, 2013-14)

<sup>3</sup> (htt)

<sup>4</sup> (6th Economic Census of Lakshadweep, 2013-14)

<sup>5</sup> (Basic Statistics of Lakshadweep , 2013-14)

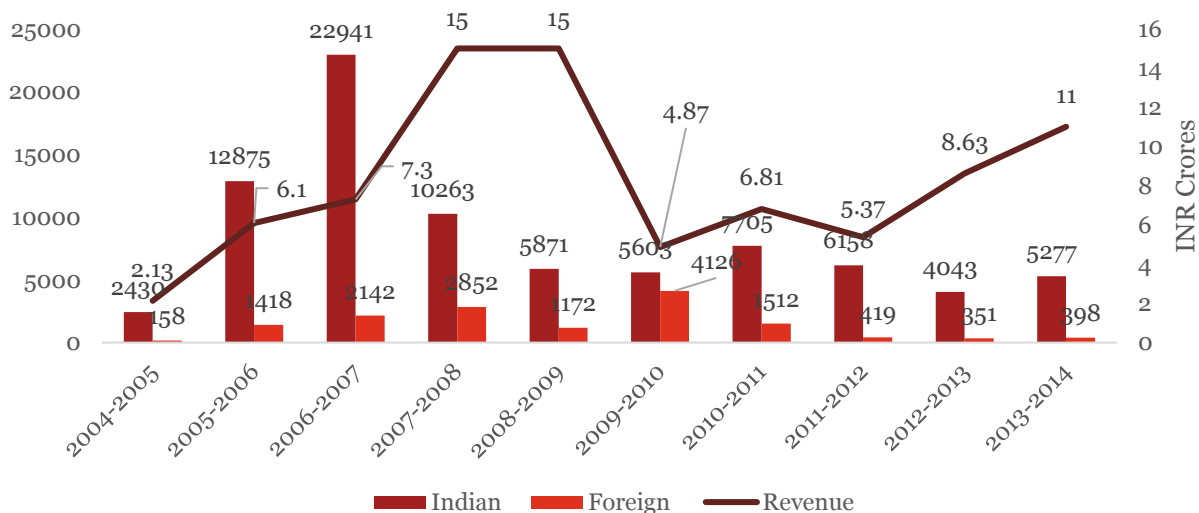
## Industries

Industry activity in Lakshadweep revolves around coir and fish. The ecological and environment consideration prevent the setting up of large industries units in these islands as done for the mainland States. The strategy for the industrialization of Lakshadweep will have to focus on fisheries and agro-based units of medium and small scales. There are 43 government industrial units and 220 private industrial units are in Lakshadweep; all the units in the private sector are micro and small scale, dealing with coir, fish, agro-based, furniture, and various support activities. In the government sector, there are 7 fiber factory, 6 coir yarn production center, 9 printing press, 2 Tuna canning factory and 2 boat building yards, etc. The level of industrial development in Lakshadweep remains modest. The Union Territory of Lakshadweep (UTLA) faces many infrastructural challenges, which blocks its industrialization; however, certain industries have been identified to have scope for development in the islands. These are mainly based on the local resources such as agriculture and marine potential. According to 6<sup>th</sup> Economic Census<sup>6</sup> of Lakshadweep, 10,453 people are engaged in 3,404 establishment<sup>7</sup> located in the geographical boundaries of Lakshadweep, of which 22% are working in rural areas while remaining 78% are working in urban areas. Of these 10,453 workers, 44% are engaged in agricultural activities, which includes agricultural activities other than the crop production and plantation, livestock, fishing and aqua culture, while 56% are engaged in non-agriculture activities. The non-agriculture activities mainly comprise manufacturing, retail trade, transportation and storage, accommodation food services sectors.

## Tourism

The tourism sector has good potential for not only creating employment but also earning foreign exchange. In Lakshadweep, nature is at its pristine best. Lakshadweep is home to many rare species of marine life and it is perhaps the biggest underwater zoo in the world<sup>8</sup>. Sea water is calm and ideal for water sports such as diving, snorkeling, windsurfing, parasailing, etc. Even though the beauty and peace of these islands make Lakshadweep a heaven for tourist, yet, the restriction imposed on entry of visitors and the remoteness of islands from the mainland coupled with inadequate means of communication, have led to only modest level of tourism related activity for the economy of the territory. The total tourist arrival in Lakshadweep has remained between 4000 and 8000 during the period 2009-10 to 2013-14. As indicated in the figure, majority of the tourists are domestic tourists except for the year 2009-10. The revenue earned from tourism has dropped from INR 15 Crore in 2008-09 to INR 4.87 Crore in 2009-10. However, it has started increasing from 2011-12 and stood at INR 11 crore in 2013-14.

**Figure 1 : Tourist arrival and revenue earned in Lakshadweep**



<sup>6</sup> All economic activities- agricultural and non-agricultural, except those involved in crop production and plantation, public administration, Defence and compulsory social security, related to production and/or distribution of goods and/or services were covered.

<sup>7</sup> The establishment is a unit situated in a single location in which predominantly one kind of economic activity is carried out such that at least a part of the goods and/or service produced by the unit goes for sale ( i.e. Entire produce is not for sole consumption).

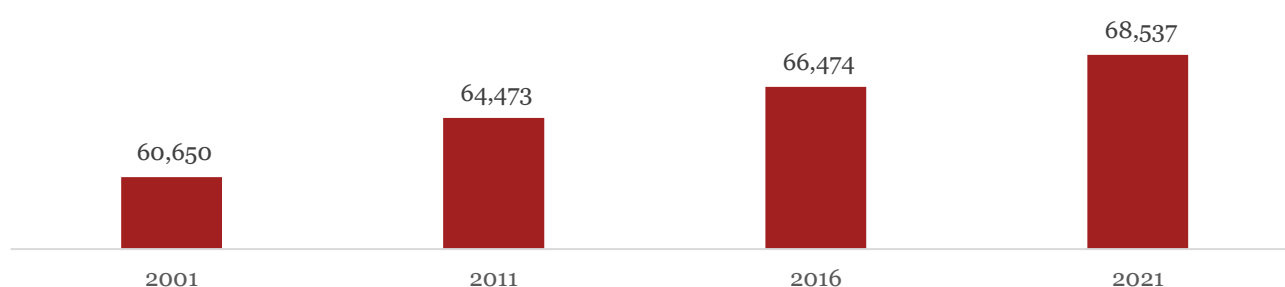
<sup>8</sup> (State Development Report, 2007)

### 1.1.1. Demographic Profile

Indicator	Value
Total population	64,473
Decadal rate of growth of population (2001-11)	6.13%
Rural population	14,141
Female	31,350
SC population	0
ST population	61,120
Workforce participation	29%
Main Workers (As % of total population)	17%
Marginal (As % of total population)	12%
Non-workers (As % of total population)	71%
Number of people with vocational training in the age group of 15+ <sup>9</sup>	11.4%

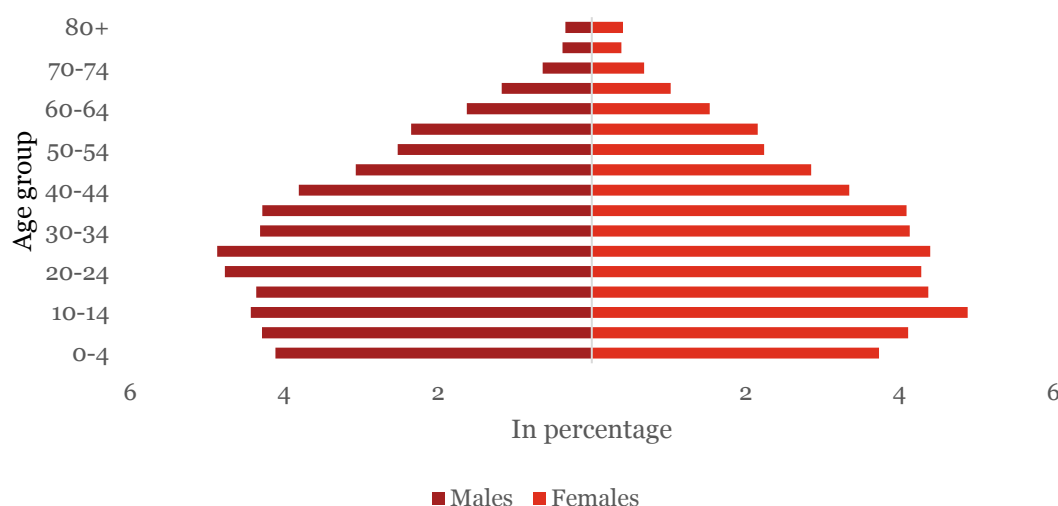
#### Population trends<sup>10</sup>

**Figure 2: Population trend in Lakshadweep (2001-2011)**



Lakshadweep had experienced a decadal growth of just 6.13% in its population during the period of 2001-2011. With this decadal growth rate, the population of Lakshadweep is projected to be 68,000 in 2021 as shown in Figure 2. As indicated in population pyramid based on Census 2011 data (Figure 3), a significant 18% of the total population was in the age group 10-19 years. Majority of this age group is expected to enter workforce by 2016 and will be in need of market relevant skills in order to get gainful employment.

**Figure 3: Population pyramid for Lakshadweep (2011)**

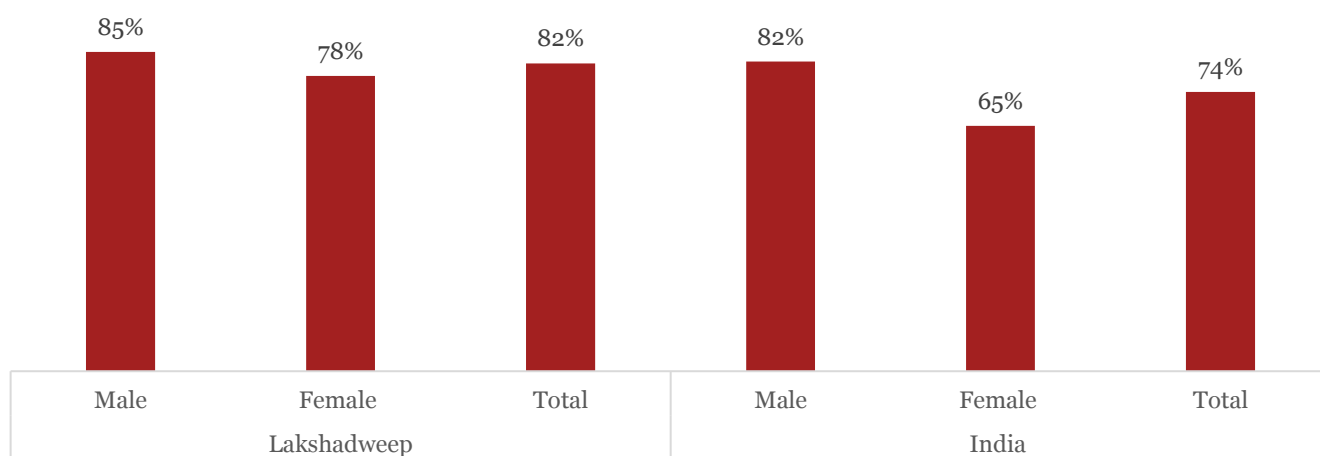


<sup>9</sup> Report on Education Skill Development and Labor Force, 2015-16, Ministry of labor & employment

<sup>10</sup> (Census of India, 2001 and 2011), PwC Analysis

## Literacy rates

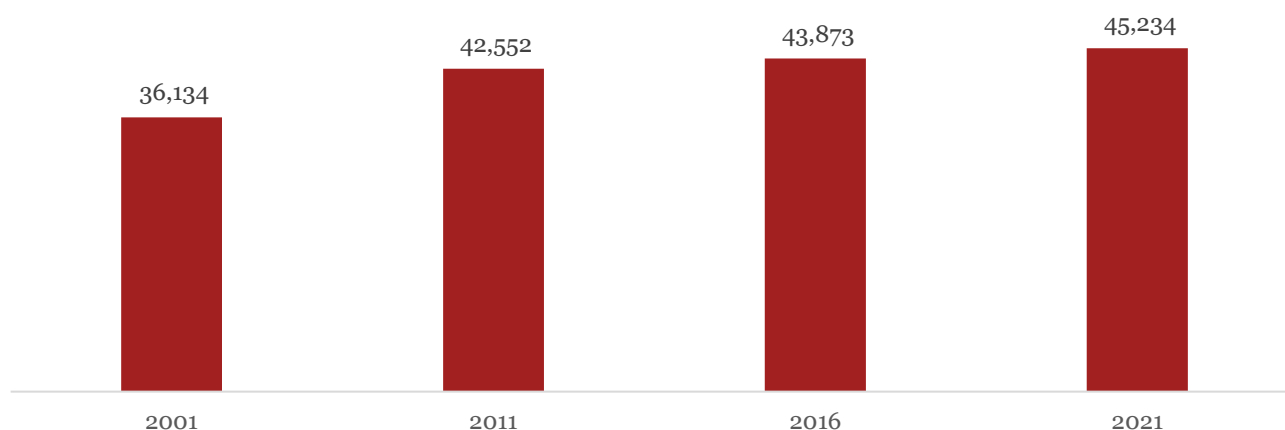
Figure 4: Lakshadweep vs India Literacy Rate (2011)



As per Census 2011, total literacy rate of Lakshadweep stands at 82% as compared to the national average of 74%, shown in Figure 4. This trend is consistent across gender with male and female literacy rates in Lakshadweep are significantly higher than the national level.

## Age specific population trends and education level for 2011<sup>11</sup>

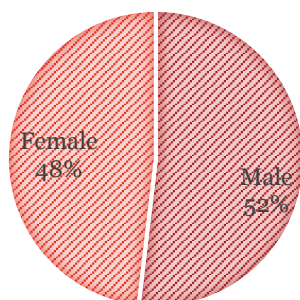
Figure 5: Growth trend of population in age group 15-59 years in Lakshadweep (2001-2021)



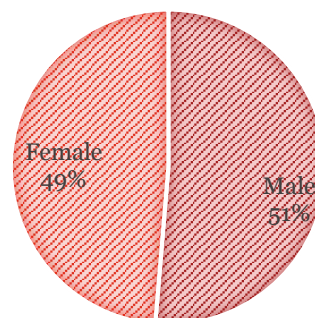
According to the Census 2011, about 66% of the population of Lakshadweep was in the age group 15-59 years. Assuming that the share of this age group remains constant, the population in this age group is estimated to grow to 43, 873 and 45, 234 in 2016 and 2022 respectively, which means a growth of 3.1% during this period.

<sup>11</sup> Based on Census 2001 and 2011

**Figure 7: Age specific population in Lakshadweep (15-59 years)**

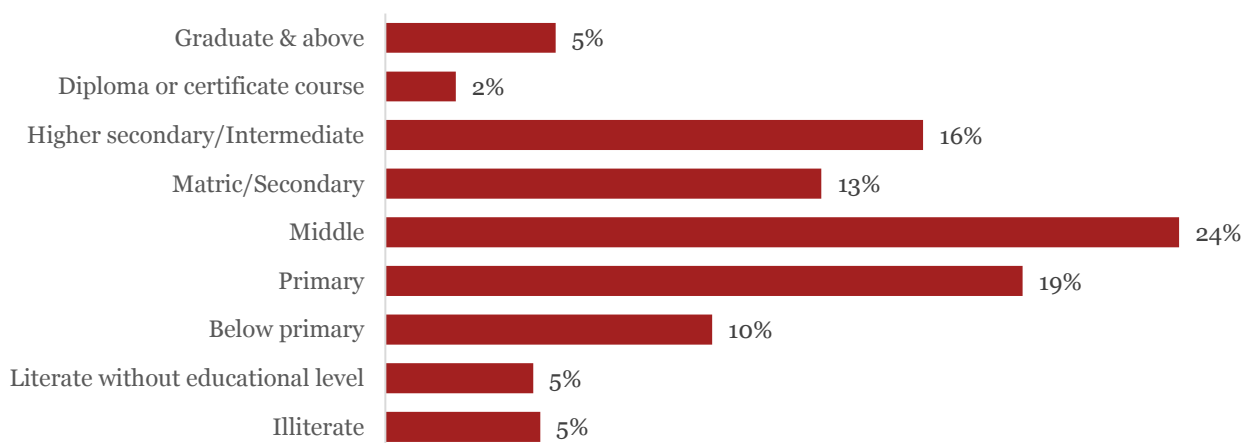


**Figure 6: Age specific population in Lakshadweep (15-24 years)**



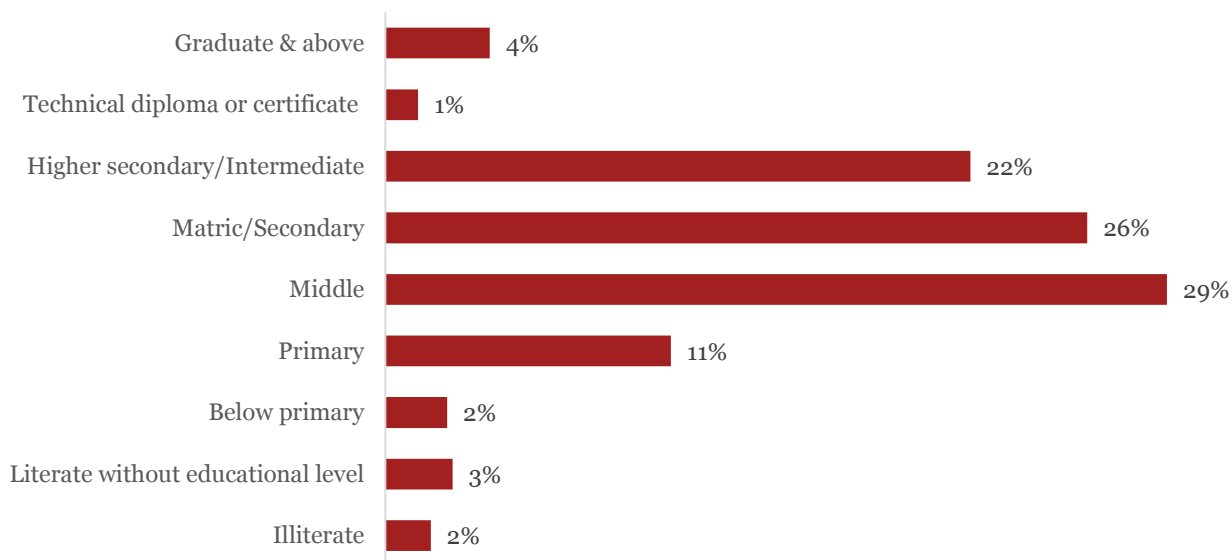
While in the age group of 15-59 years the share of population of males and females in total population of Lakshadweep is around 52% and 48% respectively, the share of population of males and females in the age group of 15-24 years is 51% and 49% respectively (shown in Figure 7 and Figure 6).

**Figure 8 : Age specific educational level in Lakshadweep (15-59 years)**



Of the total population of 42, 552 in the age category 15-59 years, about one-fourth (24%) of the population have attended middle school level of education and about one-fifth (19%) have attended primary school level of education (refer Figure 8). Further, roughly 30% of the population have attended matric or higher secondary level of education while only 5% of the population have completed graduate or above level of education. Only 2% of the population in the same age category have undergone any kind of diploma or certificate course.

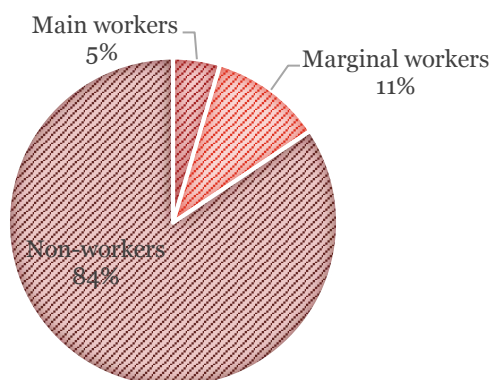
**Figure 9 : Age specific educational level in Lakshadweep (15-24 years)**



For the age category of 15-24 years, majority of the population (29%) have completed middle school level of education. Further, about 22% has attended higher secondary level of education and about one-fifth of the population in the same category have attended secondary level of education. Only 4% of the population in the same age category is graduate and above and 1% have attended any sort of diploma or certificate course

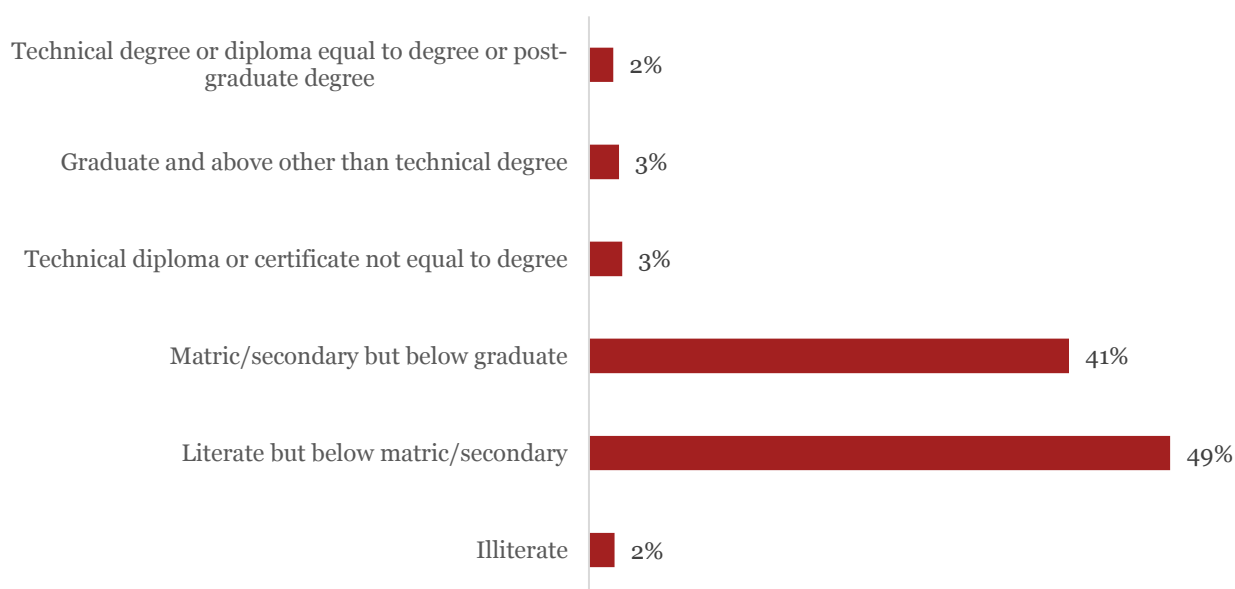
### *Age specific distribution of workers and educational level*

**Figure 10 : Age specific workers in Lakshadweep (15-24 years)**



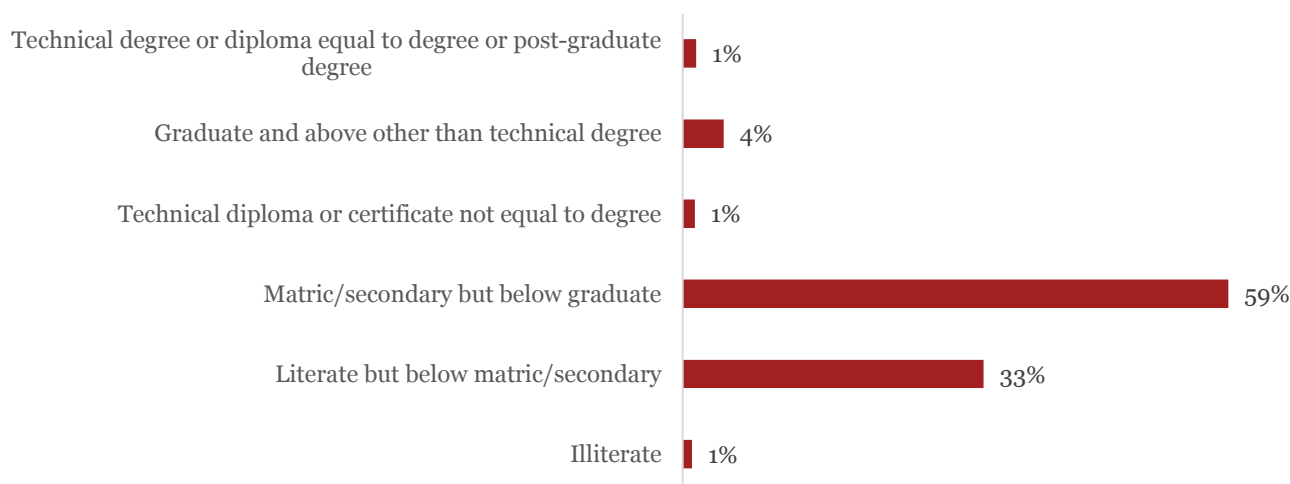
A large majority (84%) of the population aged 15-24 years is not in workforce; only 5% of the population in this age category are main workers and 11% are engaged in marginal work i.e. work for less than 6 months during the year.

**Figure 11 : Education level of marginal workers in Lakshadweep (15-24 years)**



According to the Census 2011, of the total 1,057 marginal workers available for work in the age category 15-24, about half of them are literate but have below secondary level of education and 41% have completed secondary level of education. Only 5% of workers in this age group have attended graduate or post graduate level of education and 2% have undergone any sort of diploma or certificate course (refer Figure 11)

**Figure 12 : Education level of non-workers in Lakshadweep (15-24 years)**



Amongst 5,338 non-workers who are available for work in the age category 15-24 years, nearly 60% have attended secondary or higher secondary level of education and about one-third have below matric level education. It is interesting to note that a significant number of people with secondary or higher secondary level education are unemployed and looking for job. This highlights the need for job relevant skills training for this segment of population in order to make them enable to get into the job market.

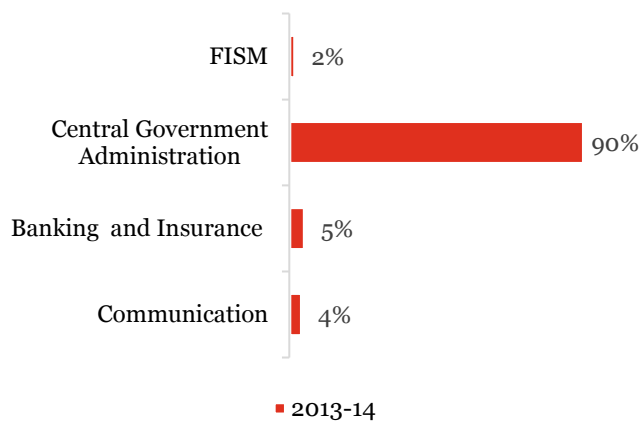


### 1.1.2. Key Economic Drivers

Owing to unavailability of information on key indicators that are required to calculate Gross State Domestic Product (GSDP), the Department of Planning and Statistics of Lakshadweep does not calculate GSDP. However, a crude estimate of GSDP of Lakshadweep is gauged by its contribution to Supra-regional<sup>12</sup> sectors, which includes Railway, Communications, Banking & Insurance, Central Government & Administration and Financial Intermediation Services Indirectly Measured (FISM). The total size of GSDP estimated from supra-regional sectors was INR 21,986 Lakhs at the constant price in 2013-14, mostly driven by contribution from central government administrative services with 90% contribution to the GSDP<sup>13</sup>.

The key economic drivers of the district are illustrated below:

**Figure 13 : GSDP estimated from Supra-regional sectors at constant price in 2013-14 (INR Lakhs)**



#### Port, maritime and logistics

- The average annual growth rate in Passenger traffic has been recorded as 6% between 2003-16 and it is expected to rise to 2,93,130 by 2022.
- Port department plans for acquisition of Passenger ships of varying capacities, oil barges, LPG cylinder carriers to meet the growing cargo traffic and passenger traffic

#### Fisheries

- About 14 thousand people engaged in fishing activities
- A total of 15,611 tonnes fish catch in 2013-14 valued at INR 14.83 crore
- Tuna fish consist of 86% of total fish catch
- 207.89 metric tonnes fish products exported from Lakshadweep in 2013-14

#### Tourism and hospitality

- Over 5600 tourist visited Lakshadweep in 2013-14 which generated a revenue of INR 11 crore
- The Department of Tourism and Hospitality plans to build eco-friendly resorts in inhabited islands and tourist homes and home stay facilities in habited islands
- The department also plans to develop tourism facilities in inhabited islands through Public-Private Partnership model

#### Manufacturing

- There are 43 government industrial units and 220 private industrial units
- All the units in the private sector are micro and small scale, dealing with coir, fish, agro-based, furniture, and various support activities.
- In the government sector, there are 7 fiber factory, 6 coir yarn production center, 9 printing press, 2 Tuna canning factory and 2 boat building yards, etc. The level of industrial development in Lakshadweep remains modest.
- 10,453 people are engaged in 3,404 establishments in agriculture and non-agriculture sectors

<sup>12</sup> In the preparation of state income estimates, certain economic activities like Railways, Banking & Insurance, Communication, and Central Govt. Administration, cut across state boundaries as their economic contribution cannot be assigned to any one state directly. Such activities are included in Supra-regional sectors of the economy. The estimates for these activities are compiled for the economy as a whole and allotted to the states on the basis of relevant indicators.

<sup>13</sup> Basic Statistics of Lakshadweep 2013-14, Department of Planning and Statistics, Lakshadweep

### 1.1.3. Priority Sectors

In Lakshadweep, the priority sectors that have been identified are **Port and Maritime sector, fisheries, tourism, construction (led by Public Works Department) and manufacturing which essentially include coconut and coir based products.**

Ports & Maritime										
Key features	<p>The islands are surrounded by lagoons which are fenced by coral reefs. While these reefs are integral to the natural beauty of the islands, they pose a critical restriction of navigation across the islands due to shallow depth of water over the reefs. The islands are navigated by small and low draft vessels through some limited navigable entry points of these reefs where navigable depth of water over the reef is available. This means that:</p> <ul style="list-style-type: none"><li>Vessels with drafts more than 2 meters cannot enter the lagoons, except Kavaratti, Minicoy and Andrott where vessels with 2.7 meters are able to enter inside the lagoon</li><li>Embarkation and disembarkation of passengers and loading/unloading of cargo in most of the islands are carried out in open deep sea which are then brought to the islands and vice versa by small launches/dumb barge and boats</li></ul> <p><b><i>The present Port facilities in various islands include jetties with lengths varying from 60m to 260m. Berthing facilities are only developed in eastern side of four islands (Minicoy, Agatti, Kavaratti and Amini) to enable berthing of bigger ships creating depth alongside of 10 to 12 M</i></b></p>									
Mainland to island operations	<ul style="list-style-type: none"><li><i>Passenger Shipping scenario:</i> At present 7 ships/vessels operate with passenger capacity varying from 150 to 700</li><li><i>Cargo shipping scenario:</i> At present 7 cargo ships/vessels with a total capacity of over 4000 tonnes</li></ul>	Inter-island operations	<ul style="list-style-type: none"><li><i>Passenger Shipping scenario:</i> Around 7 High Speed Crafts operate between the 10 inhabited islands with passenger capacity varying from 150 to 500</li><li><i>Cargo Shipping scenario:</i> At present 5 vessels operate with a total vessel capacity of 2400 MT and 2000 Cylinders</li></ul>							
Key Cargo	General Cargo, LPG, Petroleum, Aviation Turbine Fuel		Draft	2-2.7 metres						
Key Trend	The Passenger Traffic by ships on Mainland-Island sector (i.e. from Mainland to different island & vice versa) has grown by around 20% between 2010-11 and 2015-16. The cargo traffic from mainland to islands in UTL cargo vessels has also grown by 31% between 2010-11 and 2015-16									
Island-wise jetty facilities										
	Kavaratti	Minicoy	Andrott	Agatti	Amini	Bitra	Chetlat	Kadmat	Kalpeni	Kiltan
Jetty	New Katcherry Jetty, Fisheries Jetty	Katcher ry Jetty, Fisherie s Jetty	Jetty	Jetty	Passen ger Jetty, Fisheri es Jetty	Jetty	Jetty	Jetty	Jetty	Jetty
No. of berths	6, 6	4, 3	4	4	4,2	1	3	3	4	3

<i>Depth alongside</i>	2.5M, 2M	1.8M, 1.8M	1.8M	1.8M	1.8M	1.5M	1.8M	1.5M	1.8M	1.1M
<i>Cargo Handling Equipment</i>	Jetty cranes (3), Fork lift (2)	Jetty cranes (2), Fork lift (2)	Jetty cranes (2), Fork lift (1)	Jetty crane (2), Fork lift (1)	Jetty cranes (2), Fork lift (1)	-	Jetty cranes (1)	Jetty cranes (2)	Jetty cranes (2), Fork lift (1)	Jetty cranes (2), Fork lift (2)

### 1.1.4. Investments

The table below summarizes the investments are that are ongoing and proposed

**Table 1: Details of Investments (proposed and ongoing projects) in Port and Maritime sector in Lakshadweep**

Project	Proposed Investment (INR Lakhs)	Project Status
Construction of unloading platform to MSVs at Agatti	1161.12	Andaman and Lakshadweep Harbour Works (ALHW) Department has constituted the subcommittee for the project in 2016. Environment Impact Assessment report is awaited before launching the project.
Construction of existing wharf to another 40m lee side of breakwater from Ch.244m to 284m at Andrott	448.38	ALHW has constituted the subcommittee for the project in 2016. Environment Impact Assessment report is awaited before launching the project.
Extension of berthing head of Katchery jetty at	567.85	ALHW is awaiting the revised Environment Impact Assessment report
Design, Fabrication, supply, erection & commissioning of one grab dredger unit at Lakshadweep islands	184	MOU signed by ALHW with Bharat Earth Movers Limited (BEML) for excavator for mounting on the steel pontoon & delivered at Kochi. Agreement executed for fabrication of steel pontoon at Kochi.
Fabrication and installation of 5000DWT mooring buoy at eastern side jetty for safe berthing of ship at Amini & Kavaratti	204.10	ALHS has requested for diversion of fund for placing yokohama fenders instead of mooring buoys and is waiting for response from the concerned department
Providing of Channel marker bouys and twin point mooring bouys at Minicoy and Bitra	52.12	The work for channel buoys has been awarded and retender called for twin point mooring buoys.
Expansion of berthing head of Northern jetty at Kalpeni	365.43	In pipeline
Extension of berthing jetty at Kadmat	448	In pipeline
Improvement to IIF wharf for 33.50 meter length and additional extension of wharf for 25 meter change, from 284 to 309 meter at Andrott	428	In pipeline

With growing number of tourists visiting Lakshadweep, the tourism department has proposed to undertake a wide range of initiatives for tourism promotion. These include setting up of resorts in inhabited islands, promotion of tourist homes, promoting scuba diving etc.

**Table 2: Details of tourism projects (Proposed) in Lakshadweep**

<b>Project</b>	<b>Proposed Investment (INR cr)</b>	<b>Key details</b>	<b>Key Players</b>
Setting up of resorts in inhabited islands	10	The resort will have a 100 guest capacity	Tourism Department
Promotion of tourist homes in major islands- Kavratti, Kadmath, Minicoy, Agatti, Kalpeni and Andrott (around 10-15 tourist homes in each)	~45		Tourism Department
Setting up of resorts in un-inhabitant islands	80	Around 4 resorts are expected to be set up with a guest capacity of 100-150	Tourism Department
Development of scuba diving vessels	6	The speed vessel is expected to accommodate 10-12 persons	
Infrastructure and project support for Lakshadweep Institute of Water sports	5		

### 1.1.5. Training Infrastructure

The existing training infrastructure in the UTL is tabulated below:

Type of training infrastructure	Total number of institutions	No of trades/courses	Courses offered
Government ITI	1	8	Carpentry, plumber, mason, marine fitter, sewing machine operator, computer operator
University Centres (Degree colleges in Kadmat and Androth)	2	7	BA English , BA Arabic, B.Sc Mathematics , MA English, MA Arabic MA Economics , M.Sc Mathematics
Lakshadweep Diving Academy	1	12	<ul style="list-style-type: none"> <li>• 3 Professional Certification (Dive-master, Open Water Scuba Instructor, Assistant Instructor)</li> <li>• 5 Diving Certification (Advanced open water, Junior advanced open water, Junior Open water, Open water , Rescue Diver_</li> <li>• 4 Emergency Care and Safety (Care for Children with AED instructor, EFR Primary care&amp; Secondary Care with AED instructor, EFR Instructor, EFR Primary care&amp; Secondary Care (1<sup>st</sup> Aid)</li> </ul>
Fishermen Training Centre	1	5-7 (courses have been conducted so far; infrastructural support required )	Polar line fishing training, Fish processing and preservation, On-boat training, Cage culture

## 2. Labour Market Scenario

### 2.1. Introduction about the limitation of estimating sector specific Skill Gap in Lakshadweep

Our approach to estimate gap in demand of skilled labor-force and supply for skilled labor-force depends primarily on the employment elasticity approach. Employment elasticity is a measure of the percentage change in employment associated with a 1 percentage change in economic growth. In order to estimate sector specific skill gap, we estimate sector specific employment elasticity by measuring the change in workforce in the sector and its contribution to economy for a given time period. Thus, in order to determine sector specific skill gap, we require data on sector specific Gross Domestic Product (GDP) and workforce for Lakshadweep. However, our primary consultation with the Department of Planning and Statistics revealed that Gross Domestic Product is not calculated for the union territory of Lakshadweep. Instead, total income of Lakshadweep is crudely estimated from its contribution to Supra-regional sectors which include Railway, Communications, Banking & Insurance, Central Government & Administration and Financial Intermediation Services Indirectly Measured (FISM). The total size of GSDP estimated from supra-regional sectors was INR 21,986 Lakhs at the constant price in 2013-14, mostly driven by contribution from central government administrative services with 90% contribution to the GSDP. In the absence of sector specific GDP estimated using the standard method, it is not possible to estimate sector specific employment elasticity. Thus, estimating skill gap based on employment elasticity approach is not possible. We present a comprehensive analysis on key labor indicators of Lakshadweep in this chapter.

### 2.2. Performance of Lakshadweep across key labour statistics

In order to understand the labour market scenario in Lakshadweep, it is important to map the performance of the UT across key labour statistics viz. Labour force participation rate (LFPR), Worker Population Ratio (WPR) and Unemployment Rate (UR) according to the usual principal and subsidiary status (ps+ss) approach. It can be observed from **Error! Reference source not found.** that the overall LFPR of Lakshadweep was estimated to be only 36.3%<sup>14</sup> which was also the lowest

among all Indian states and UTs. There is wide disparity between male and female LFPR suggesting that percentage of female population working or seeking work is much lower (16.3%) than their male counterparts (58.3%). Regarding WPR, it can be observed that, proportion of workers/employed persons in the total population of the age group 15 years and above is only 34.6%. The gender gap in WPR is an important estimate. For males the WPR is approximately four times that of the females. The total workforce of Lakshadweep (aged 15 years and above) has been estimated to be 20,436 in 2015. The unemployment rate reflects the portion of the labour force which was available for work during the given reference period but did not get work. On comparing the key labour statistics of Lakshadweep for 2011<sup>15</sup> and 2015, we find that the unemployment rate has drastically reduced by 16% while WPR has remained almost constant and LFPR has also reduced by 10% points.

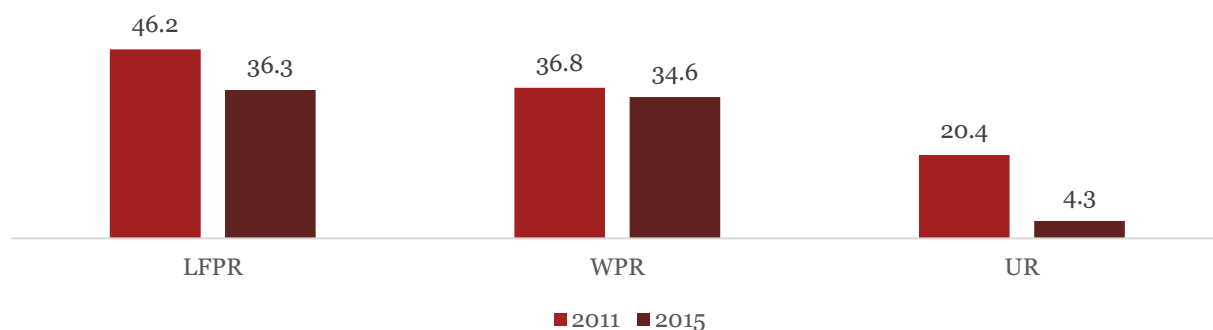
**Table 3: Comparison of LFPR, WPR and UR of Lakshadweep by ps+ss approach between 2011 and 2015**

Labour statistic	Male	Female	Person
LFPR	58.3	16.9	36.3
WPR	56.6	15.5	34.6
UR	2.9	8.5	4.3

<sup>14</sup> (Report on Employment and Unemployment Survey, 2015-16)

<sup>15</sup> (Report on Employment and Unemployment Survey, 2011-12)

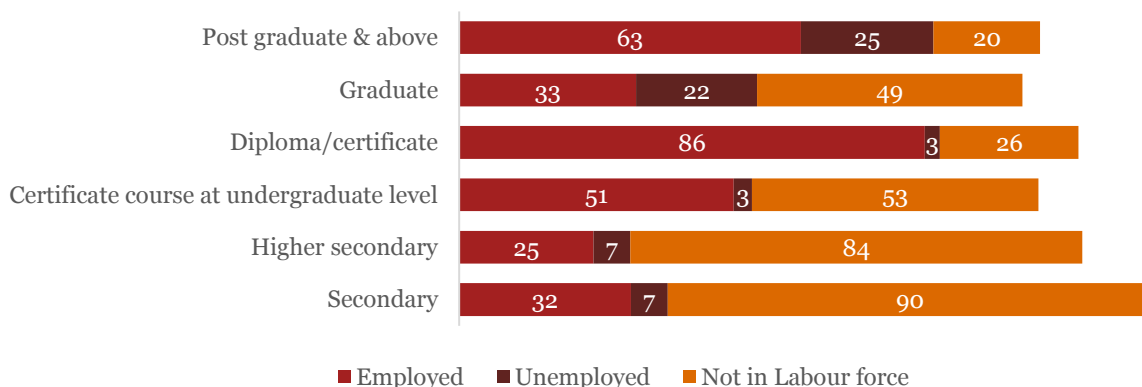
**Table 4: Comparison of LFPR, WPR and UR of Lakshadweep by ps+ss approach between 2011 and 2015**



### 2.3. Education level, vocational training and employment

One-fourth of the graduates and nearly one-fifth of the post graduates in the age category 15-59 years are unemployed, and a significant proportion of them are not even in the labor force. This highlights high level of unemployment among the educated population. This segment of the population could be targeted for short term skilling course as they already have a decent level of education. It is important to note that 86% of the diploma and certificate holders are employed.

**Figure 14: Percentage distribution of person aged 15 years and above by main activity and educational qualification**

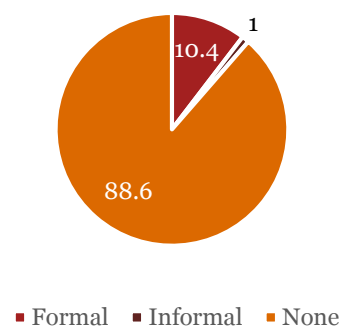




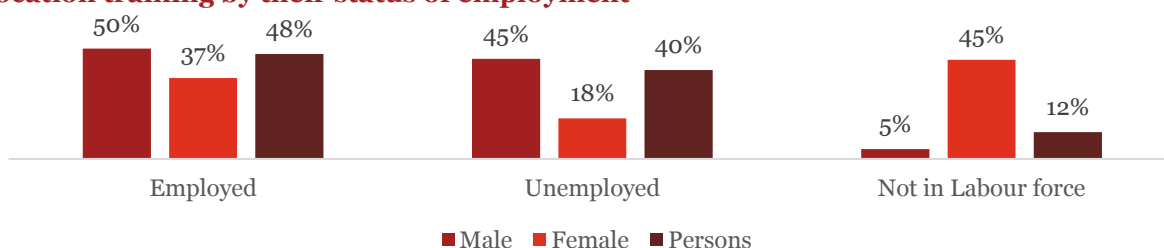
According to the Report on Employment and Unemployment Survey released by the Labour Bureau in 2015, of the total population in Lakshadweep aged 15 years and above, only 10% received formal form of vocational training. Majority of the population (89%) in the given age group received did not receive vocation training in any form. Given that there is only 1 government ITI and no private training partners in the UT, scope for receiving vocational training is clearly limited due to the lack of available formal training set up.

Further, it is important to understand that out of the persons who received vocational training subsequently what proportion joined the labour-force. Out of the population (aged 15 years and above) that received vocational training 48% per cent received employment, 40% remained unemployed, and 12% did not join the labour-force. Disaggregation from gender perspective provides interesting insights that out of the total female population who undertook vocational training, a significant proportion of 45% did not join the labour-force while the corresponding figure for their male counterparts was 4.5%.

**Figure 15: Percentage distribution of population aged 15 years and above and status of vocational training**



**Figure 16: Percentage distribution of persons aged 15 years and above who received vocation training by their status of employment**



## 2.4. Sector wise employment

The table below highlights the estimated workforce in Lakshadweep for year 2015. The total workforce in age category 15 years and above estimated to be 20, 477. Of which administrative support services, transportation and storage, construction, manufacturing, agriculture and allied sectors are main contributors. It is important to note that over 3,500 persons are engaged in manufacturing and construction sectors and over 3,000 are working in transportation and storage sectors.

Sector	Estimated Workforce in 2015	Percentage distribution of estimated workforce
Agriculture, forestry and fishing	1757	8.6%
Manufacturing	1328	6.5%
Electricity, gas, steam and air conditioning supply	20	0.1%
Water supply; sewerage, waste management and remediation activities	20	0.1%
Construction	2452	12.0%
Wholesale and retail trade; repair of motor vehicles and motorcycles	1553	7.6%
Transportation and storage	3290	16.1%
Accommodation and Food service activities	163	0.8%
Information and communication	184	0.9%
Financial and insurance activities	20	0.1%
Real estate activities	0	0.0%

Professional, scientific and technical activities	490	2.4%
Administrative and support service activities	4864	23.8%
Public administration and defence; compulsory social security	388	1.9%
Education	2330	11.4%
Human health and social work activities	981	4.8%
Arts, entertainment and recreation	41	0.2%

## 2.5. Job roles in high demand

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section.

### *Port and Maritime Sector*

The port and maritime sector has reported high demand for boat drivers, MSEs, repair and maintenance staff at the Port Workshops at the islands.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Port operations	Findings
<ul style="list-style-type: none"> <li>Boat drivers,</li> <li>Tindale, Serang Operator, Multi-Skilled Employee (MSE)</li> <li>Vessel repairing staff/Mechanic</li> <li>Marine Painter</li> <li>Fitter maintenance- Marine, Fitter Pipe- Marine, Welder- Marine equipment</li> <li>Vessel Navigator</li> <li>General purpose rating</li> <li>Under water welding and cutting</li> <li>Electric Arc Welding</li> </ul>	<ul style="list-style-type: none"> <li>The port department recruits its officials as multi-skilled employees (MSE) and they progress based on trade tests and years of service for subsequent promotions.</li> <li>Regarding technical staff at the Port department, around one-fourth seats are vacant</li> <li>Training requirement is high for jobs such as boat engineers and repair staff</li> <li>Currently there are no shipyards, a</li> <li>Given that embarkation and disembarkation of passengers and loading/unloading of cargo in most of the islands is carried out in open deep sea, there is need for providing safety training, emergency rescue operations etc.</li> <li>In the absence of specialized training centre at the any of the islands, it is important that either training programmes are</li> </ul>

### *Tourism*

The Tourism Department of the UTL plans to invite private sector participation for promotion of tourism by setting up resorts and hotels in the islands. Cruise tourism is also expected to rise in the coming years.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Tourism	Findings
<ul style="list-style-type: none"> <li>F&amp;B production</li> <li>F&amp;B Service</li> <li>Caterer</li> <li>Restaurant Cook</li> <li>Front Office Staff</li> <li>Housekeeping Staff,</li> <li>Divers</li> <li>Tour guides</li> </ul>	<ul style="list-style-type: none"> <li>Job opportunities in the tourism and hospitality sector are expected to rise with the upcoming investments by the Tourism department to set up resorts, home-stays, hotels in various islands.</li> <li>Currently Tourism Department sends students to the mainland to the study courses in tourism and hospitality</li> <li>Provision of skill courses in the islands will be beneficial for creating skilled pool of resources for the tourism sector of Lakshadweep</li> </ul>

### *Construction*

All the construction activities of the Lakshadweep Administration and other central government organizations are under taken by Lakshadweep Public Works Department (PWD). Given the unique geographic location, the sectors in which construction activities are being undertaken include: Roads and Bridges, Anti Sea Erosion, Housing and Urban Development, Water Supply and Sanitation. There will be demand for workforce that could work in construction activities.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Construction	Findings
<ul style="list-style-type: none"> <li>• Bar benders</li> <li>• Piling Works</li> <li>• Masons</li> <li>• Steel Fixer</li> <li>• Electricians</li> <li>• Plumbers</li> <li>• Fitters</li> <li>• Supervisor - Electrical Works</li> <li>• Supervisor - Roads &amp; Runways</li> </ul>	<ul style="list-style-type: none"> <li>• Construction sector is witnessing inflow of migrants into the islands.</li> <li>• Investments by PWD was around INR 1000 lakhs in building roads and bridges in 2016-17.</li> <li>• It is proposed to construct staff quarters in all Islands &amp; transit accommodation at, Agatti, Andrott, Kalpeni, Kozhikode and Mangalore with around INR 1500 lakhs allocated for the housing sector.</li> </ul>

## Manufacturing

The UTL faces infrastructural constraints which blocks the industrialization process and restricts growth of only specific industries which include: Coir based industries (coir mat, rope, yarn, fibre etc.) and Coconut based products (coconut oil, desiccated coconut powder, shell powder, cream, water bottles etc.)

The matrix below captures the jobs roles that are high in demand:

Job Roles:	Findings
<ul style="list-style-type: none"> <li>• Job roles at the manufacturing unit- Cutting, peeling, extracting</li> </ul>	<ul style="list-style-type: none"> <li>• Coconut based manufacturing units are widely present across all islands. The major products manufactured are: Desiccated coconut powder, virgin oil, coconut oil, coconut cake and halwa</li> <li>• Existing manufacturing units are not operating at their optimal capacities due to infrastructural limitations</li> <li>• Since most activities of the process are undertaken manually training is required for hygiene practices, safety material handling and operational efficiency.</li> </ul>

## Fisheries

Given the abundance of fish in the islands, fishing is one of the most important economic activities of the UTL.

The matrix below captures the jobs roles that are high in demand:

Job Roles: Fisheries	Findings
<ul style="list-style-type: none"> <li>• Production Assistants</li> <li>• Quality Control assistants</li> <li>• Lab assistants</li> <li>• Supervisors in value added fishery products manufacturing units</li> <li>• Cold Storage Technician</li> <li>• Marine processing technicians</li> </ul>	<ul style="list-style-type: none"> <li>• Currently there is one Tuna Canning Factory in Minicoy</li> <li>• Lakshadweep Development Corporation Limited has initiated a project to convert the unit from a semi-automatic manufacturing unit into a fully automatic one. The project started in 2012 and is still underway. It is expected that complete automisation will lead to production of value added fish products and create demand for marine process technicians.</li> </ul>

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## **3. District Action Plan**

### **3.1. Background**

An actionable roadmap is one of the deliverables to be submitted to MoS for implementing skill training programmes in each of the districts. To develop these District specific plans, the team has mapped the emerging skilling opportunities across the 21 Coastal districts. Further, similar training opportunities or training requirements from the same sector have been clubbed in to one programme to ensure optimal use of resources and to build economies of scale for delivery partners. This has been proposed to improve the chances of developing and proposing feasible and viable training delivery models.

Further, the team has also estimated the broad capital and operational expenditure expected to be incurred in operationalizing the training initiatives in the districts. Apart from this, critical operational aspects such as training delivery mechanisms, availability of curriculum and employers have also been explored. The current status of these critical aspects will help ascertain the feasibility of initiating these trainings immediately and assess the gaps that need to be bridged before these training can be rolled out.

### **3.2. Objective of developing the plan**

The District action plans have been developed with an overall objective of providing a step by step skill implementation plan to the Ministry of Shipping in the 21 coastal districts. The specific objectives include the following:

- Mapping various skilling opportunities available in the district, keeping in mind the requirements of Port led development and emergence of CEZs.
- Mapping the current status of various pre-requisites such as availability of qualifications, curriculum, funding for training, potential training delivery partners, availability of assessors and certification processes and institutions for the training programmes.
- Identify the potential/target beneficiaries for the training courses.
- Map the infrastructure and the investment that may be required to deliver the training programmes in the district.
- Provide an estimate of the investment required to create/hire the skilling infrastructure.
- Provide a step by step action plan for MoS to implement the skilling initiatives.

### **3.3. Methodology**

Stakeholder consultations<sup>16</sup> that were held at national, state and district level and that included stakeholders from government, industries, associations, and private firms. A separate plan has been prepared for each of the 13 districts. The plan has been divided into several sections and include sections on training delivery, potential partners, and investments. The investments component has been divided into two broad heads: capital expenditure and operational expenditure. Capital expenditure has only been proposed in cases in which there were very limited possibilities of using existing institutional framework for partnership and for using existing infrastructure and equipment. Operational expenditure includes the cost of the running the training programmes including the salary of the instructors. The common cost norms inform the calculation of the operational expenditure. Capital expenditure has been worked out bearing in mind the infrastructure requirements of the programme and duration of training programmes. Wherever, feasible partnership with existing programmes such as DDU-GKY and PMKVY has been suggested in the plan.

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<sup>16</sup> Roughly 300 primary consultations inform the development of this plan

### 3.4. Summary for Lakshadweep

SN	Project Name	Job Roles	Type of training	No. of people to be trained
1	Skill Development training for port and shipping	<b>Drivers:</b> Boat drivers, boat master/boat syrang <b>Maintenance and repair works:</b> Marine Painter, Fitter maintenance- Marine, Fitter Pipe- Marine, Welder- Marine equipment, Vessel Navigator, general purpose rating course, Safety training	Fresh and Upskilling	450-600 in next 5 years
2	Training for Skilled job roles in Tourism and Hospitality Sector	F&B production, F&B Service, Caterer, Restaurant Cook Front Office Staff, Housekeeping Staff, Dive masters, Open water scuba instructor, Scuba Divers,EFR divers, Open water divers, Entrepreneurial course for setting up diving/water sports centres	Fresh and Upskilling	550 to 600 in next 5 years
3	Training for fishermen community	Rearing and breeding of ornamental fish  Value Added fish products-  Deep Sea fishing and navigation	Upskilling	400-550 in the next 5 years
4	Training for job roles in Construction Sector	Bar benders and Steel Fixers  Piling workers	Fresh and Upskilling	200-400 in the next 5 years

### 3.5. Action Plan for Lakshadweep

<b>Project 1: Skill Development training for port and shipping</b>				
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>The geographic isolation of the Lakshadweep islands makes shipping industry the life-line</li> <li>Proposed plans for acquisition of passenger ships, cargo barges, oil barges etc. to meet the growing demand of passenger and cargo movement.</li> </ul>			
<b>Rationale for a Training programmes</b>	<p>Since embarkation and disembarkation of passengers and loading/unloading of cargo in most of the islands is carried out in open deep sea which are then brought to the islands and vice versa by small launches/dumb barge and boats, there is <b>need to train more workers as boat drivers and operators</b>. Since the process makes the whole exercise of shipping operation very dangerous, there is a need to provide <b>safety training to these boat drivers</b>. According to the Perspective Plan submitted by Department of Port Shipping and Aviation, UTLA, the passenger traffic and cargo traffic between mainland and island sector are expected to rise at annual rate of 6% and 4% respectively between 2017-2030. As a result there are proposition for acquisition of 6 passenger ships, 6 cargo barges, 1 oil barge and 3 LPG cylinder carriers in the next few years. It is important to note that out of the total port department, approximately one fifth positions are vacant and the gap is maximum at the <b>Multi Skilled Employee</b> (entry level skilled worker engaged in maintenance and repair works). Currently there is only one port work shop (where repairs of boats and vessels take place) at Kavratti and repair works of all other islands are also carried out at Kavratti alone. Moreover the workshop at Kavratti is severely under-staffed. The department has proposed to set up more port workshops to meet the need of repair works. The situation reflects the need for introducing <b>training courses in operations and maintenance works</b>-marine welder, marine fitter, marine painter, vessel navigator etc. Apart from this, the department also plans to conduct dredging of channel from lagoon entrance upto jetty in all islands to facilitate safe entry of all High Speed Crafts having a draft of 1.35 mtrs. This indicates the need for dredging operators</p>			
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
	Boat drivers, boat master/boat serang	<ul style="list-style-type: none"> <li>Unemployed youth from the islands</li> <li>Existing port staff</li> </ul>	Fresh Training	50-100 in next 2 years
			Up-skilling	100-150 in next 5 years
	Marine Painter, Fitter maintenance- Marine, Fitter Pipe- Marine, Welder- Marine equipment, Mechanic , Vessel Navigator, general purpose rating course	<ul style="list-style-type: none"> <li>Unemployed youth from the islands</li> <li>Existing port-workshop staff</li> </ul>	Fresh Training	100-150 in next 5 years
			Up-skilling	100-150 in next 5 years
	Safety training	<ul style="list-style-type: none"> <li>Existing port staff</li> </ul>	Upskilling	100-150 in next 5 years

		Dredging operator	<ul style="list-style-type: none"> <li>Unemployed youth from the islands</li> </ul>	Fresh	50-100 in next 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Boat drivers, boat master/boat serang	<ul style="list-style-type: none"> <li>Unemployed youth from the islands</li> <li>Existing port staff</li> </ul>	QP not available	Course not available	Course not available
	Marine Painter, Fitter maintenance-Marine, Fitter Pipe- Marine, Welder- Marine equipment, Vessel Navigator, general purpose rating course	<ul style="list-style-type: none"> <li>Unemployed youth from the islands</li> <li>Existing port-workshop staff</li> </ul>	QP available for Protective and Marine Painter (250-350 hrs), Pipe Fitter - Ship Building (210hrs), Repair Welder (500 hrs)	Course available for Welder (repair and maintenance (500 hrs), pipe), Metal surface painter (150 hrs)	Course available for Welder (Pipe) (12 months)
	Safety training	<ul style="list-style-type: none"> <li>Existing port staff</li> </ul>	QP Not available	Course not available	Course not available
	Dredging operator/mechanic	<ul style="list-style-type: none"> <li>Unemployed youth from the islands</li> </ul>	QP Not available	Course not available	Course not available
<b>Investment (INR In lakhs)</b>					
<b>Capital Expenditure</b>			<b>10</b>		
<b>Boat Driver/Operator</b>					
Operational Expenditure			14.84		
<b>Marine Painter/fitter</b>					
Operational Expenditure			35.60		
<b>Safety Training</b>					
Operational Expenditure			15.59		
<b>Dredging Operator</b>					
Operational Expenditure			<b>17.06</b>		
<b>Total Operational Expenditure</b>			<b>83.09</b>		
<b>Total Expenditure</b>			<b>93.09</b>		
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		Department of Port Shipping and Aviation	<ul style="list-style-type: none"> <li>Access to port facilities for practical training</li> <li>Guest faculty</li> <li>Input for designing curriculum</li> <li>Provision of used equipment for training</li> <li>Provide guest faculty and facilitate on the job training</li> <li>On-the-job training</li> <li>Facilitate implementation of upskilling for existing work-force</li> </ul>		
		Training Partner (Government ITI)	<ul style="list-style-type: none"> <li>Mobilisation support</li> <li>Training delivery</li> <li>Co-management of the training facility</li> </ul>		
		Logistic Sector Skill Council	<ul style="list-style-type: none"> <li>Development of QPs for the identified job roles</li> </ul>		



	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<b>Option 1</b> <ul style="list-style-type: none"> <li>• Department of Port, shipping and aviation to take the lead on introduction of training programmes</li> <li>• Government ITI to be involved for training delivery through mobilization of fresh youth, provision of training infrastructure, identification of skilled trainers</li> <li>• Private training provider to rent/develop the training facility and deliver the training programme</li> </ul>

## Work Plan

Port and Logistics	in Months								
	1	2	3	4	5	6	7	8	9
Partnership with SSC and Department of Ports									
Development of QPs									
Preparation of Training facilities									
Furnishing of the training centre									
Purchase and installation of lab equipment									
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)									
Mobilization of prospective trainees									
Enrolment of students									
Roll-out of training programme									

Project 2: Training for Skilled job roles in Tourism and Hospitality Sector	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Between 2012 and 2016, tourist arrivals in Lakshadweep has increased by 56% points (2012: 4997, 2016: 7788)</li> <li>• Tourism Department of Lakshadweep plans to set up resorts and tourist homes with an investment of Rs 146 Crores</li> <li>• Tourism Policy 2014 of the UT, lays emphasis on the need to improve infrastructural facilities such as provision of adequate means of transport, increased availability of accommodation facilities, better connectivity etc. to promote tourism</li> </ul>
<b>Rationale</b>	According to the Department of Tourism, the total number of domestic and foreign tourists in 2016 was 7126 and 662 respectively. Promotion of tourism has been identified as one of major thrust areas to generate employment opportunities to youth of Lakshadweep. The tourism policy envisages a government led tourism development model for the sustainable and eco-friendly development of tourism in Lakshadweep. Some of the critical steps that the tourism department intends to undertake in this regards are:



		<ul style="list-style-type: none"> <li>Procurement of dedicated ships for tourists besides promoting the visit of private cruise liners and luxury yachts</li> <li>Eco-friendly accommodation infrastructure in inhabited (~INR 10 Crores) islands and invite private players for setting up tourism infrastructure at uninhabited islands through PPP mode (~INR 80 crores)</li> <li>Promotion of tourist homes (~INR 45 crores)</li> </ul> <p>For this reason, creating a pool of skilled professionals in the field of hospitality and tourism such as: food and beverage (F&amp;B) production, F&amp;B service, caterer, multi-cuisine cook, front office staff, housekeeping staff, tour guides etc. will be an important step in this regard.</p> <p>An integral component of tourism promotion in Lakshadweep is promotion of dive tourism. Creating a pool of skilled manpower as scuba divers, emergency first response (EFR) divers, dive masters, open water divers is critical. Additionally training programmes targeted towards entrepreneurial development of the skilled divers will support them in setting up their own water sports diving centres.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		F&B production, Caterer, Restaurant Cook	<ul style="list-style-type: none"> <li>Unemployed youth from the islands</li> </ul>	Fresh Training	200 in next 2 years
		Front Office Staff, Housekeeping Staff, F&B Service	<ul style="list-style-type: none"> <li>Unemployed youth from the islands</li> </ul>	Fresh Training	100 in next 2 years
		Dive masters, Open water scuba instructor Scuba Divers, EFR divers, Open water divers,	<ul style="list-style-type: none"> <li>Unemployed youth from the islands</li> </ul>	Upskilling	50-100 in next 2 years
				Fresh	100-150 in next 2 years
		Entrepreneurial course for setting up diving/water sports centres	<ul style="list-style-type: none"> <li>Unemployed youth from the islands</li> </ul>	Upskilling	100-120 in next 2 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	F&B production, , Caterer, Restaurant Cook	<ul style="list-style-type: none"> <li>Unemployed youth from the islands</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>F&amp;B production</li> <li>F&amp;B Service (435 hrs)</li> <li>Assistant Catering Manager (475 hrs)</li> <li></li> </ul>	Course available for: <ul style="list-style-type: none"> <li>F&amp;B service (544 hrs)</li> <li>Cook (520 hrs)</li> </ul>	Course available for <ul style="list-style-type: none"> <li>Food production (1 year)</li> <li>F&amp;B service Assistant (1 year)</li> </ul>

	Front Office Staff, Housekeeping Staff, F&B Service	<ul style="list-style-type: none"><li>Unemploy ed youth from the islands</li></ul>	QPs available for: <ul style="list-style-type: none"><li>Front office associate/ex ecutive (280-340 hrs)</li><li>Housekeepi ng executive/at tendant (200-250 hrs)</li></ul>	Course available for <ul style="list-style-type: none"><li>Housekeeper (520 hrs)</li><li>Hospitality Assistant (520 hrs)</li><li>Front office cum receptionist (520 hrs)</li></ul>	Course available for <ul style="list-style-type: none"><li>Housekeeper , Front Officen Associate(1 year)</li></ul>	
	Dive masters, Open water scuba instructor Scuba Divers, EFR divers, Open water divers,	<ul style="list-style-type: none"><li>Unemploy ed youth from the islands</li></ul>	QP not available	Course not available	Course not available	
	Entrepreneuri al course for setting up diving/water sports centres	<ul style="list-style-type: none"><li>Unemploy ed youth from the islands</li></ul>	QP not available	Course not available	Course not available	
Investment (INR In lakhs)		Capital Expenditure				25
		F&B Production, Caterer, Cook etc.				
		Operational Expenditure			45.24	
		F&B Service, Housekeeping, front office staff				
		Operational Expenditure			14.84	
		Diving related courses				
		Operational Expenditure			28.34	
		Entrepreneurial course				
		Operational Expenditure			17.06	
		Total Operational Expenditure			73.17	
		Total Expenditure			98.17	
Potential Partners		Partner		Areas of Support		
		Tourism Department (SPORTS) and MoS		<ul style="list-style-type: none"><li>Provide funds for training delivery, equipment support and infrastructure support</li><li>Facilitate On-Job-Training</li></ul>		
		Training Partner (National Council of Hotel Management and Catering Technology/ Government ITI/ Lakshadweep Development Academy)		<ul style="list-style-type: none"><li>Provide infrastructure for training</li><li>Training delivery</li><li>Provide faculty members</li><li>Integrate the proposed trainings in its training plan</li></ul>		
		Sports Sector Skill Council/ Tourism and Hospitality Sector Skill Council		<ul style="list-style-type: none"><li>Develop model training programmes for the identified Job Roles (in case QPs do not exist)</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>		

<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>National Council of Hotel Management and Catering Technology/ Government ITI/Lakshadweep Development Academy will provide deliver the training programmes</li> <li>Sports Sector Skill Council and Tourism and Hospitality Sector Skill Council will certify the training programmes</li> <li>Ministry of Tourism could fund the training</li> </ul>
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### Work Plan

<b>Training for Skilled job roles in Tourism and Hospitality Sector</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Upgradation of training centre (if required in case of LDA or Govt. ITI)						
Purchase of consumables						
Appointment of additional staff members (if required)						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

<b>Project 3: Trainings for fishermen community</b>				
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>Contribution of Fisheries to district GDP was Rs. 34793 Lakhs (2013-14)</li> <li>Contribution of Fisheries to district GDP has grown at CAGR of 5.17%</li> <li>Presence of CMFRI, MPEDA, CIFT in Kochi</li> </ul>			
<b>Rationale</b>	<p>Fishing is the most important economic activity of the UT. According to the 6<sup>th</sup> Economic Census of Lakshadweep, fishing and aquaculture constituted 83% of the total agricultural establishments. Fishing is a traditional economic activity and the number of active fishermen e has increased by over 39% between 2010-11 (4210) and 2013-14 (5841). The quantity of fish landings between 2004 and 2015 has increased by 88% and the value of fish landings was INR 1483 lakhs in 2013 and has remained stagnant for last few years.</p> <p>The islands are home to some of the most unique fish and exotic species. For this reason, training for rearing and breeding of <b>ornamental fish</b> could be introduced. Given that tuna fish is found in abundance, there is immense scope to explore the processed fish market with regard to tuna based fish products. Currently, <b>New opportunities are also emerging in the market for value added fish products</b> especially tuna based products. Currently there is only one tuna canning factory in Minicoy island. Apart from this, the vast deep sea varieties of fishes available in the sea around Lakshadweep is still unexploited. In order to diversify fish catch, to exploit the deep sea varieties of fish such as yellow fin tuna, big eye tuna, blue fin tuna, sharks, there is need to provide training in <b>deep sea fishing and navigation</b> with practical training to use the requisite equipment</p>			
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
	Rearing and breeding of ornamental fish	<ul style="list-style-type: none"> <li>Existing workforce engaged in fisheries</li> </ul>	Upskilling	200 in next 2 years

		Value Added fish products-	<ul style="list-style-type: none"><li>Existing workforce engaged in fisheries</li></ul>	Upskilling	50 in next 2 years	
		Deep sea fishing and navigation	<ul style="list-style-type: none"><li>Existing workforce engaged in fishery</li></ul>	Upskilling	300 in next 2 years	
Availability of curriculum	Job Roles	Target groups	Available QP/NOS	MES	CTS	
	Ornamental fish technician	Fishermen community	QP available for: <ul style="list-style-type: none"><li>Ornamental fish technician (200 hrs)</li></ul>	No course available	No course available	
	Fish and Sea food processing technician	Fishermen community	QP available for: <ul style="list-style-type: none"><li>Fish and Sea Food Processing Technician (240 hrs)</li></ul>	Course available for Processing of Fish and their By-products (314 hrs)	No course available	
	Deep sea fishing and navigation	Fishermen community	No QP available	No course available	No course available	
Investment (INR In lakhs)		Capital Expenditure				22
		Ornamental Fish Technician				
		Operational Expenditure			20.78	
		Fish and Sea food processing technician				
		Operational Expenditure			5.19	
		Deep Sea Fishing and Navigation				
		Operational Expenditure			31.18	
		Total Operational Expenditure			57.16	
		Total Expenditure			79.16	
Potential Partners		Partner		Areas of Support		
		Department of Fisheries		<ul style="list-style-type: none"><li>Upgrade the existing Fishermen training centre to make provisions for the training programmes</li></ul>		
		Training partners (Marine Products Export Development Authority (MPEDA)/Central Institute of Fishing Technology (CIFT), Cochin)		<ul style="list-style-type: none"><li>Training delivery</li><li>Provide faculty members</li><li>Integrate the proposed trainings in its training plan</li></ul>		
		Knowledge partner (Central Marine Research Institute, Cochin)		<ul style="list-style-type: none"><li>Input for designing the curriculum</li><li>Guest faculty</li></ul>		
		Agriculture Sector Skill Council		<ul style="list-style-type: none"><li>Develop model training programmes for the identified Job Roles</li><li>Identification and certification of Trainers</li><li>Identification and certification of assessors</li><li>Assessment of trainees</li><li>Certification of Trainees</li></ul>		
Training Delivery		<ul style="list-style-type: none"><li>Fisheries department to upgrade the existing fishermen training centre or set up new infrastructure to hold trainings for fishermen</li></ul>				

- Fisheries department to collaborate with CIFT/MPEDA in Cochin for delivery of trainings.
- Agriculture Sector Skill Council will certify the training programmes
- Department of Fisheries and MoS could fund the training

### Work Plan

Fisheries	in Months					
	1	2	3	4	5	6
Upgradation of training centre						
Purchase of consumables						
Collaboration with training institutes in the mainland						
Appointment of staff members						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

Project 4: Trainings for job roles in construction sector					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• Emerging investments by Andaman and Lakshadweep Harbour Works (ALHW) and Public Works Department</li> <li>•</li> </ul>			
<b>Rationale</b>		<p>In the light of the proposed investments in construction works by Public Works Department as Andaman and Lakshadweep Harbour Works (ALHW) for the upcoming years-housing, anti-sea erosion works, flood control, urban development, water supply, extension of boat jetties etc.</p> <p>Skilled workforce will be required to meet the requirements of these emerging investments.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Bar Benders and Steel fixers	<ul style="list-style-type: none"> <li>• Unemployed youth from the islands</li> <li>• Migrants</li> </ul>	Fresh Training Upskilling	100-200 in next 2 years
		Piling Workers	<ul style="list-style-type: none"> <li>• Unemployed youth from the islands</li> <li>• Migrants</li> </ul>	Fresh Training Fresh Training	100-200 in next 2 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Bar-Benders and Steel Fixers	<ul style="list-style-type: none"> <li>• Unemployed youth from the islands</li> <li>• Migrants</li> </ul>	<ul style="list-style-type: none"> <li>• QP available for Bar Bender and Steel Fixer</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Course available for Bar Bender and Steel Fixer</li> </ul>	No course available
	Piling Workers	<ul style="list-style-type: none"> <li>• Unemployed youth from the islands</li> <li>• Migrants</li> </ul>	<ul style="list-style-type: none"> <li>• QPs do not exist for Piling Workers</li> </ul>	No course available	No course available
		Bar-Benders and Steel Fixers			

<b>Investment (INR In lakhs)</b>	Operational Expenditure	38.57
	<b>Piling Workers</b>	
	Operational Expenditure	45.68
	<b>Total Operational Expenditure</b>	<b>84.26</b>
<b>Potential Partners</b>	<b>Partner</b>	<b>Areas of Support</b>
	Training Partner (Government ITI)	<ul style="list-style-type: none"> <li>• Provide infrastructure for training</li> <li>• Training delivery</li> </ul>
	Knowledge Partners (ALHW/PWD)	<ul style="list-style-type: none"> <li>• Provide inputs in developing industry relevant training material</li> <li>• Facilitate industry experience</li> <li>• Provide on-the-job training</li> <li>• Provide guest faculty/trainers</li> </ul>
	Construction Skill Development Council of India	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified job roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of trainees</li> </ul>
<b>Training Delivery</b>	Training delivery to be channeled through Government ITI	

### Work Plan

<b>Construction</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Upgradation of training centre						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Roll-out of training programme						

## 4. List of Stakeholders consulted

### 4.1. UT level consultations

Sl. No.	Stakeholder	Person	Contact No	Email
1	Directorate of Industries	Director, Buzar Jamahar	9446379010	
		Technical Officer, Poo Koya	9447956915	
2	Department of Port, Shipping and Aviation	Suprintendent, Abdullah Nazir	9495078336	
		Port Assistant, Jamaluddin	9446345245	
		Assistant Director, Muthu Koya	8547662583	
		Haniz	9496741674	
3	Department of Tourism	CEO, Jatin Goyal	8547199569	
		Assistant Director, A M Hussain	9447290786	
4	Department of Employment and Training	Statistical Assistant, Ali Koya	9446424858	
5	Department of Planning and Statistics	Assistant Director, Kuttiya Ahmed	8281515665	
6	Lakshadweep Development Corporation Limited	Officer on Special Duty, Nalla Koya	9447407522	
7	Manufacturing Unit (Dessicated Coconut powder and Oil)	Manager, Abu Salim	9495157678	
8	Kavratti Coconut based products	Manager, Cheriya Koya	9447730736	
9	Tuna Canning Factory, Minicoy	Manager, Altaf	9446414569	
10	Kadmth Coconut Manufacturing Unit	Manager, Koya Kidav	9447081121	
11	Directorate of Fisheries	Assistant Director, Kazim	9446590580	kazimkachy@gmail.com
12	Department of Cooperation	Assistant Registrar of Cooperative Societies, Hussain T F	9447521344	
13	Government ITI	ITI Principal and CEO Lakshadweep Skill Development Society, Sadiq Ali	9446740090	
14	Public Works Department	Suprintending Engineer, Mohd. Kqudage	04896-262262	
15	Society for Promotion of Nature Tourism & SPORTS	Kunji Bi Finance Division, Jabber	9447477824 9447191761	sportsfinan cehq@gmail.com
16	Lakshadweep Diving Academy	Diving Instructor, Shaukat	9447822701	

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## *Section 14: Operationalizing District Action Plans*



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# *Operationalizing District Action Plans*

Based on the demand and supply side assessment carried out by the study team, possible skilling interventions (Projects), specific to the Districts have been identified. Further, the study team has also mapped key stakeholders who might be instrumental in implementing the projects and the expected investment required to offer the training programmes to the youth. While these projects are the basis of formulating the District Action Plans, we understand that operationalizing them may require approaches tailored to the conditions prevailing in the State and the District.

The study team has proposed three broad approaches for operationalizing the District Action Plans. One of the proposed approaches or a mix of the proposed approaches can be adopted to operationalize the District Action Plans developed by the study team.

## **Approach1: Ministry of Shipping led implementation.**

During the course of the study, the existing skilling infrastructure and its ability to deliver training programmes were mapped. The primary purpose of this exercise was to assess the training capacity of existing training providers available at the District level to deliver training courses proposed as part of the District Action Plans. Further, it has been realized that in some cases, even if the training providers were interested in developing the capacity to deliver the identified training courses, the investment required on the part of government or private training provider may be very high.

Thus, there is a risk that though there may be a demand for human resources skilled in a particular skill-set, the infrastructure required may not be available and creating that infrastructure may be of very high cost. This is a likely scenario in the Ports and Maritime sector, where short term training courses have traditionally not been offered.

### **When can this approach be adopted?**

- For training courses from Ports and Maritime sector.
- Skill sets required and are identified as essential/critical for the success of initiatives planned under Sagarmala.
- Infrastructure required to deliver the training programmes is not available with the existing Training Providers in the District.
- Investment required to create the infrastructure is high and may not attract other private or government training providers.

### **Probable Roles for Ministry of Shipping**

- Invest in creation of infrastructure for training.
- Facilitate development of curriculum and training delivery.
- Identify a training partner/industry partner to deliver the training programme.

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## **Approach 2: Collaborate with State Skill Development Mission**

An alternate approach to operationalizing the District Action Plan is to collaborate with the State Skill Development Mission in delivery of the training. This approach can be adopted for training courses that are already being offered by Training Partners working with the mission. Further, this approach can also be adopted in case of the training partners empaneled with the mission can adequately enhance their capacity to deliver the training programmes required to develop these skill sets.

### **When can this approach be adopted?**

- Existence of a strong State Skill Development Mission in the State, already implementing Skill Training initiatives through a network of Training Service Providers.
- Training providers empaneled with the State Skill Development Mission have the required capacity to impart the desired skill sets.

### **Probable Roles for the Ministry of Shipping**

- Provide funding support to the State Skill Development Mission.
- Monitor key project outputs.

### **Probable Roles of the State Skill Development Mission**

- Identify training partners and carry out the procurement process.
- Manage the funds and share periodic fund utilization reports.
- Develop/implement the standard operating procedures for training.
- Monitor the progress made.
- Track the trainees trained with the support of MoS.

## **Approach 3: Collaborate with Skill Development Programmes and Schemes**

The Training Projects identified by the team can also be implemented through the existing Skill Development Programmes such as the DDU-GKY and Schemes such as PMKVY and PMKK, and other State-level flagship schemes/ programmes e.g. Kerala Academy for Skills Excellence (KASE), Government of Kerala. These projects and schemes have funding provisions to implement training programmes and systems are in place to manage the entire Training Life Cycle. Ministry of Shipping can access the funds and the training infrastructure available under these schemes/ projects and programmes by collaborating with the relevant Nodal Ministries/Departments/Agencies implementing them.

Such an association can provide partial or complete funding support to the projects identified under the District Action plans. Further, Ministry of Shipping can leverage the linkages with Industry and private players associated with the projects and schemes. For instance, under the DDU-GKY programme, there is a concept of Industry Champions, who are engaged on imparting training programmes. Such arrangements can be leveraged by the Ministry of Shipping to impart training in Ports Sector and other allied high priority sector under Sagarmala. Similarly, PMKK offers an opportunity to get support for establishing multi-skilling centers/CoEs dedicated to provide training in Ports and logistics domain.

### **When can this approach be adopted?**

- Existence of the Training Partners/Project implementation Agencies (PIAs) working under the projects and schemes in the Districts/States.

Human Resource and Skilling Requirement for 21 Coastal Districts

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- The target beneficiaries and geographies for the schemes and projects are aligned to the target beneficiaries for the MoS.

#### **Probable Roles for Ministry of Shipping**

- May require to provide funding support (partially or complete funding) to the Nodal organizations such as (DDU-GKY or NSDC).
- Monitor key project outputs.

#### **Probable Roles of the State Skill Development Mission or the Other Nodal Agency responsible for scheme implementation within the specific State**

- Identify training partners and carry out the procurement process.
- Manage the funds and share periodic fund utilization reports.
- Develop/implement the standard operating procedures for training.
- Monitor the progress made.
- Track the trainees trained with the support of Mo