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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

**Kerala:**

Ernakulam

Kozhikode

Final report

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# 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>.

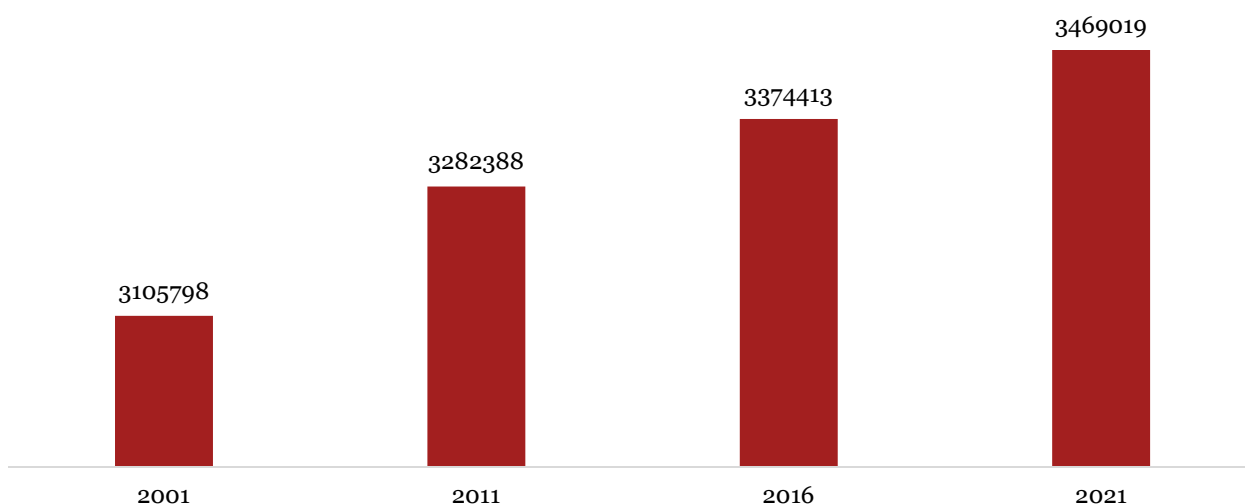
### 1.1.1. Demographic Profile<sup>2</sup>

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

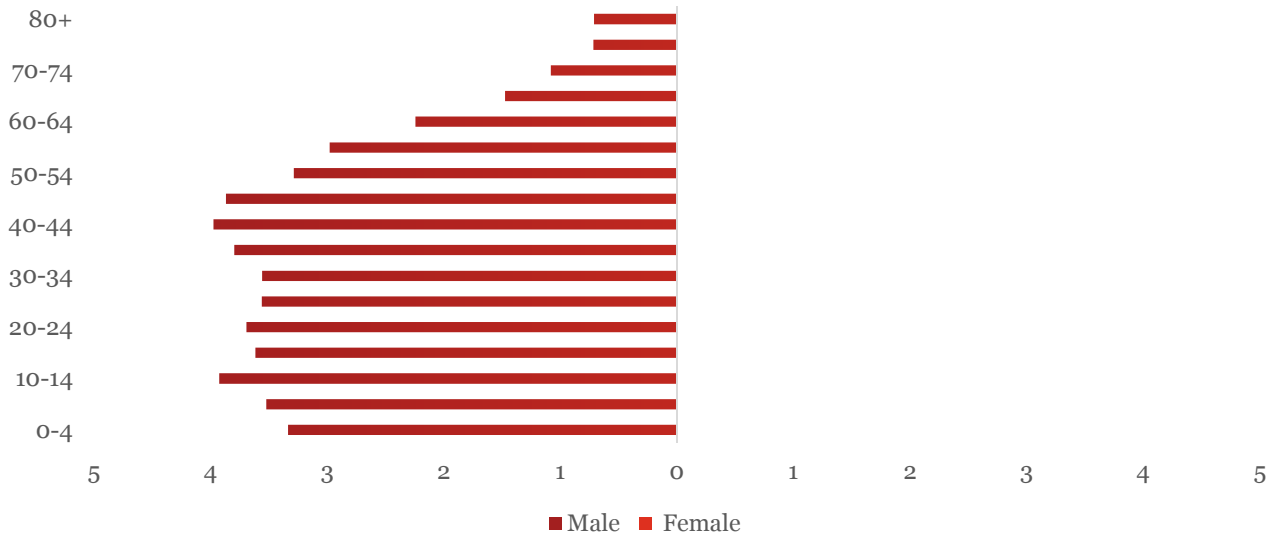
<sup>2</sup> Census 2011

<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%.

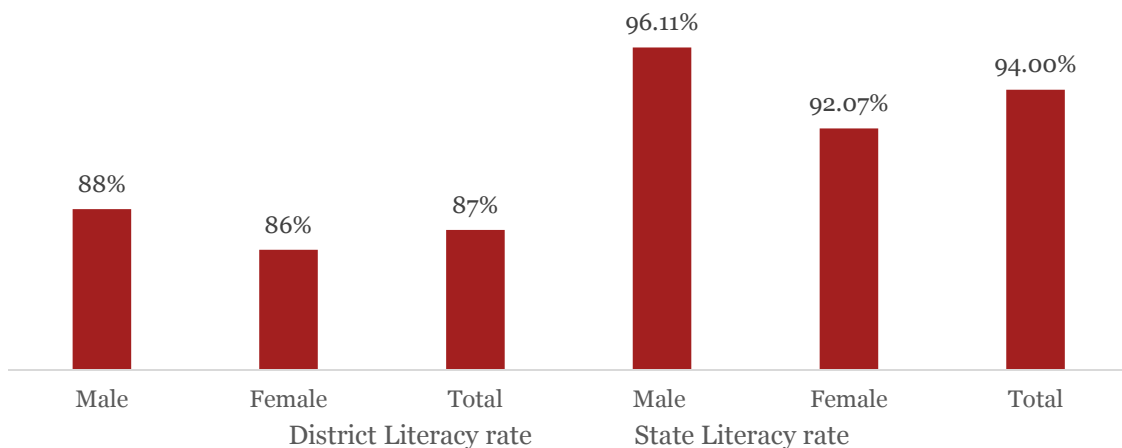
**Figure 2: Population Pyramid for Ernakulam (2011)**



### 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)**



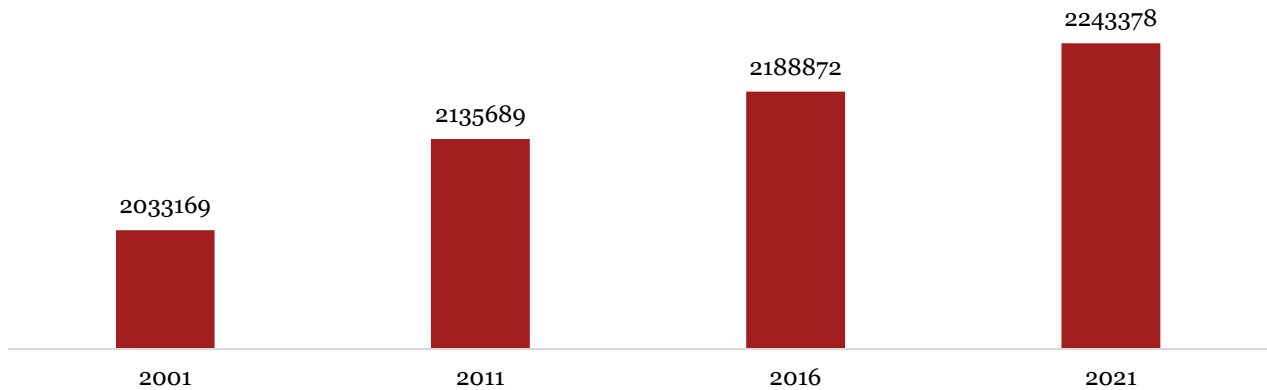
<sup>5</sup> Assuming population grows at a CAGR of 0.55%.

<sup>6</sup> Based on Census 2001 and 2011

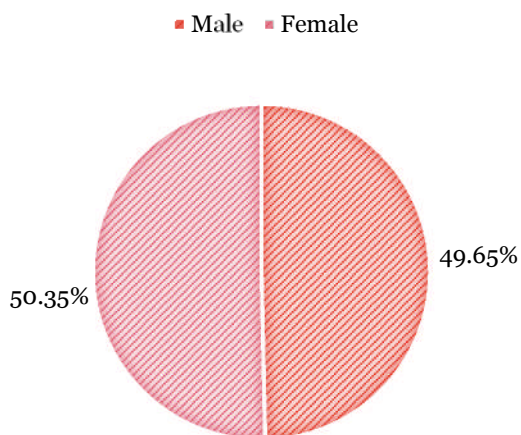
## Age specific population trends and education level for 2011<sup>8</sup>

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%.

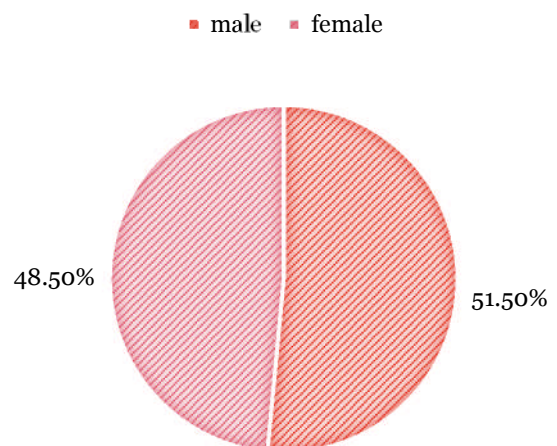
**Figure 4: Growth trend of population in the age group 15-59 year in Ernakulam (2001-2021)**



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



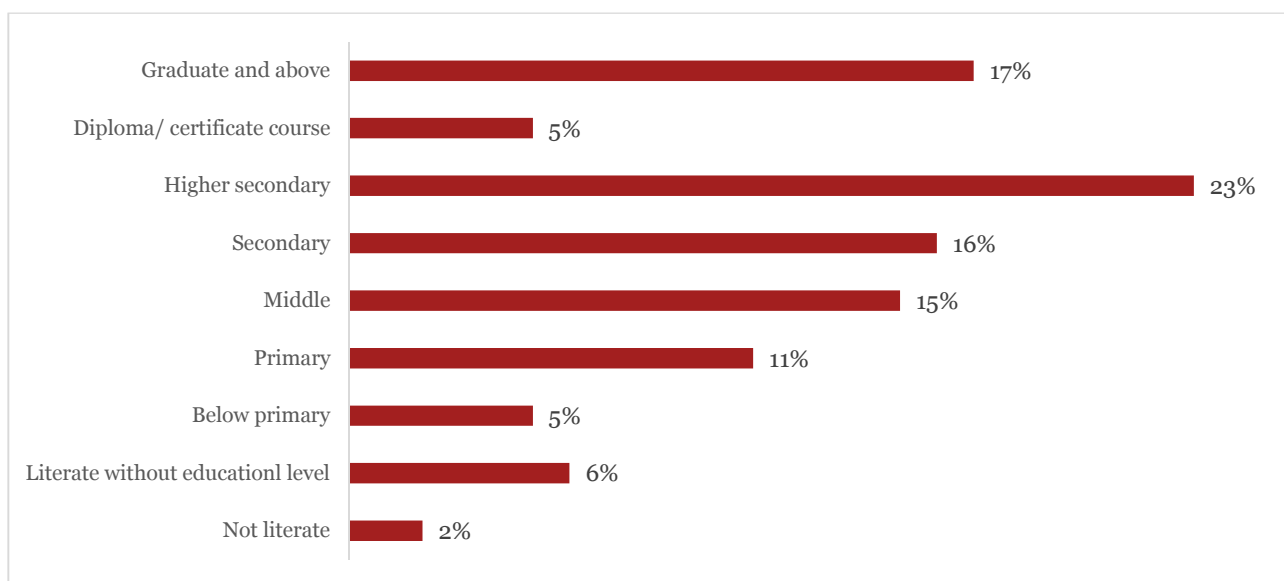
**Figure 6: Age Specific Population in Ernakulam (15-24 years)**



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.

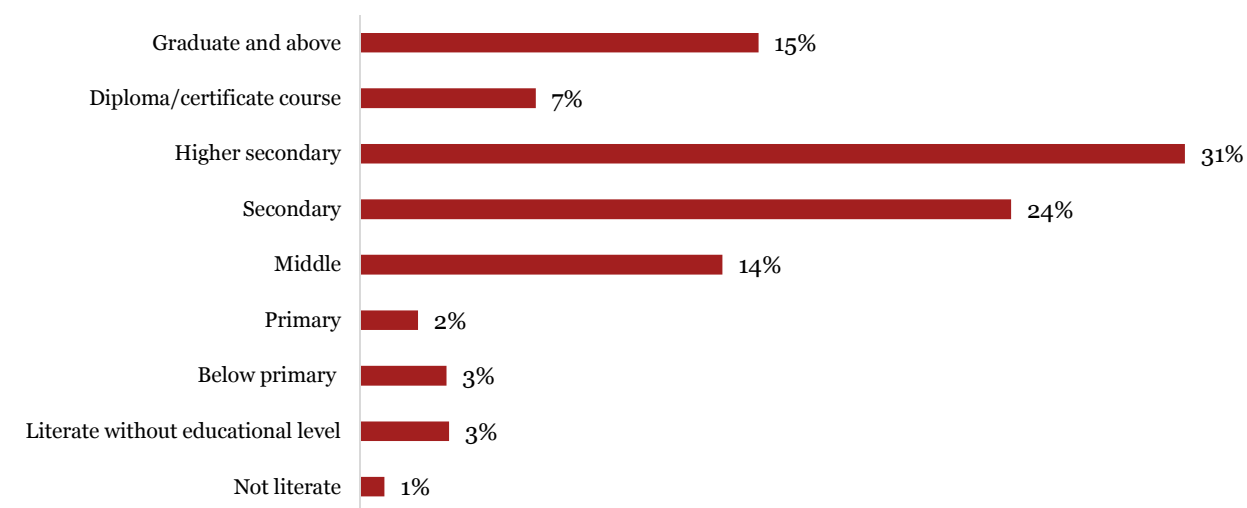
<sup>8</sup> Census 2011

**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.

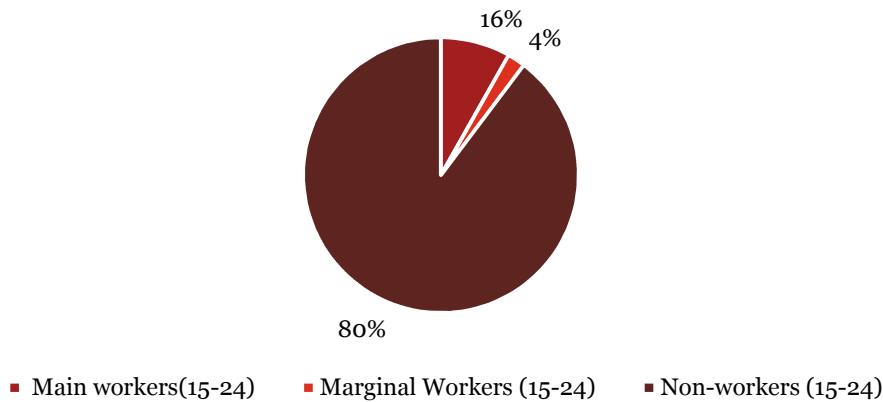
**Figure 8: Age specific education level in Ernakulam (15-24 years)**



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.

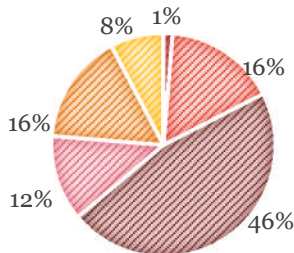
## Age specific distribution of workers and educational level<sup>9</sup>

**Figure 9: Age specific distribution of workers in Ernakulam (15-24 year)**



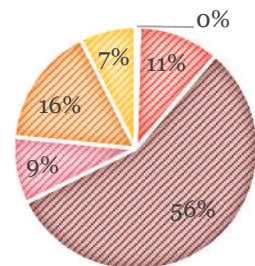
Over 80% of the population in the age group of 15-24 years are non-workers, 16% of the population are main-workers, and 4% are engaged in marginal work i.e. work for 3-6 months during the year.

**Figure 10: Education level for non-workers available for work in Ernakulam (15-24 years)**



- Not literate
- 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 marginal workers available for work in Ernakulam (15-24 year)**



- Not literate
- 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 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*

<sup>9</sup> Census 2011

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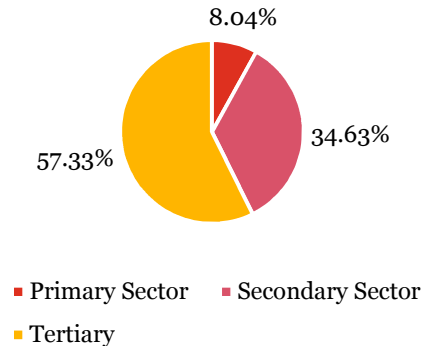
*category 15-24 years*) is only 0% and the corresponding figure for marginal workers is 1%. We also observe that the proportion of marginal workers available for work who are literate but below matric/secondary (*in the age category 15-24 years*) is more than (*by 5 percentage points*) the proportion 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.

**Figure 12: 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>• Presence of Cochin Port Trust: Amongst all major Indian ports, CoPT is the closest to the International East West Shipping routes.</li> <li>• CoPT has proposed projects worth Rs 3000 Cr for the next 10 years for harbor development , mechanisation, enhancement of terminal facilities etc.</li> </ul>
<b>Fisheries</b>	<ul style="list-style-type: none"> <li>• Annual fish production of Ernakulam constituted about 16% of the states’ production</li> <li>• Presence of multiple research and training institutions CIFT, CMFRI, MPEDA etc provides strategic advantage for skilling interventions</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• 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</li> <li>• District Tourism Department proposes to invest in beach corridor development for 9 beaches in the district worth Rs 400 Cr</li> </ul>
<b>Manufacturing</b>	<ul style="list-style-type: none"> <li>• 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)</li> <li>• 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</li> <li>• Presence of infrastructural development agencies such as KINFRA (land &amp;infra), SIDCO (land, marketing assistance) , KITCO (technical know-how &amp; training), CSEZ (land &amp;infra, Infopark (land &amp;infra), INKEL (built-up area)</li> </ul>
<b>Urbanisation and Infrastructure Development</b>	<ul style="list-style-type: none"> <li>• Cochin Smart City Mission has been appointed as a SPV by Kochi Metro Rail Ltd. (KMRL) to implement the smart city projects</li> <li>• Smart City projects worth Rs 200 lakhs are proposed for development include projects for inclusive urban development, integrated transport and mobility facilities etc.</li> </ul>

### 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

<b>Ports &amp; Maritime</b>				
<b>Major Ports: 1</b>		<b>Minor Ports: 0</b>		<b>Shipyards: 1</b>
<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				
<b>Cochin Port Trust</b>				
<i>Operations:</i>	Managed by Port Trust- a Govt. of India establishment	<i>Cargo handled</i>	220 lakh tonnes (2015-16)	
<i>Key Cargo</i>	Bulk, Liquid, Dry Bulk, Break Bulk , Container	<i>No of berths:</i>	1 9 Berths 1 SPM	
		<i>Draft</i>	9-22.5M	
<i>Description and key Trend</i>	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			
<b>Terminal Operations</b>				
	<b>Petronet LNG Ltd.</b>	<b>Ambuja Cement</b>	<b>FACT Ltd.</b>	<b>BPCL</b>
<i>Annual Capacity</i>	5 million tonnes	3 lakh tonnes	More than 2.5 lakh tonnes	10.2 MMT
<i>Type of Cargo handled</i>	LNG	Cement	Ammonia, Phosphoric acid, Sulphur etc.	Crude oil and petroleum products
<i>Manpower</i>	~230	~100-120	~105	2000
<i>High Demand Job Roles</i>	Security Staff, pipeline mechanic, fitters	Crane operators, operator, Cargo handling	Hazardous material handling, cargo handling	Crane operators, welders , electricians,
<b>Shipyards</b>				
<i>Description and key Trend</i>	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**

Sector	Proposed Investment (INR Cr)	Number of Projects	Expected Employment	Key Players
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
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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, KTEL, 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
<ul style="list-style-type: none"> <li>Investment: INR 0.25 Cr</li> <li>Expected Employment: 37</li> </ul>	<ul style="list-style-type: none"> <li>Investment: INR 32.07 Cr</li> <li>Expected Employment : 721</li> </ul>	Department <ul style="list-style-type: none"> <li>Investment: INR 4.35 Cr</li> <li>Expected Employment: 72</li> </ul>	Department <ul style="list-style-type: none"> <li>Investment: INR 10.10 Cr</li> <li>Expected Employment: 159</li> </ul>	<ul style="list-style-type: none"> <li>Investment: INR 52.71 cr</li> <li>Expected Employment: 750</li> </ul>

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:

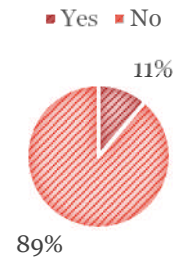
Profile	Details
<b>Total Sample Size</b>	384
<b>Gender Profile</b>	Male- 41% Female- 59%
<b>Age Group</b>	15-34 years
<b>Education Level (top 3)</b>	Senior Secondary schooling(Class 9 to 10)- 31.5% Higher secondary schooling with science (Class 11 to 12)- 17.6% Higher secondary schooling with commerce (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%),

<sup>10</sup> PwC Analysis based on aspiration survey  
Human Resource and Skill requirement study for 21 Coastal Districts of India - Kerala: Ernakulam, Kozhikode

## Exposure to Vocational Training and Educational Aspiration

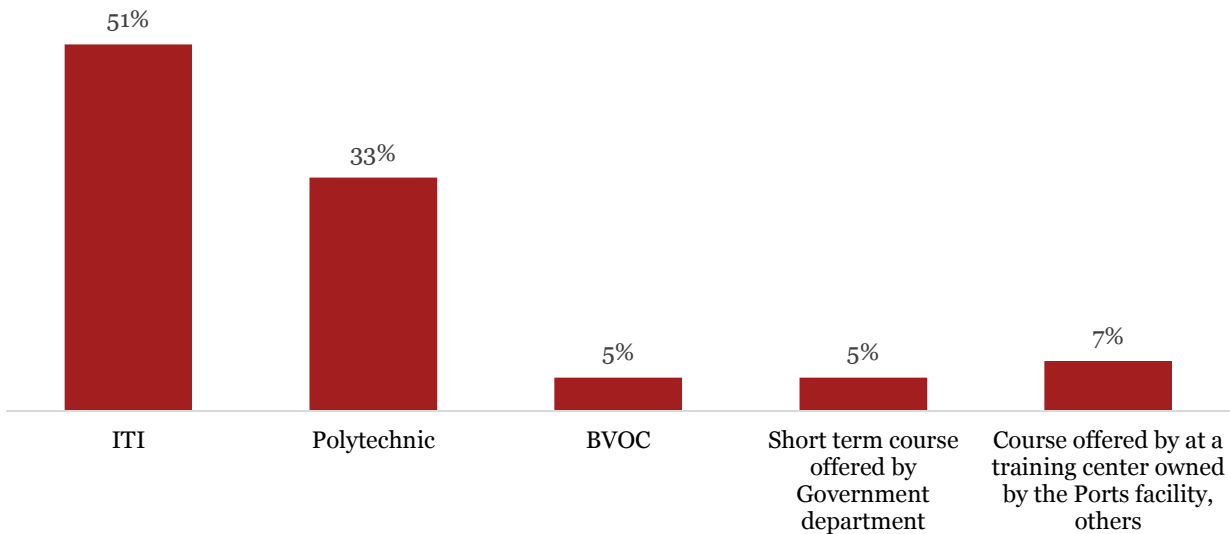
Regarding the exposure to vocational training, a large majority of the respondents had not completed any vocational training course. Only 11% of the respondents reported to have completed vocational training (Figure 14). The survey also attempted to understand the types of vocational training that respondent had undergone. Of the total respondents who underwent vocational training, majority had completed ITI (51%) and polytechnic (33%) courses. Figure 15 exhibits the percentage of respondents who completed different types of courses as part of their vocational training.

**Figure 14: Respondents who completed vocational training course - Ernakulam**

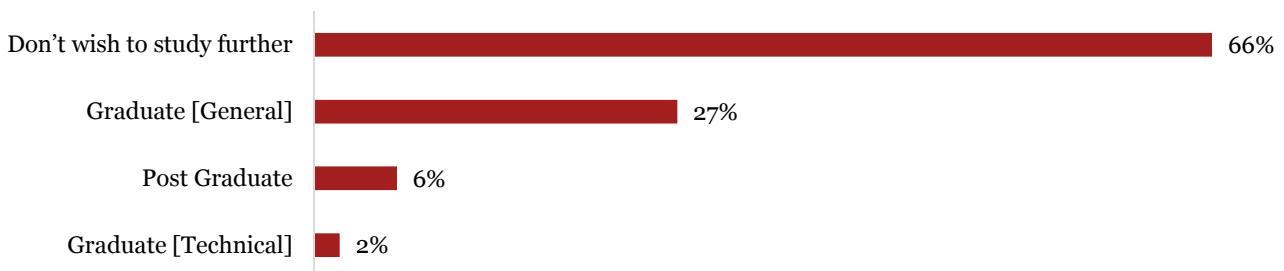


Further, the respondents were asked about the level of education they wished to attain. Two-third of the respondents (66%) didn't wish to study further. About one-third of the respondents aspired to attain graduation or post-graduation level of education. The desire to attain technical education is relatively 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

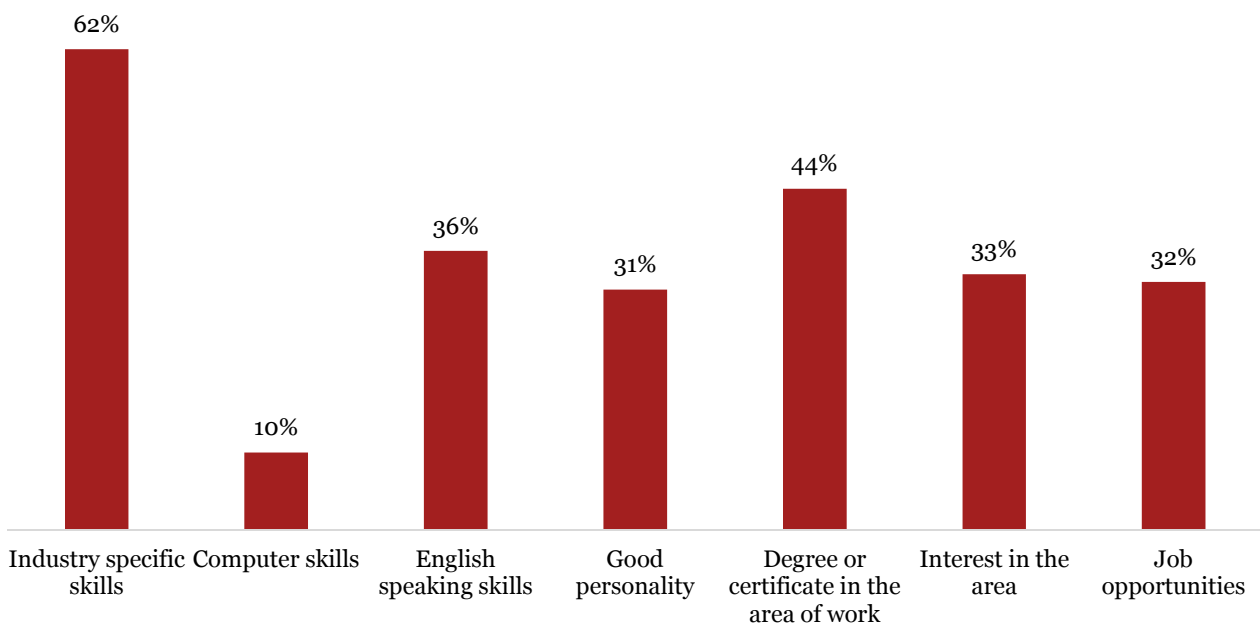
The respondents were asked to reveal their choice of employment. The finding suggests high preference for wage employment over self-employment among the youth of the district. About 91% of the respondents reported to have preferred wage employment over self-employment (Figure 17).

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**



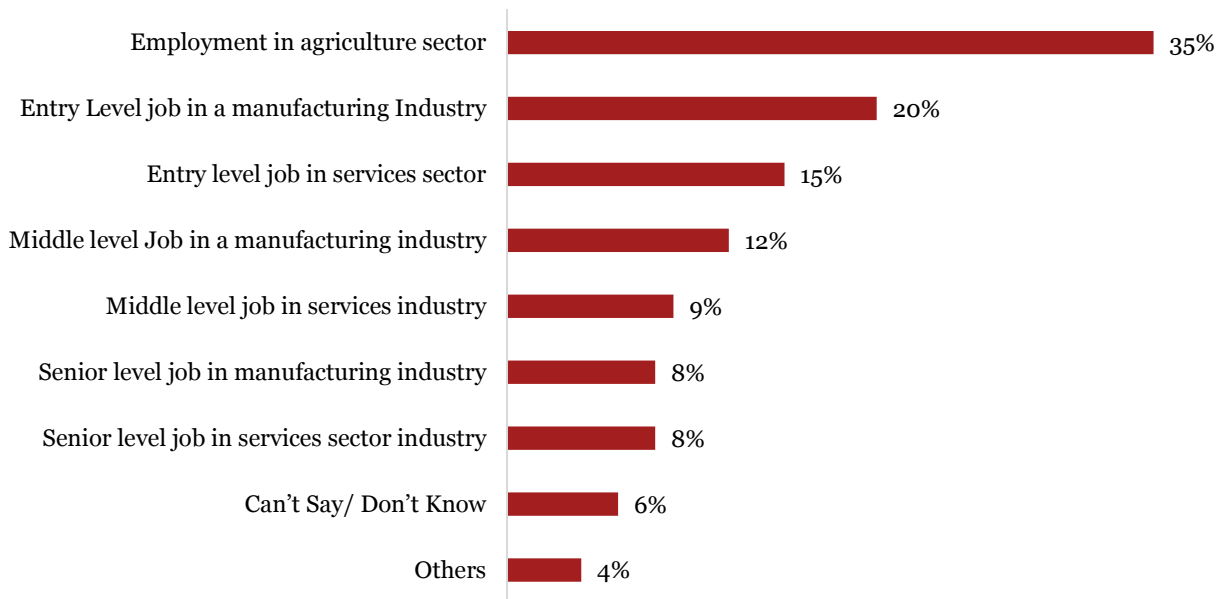
**Figure 18: Factors important for securing employment in area of interest-Ernakulam**



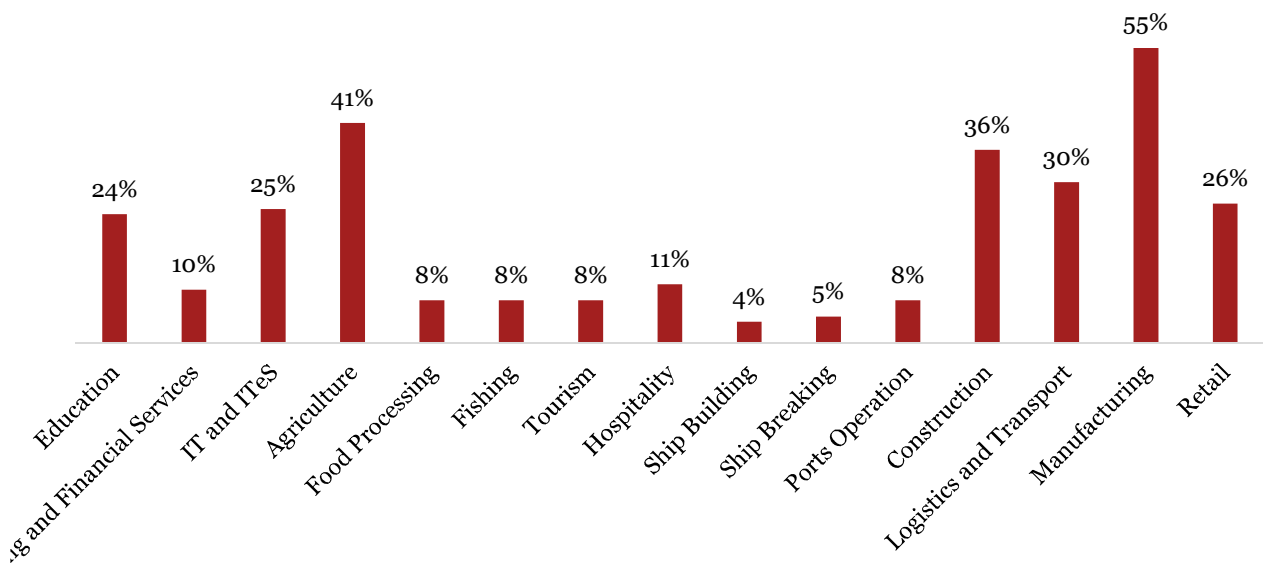
Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for jobs in manufacturing, agriculture, and service sectors. About 40% respondents aspired to get employed in manufacturing sector with majority of them expecting entry or 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).

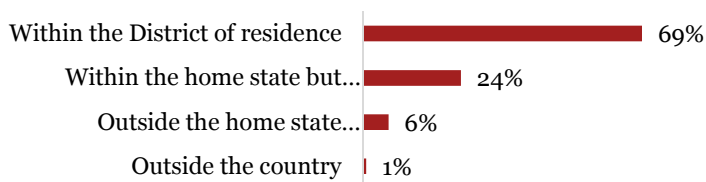
**Figure 19: Desired job profile after completion of job/training –Ernakulam**



**Figure 20: Sectors in which respondents' foresee getting a desired job -Ernakulam**



**Figure 21: Preferred work location of candidates- Ernakulam**

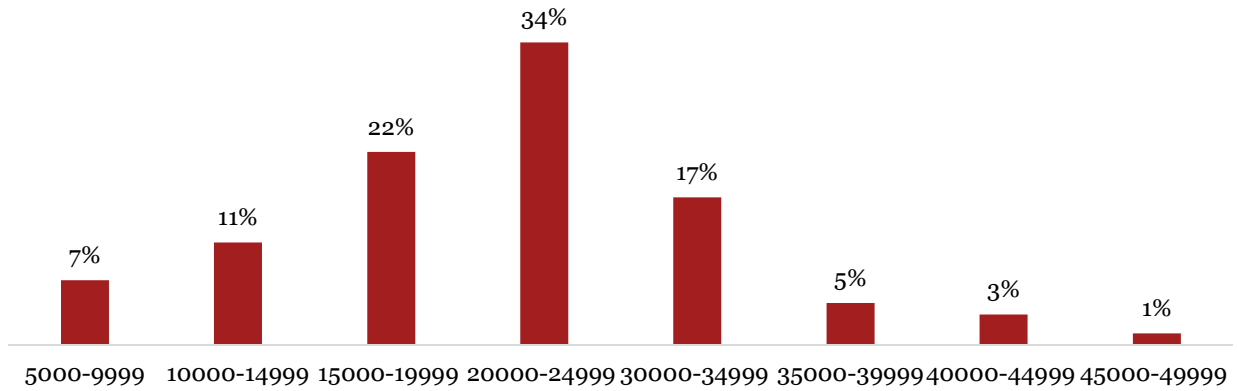


Out of total respondents, 93% preferred to work in the same state. It is important to note that more than two-third of the of the respondents (69%) preferred to work in the same district and 24% expressed willingness to migrate to other districts in the same state suggesting strong preference to get 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.

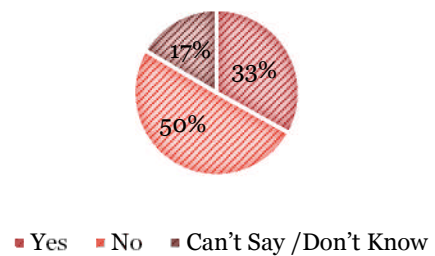
**Figure 22: Respondents expected monthly salary -Ernakulam**



### Training Aspiration

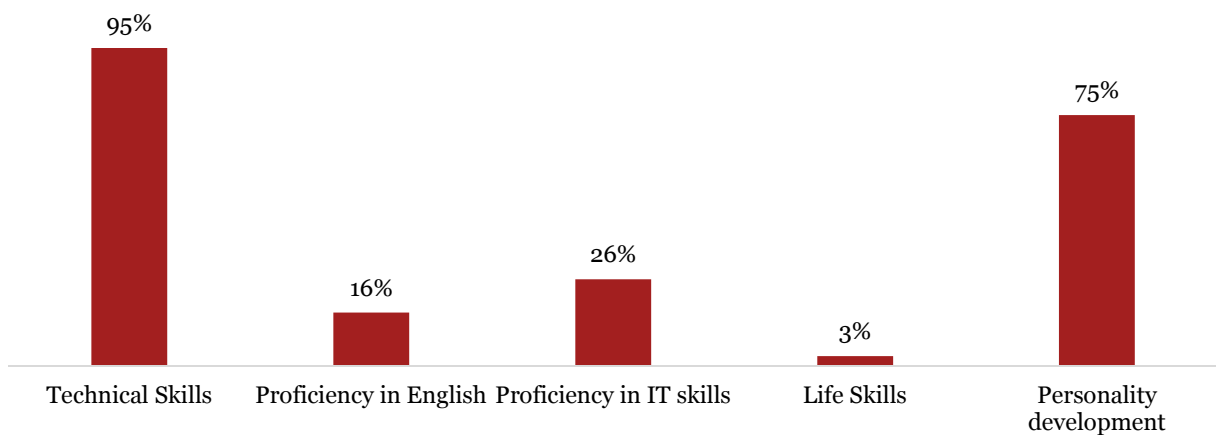
Regarding willingness of the respondents to participate in the training programme in immediate year ahead, one-third of the respondents expressed their interest to undergo vocational training course while 17% were unsure about joining a vocational training programme in the immediate year ahead (Figure 23).

**Figure 23: Willingness to participate in training in the next one year -Ernakulam**



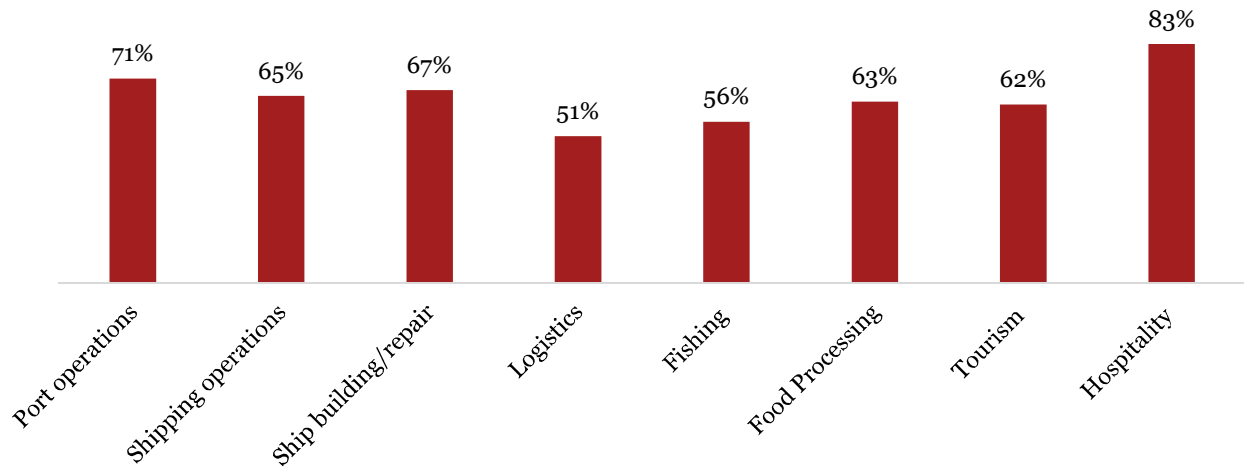
Further, when enquired about the key focus areas of skill training, 95% of respondents reported that emphasis must be laid on technical skills followed by personality development (75%) and proficiency in IT skills (26%) (Figure 24).

**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).

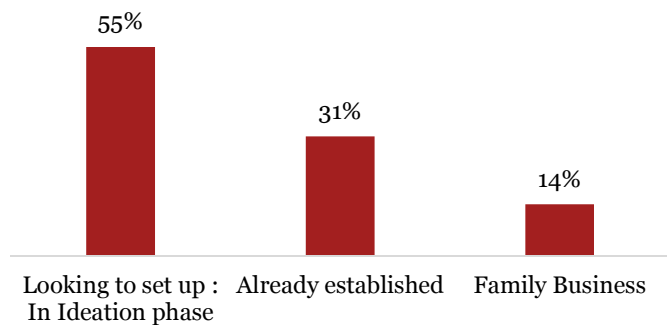
**Figure 25: Willingness of respondents to participate in trainings of different sectors - Ernakulam**



### Self-Employment

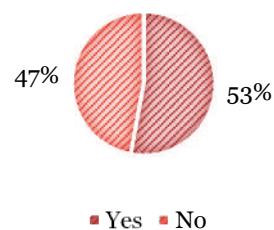
Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, majority (55%) of them reported to be looking to set up an entrepreneurial venture. A significant proportion (31%) of the respondents had already established the venture. (Figure 26)

**Figure 26: Current Status of Entrepreneurial Venture-Ernakulam**



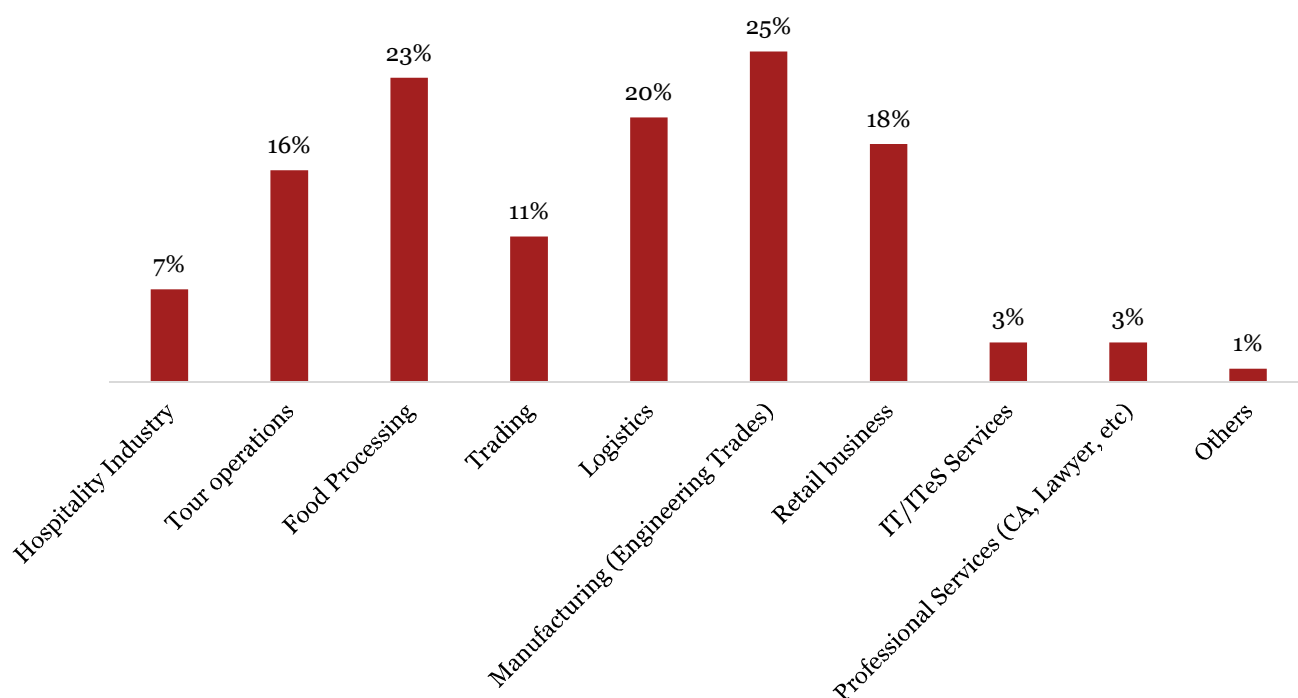
The respondents who were interested in self-employment or had established an entrepreneurial venture were asked if they would like to undergo a vocational training programme. Over 53% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 27). They were further probed for preferred sector for the training.

**Figure 27: Interested in skill development for enhancing entrepreneurial skills – Ernakulam**



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 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>

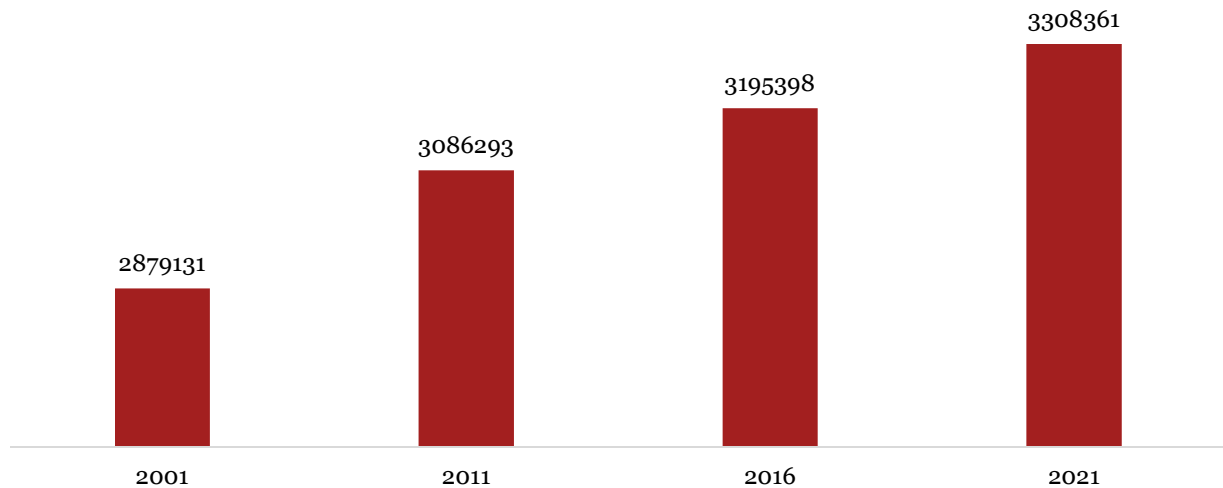
### 1.2.1. Demographic Profile<sup>12</sup>

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

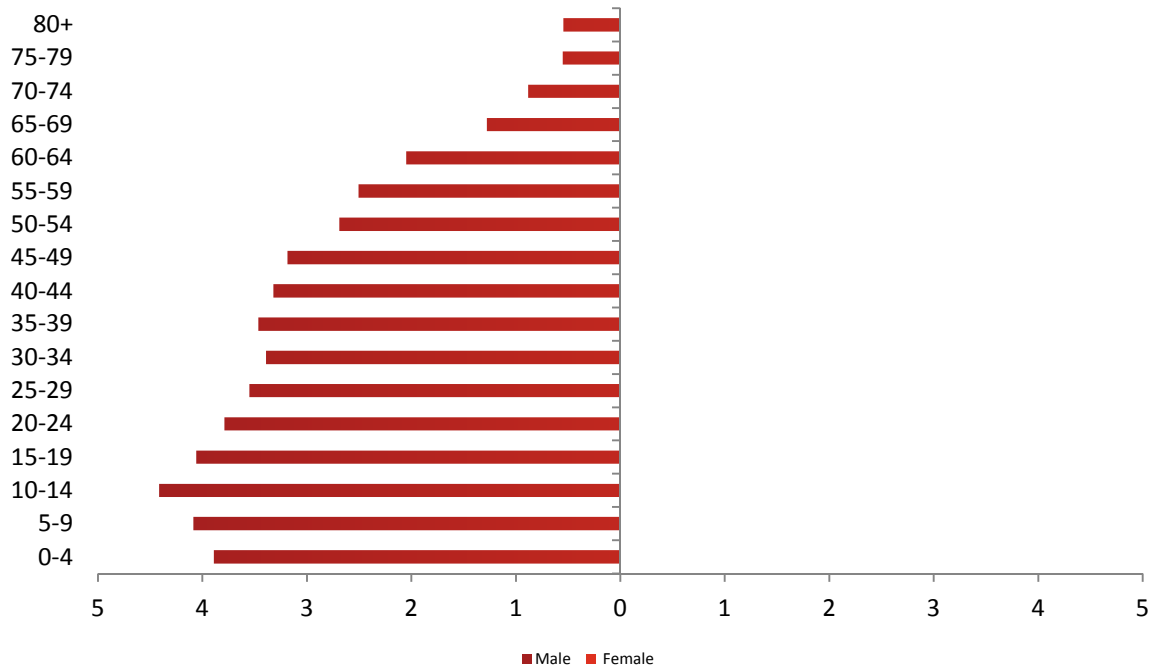
<sup>12</sup> Census 2011

<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%.

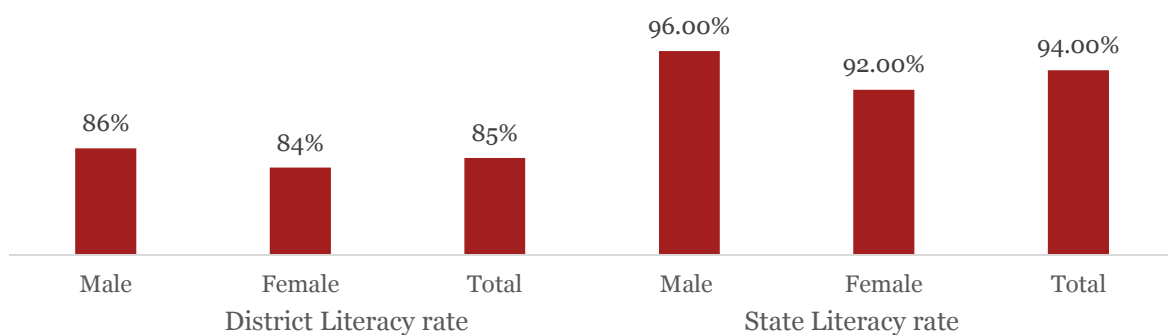
**Figure 30: Population Pyramid for Kozhikode (2011)**



### 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%

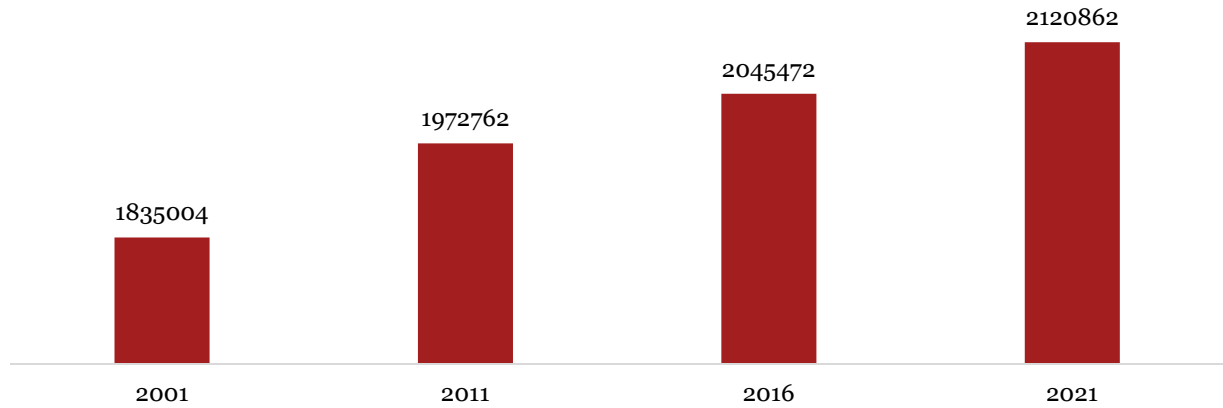
<sup>16</sup> Based on Census 2001 and 2011

<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

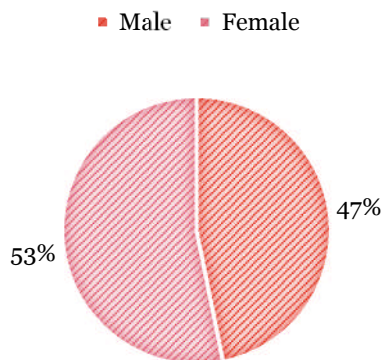
## Age specific population trends and education level for 2011<sup>18</sup>

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%.

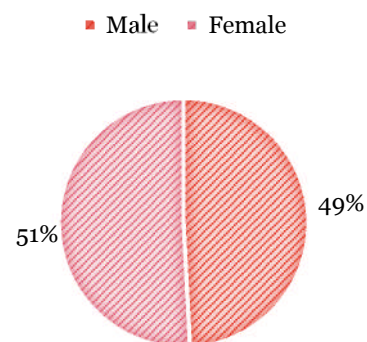
**Figure 32: Growth trend of population in the age group 15-59 year in Kozhikode (2001-2021)**



**Figure 34: Age Specific Population in Kozhikode (15-59 years)**



**Figure 33: Age Specific Population in Kozhikode (15-24 years)**



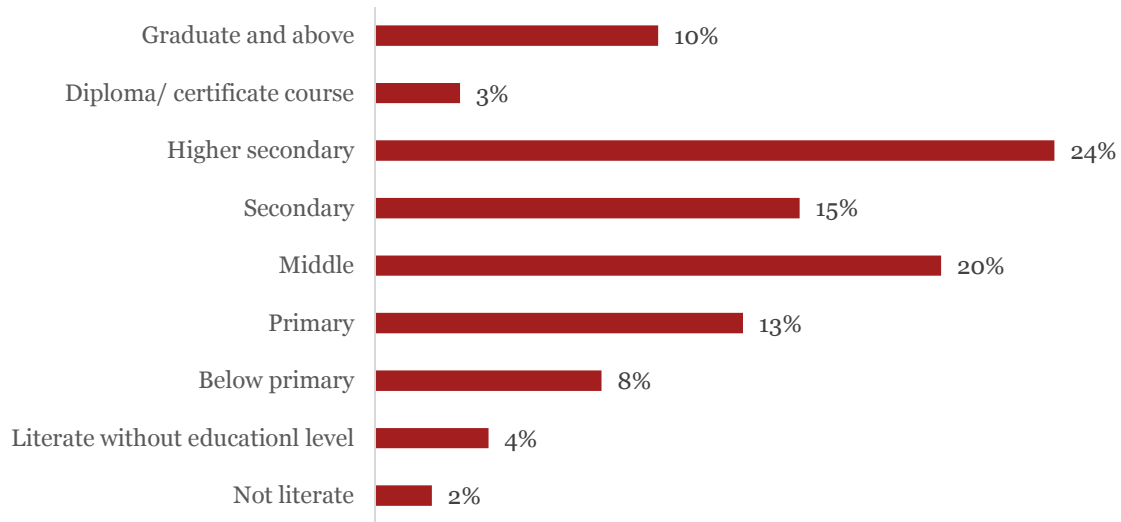
Both the age groups, 15-59 years and 15-24 years have almost equal representation of males and females with males accounting for 47% and 49% of the total population share in the 15-59 years and 15-24 years age group

<sup>18</sup> Census 2011

<sup>19</sup> Assuming population in the age group 15-59 years grows at a CAGR of 0.73%

respectively. Females account for 53% and 51% of the total population share in the 15-59 years and 15-24 years age group respectively.

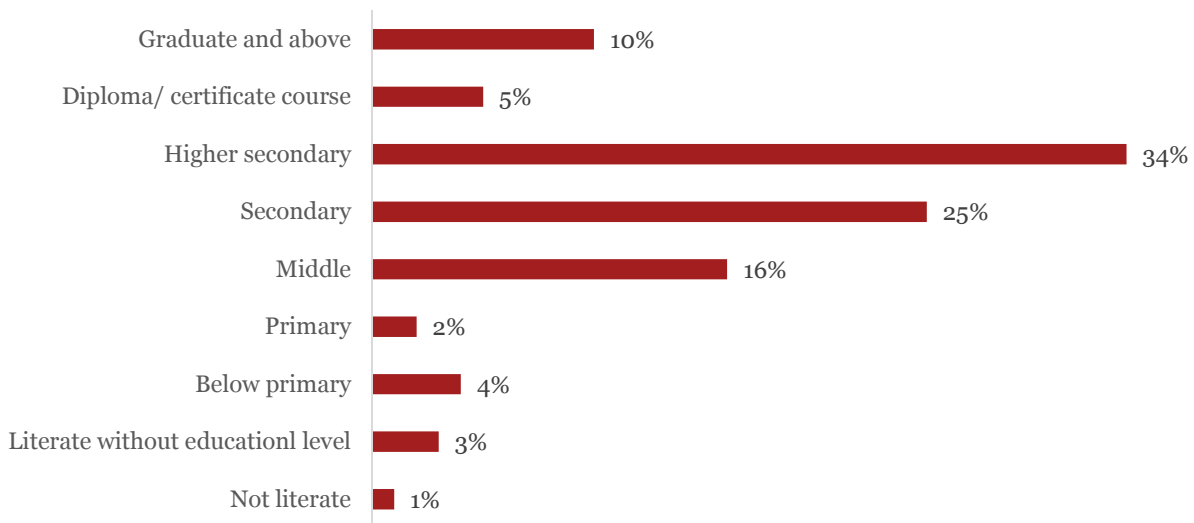
**Figure 35: Age Specific educational level in Kozhikode (15-59 years)**



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.



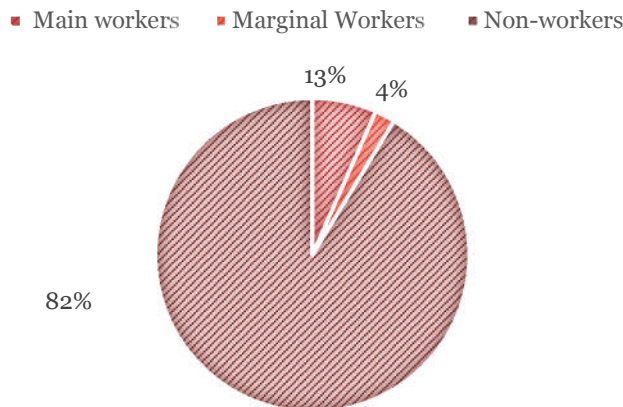
**Figure 36: Age specific education level in Kozhikode (15-24 years)**



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.

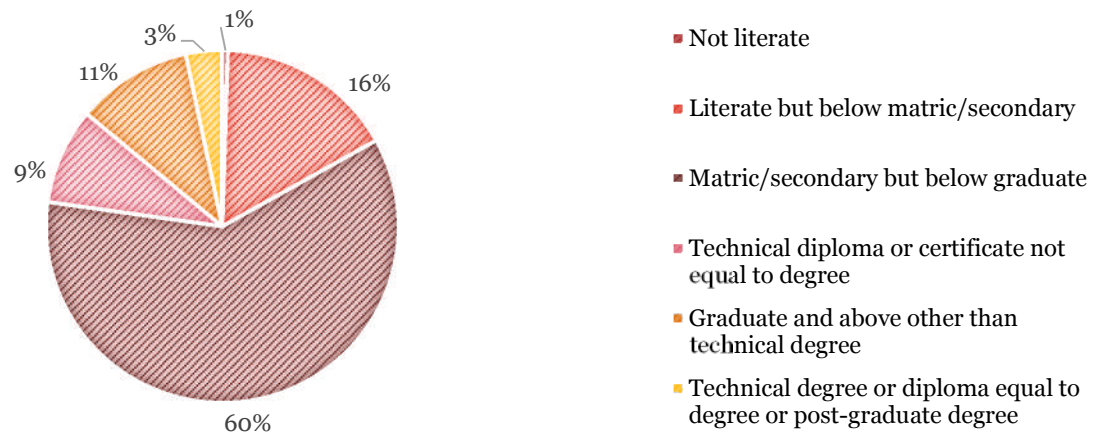
### *Age specific distribution of workers and educational level*

**Figure 37: Age specific distribution of workers in Kozhikode (15-24 years)**

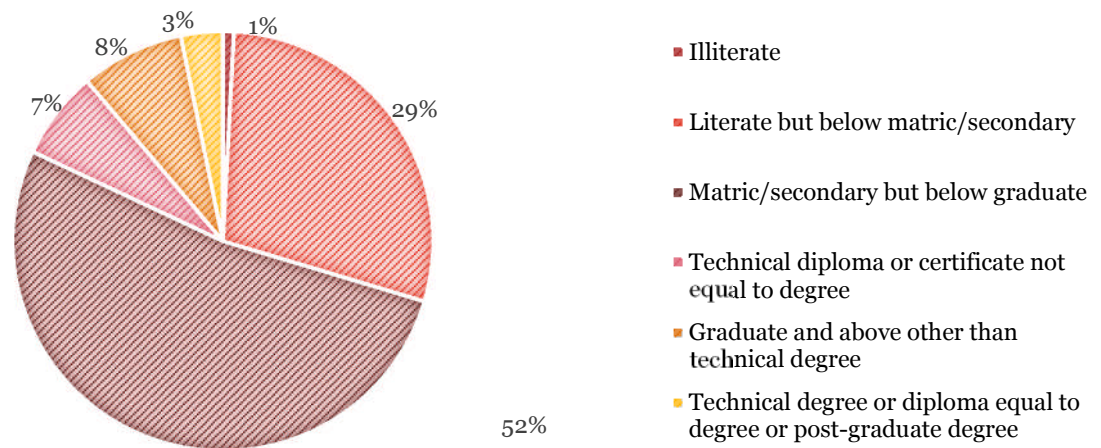


82% of the population in the age group of 15-24 years are non-workers. 13% of the population are main-workers, whereas 4% are engaged in marginal work i.e. work for 3-6 months during the year.

**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)**

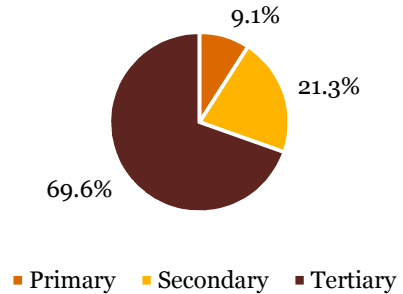


From the charts above, we find that the proportion of main workers who are illiterate (in the age category 15-24 years) is slightly more (0.4 percentage point difference between the two) than the proportion of marginal workers available for work and who are illiterate. We also find that the proportion 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:

### Port, maritime and logistics

- Bepore Port is a midway between 2 major ports Cochin and Mangalore
- Bepore port handles traffic mostly to and from Lakshadweep islands
- 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

### Fisheries

- Annual fish production of Kozhikode constituted about 14% of the states's production
- Several State and Central level schemes promote innovative practices for fishing
- Fishermen training centre proposed to be set up worth investment of INR 199.74 lakhs by Kerala State Coastal Area Development Corporation

### Tourism and hospitality

- Over 8000 foreign tourists and 6,59,133 domestic tourists visited Kozhikode (between Jan-Sep 2016)
- District Tourism Department currently invests more than INR 800 lakhs in various projects-eco-tourism projects, renovation of existing sites, beach development etc.

### Manufacturing

- Between 2009-2015 ,over 5000 units are registered with DIC with an approximate investment of INR 840Cr generating employment for 35,000 persons
- 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
- Prominent Industrial estates include DP West Hill, SIDCO West Hill, Nallalam DP which house about 120 manufacturing units (as per DIC data, 2014)

### 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 GDP are **manufacturing and banking and finance**.

### 1.2.4. About the ports

<b>Ports &amp; Maritime</b>			
<b>Major Ports: Nil</b>	<b>Minor Ports: 1</b>		<b>Shipyards: Nil</b>
<b>Details</b>			
<b>Beypore Port</b>			
<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**

<b>Sector</b>	<b>Proposed Investment (INR cr)</b>	<b>Number of Projects</b>	<b>Expected Employment</b>	<b>Key Players</b>
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
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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
Balusserly 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 Maittayitheruvu, 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
<ul style="list-style-type: none"> <li>Investment: INR 20.04 Cr</li> <li>Expected Employment : 324</li> </ul>	<ul style="list-style-type: none"> <li>Investment: INR 4.05 Cr</li> <li>Expected Employment: 110</li> </ul>	<ul style="list-style-type: none"> <li>Investment: INR 7.11 Cr</li> <li>Expected Employment: 68</li> </ul>	<ul style="list-style-type: none"> <li>Investment: INR 1.75 Cr</li> <li>Expected Employment: 25</li> </ul>	<ul style="list-style-type: none"> <li>Investment: INR 61.72 cr</li> <li>Expected Employment: 710</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	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/AAV/Don’t know</b>	APL-15.9 % BPL- 76% AAV- 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

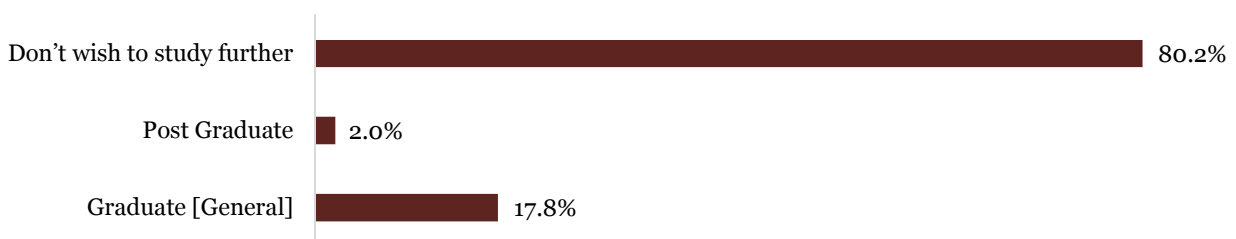
Regarding the exposure to the vocational training, most students reported that they had not completed any vocational training course. Overall, ~96% of the respondents had not enrolled in vocational training course (Figure 42).

**Figure 42: Respondents who completed vocational training course - Kozhikode**



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 43: Desired level of education -Kozhikode**

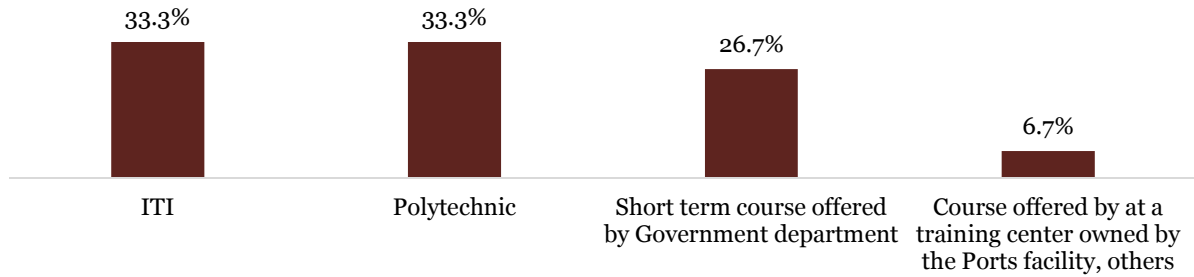


Of the total respondents who underwent vocational training (which is ~7%), majority were from ITI (33%) and polytechnic (33%). Figure 44 exhibits the percentage of respondents who completed different types of courses as part of their vocational training.

<sup>20</sup> PwC Analysis based on aspiration survey



**Figure 44: Respondents who completed courses in vocational training -Kozhikode**

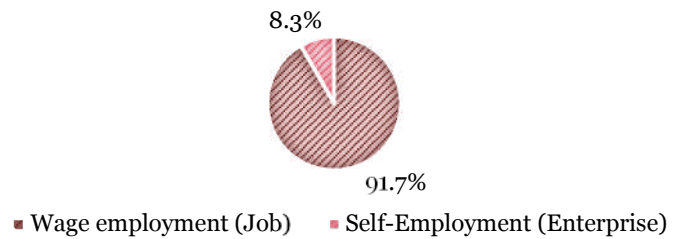


### Job Aspiration

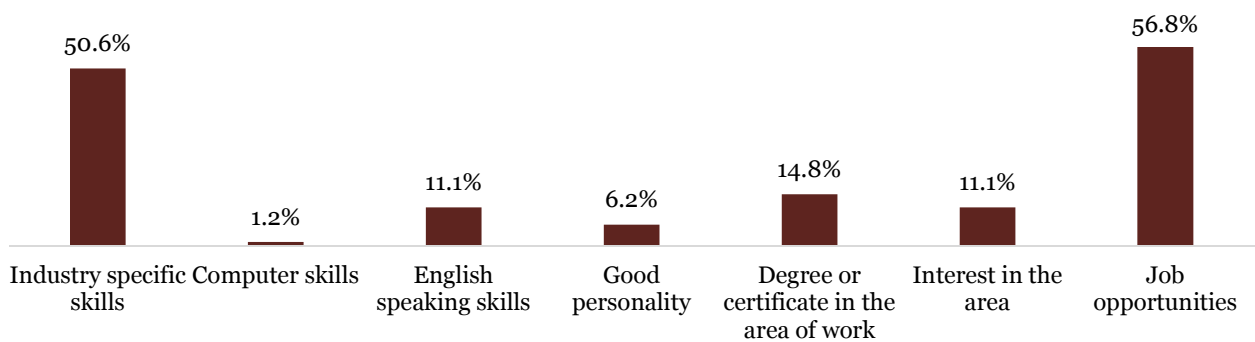
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 92% of the respondents reported to have preferred wage employment over self-employment (Figure 45 )

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**

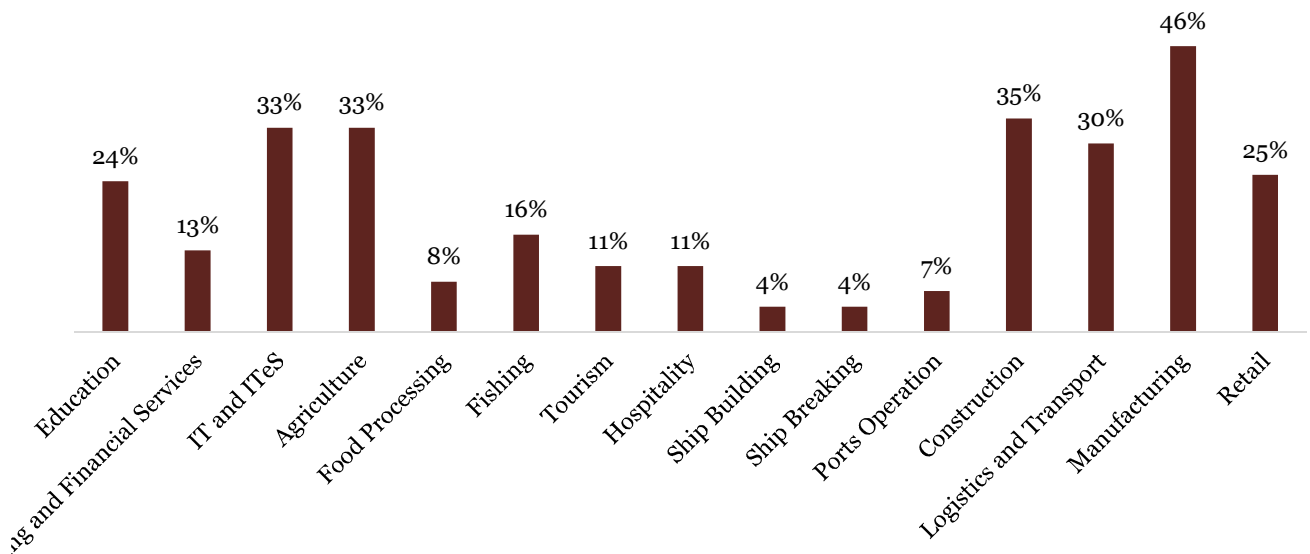


**Figure 46: Factors important for securing employment in area of interest - Kozhikode**



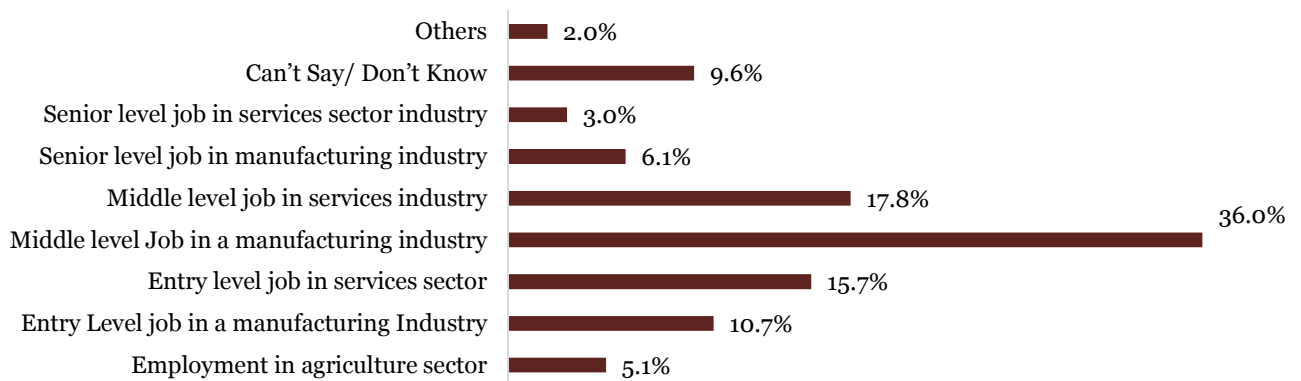
Further, Manufacturing (46%), construction (35%), IT&ITES (33%) and agriculture (33%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job in the manufacturing sector space. The details of other sectors are mentioned in Figure 47.

**Figure 47: Sectors in which respondents' foresee getting a desired job- Kozhikode**



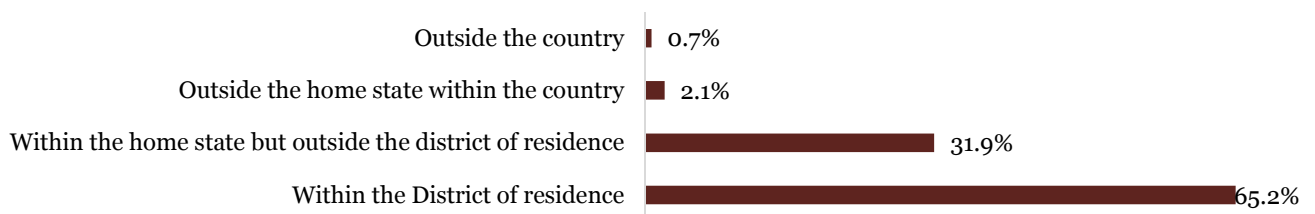
Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for jobs in manufacturing industry with 36% aspiring for middle level jobs and 18% aspiring for middle level jobs in services sector. This is followed by entry level jobs in services sector (15.7%) and manufacturing industry (10.7%) (Figure 48).

**Figure 48: Desired job profile after completion of education/training - Kozhikode**



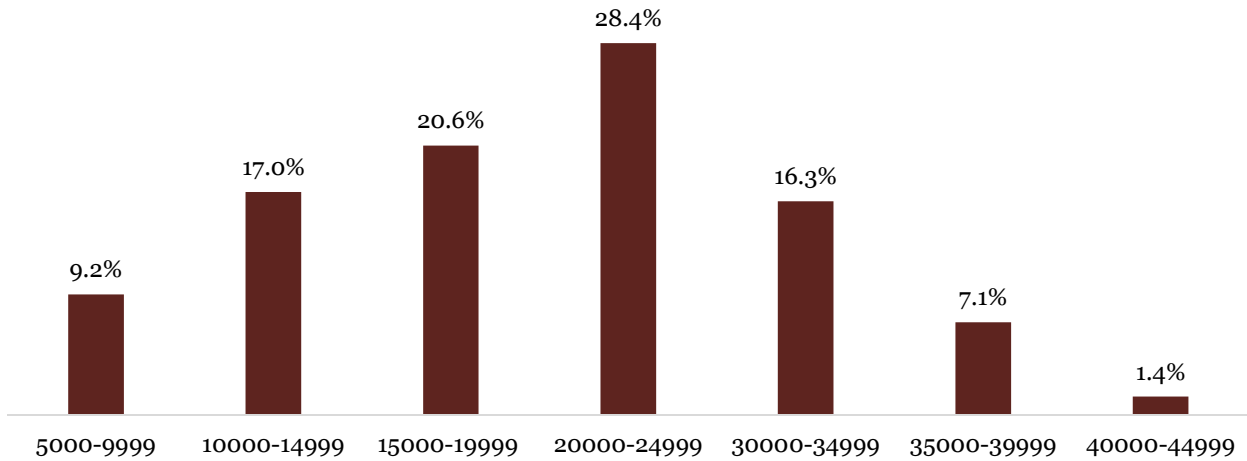
Out of total respondents, 65.2% preferred to work in the same district and 32% expressed willingness to migrate to other districts in the same state suggesting lack of flexibility among the youth of the district. (Figure 49)

**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).

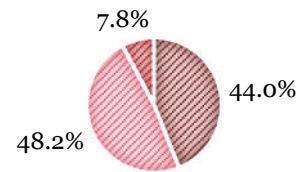
**Figure 50: Monthly salary expectation of respondents - Kozhikode**



### Training Aspiration

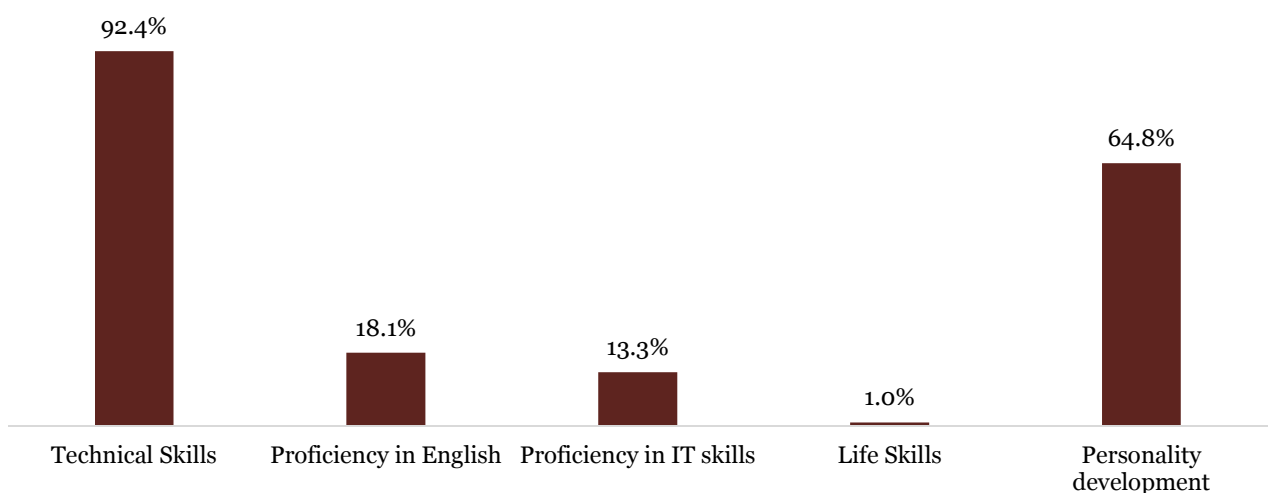
Regarding willingness of the respondents to participate in the training programme in next one year, 44% expressed interest whereas 48% expressed dis-interest (Figure 51)

**Figure 51: Willingness to participate in trainings - Kozhikode**



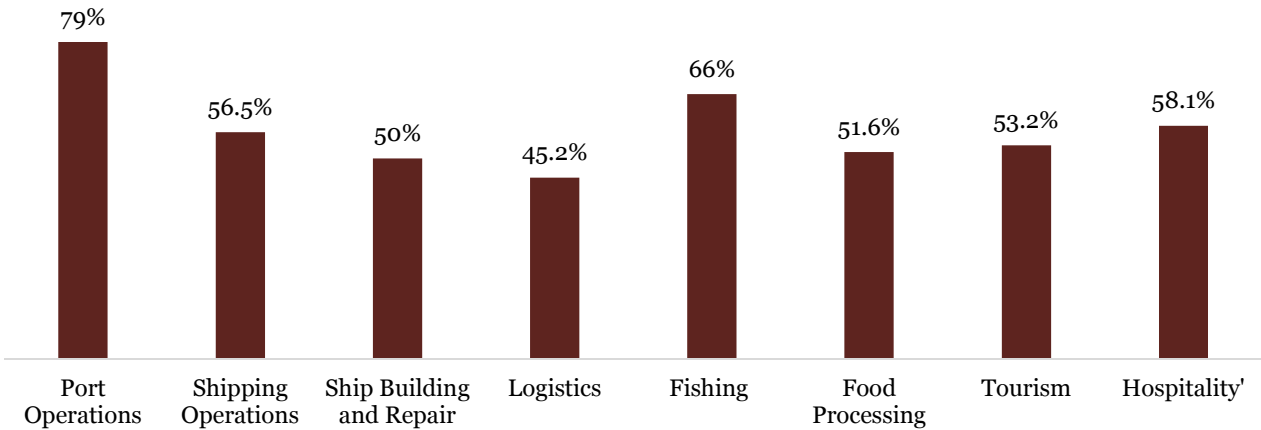
Further, when enquired about the key focus areas of skill training, 92% of respondents reported that emphasis must be laid on technical skills, followed by personality development (65%) and proficiency in English (18%) (Figure 52).

**Figure 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 53)

**Figure 54: Willingness of respondents to participate in trainings of different sectors - Kozhikode**



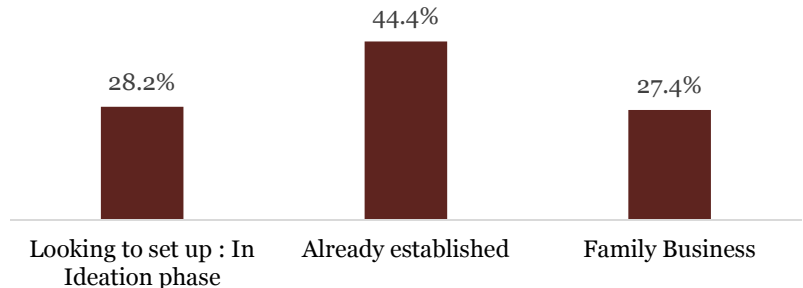
### Self-Employment

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 54).

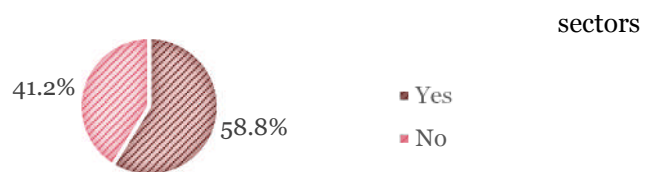
Further, 58.8% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 55).

Trading (31%), food processing (21%), retail business (16%), tour operations (15%) and manufacturing (engineering trades) (14%) have been identified as most preferred for setting up own enterprise (Figure 56).

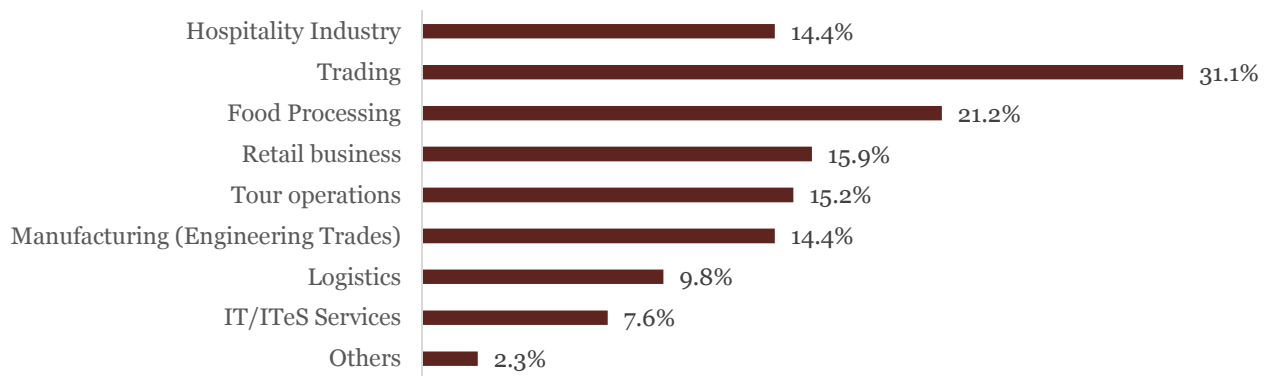
**Figure 55: Current Status of Entrepreneurial Venture - Kozhikode**



**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.

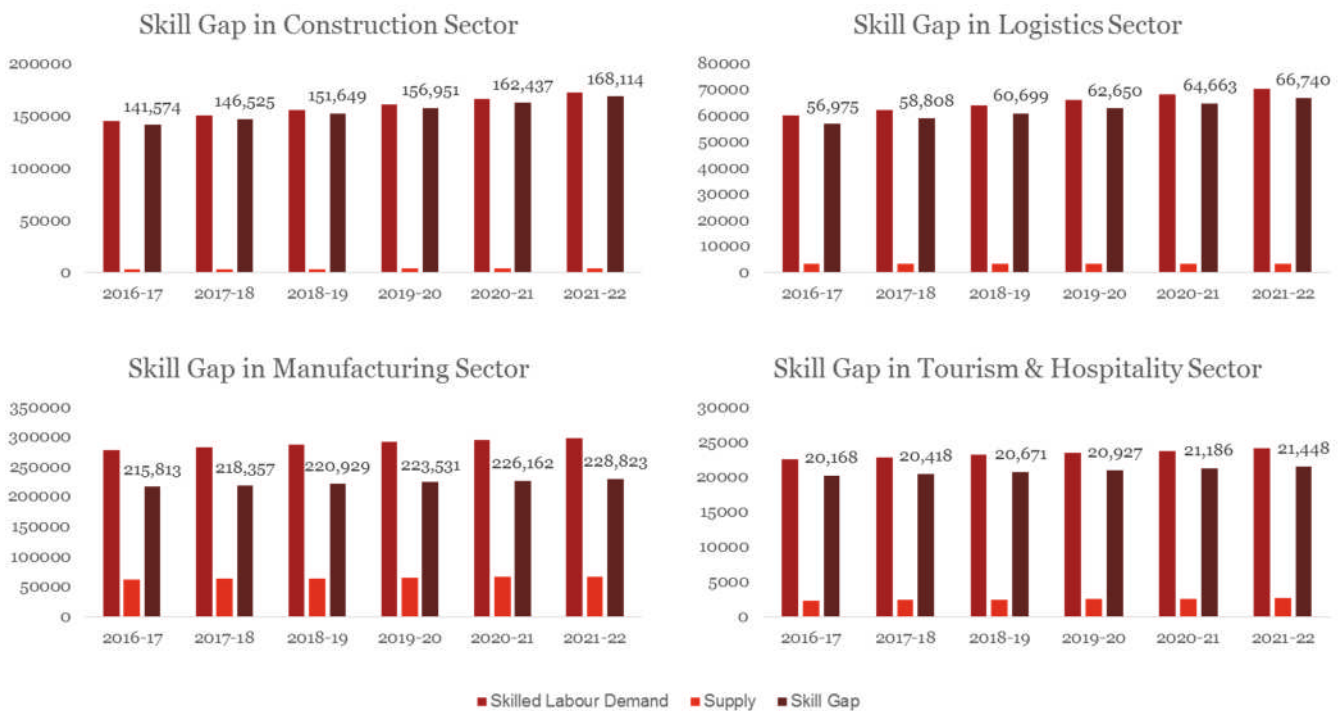
### Key trends in other Dominant Sectors in the District

- **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 well 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 1,41,5774 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.

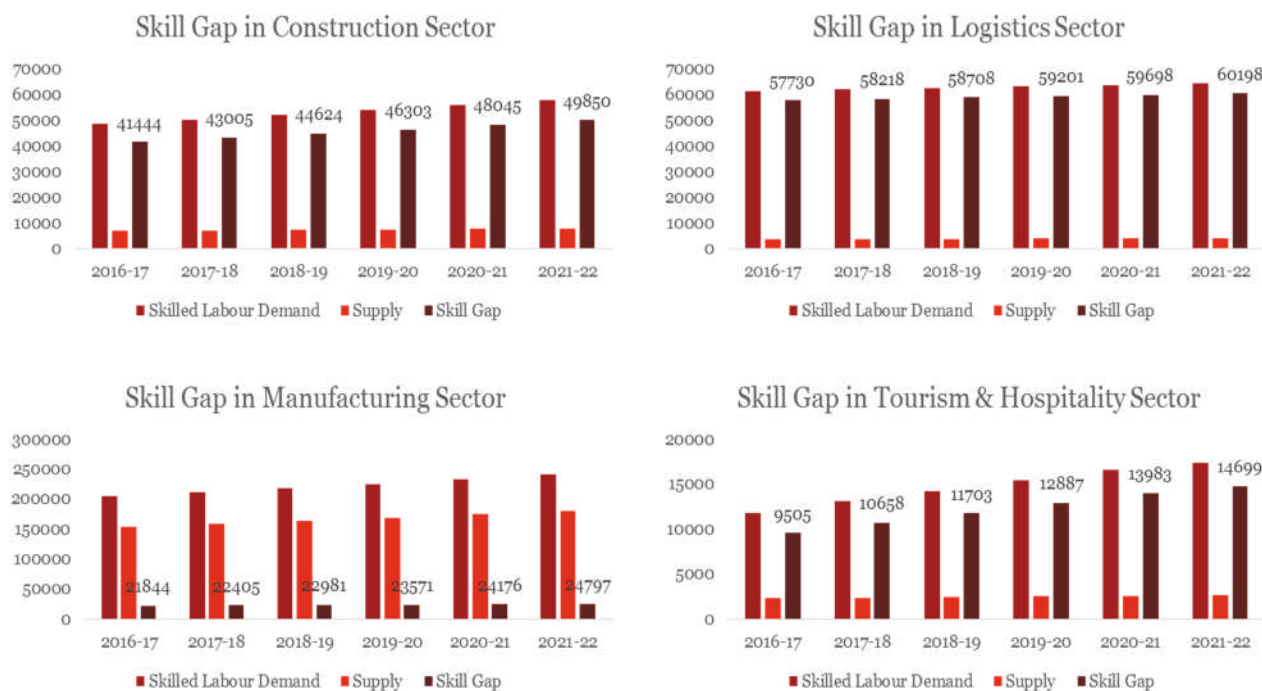
<sup>23</sup> Incremental Demand Estimates the additional stock of workforce that are to be created given the expected Economic Conditions in the period of study. This may help in estimating requirement for fresh trainings.

- 
- **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

<b>Project 1: Skill Development training for Port and Maritime sector</b>					
<b>Key economic drivers</b>		<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>			
<b>Rationale for a Training Center</b>		<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>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		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
<b>Job Roles</b>		<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>

<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.			
<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>Unskilled workers in the construction industry</li> </ul>	<ul style="list-style-type: none"> <li>Fresh Training</li> <li>Upskilling</li> </ul>	750 persons in next 5 years
		Piling Workers	<ul style="list-style-type: none"> <li>Unskilled workers in the construction industry</li> </ul>	<ul style="list-style-type: none"> <li>Fresh Training</li> <li>Upskilling</li> </ul>	750 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>
	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
<b>Investment (INR In lakhs)</b>		<b>Bar Benders and Steel Fixers</b>			
		Operational Expenditure			114
		<b>Piling Workers</b>			
		Operational Expenditure			114
		<b>Total Operational Expenditure</b>			<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> <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> <li>Identification and certification of assessors</li> </ul>	

		<ul style="list-style-type: none"> <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

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 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, 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.</p>			
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>

		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
<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>Aquaponics Technician</b>	Fishermen community Unemployed youth	QP not available	No course available	No course available
	<b>Fish and Sea food processing technician</b>	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
<b>Investment (INR In lakhs)</b>		<b>Aquaponics Technician</b>			
		Operational Expenditure			24
		<b>Fish and Sea food processing technician</b>			
		Operational Expenditure			91
		<b>Total Operational Expenditure</b>			<b>115</b>
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		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>		
<b>Training Delivery</b>		<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 communities</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>Life Guards</li> </ul>	No course available	No course available

	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>
<b>Investment (INR In lakhs)</b>	<b>Life Guards</b>				
	Operational Expenditure				46
	<b>Restaurant Cook, Chef, Housekeeping Staff, Front Office Staff</b>				
	Operational Expenditure				183
	<b>Total Operational Expenditure</b>				<b>229</b>
<b>Potential Partners</b>	<b>Partner</b>		<b>Areas of Support</b>		
	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>		
<b>Training Delivery</b>	<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						
Roll-out of training programme						



<b>Project 5: Trainings for job roles emerging in Smart City</b>					
<b>Key economic drivers</b>		<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>			
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>	
				Production of renewable energy	<ul style="list-style-type: none"> <li>Coastal communities</li> </ul>
	Solid waste management	<ul style="list-style-type: none"> <li>Coastal communities</li> </ul>	Fresh Training	100 persons in next 5 years	
			Upskilling		Fresh Training
<b>Rationale</b>		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.			
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	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
<b>Investment (INR In lakhs)</b>		<b>Solar panel installation technician and Solar panel maintenance technician</b>			
		Operational Expenditure		30	
		<b>Solid waste management technician</b>			
		Operational Expenditure		15	
		<b>Total Operational Expenditure</b>		<b>45</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> </ul>	

		<ul style="list-style-type: none"> <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>
<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 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						

<b>Project 6: Value addition courses in furniture design courses for wood based manufacturing units</b>	
<b>Key economic drivers</b>	<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>	<p>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</p>

		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> <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>
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### Work Plan

Furniture Design Course	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						
Roll-out of training programme						

Project 7: Courses in Medical Tourism				
<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 Ernakulum. The developed tourism industry in Kerala with its array of high quality resorts and hotels provides suitable opportunity for the medical tourism industry to further grow here.</p>			
<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> <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> <p><b>Option 2</b></p> <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>
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Medical Tourism Course	in Months					
	1	2	3	4	5	6
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>		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.			
<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> <li>•</li> </ul>	

### Work Plan

Furniture Design Course	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						
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>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	<ul style="list-style-type: none"> <li>Crane operators</li> </ul>	Existing workforce	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>	MES available for: <ul style="list-style-type: none"> <li>Crane operator</li> </ul>	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.			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Footwear design/Pattern design	Existing workforce	Fresh Training	600 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>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
<b>Estimated investment (in INR Lakhs)</b>		<b>Footwear Design</b>			
		Operational Expenditure	91		
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>		
		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>		
<b>Training Delivery</b>		<b>Option 1</b> <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> <b>Option 2</b> <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						

<b>Project 4: Training in Construction</b>					
<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>		

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)	<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>	<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 upcoming CoE-Indian Institute of Infrastructure and Construction in Kollam</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

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> </ul>

		<ul style="list-style-type: none"> <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 Sector Skill Council	<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	<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 Entrepreneurship Development – partnering with Entrepreneurship Development Institute of India (EDI) Ahmedabad</li> </ul> <p><b>Option 2 (and/or)</b></p> <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>

<b>Availability of curriculum</b>	• 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	
<b>Estimated investment (INR Lakhs)</b>		<b>Training for fisherman</b>				
		Capital Expenditure				10
		Operational Expenditure				76
		Total Expenditure				86
<b>Potential Partners</b>		<b>Partner</b>	<b>Areas of Support</b>			
		Department of Fisheries	<ul style="list-style-type: none"> <li>• Source of funding</li> </ul>			
		CIFT, CIFNET, MPEDA and Fisherman Co-operatives	<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>			
		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>• 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>				

<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 Coordina	9495718736	ajit@vizhinjamport.in

		tor & Head		
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	<a href="mailto:cbhkochi@gmail.com">cbhkochi@gmail.com</a>
2	Hotel Excellency	Mr. Shamir, F&B Manager	0484-2378251	<a href="mailto:excellency@eth.net">excellency@eth.net</a>
3	Kerala Tours and Travels	Partner, Nidhin	0484-2377809	<a href="mailto:kttc10@gmail.com">kttc10@gmail.com</a>
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	<a href="mailto:gm.ekm.dic@kerala.gov.in">gm.ekm.dic@kerala.gov.in</a>
7	District Labour Department	Mr. Subhash	8281980857	
8	Asten Realtors	Dr. Radha Iyer, Head-Human Resource	9946109421	<a href="mailto:radhaiyer@astenrealtors.com">radhaiyer@astenrealtors.com</a>
9	Smart City Kochi	Mr. Deepu, Director-Operations	9895076776	<a href="mailto:deepu.kk@smartcity-kochi.in">deepu.kk@smartcity-kochi.in</a>
10	Cochin Port Trust	Mr. Jimmy George, Sr. Deputy Traffic Manager	9847449034	<a href="mailto:jimmygeorge.v@gmail.com">jimmygeorge.v@gmail.com</a>
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	<a href="mailto:shival@sparrowlogistics.com">shival@sparrowlogistics.com</a>
15	Cochin Shipyard	Mr. Varadarajan, GM, Skill development Mr. K J Ramesh, Chief General Manager (HR)	9895765874 9895705152	<a href="mailto:skilldevelopment@cochinshipyard.com">skilldevelopment@cochinshipyard.com</a> <a href="mailto:gmhr@cochinshipyard.com">gmhr@cochinshipyard.com</a>

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	<a href="mailto:prakash.iyer@nykgroup.com">prakash.iyer@nykgroup.com</a>
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	<a href="mailto:eappen_baby@chakiat.net">eappen_baby@chakiat.net</a>
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	<a href="mailto:vikasingh@petronetlng.com">vikasingh@petronetlng.com</a>
23	Indian Maritime University	Captain Yogesh Shah, HOD, Nautical Sciences	9207783111	<a href="mailto:ycshah@imu.ac.in">ycshah@imu.ac.in</a>
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	<a href="mailto:pmraju@merchem.com">pmraju@merchem.com</a>
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	<a href="mailto:gemwood@md3.vsnl.net.in">gemwood@md3.vsnl.net.in</a>
30	Industrial Engineering Corporation	Mr Biju K Nair, Managing Partner	9846032242	<a href="mailto:ieebarrels@gmail.com">ieebarrels@gmail.com</a>
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	<a href="mailto:nibujohn@cumi.murugappa.com">nibujohn@cumi.murugappa.com</a>
34	Metro Paints and Coating Pvt. Ltd	Mr. Itty, Director	0484-6572101	
35	Hi-build Coatings Pvt. Ltd	Mr. Honey Babu	9847104970	<a href="mailto:hbabu@hi-buildcoatings.com">hbabu@hi-buildcoatings.com</a>
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	<a href="mailto:sunil.nair@ambujacement.com">sunil.nair@ambujacement.com</a>
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, Loby Manager	9447401120	
49	National Institute of Fisheries Post Harvest Technology and Training (NIFPHATT)	Mr. Varghese John, Marketing Officer	9447609691	
		Mr. Sreekumar (Training cell)	9446040535	<a href="mailto:csrkmr@gmail.com">csrkmr@gmail.com</a>
50	CMFRI	Mr. Bobby (HRD)	9446739731	
		Dr. Shyam. S.Salim, Principal Scientist	9746885361	shyam.icar@gmail.com, shyam.cmfri@gmail.com
51	Zuari Cement	Terminal Manager	0484-2381710/11	
52	IOCL	Mr. Bhaskar, Terminal Manager	0484-2666298/2666015	

### 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	<a href="mailto:pkmushtaqali@rediffmail.com">pkmushtaqali@rediffmail.com</a>
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, Karuvisseriy	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	<a href="mailto:hr@cybrosys.com">hr@cybrosys.com</a>
47	Sweans technologies	Ms. Sarayu, HR executive		-
48	Cochin Bakery	Mr. Sajeev, 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	<a href="mailto:itiwcalicut@gmail.com">itiwcalicut@gmail.com</a>
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	<a href="mailto:ecostatkh@gmail.com">ecostatkh@gmail.com</a>

55	Employability Exchange	Mr. Venugopalan, Employment officer	9249123786	
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