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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

Goa:  
North Goa  
South Goa

Final report

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# 1. District Profile

## 1.1. Goa

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

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

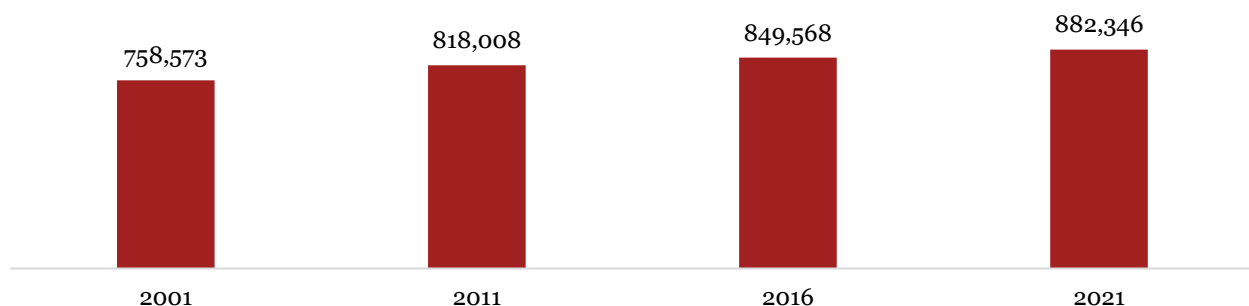
### 1.1.1. Demographic Profile – North Goa

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

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

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

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



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

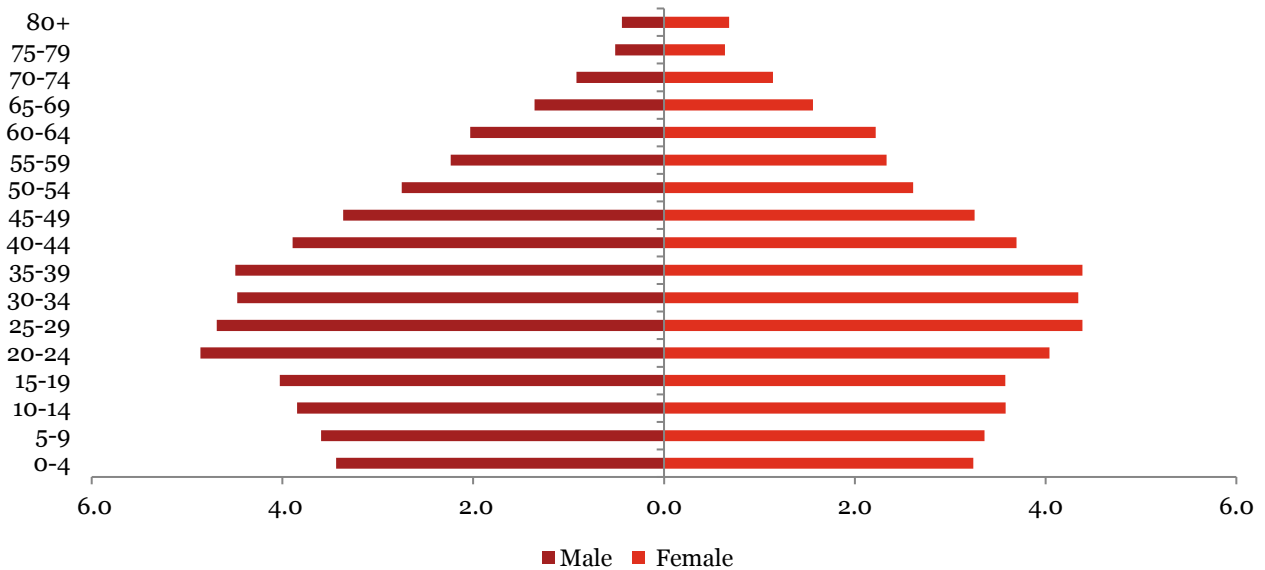
<sup>2</sup> Census 2011

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

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

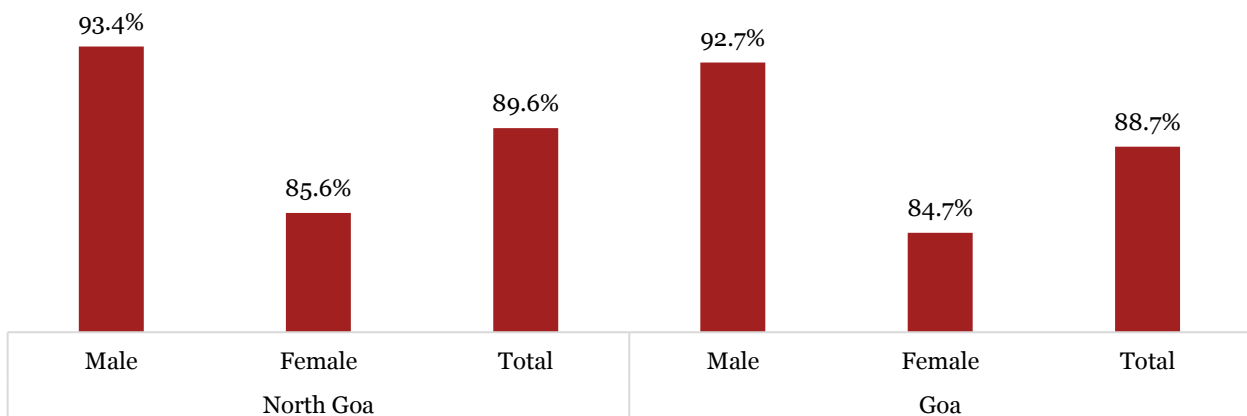
North Goa currently has a large proportion of youth population. More than 20% of the population is in the age group of 20 to 40 years. However, it is evident that this proportion will gradually decline. Thus, the District will need to act quickly on scaling its capacity to skill.

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



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

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



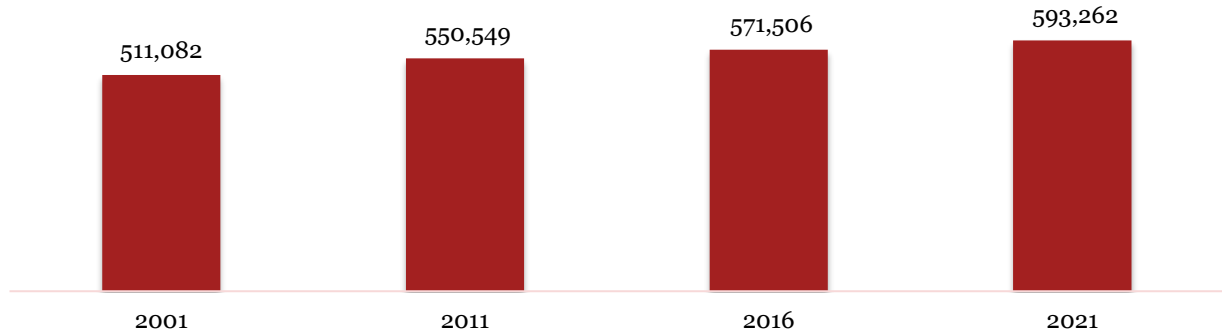
Goa with an average literacy rate of 88.70%, fares fairly well when compared to the national average of 74.04%. North Goa (89.6%) has a better literacy rate as compared to Goa (88.7%) as a State. The literacy rates are higher amongst males (93.4%) as compared to females (85.6%) in North Goa.

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

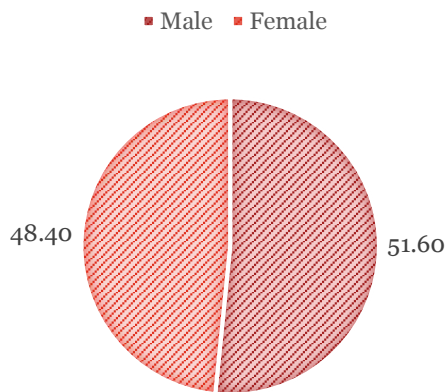
## Age specific population trends and education level for 2011<sup>6</sup>

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

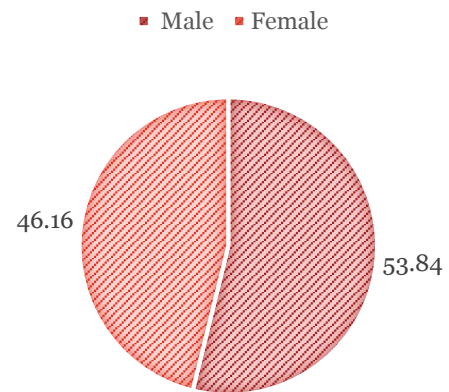
**Figure 4: Growth trend of population in the age group 15-59 years in North Goa (2001-2021)<sup>7</sup>**



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



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

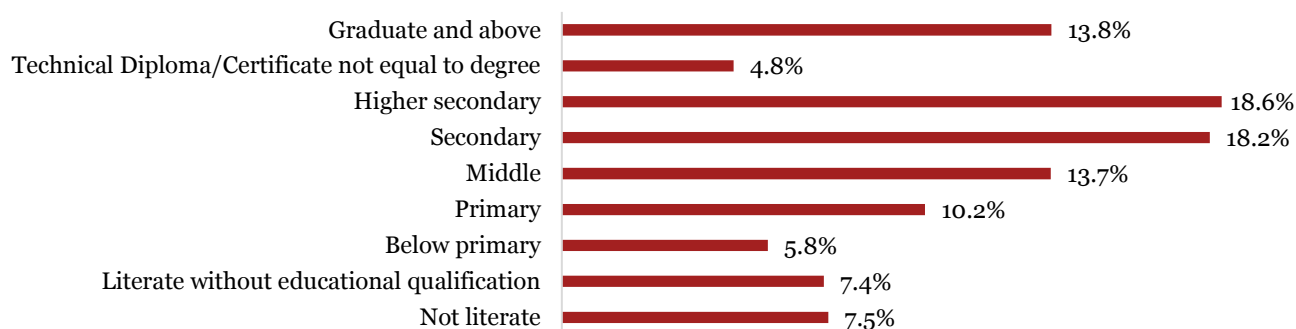


While in the age group of 15-59 the share of population of males and females in total population of North Goa is around 51.60% and 48.40% respectively. The share of population of males and females in the age group of 15-24 is 53.84% and 46.16% respectively. This indicates a widening gap between the share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

<sup>6</sup> Census 2011

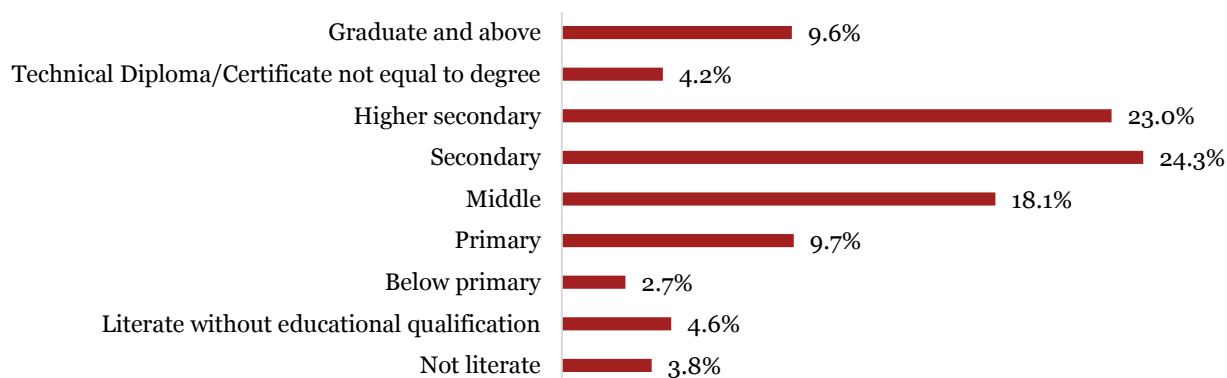
<sup>7</sup> PwC Analysis

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



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

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



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

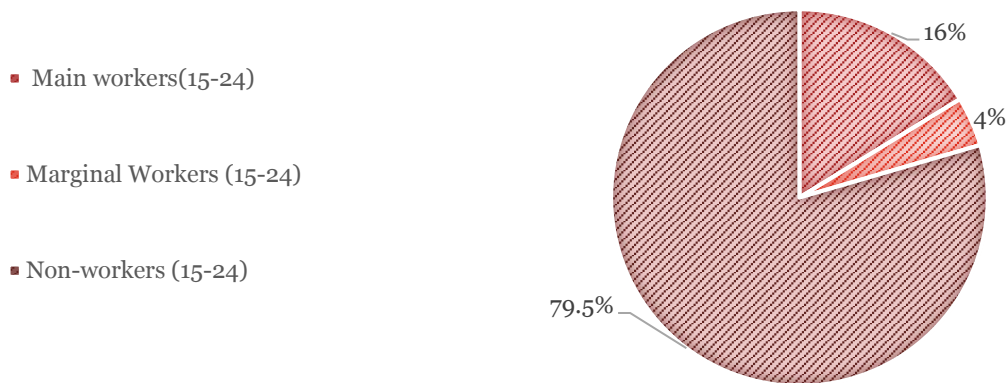
It is emerging from the analysis that in the age group of 15-24 years there is a significant increase in the proportion of individuals who have attained Middle, Secondary and Higher Secondary level of education as compared to data available for the age group of 15-59 years. However, the proportion of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

<sup>9</sup> PwC Analysis

<sup>10</sup> PwC Analysis

## Age specific distribution of workers and educational level

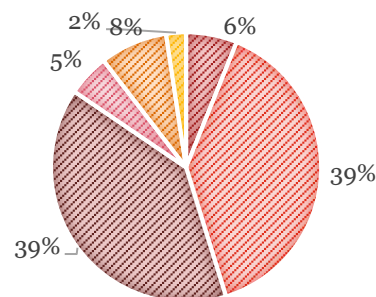
**Figure 9: Age specific distribution of workers in North Goa (15-24 years)**



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

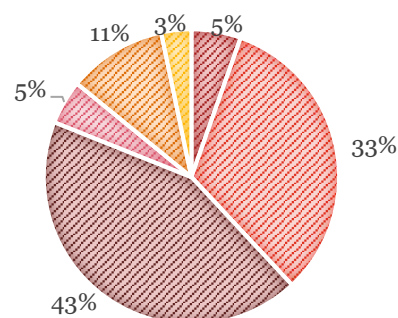
**Figure 10: Education level of marginal workers available for work in North Goa (15-24 years)**

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

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



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

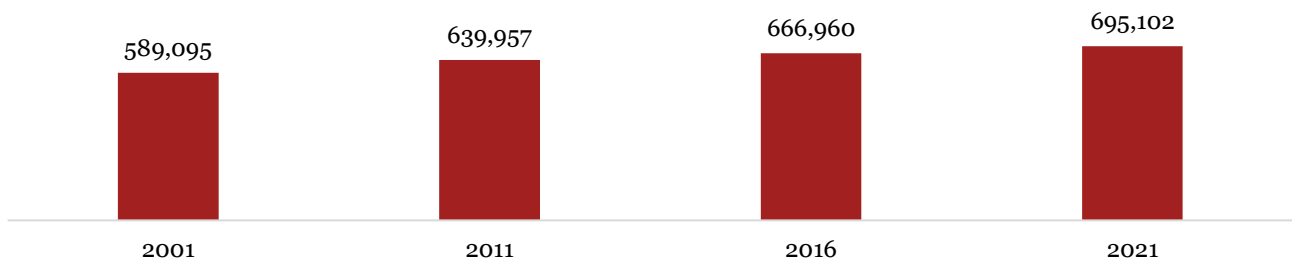
### 1.1.2. Demographic Profile – South Goa

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

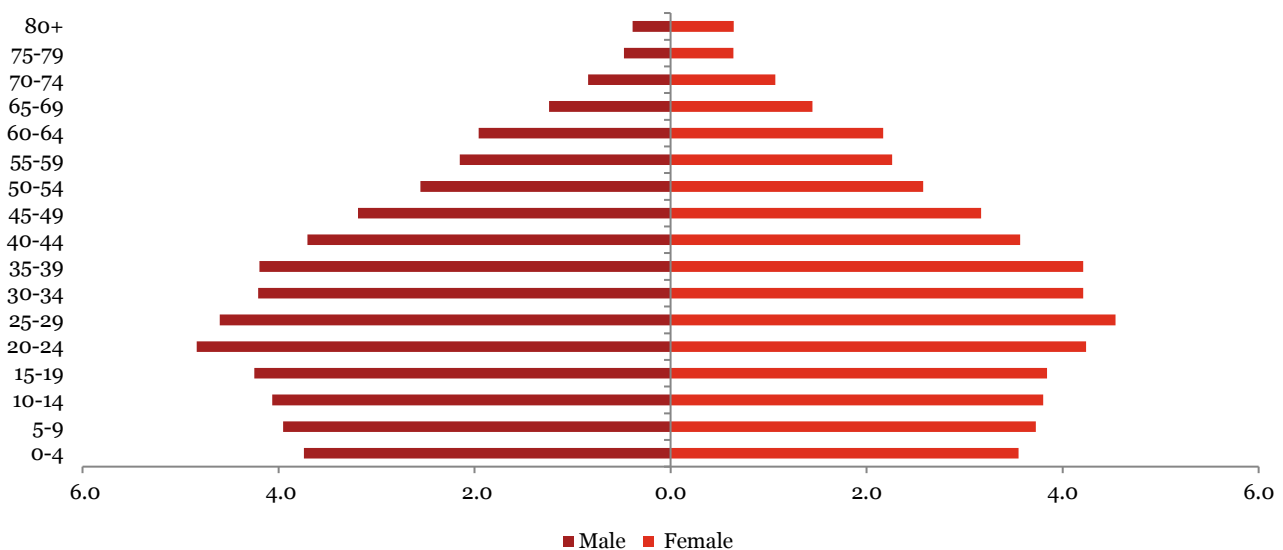
#### Population trends<sup>13</sup>

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

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



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



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

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

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

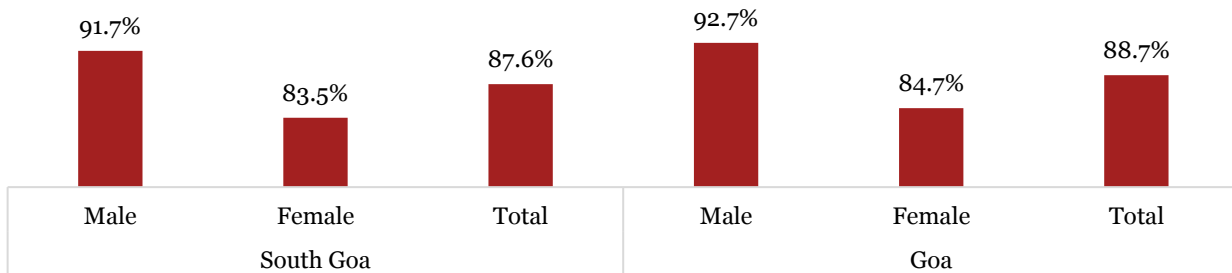
<sup>14</sup> Census of India (2001 and 2011), PwC Analysis



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

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

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

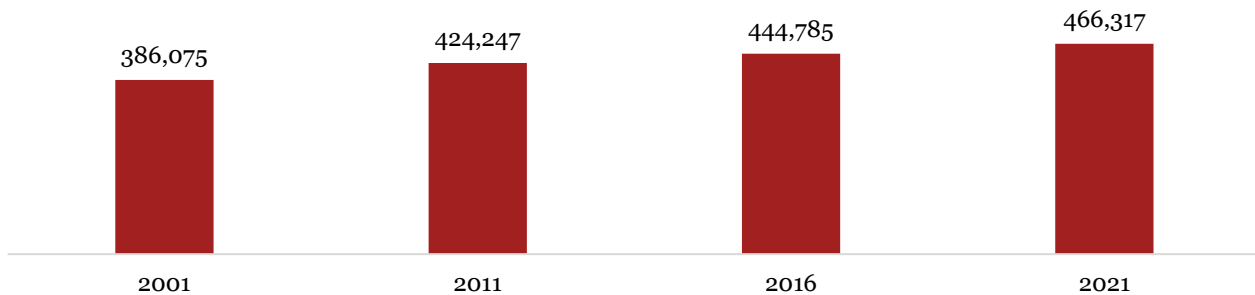


Goa with an average literacy rate of 88.70%, fares fairly well when compared to the national average of 74.04%. South Goa also has a very good literacy rate but a little less than North Goa and thus the State average. 87.6% people are literate in South Goa. South Goa also has more literacy amongst males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

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

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

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

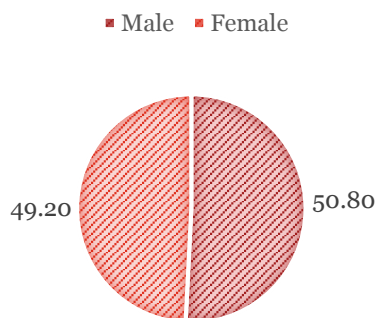


<sup>15</sup> District Census Handbook

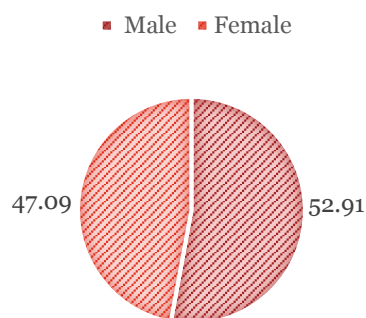
<sup>16</sup> Census 2011

<sup>17</sup> PwC Analysis

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

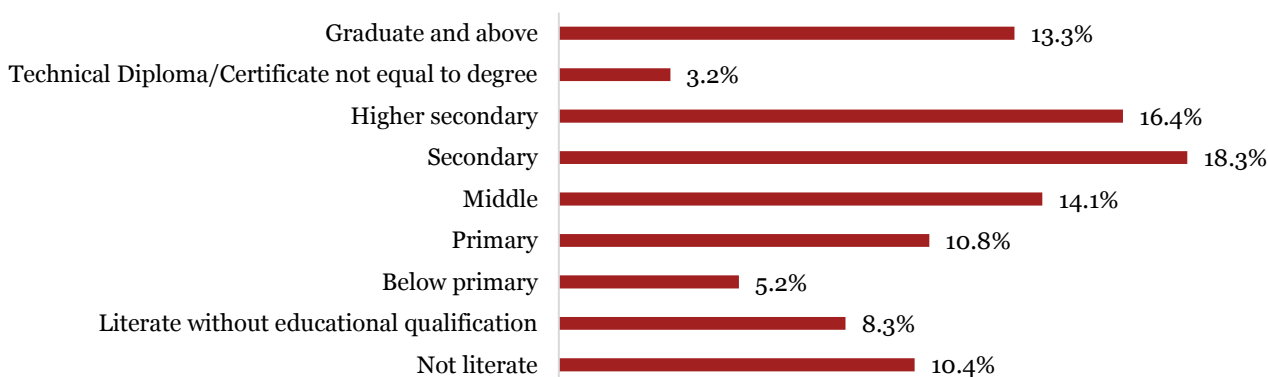


**Figure 17: Age specific population in South Goa (15-24 years)**



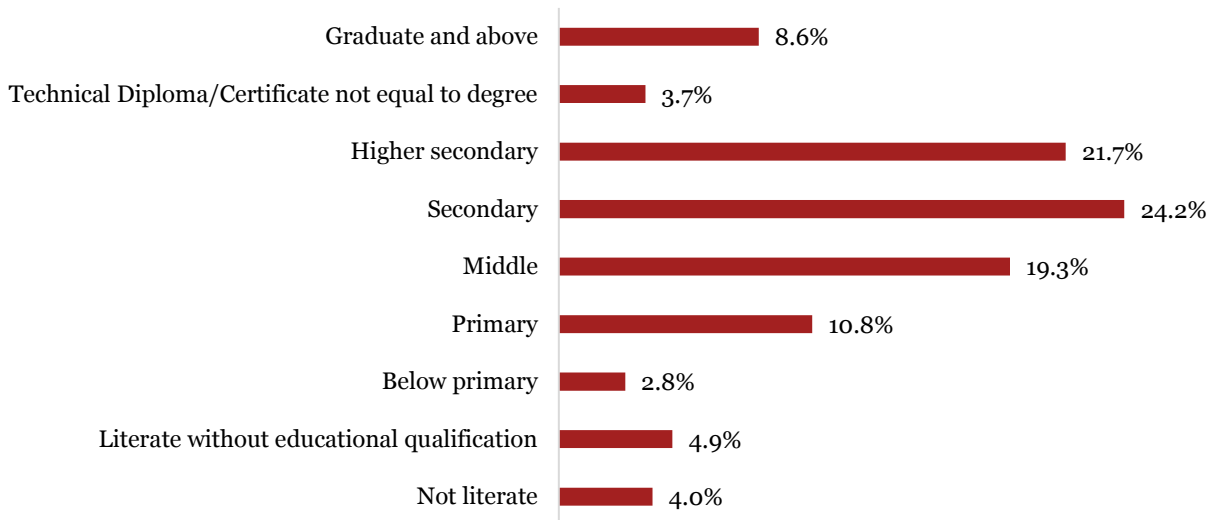
While in the age group of 15-59 the share of population of males and females in total population of South Goa is around 50.80% and 49.20% respectively, the share of population of males and females in the age group of 15-24 is 52.91% and 47.09% respectively. This indicates a widening gap between the share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

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



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

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

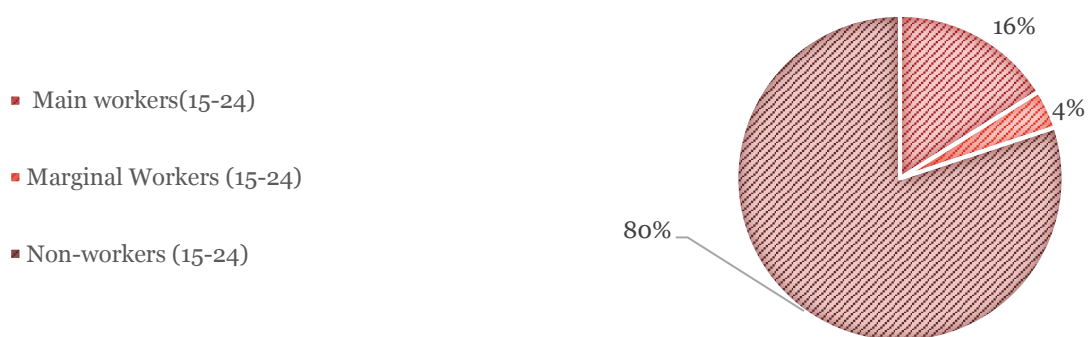


For the age category of 15-24 years, 4% of the population of South Goa is not literate. 4.9% are literate without any educational qualification, 2.8% have attended school till below primary level and 10.8% have completed schooling only up to primary level. Roughly 19.3% of the literate population has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

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

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

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

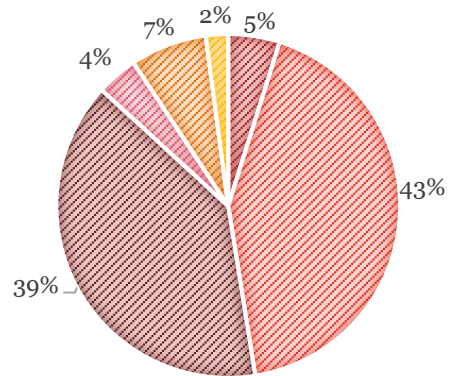


In South Goa, 80% of the population in the age group of 15-24 years are non-workers. 16% of the population are main-workers, whereas 4% are engaged in marginal work i.e. work for 3-6 months during the year.

<sup>18</sup> PwC Analysis

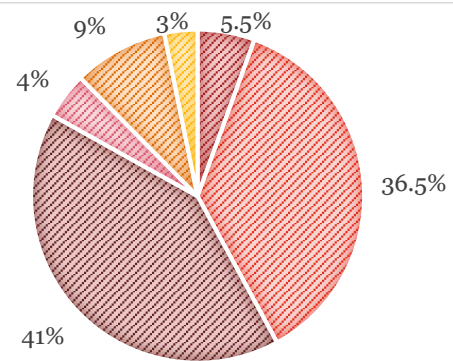
**Figure 21: Education level of marginal workers available for work in South Goa (15-24 years)**

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

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

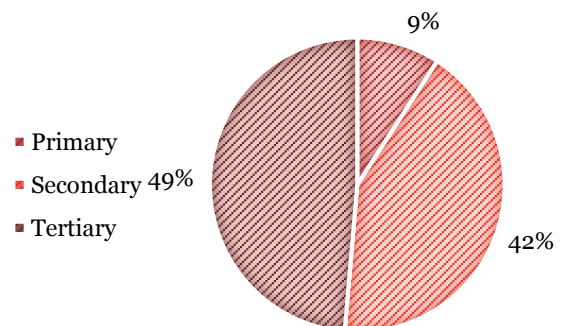


### 1.1.3. Key Economic Drivers

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

The key economic drivers of the district are illustrated below:

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



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

### Ports/Inland water transport

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

### Hospitality

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

### Infrastructure/Urbanization

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

### Eco friendly tourism

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

### Manufacturing

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

## 1.1.4. Priority Sectors

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

## 1.1.5. About the Ports

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

<i>Description and key Trend</i>	<p>Goa has 1 major port (Mormugao Port Trust) and 5 minor ports in Panjim, Chapora, Betul, Talpona and Tiracol. MPT has been functioning since 1882. Currently there are 11 berths and 6 mooring dolphins. A maritime board has been proposed for Goa but currently it is yet to become functional. The main products imported from MPT include coal coke (Indonesia, South Africa), limestone, ammonia (Zuari plant) and wood chips. The main products for export include Iron ore.</p> <p>Berth no. 1, 2 and 3 have been given to Western India Shipyard Ltd. (ABG Group). It is a ship repair facility. It also has a floating dry dock facility. Berth No. 4 caters to port craft and small vessels. It is handled by MPT. Berth no. 5 and 6 have been outsourced to Jindal group. They are operated by Southwest Port Ltd. berth no. 5 handles steel and berth no. 6 is a dedicated coal terminal. Berth no. 7 is also a dedicated coal terminal operated by Adani group. The outsourcing process of berth no. 8 and 9 has been completed and they will soon be handed over to Vedanta group from April 2017 onwards. Vedanta group plans to utilise the Berth for captive purposes. Only the no 10 and 11 berths are operated by MPT.</p> <p>The depth of the berths has been proposed to be increased upto 18 mtrs so that heavy ships and cruise vessels can also come to MPT, however dredging activity has not yet been initiated as there is a strong opposition from the local community. There are about 5 dolphin berths as well.</p>
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<b>Terminal Operations</b>			
	Terminal Operator (1): Western India Shipyard Ltd.	Terminal Operator (2): Adani Group	Terminal Operator (3): Southwest Port Ltd.
<i>Annual Capacity</i>	-	8.94	9.96
<i>Type of Cargo handled</i>	Ship Repair	Coal/coke	Coal/coke/general cargo
<i>Manpower</i>	-	25 full time and 200 contractual	60 full time and 230 contractual
<i>High Demand Job Roles</i>	-	Control room operators, Operators for equipment on board, Operating supervisors, Mechanical and electrical team, Maintenance people	Mooring gangs, dock operations

<b>Shipyards</b>	
<i>Description and key Trend</i>	<p>Currently there are around 25-30 shipyards in Goa out of which only around 10 are functional. Shipyards perform both ship building and repair activity work. Goa shipyard limited is the biggest shipyard in Goa. The key activities undertaken by GSL are:</p> <ul style="list-style-type: none"> <li>• Repair &amp; overhaul</li> <li>• Upgrades</li> <li>• Maintenance</li> <li>• Turnkey packages</li> <li>• Modifications &amp; enhancements</li> <li>• Technology transfer</li> <li>• Manpower</li> <li>• Training</li> </ul> <p>Usually fitter and welder are required at these shipyard facilities. Experienced people are not easily available. Usually training is provided on the job.</p>

### **1.1.6. Investments**

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

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

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

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

Details of proposed investments in this sector are given below:

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

Project	Proposed Investment (INR cr)	Expected Employment	Key Players
Construction of floating jetty for water sports activity and Boat cruise in the Mandovi bay area near Dolphin bay resort at Reis Magos and facilities of five star hotel and 4 star hotel near Reis Magos Fort	270.45	1,000 persons	M/s. Spark Healthline Private Limited
Setting up of a new unit for manufacturing of ship equipment for new construction of defense vessels and requested to allotment of Plot admeasuring approx. 3000 sq.mtrs either in Panchawadi, Sanguem in South Goa and Tuem in North Goa.	3	50 persons	M/s. Geeta Engineering Works Private Limited

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

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

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

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



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

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

### 1.1.7. Existing training infrastructure

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

Other State Govt. Skill Development Centres	7	-	<ul style="list-style-type: none"> <li>• Motor Vehicle</li> <li>• Denting and Painting Repair</li> <li>• Refrigeration and air conditioning</li> </ul>
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Goa has 10 Govt. and 5 Pvt. ITIs with a combined intake capacity of 2,100. Goa also has 4 polytechnic colleges, out of which 3 are Govt. 7 private training partners are currently operating and providing short term skill development courses. 1 PMKVY training centre providing courses in hospitality management is also running in the State. In addition to this, Goa has 5 private and 1 Govt. engineering college.

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

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

#### Respondent Profile

The table below provides an overview of the respondent profile:

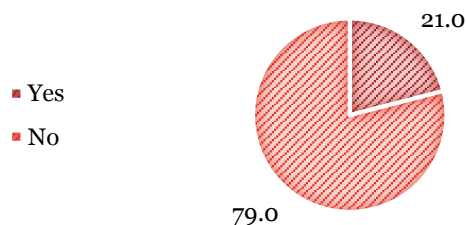
Profile	Details
Total Sample Size	386
Gender Profile	Male- 67.1% Female- 32.9%
Age Group	15-34 years
Education Level (top 3)	Senior Secondary schooling(Class 9 to 10)- 21.5% Higher secondary schooling with commerce (Class 11 to 12)- 17% Higher secondary schooling with science (Class 11 to 12)- 13.8%
APL/BPL/AAY/Don’t know	APL-36.3 % BPL- 56.7% Don’t know- 7%
Occupational Profile (top 3)	Salary from employment (32.9%), Unemployed (29%) and Student 26.4%

#### Exposure to Vocational Training and Educational Aspiration

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

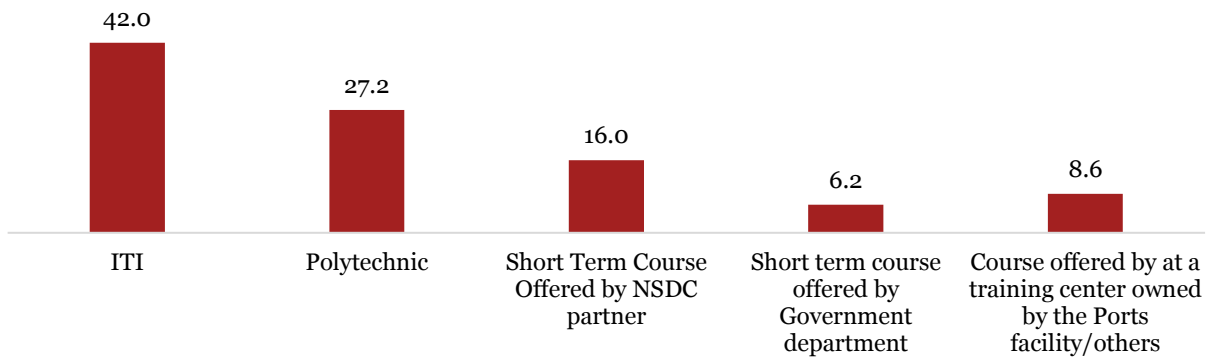
Of the total respondents who underwent vocational training (which is ~21%), majority were from ITI (42%) and polytechnic (27.2%). Figure 26 exhibits the percentage of respondents who completed different types of courses as part of their vocational training.

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



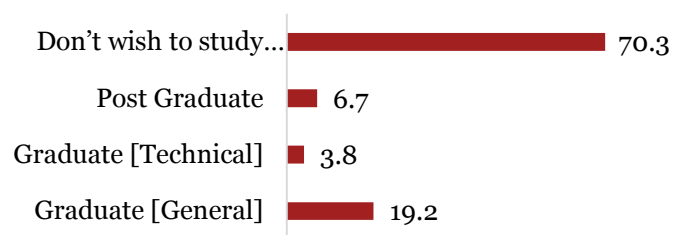
<sup>22</sup> PwC Analysis based on aspiration survey

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



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

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



### Job Aspiration

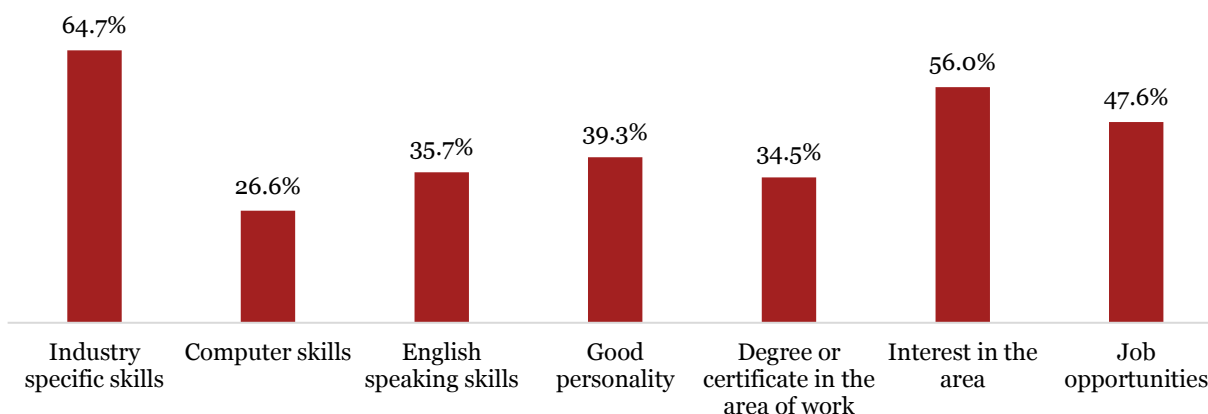
One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 96.9% of the respondents reported to have preferred wage employment over self-employment (Figure 28).

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



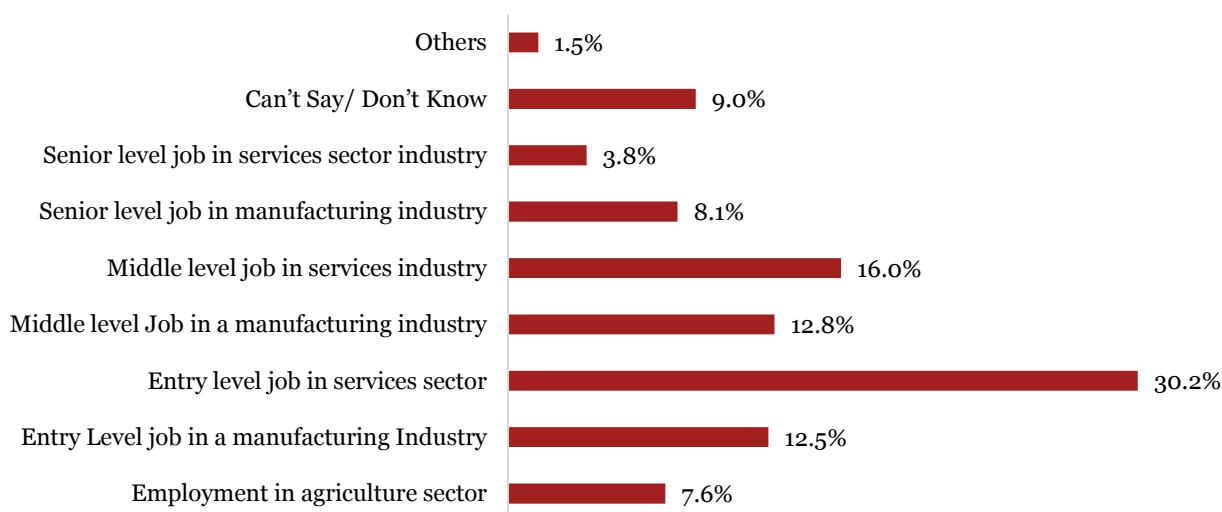
The respondents were further asked to identify the factors important for securing employment in the area of interest. 64.7% of the respondents identified industry specific skills as the most important factor for securing employment followed by interest in the area (56%), job opportunities (47.6%) and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

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



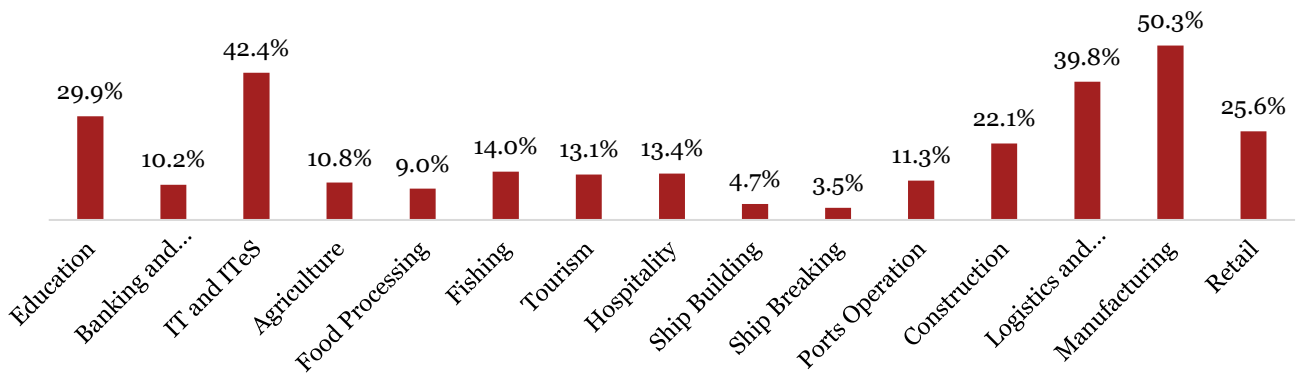
Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for services sector with 30.2% aspiring for entry level jobs and 16% aspiring for middle level jobs in services sector. This is followed by manufacturing industry with 12.5%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

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



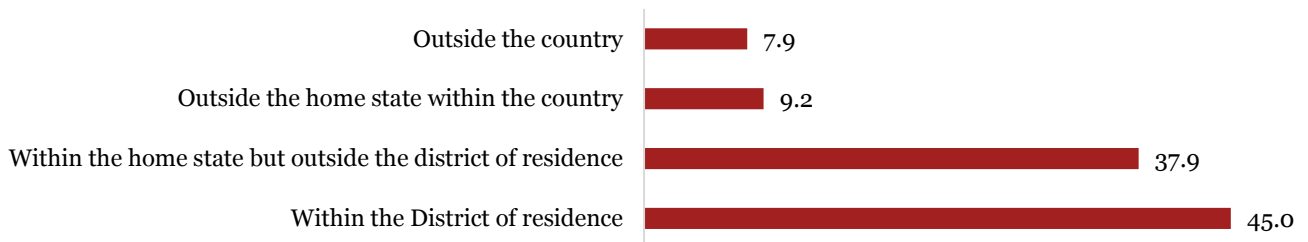
Further, Manufacturing (50.3%), IT&ITeS (42.4%), logistics and transport (39.8%) and Education (29.9%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job. The details of other sectors are mentioned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

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

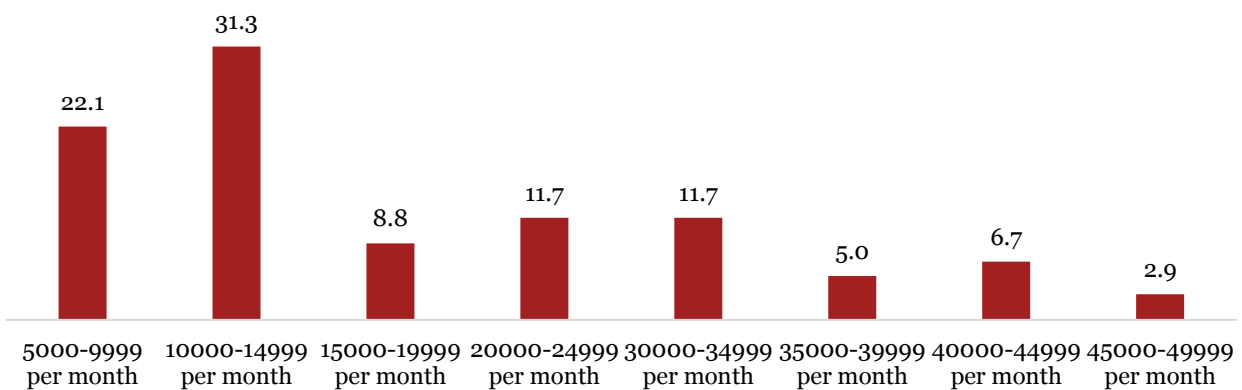


Out of total respondents, 45% preferred to work in the same state, whereas 37.9% respondents would like to work within the home state but not in the district of residence. Only 17.1 % respondents would like to go out of Goa and 7.9% respondents would like to go outside the country for work (Figure 32).

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



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



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

Figure 33).

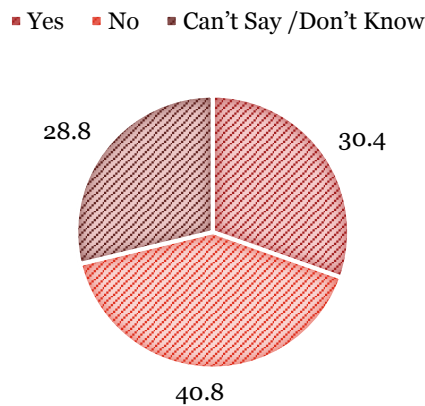
## Training Aspiration

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

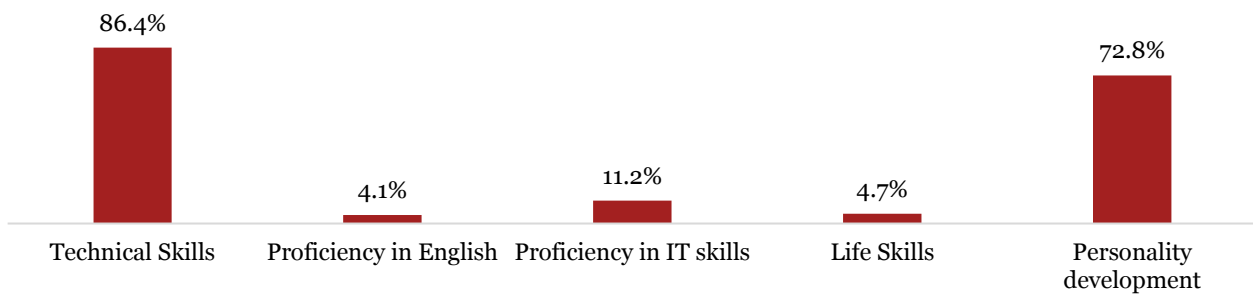
Further, when enquired about the key focus areas of skill training, 86.4% of respondents reported that emphasis must be laid on technical skills, followed by personality development (72.8%) (

Figure 35).

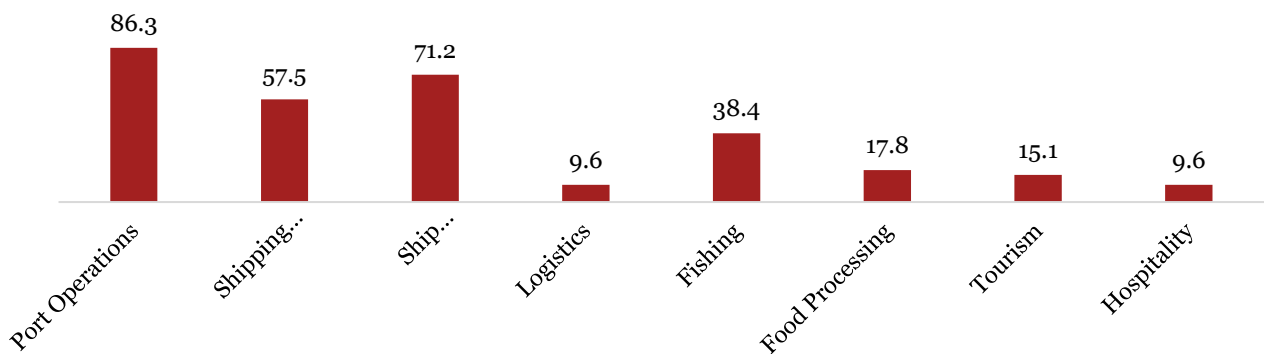
**Figure 34: Willingness to participate in trainings (%) - North Goa**



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



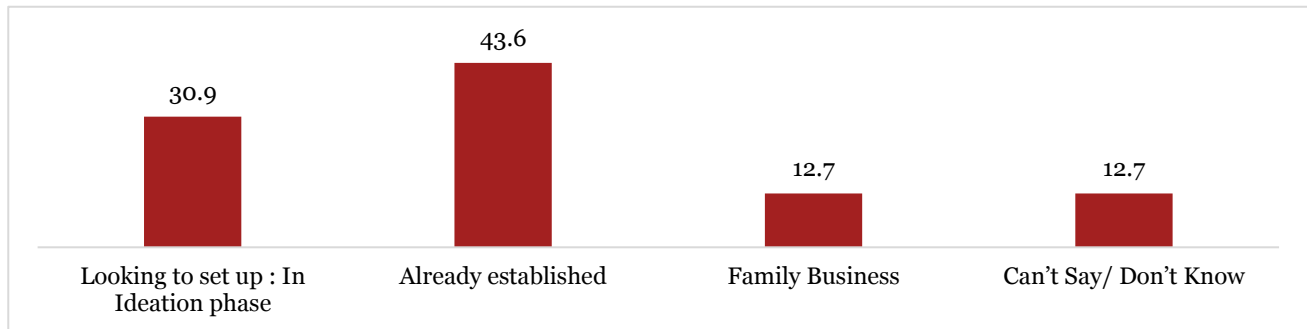
**Figure 36: Willingness of respondents to participate in trainings of different sectors - North Goa**



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

## Self-Employment

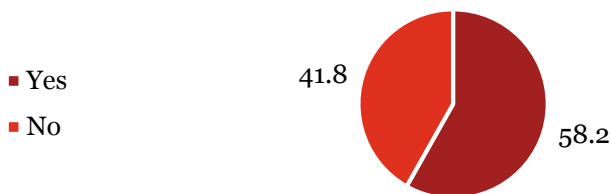
**Figure 37: Current Status of Entrepreneurial Venture (%) - North Goa**



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

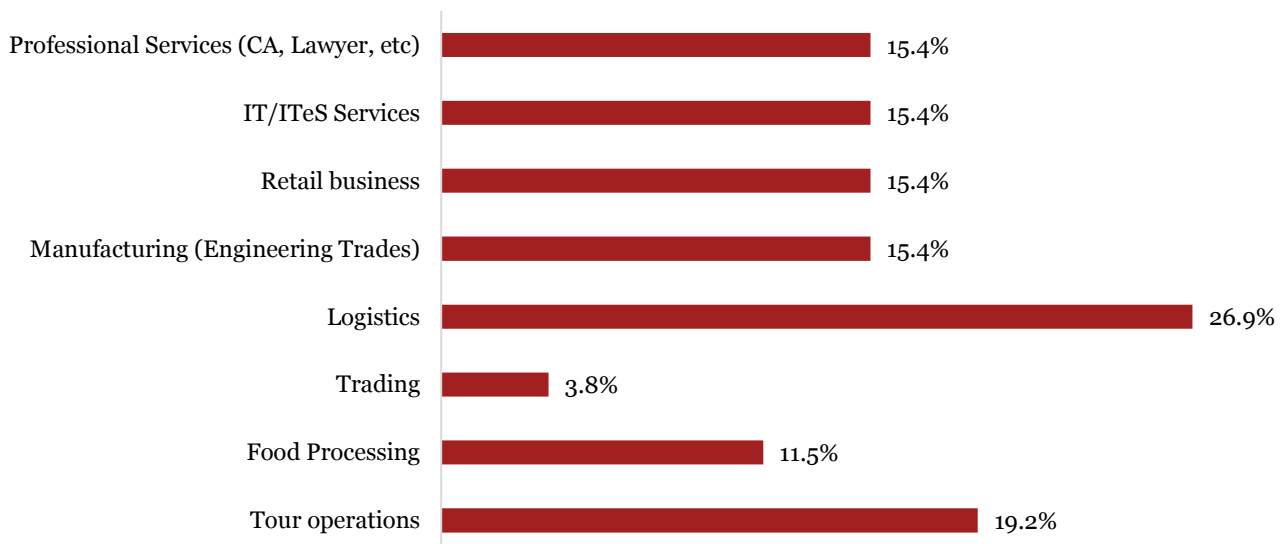
Further, 58.2% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills (Figure 38).

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



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

**Figure 39: Sectors for establishing enterprise (5) - North Goa**



### 1.1.9. Youth Aspiration – South Goa<sup>23</sup>

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

#### Respondent Profile

The table below provides an overview of the respondent profile:

Profile	Details
Total Sample Size	386
Gender Profile	Male- 89.4% Female- 10.6%
Age Group	15-34 years
Education Level (top 3)	Higher secondary schooling with science (Class 11 to 12)- 29.8% Higher secondary schooling with arts (Class 11 to 12)- 25.1% Senior Secondary schooling(Class 9 to 10)- 18.1%
APL/BPL/AAY/Don’t know	APL-1.6 % BPL- 98.2% AAY – 0.3%
Occupational Profile (top 3)	Student (35.5%), Unemployed (19.9%) and Own Business (18.7%)

#### Exposure to Vocational Training and Educational Aspiration

Regarding the exposure to the vocational training, all students reported that they had not completed any vocational training course.

**Figure 40: Percentage of respondents who completed vocational training course – South Goa**



Further, the respondents were asked about the level of education that they wished to attain. 36.3% said that they do not wish to study further whereas 30.7% respondents said that they would want to be graduates. 28.8% respondents aspired to be post graduates (Figure 41).

**Figure 41: Desired level of education - South Goa**



<sup>23</sup> PwC Analysis based on aspiration survey

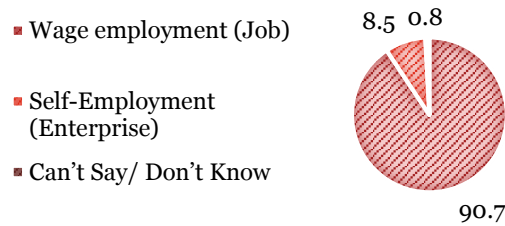


## Job Aspiration

One of the important findings of the survey has been the high preference for wage employment over self-employment among the youth of the district. About 90.7% of the respondents reported to have preferred wage employment over self-employment (Figure 42).

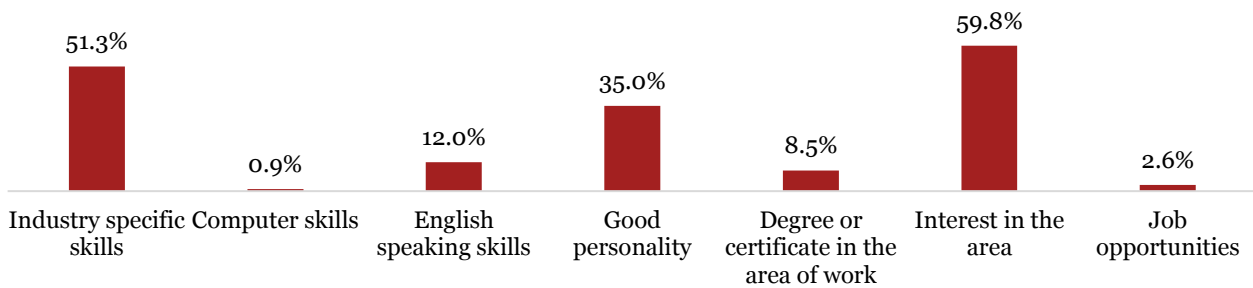
The respondents were further asked to identify the factors important for securing employment in the area of interest. 59.8% of the respondents identified interest in the area as the most important factor for securing employment followed by industry specific skills (51.3%), good personality (35%) and English speaking skills (12%) (Figure 43).

**Figure 42: Percentage of respondents aspiring for wage and self-employment - South Goa**



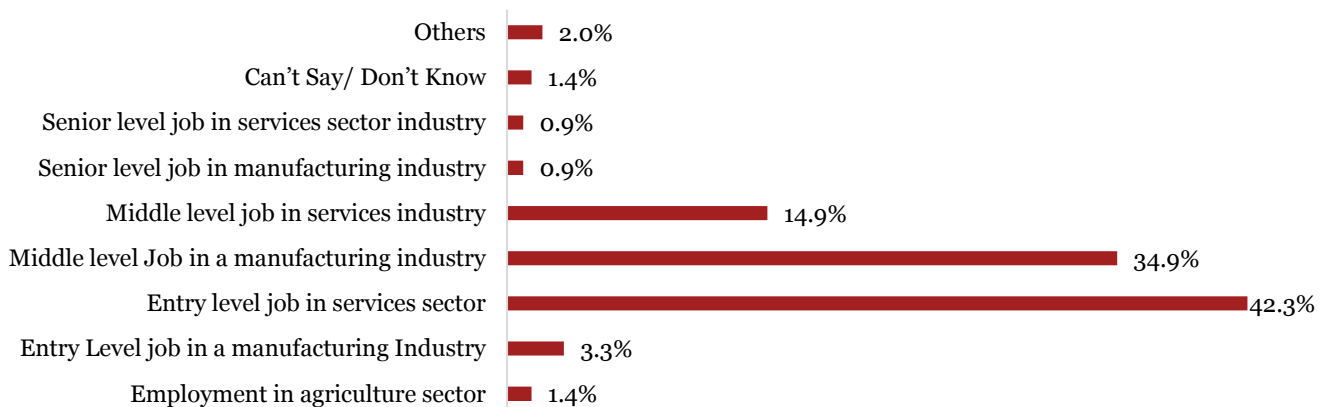
59.8% of the respondents identified interest in the area as the most important factor for securing employment followed by industry specific skills (51.3%), good personality (35%) and English speaking skills (12%) (Figure 43).

**Figure 43: Factors important for securing employment in area of interest (%) - South Goa**



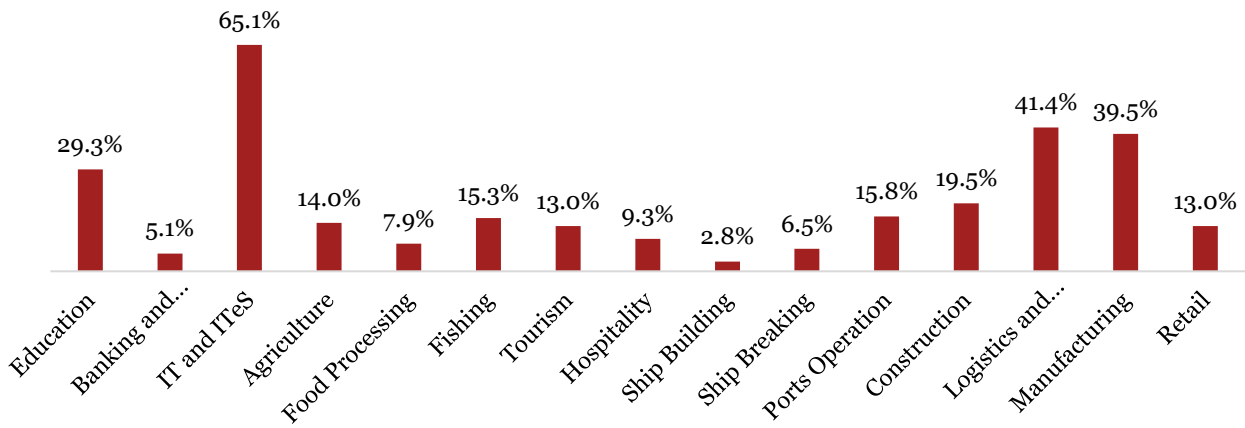
Regarding job aspiration of the respondents after completion of education or training, it can be observed that there is a demand for entry level jobs in services sector with 42.3% respondents aspiring for the same. This is followed by 34.9% respondents aspiring for middle level jobs in manufacturing sector. Only 3.3% respondents preferred entry level jobs in manufacturing sector (Figure 44)

**Figure 44: Desired job profile after completion of education/training – South Goa**



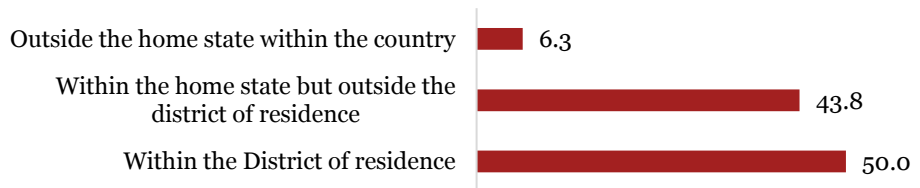
Further, IT/ITeS (65.1%), logistics and transport (41.4%), Manufacturing (39.5%) and Education (29.3%) have been identified as sectors in which the respondents feel that they are mostly likely to get job which is in alignment with their aspiration for a job. The details of other sectors are mentioned in (Figure 45)

**Figure 45: Sectors in which respondents' foresee getting a desired job (%) - South Goa**

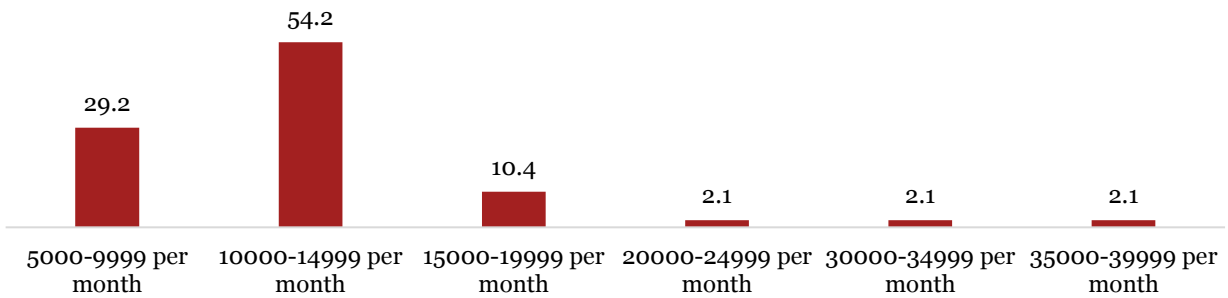


Out of total respondents, 50% preferred to work in the same district, whereas 43.8% respondents would like to work within the home state but not in the district of residence. Only 6.3 % respondents would like to go out of Goa (Figure 46).

**Figure 46: Preferred work location of candidates - South Goa**



**Figure 47: Monthly salary expectation of respondents - South Goa**



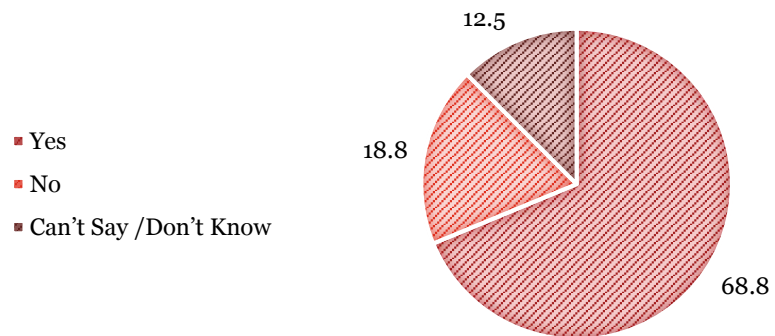
For majority of the respondents (54.2%), the monthly salary expectation was INR 10,000-15,000. And for 29.2% of respondents the expected salary is reported to be range in INR 5,000-10,000 per month (Figure 47).

## Training Aspiration

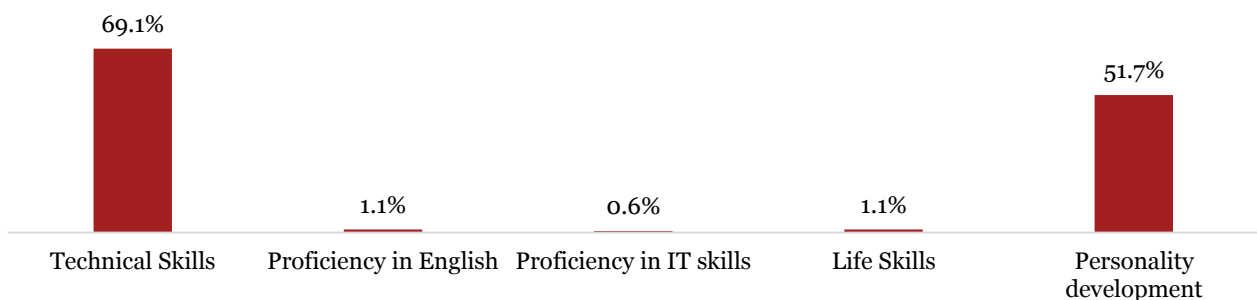
Regarding willingness of the respondents to participate in the training programme in next one year, 68.8% expressed interest whereas 18.8% expressed disinterest (Figure 48).

Further, when enquired about the key focus areas of skill training, 69.1% of respondents reported that emphasis must be laid on technical skills, followed by personality development (51.7%) (Figure 49).

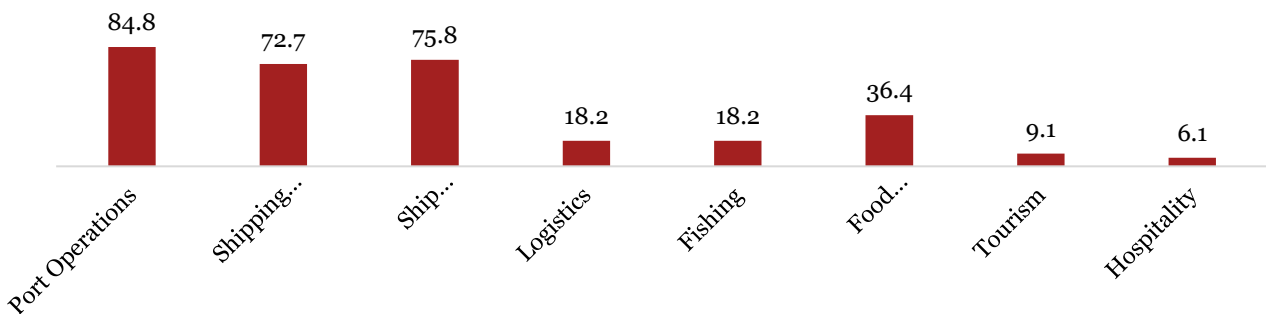
**Figure 48: Willingness to participate in trainings (%) - North Goa**



**Figure 49: Focus area on skills training - South Goa**



**Figure 50: Willingness of respondents to participate in trainings of different sectors - South Goa**



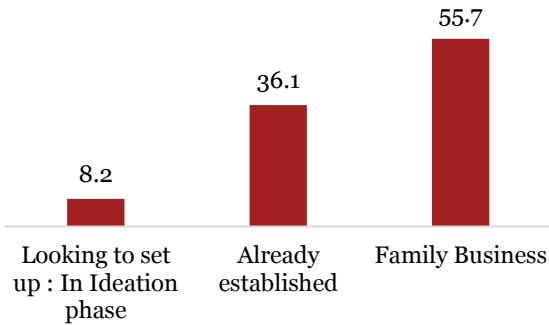
Overall there is demand for training in port operations (84.8%), followed by ship building/repair (75.8%), shipping operations (72.7%) and food processing (36.4%). Only 6.1% respondents want training in hospitality and 9.1% in tourism (Figure 50).

## Self-Employment

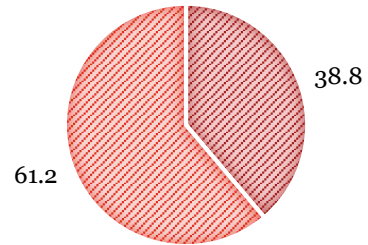
Regarding current status of the Entrepreneurial Venture of the respondents who aspired for self-employment, 36.1% have already established businesses, 8.2% were looking to set up the venture and 55.7% were in family business.

Further, only 38.8% of the respondents expressed a desire to undergo a training programme for enhancing their entrepreneurial skills.

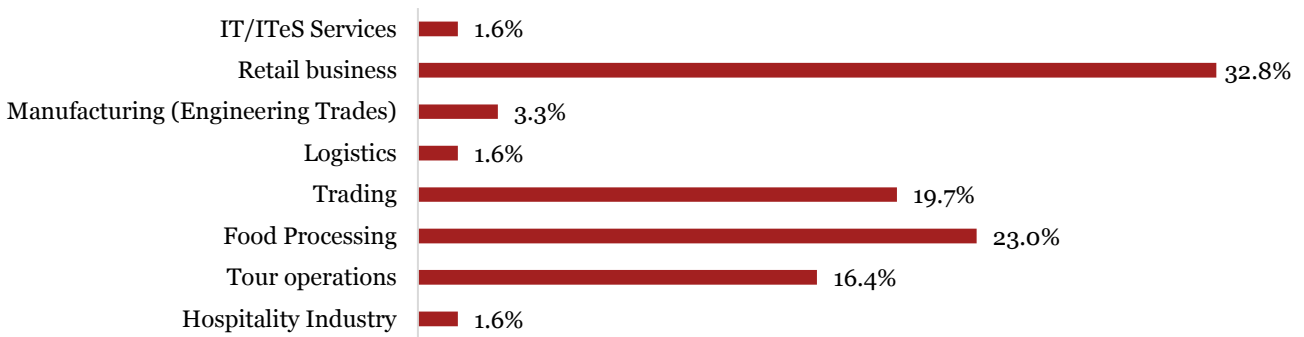
**Figure 51: Current Status of Entrepreneurial Venture (%) - South Goa**



**Figure 52: Interested in skill development for enhancing entrepreneurial skills (%) - South Goa**



**Figure 53: Sectors for establishing enterprise (%) - South Goa**



The sectors that have been identified as the most preferred sectors for setting up own enterprise are retail business (32.8%), food processing (23%), trading (19.7%) and tour operations (16.4%)

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

### 2.1. Goa

#### 2.1.1. Incremental Demand for Skilled & Semi Skilled Manpower<sup>24</sup>

The State of Goa is witnessing a reduction in the demand for work force in the primary sector (including both agriculture and fisheries). This is evident from the negative incremental demand in the workforce required. Further, there will be high incremental demand in both manufacturing and services sector.

The incremental demand of skilled workforce in the districts as per our methodology suggests that the maximum demand will be generated in logistics sector followed by manufacturing and tourism.

**Table 3: Incremental Demand for Skilled & Semi Skilled Workers in Goa**

Sector	2017	2018	2019	2020	2021	2022	Total
<b>Core Sectors</b>							
Ports & Allied	417	330	347	364	382	401	2,241
Logistics	5,775	6,225	6,712	7,234	7,798	8,406	42,150
Tourism	1,378	1,440	1,503	1,571	1,642	1,715	9,249
Construction	293	299	302	307	312	316	1,829
<b>Other Dominant Sectors in the District</b>							
Manufacturing	497	2,290	3,270	3,920	2,599	2,069	14,645
Trade (Retail & Wholesale)	275	287	301	314	328	342	1,847
Agriculture	-1,676	-1,575	-1,479	-1,389	-1,304	-1,223	-8,646
<b>TOTAL</b>							63,515

#### Key trends in Core Sectors

- Ports and allied sectors:** Goa has one major port (Mormugao Port Trust) and 5 minor ports. Out of the 11 berths at the MPT, currently 9 have been outsourced to private terminal operators. The port operations have been adversely affected since the Supreme Court had put a cap on mining activities in the State. However, the ports are slowly picking up with MPT becoming a notified port for both import and export of pharmaceutical products. Vedanta group is also starting its operations from April 2017 on 3 berths and the port activities are expected to rise once the private player comes in. A lot of investment is also proposed to increase the depth of the existing berths so as to make it feasible for cruise ships and other big ships to come to MPT.
- Logistics:** Logistics sector is set to rise with expected increased activities in MPT, proposed new airport near Morjim beach and with Panjim being one of the proposed smart cities. Currently the sector has slowed down due to lack of port traffic.
- Tourism & Hospitality:** The State is a major tourist hub with over 30 lakh domestic tourists and 5 lakh international tourists coming to Goa every year. There are many water sports, adventure sports and other tourist activities currently going on. A lot of investment is proposed in the tourism sector to

<sup>24</sup> Incremental Demand Estimates the additional stock of workforce that are to be created given the expected Economic Conditions in the period of study. This may help in estimating requirement for fresh trainings.

promote eco-tourism in a sustainable manner. Hospitality sector is also on a rise with many 4 and 5 star properties, villas and spas being proposed in Goa.

- **Construction:** The real estate sector is stagnant in Goa but the construction sector is all set to pick up with a lot of construction projects in hospitality, eco-tourism, new airport, ship building and allied sectors being approved by the Goa Investment Promotion Board.

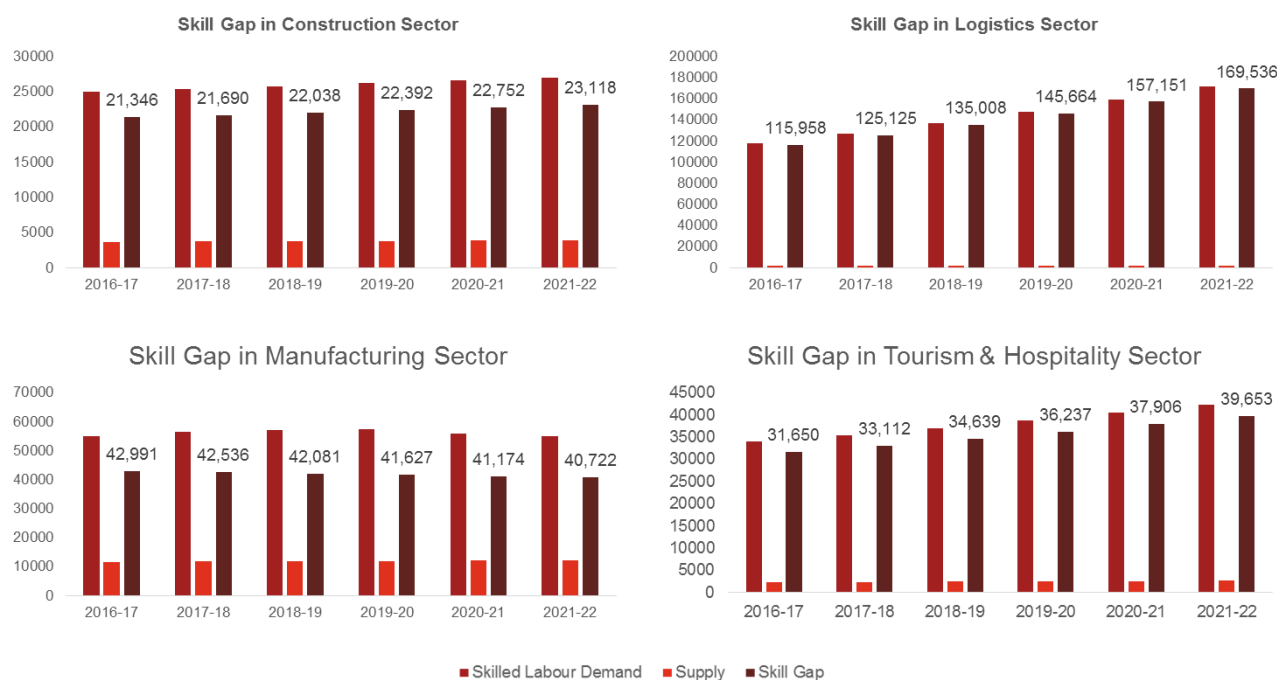
### Key trends in other Dominant Sectors in the District

- **Manufacturing:** The Goa Industrial policy puts emphasis on prominent sectors like pharmaceuticals, food processing and electronics. Multi-sectoral industrial promotion has given thrust to some major focus sectors like pharmaceuticals, food processing, and electronics & communication. A lot of investment is proposed in the manufacturing sector with some big players coming in.
- **Trade (Retail & Wholesale):** Retail & wholesale sector is supposed to pick up and provide jobs to semi-skilled and skilled workforce with the inflow of major industrial projects and tourists in Goa.
- **Agriculture & Fisheries:** Agriculture is on a decline with primary sector only contributing around 3-4% in the GSDP. Fisheries has also become stagnated with no growth. With a cap on mining by the Supreme Court order, the mining sector is also stagnated.

### 2.1.2. Gap between Total Demand and Supply for Skilled workforce in Select Sectors<sup>25</sup>

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

**Figure 54: Gap between Skilled Manpower Requirement and Workforce in District with Trainings in Select Sectors in Goa**



<sup>25</sup> Total Demand refers to the total stock of workforce including the existing workforce in a sector in a district given the expected Economic Conditions in the period of study. This may help in identifying Scope for RPL and Upskilling

- **Construction Sector:** There is a huge requirement of trained manpower in the construction sector. Currently the people employed in the construction sector are usually non-goan. The gap is set to increase from 21,346 in 2016-17 to 23,118 in 2021-22. The demand for skilled workforce is set to increase by 1800.
- **Logistics Sector:** Logistics sector has a huge manpower requirement. The skilled labour demand is expected to grow from 2016-17 to 2021-22 with an incremental requirement of around 42,000 people. Against this, the current supply of skilled manpower is almost negligible. There are limited training and certification options available for logistics sector workforce. The incremental demand, thus, is expected to grow in the logistics sector.
- **Manufacturing Sector:** Manufacturing sector faces high skill gap owing to lack of sufficient training infrastructure in the State. The graph above shows that the supply of skilled and trained manpower is very less compared to the requirement. Around 40,722 skilled workforce will be required by 2022 in the manufacturing sector.
- **Tourism & Hospitality Sector:** Tourism and hospitality sector is on a rise in Goa but the presence of qualified and certified trained manpower is very less. By 2022, around 39,653 additional skilled workforce will be required in the sector. The requirement of initiating new trainings and recognizing prior learning is a priority for the sector.

Further, though with proximity to a port, Goa is not a homeport for any of the cruise shipping

### 2.1.3. Job Roles High in Demand

This section captures the jobs that have been reported to be high in demand in Goa. The job roles mentioned below have been identified from secondary data analysis as well as stakeholder consultations. The sub sections below identify the job roles that are high in demand across the identified sectors:

#### *Port and Maritime Sector*

The sector is seeing little activity owing to Supreme Court putting restrictions on mining activities and no major investment coming up in MPT. The operations are supposed to get a boost with Vedanta group taking over 3 berths from April 2017. The usual traffic handled at MPT is bulk cargo. Operations are usually outsourced to contractors and the employees are on contract based on the seasonal demand. Goa currently doesn't have a maritime board which is currently in proposal stage.

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

<b>Job Roles: Port &amp; Terminal operations</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Mechanical Engineers (Engineering dept.)</li> <li>• Ship and crane operators (Refresher training)</li> <li>• Upskilling on new automations</li> <li>• Continuous Discharge Certificate</li> </ul>	<ul style="list-style-type: none"> <li>• Currently minimal operations in the port.</li> <li>• Mostly bulk cargo movement</li> <li>• Only 6 cranes present with 18 crane operators.</li> <li>• Most of the operations are outsourced by private terminal operators</li> <li>• Recruitment is on hold for last 10-15 years for entry level profiles.</li> <li>• Cruise and container ships to get trained manpower by combining firefighting, life saving and swimming courses.</li> </ul>

#### *Other Priority Sectors*

The job roles that are high in demand in the sectors and that have been identified as priority sectors are listed in this sub-section. Like ports and maritime sector, sectors such as logistics, manufacturing, tourism, hospitality and construction will also be susceptible to technological disruptions and automation, which will negatively impact jobs of manual nature. Some of the sectors for which skilled manpower will be required in coming few years have been mentioned below.

## Logistics

Truckers are high in demand but the existing workforce that is engaged in trucking lack life skills. Truckers who could be equipped with skills for handling hazardous substances and bulk cargo will be greatly demanded by the manufacturing firms and the CFS.

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

Job Roles: Logistics	Findings
<ul style="list-style-type: none"><li>• Truck Driver</li><li>• Helper</li><li>• Supervisor</li></ul>	<ul style="list-style-type: none"><li>• Proposed increased volume of cargo once Vedanta starts operating in MPT</li><li>• Increased life skills training required for truckers and helpers</li><li>• Skills shortages for handling hazardous substances</li></ul>

## Construction

Considerable number of construction new properties in hospitality, industry and real estate sector or on the. Setting up of new industries, power plants, 5 star properties and resorts would necessitate skill and knowledge up-gradation. There is a deficiency in availability of trained manpower in this sector.

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

Job Roles: Construction	Findings
<ul style="list-style-type: none"><li>• Mason</li><li>• Bar bender</li><li>• Carpenter</li><li>• Plumber</li><li>• Plumbing retrofitting</li><li>• Electrician</li><li>• Solar panel technicians</li></ul>	<ul style="list-style-type: none"><li>• Requirement of trained manpower in construction sector in masonry, bar bending, carpentry, plumbing and electrician field.</li><li>• Upcoming smart city project would require retrofitting expertise</li><li>• Shortage of manpower as goan people usually don't prefer doing these jobs.</li><li>• Awareness about safety and health lacking amongst workers</li><li>• Industry is very receptive to getting trained manpower</li><li>• Plumber, electricians are required for regular maintenance.</li><li>• RPL for existing workforce</li><li>• Industry would be ready to provide training space</li><li>• Suggestion of a certificate which is renewed after certain time period so that the workforce is constantly trained on new techniques</li></ul>

## Manufacturing

Goa has a reasonable presence of manufacturing industries mainly in pharmaceutical, food processing, ship building & repair and other prominent sectors. These sub-sectors demand skilled workforce that could work in manufacturing processes. This sector will also require technological literacy among the workers.

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

Job Roles: Manufacturing	Findings
<ul style="list-style-type: none"><li>• Welder</li><li>• Fitter</li><li>• Electrician</li><li>• D. Pharma</li><li>• Lab technician</li><li>• Production assistant</li><li>• Shop floor supervisor</li></ul>	<ul style="list-style-type: none"><li>• Industrial areas in and around the district demand skilled workforce.</li><li>• Food processing industry is widespread as an MSME industry and can employ women.</li><li>• Pharma industry employs a lot of pharma graduates at entry level</li><li>• Requirement of shop floor supervisors at entry level in food processing industries.</li><li>• Investments proposed in manufacturing sector to create requirement of skilled manpower, especially in pharma, food processing and electronics sector</li></ul>



## *Tourism & Hospitality*

Goa has a lot of potential for eco-tourism. Many projects have been sanctioned in the field of eco-tourism and hospitality. A lot of investment has been proposed in tourism sector and hospitality sector. The tourism sector is further set to develop in new areas of skill trainings.

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

<b>Job Roles: Tourism &amp; Hospitality</b>	<b>Findings</b>
<p><b>Tourism</b></p> <ul style="list-style-type: none"> <li>• Tourist guide</li> <li>• Cab driver</li> <li>• Interpreter/Translator</li> <li>• Coordinators (Sports activities/Cruises))</li> </ul> <p><b>Hospitality</b></p> <ul style="list-style-type: none"> <li>• Housekeeping</li> <li>• Waiter</li> <li>• Attender</li> <li>• Front office executive</li> <li>• Chef</li> <li>• Shack workers</li> </ul>	<p><b>Tourism</b></p> <ul style="list-style-type: none"> <li>• Tourist guides are required. Currently they are in less numbers.</li> <li>• Cab drivers need to be trained in life skills and soft skills. More no. of cabs required in Goa.</li> <li>• Language labs can be setup to train people in foreign languages for international tourists to act as translators</li> <li>• Requirement of coordinators for water sports activities, cruise ships and other tourism related activities for tour operators and agents.</li> <li>• Lot of investment coming up in eco-tourism, sustainable tourism, sports and water tourism, light house tourism.</li> </ul> <p><b>Hospitality</b></p> <ul style="list-style-type: none"> <li>• Investment coming up with 5 star properties, villas, resorts and spas.</li> <li>• High-demand Job roles required would be attender, front office executive and housekeeping.</li> <li>• Traditionally strong sector in the State</li> <li>• Many Hotel management institutes are present but the quality of manpower is not meeting industry standards</li> <li>• Migrants from outside Goa are usually employed in the sector</li> <li>• Seasonal migrant workers working in beach shacks</li> </ul>

## *Fisheries & Sea Food Processing*

The presence of the sensitive bio-diversity in the marine eco-system are both an opportunity and challenge in the district. Fisheries sector has reached saturation with traditional sources being used for fishing activities. The seafood processing units usually clean, wash, grade and pack the sea food products. 99% of this is exported to other countries where it is then processed and value addition done.

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

<b>Job Roles: Fisheries &amp; Sea food processing</b>	<b>Findings</b>
<ul style="list-style-type: none"> <li>• Deep sea fisherman</li> <li>• Trawler Driver and Tandel</li> <li>• Grading supervisor</li> <li>• Cleaning &amp; grading worker</li> <li>• Cold storage worker</li> </ul>	<ul style="list-style-type: none"> <li>• Training required for trawler drivers (no license) and tandels (one who watches the fish)</li> <li>• Hygiene training required</li> <li>• Deep sea fishing should be promoted as existing marine life has been exhausted by excessive fishing</li> <li>• Potential for employment of women (especially from nearby Karnataka districts) in sea food processing units for cleaning, washing, grading and packing.</li> <li>• Requirement of processing units creating value addition products</li> <li>• Workers from North East usually working in cold storage facilities</li> </ul>

## *Nursing and Domestic Workers*

With a lot of senior citizen population in Goa with children settled in abroad, a serious requirement of domestic workers and nurses has come up. Usually non goan people (especially from Kerala) are engaged in the nursing occupation whereas domestic workers from North India are present.

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

<b>Job Roles: Nursing and domestic workers</b>	<b>Findings</b>
<ul style="list-style-type: none"><li>• Nurses</li><li>• Domestic workers</li></ul>	<ul style="list-style-type: none"><li>• Nurses required for ageing senior citizens with no one to look after</li><li>• Domestic workers required as goan people don't prefer working as domestic workers</li><li>• People are ready to pay premium for services of domestic workers and nurses.</li></ul>

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## **3. District Action Plan**

### **3.1. Background**

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

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

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

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

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

### **3.3. Methodology**

Stakeholder consultations<sup>26</sup> that were held at national, state and district level and that included stakeholders from government, industries, associations, and private firms. A separate plan has been prepared for each of the 13 districts. The plan has been divided into several sections and include sections on training delivery, potential partners, and investments. The investments component has been divided into two broad heads: capital expenditure and operational expenditure. Capital expenditure has only been proposed in cases in which there were very limited possibilities of using existing institutional framework for partnership and for using existing infrastructure and equipment. Operational expenditure includes the cost of the running the training programmes including the salary of the instructors. The common cost norms inform the calculation of the operational expenditure. Capital expenditure has been worked out bearing in mind the infrastructure requirements of the programme and duration of training programmes. Wherever, feasible partnership with existing programmes such as DDU-GKY and PMKVY has been suggested in the plan.

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<sup>26</sup> Roughly 300 primary consultations inform the development of this plan

### 3.4. Summary of Goa

Sl. No.	Project Name	Job Roles	Type of training	No. of people to be trained
1	Trainings in Tourism & Hospitality sector	<ul style="list-style-type: none"> <li>• Tourist guide</li> <li>• Cab driver</li> <li>• Helper/coordinator</li> <li>• Interpreter/translator</li> </ul>	<ul style="list-style-type: none"> <li>• Fresh Training</li> <li>• Upskilling</li> </ul>	<ul style="list-style-type: none"> <li>• 950 persons in 5 years</li> <li>• 1150 persons in 5 years</li> </ul>
2	Training in Nursing/Housekeeping	<ul style="list-style-type: none"> <li>• Nursing</li> <li>• Domestic worker</li> <li>• Housekeeping</li> </ul>	<ul style="list-style-type: none"> <li>• Fresh training</li> <li>• Upskilling</li> </ul>	<ul style="list-style-type: none"> <li>• 1000 persons in 5 years</li> <li>• 1200 persons in 5 years</li> </ul>
3	Skill Development centre for Logistics	<ul style="list-style-type: none"> <li>• Truck driver</li> <li>• Helper</li> </ul>	<ul style="list-style-type: none"> <li>• Upskilling</li> </ul>	<ul style="list-style-type: none"> <li>• 2500 persons in 5 years</li> </ul>
4	Training in Sea food processing	<ul style="list-style-type: none"> <li>• Grading supervisor</li> <li>• Shop floor worker</li> </ul>	<ul style="list-style-type: none"> <li>• Fresh training</li> <li>• Upskilling</li> </ul>	<ul style="list-style-type: none"> <li>• 1200 persons in 5 years</li> <li>• 1500 persons in 5 years</li> </ul>
5	Training in construction sector	<ul style="list-style-type: none"> <li>• Mason</li> <li>• Bar bender</li> <li>• Carpenter</li> <li>• Plumber</li> <li>• Electrician</li> </ul>	<ul style="list-style-type: none"> <li>• Upskilling</li> </ul>	<ul style="list-style-type: none"> <li>• 5000 persons in 5 years</li> </ul>
6	Trainings for job roles emerging in Smart City	<ul style="list-style-type: none"> <li>• Solar panel installation technician</li> <li>• Solid waste management technician</li> </ul>	<ul style="list-style-type: none"> <li>• Fresh training</li> </ul>	<ul style="list-style-type: none"> <li>• 500 persons in 5 years</li> </ul>

### 3.5. Action Plan of Goa

<b>Project 1: Trainings in Tourism &amp; Hospitality Sector</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>• 39 big ticket projects proposed in tourism and hospitality coming up</li> <li>• Estimated proposed investment of around Rs. 4,703 Cr</li> <li>• Inflow of a lot of foreign tourists every year: 4.5 lakhs (2012), 4.92 lakhs (2013), 5.13 lakhs (2014), 5.41 lakhs (2015) and 3.42 lakhs (Till July 2016)</li> <li>• Countries from where majority of tourists came in 2016-17 – Russia (1,03,172), UK (31,135) and Ukraine (18,422)</li> <li>• Requirement of transport services which includes private taxis.</li> </ul>			
<b>Rationale for a Training Center</b>		<p>Since tourism is one of the major growth drivers of Goa, therefore a lot of people come for both leisure and business travel. Also over a period of time customers are grown accustomed to high quality service not only in terms of the way of speak but also the way you handle the customers. In this regard it becomes very necessary to provide basic hygiene training to the drivers so as to improve customer satisfaction.</p> <p>A lot of foreign tourists come to Goa during the season. With time, the inflow of foreign tourists has increased in off season as well. The local goan people are not well versed in the foreign languages and this has led to many people from Russia and other countries especially bringing their translators to Goa. Thus, a need has been identified for presence of people who can speak these foreign languages and can thus act as a bridge between the international tourists and local goan. This also provides a good earning opportunity for the goan people who do not prefer doing physical activity. An opportunity to setup a language school can be explored in collaboration with already existing language schools in Goa.</p> <p>It is also important to have trained people for various kinds of adventure sports and other tourism related activities.</p>			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Interpreter/ Translator	<ul style="list-style-type: none"> <li>• Existing tourist guides</li> <li>• Local goan people</li> <li>• Coastal community</li> </ul>	Fresh Training	300 persons in 5 years
				Upskilling	200 persons in 5 years
		Tourist Guide	<ul style="list-style-type: none"> <li>• Existing tourist guides</li> <li>• Local goan people</li> </ul>	Fresh Training	150 persons in 5 years
				Upskilling	150 persons in 5 years
		Cab Driver	<ul style="list-style-type: none"> <li>• Existing cab drivers</li> </ul>	Upskilling	500 persons in 5 years
		Helper/ Coordinator	<ul style="list-style-type: none"> <li>• Local goan people</li> <li>• Migrant workers</li> </ul>	Fresh Training	500 persons in 5 years
				Upskilling	300 persons in 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Interpreter/ Translator	<ul style="list-style-type: none"> <li>• Existing tourist guides</li> <li>• Local goan people</li> </ul>	<ul style="list-style-type: none"> <li>• No course available</li> </ul>	No course available	No course available

		<ul style="list-style-type: none"> <li>Coastal community</li> </ul>			
	Tourist Guide	<ul style="list-style-type: none"> <li>Existing tourist guides</li> <li>Local goan people</li> </ul>	<ul style="list-style-type: none"> <li>Tour guide (THC/Q450 2)</li> </ul>	<ul style="list-style-type: none"> <li>TRV 704 (Tour guide for international tourists)</li> </ul>	<ul style="list-style-type: none"> <li>Tourist Guide</li> </ul>
	Cab Driver	<ul style="list-style-type: none"> <li>Existing cab drivers</li> </ul>	<ul style="list-style-type: none"> <li>Tour vehicle driver (THC/Q420 2)</li> </ul>	<ul style="list-style-type: none"> <li>AUR 714 (Driver LMV)</li> </ul>	No course available
	Helper/Coordinator (Adventure Sports)	<ul style="list-style-type: none"> <li>Local goan people</li> <li>Migrant workers</li> </ul>	No course available	No course available	No course available
<b>Investment (INR in lakhs)</b>	<b>Training for Interpreters/Translators</b>				
	Operational Expenditure				58
	<b>Training for Tour Guides</b>				
	Operational Expenditure				32
	<b>Training for Cab Drivers</b>				
	Operational Expenditure				76
	<b>Training for Helpers/Coordinators (Adventure Sports)</b>				
	Operational Expenditure				94
	<b>Total Operational Expenditure</b>				<b>260</b>
	<b>Capital Expenditure for training centre<sup>27</sup></b>				<b>0</b>
<b>Potential Partners</b>	<b>Partner</b>	<b>Areas of Support</b>			
	Goa State Skill Development Mission	<ul style="list-style-type: none"> <li>Overall implementation and execution of the project</li> </ul>			
	Private training provider	<ul style="list-style-type: none"> <li>Providing training centre space</li> <li>Mobilization of trainees</li> </ul>			
	Language School	<ul style="list-style-type: none"> <li>Guest faculty for language schools</li> </ul>			
	Tourism & Hospitality SSC, Goa Tourism Development Corporation	<ul style="list-style-type: none"> <li>Develop model training programs</li> <li>Identification and certification of Trainers</li> <li>Identification and certification of assessors</li> <li>Assessment of trainees</li> <li>Certification of Trainees</li> </ul>			
	Travel & Tourism Association of Goa	<ul style="list-style-type: none"> <li>Mobilization of trainees for Upskilling</li> </ul>			
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>Language schools to provide training to interpreters/translators</li> <li>Private training partners empaneled with SSC and GSSDM to provide training to tourist guides and cab drivers</li> <li>Training to helpers/coordinators to be provided by industry player already present in the field of adventure sports in collaboration with GTDC</li> </ul>				

<sup>27</sup> Training centre will be setup by a private training provider

## Work Plan

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

<b>Project 2: Trainings in Nursing &amp; Housekeeping</b>					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>23 big ticket projects worth INR 2,636 Cr have been proposed for investment in coming few years in the hospitality sector</li> <li>Requirement of nurses for elderly senior citizens and people who stay alone. Such households are willing to pay more than the minimum wage rate to these nurses/domestic workers</li> </ul>			
<b>Rationale for a Training Center</b>		Goa has more than 3.5 lakh households. Goan youth prefer going out of Goa in search of better job opportunities. The small or low level jobs are usually done by the migrant workers from Odisha, Bihar, Jharkhand and Uttar Pradesh. With nuclear families coming up and children leaving Goa for better job opportunities, it is noticed that the population of senior citizens staying alone who require either medical attention or support in household activities is increasing. This has resulted in a requirement for trained nurses and domestic workers.			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Nursing	• Workforce from Kerala	Fresh Training	600 persons in 5 years
				Upskilling	300 persons in 5 years
		Domestic workers/Housekeeping	• Workforce from North India and Karnataka	Fresh Training	400 persons in 5 years
				Upskilling	900 persons in 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target Groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Nursing	• Workforce from Kerala	No course available	Healthcare multipurpose worker (MEDI133)	No course available
	Domestic worker/Housekeeping	• Workforce from North India and Karnataka	General housekeeper (DWC/Q0102)	Housekeeper (HOS704)	No course available

<b>Investment (INR In lakhs)</b>	<b>Training for Nursing</b>	
	Operational Expenditure	110
	<b>Training for Domestic Workers/Housekeeping</b>	
	Operational Expenditure	116
	<b>Total Operational Expenditure</b>	<b>226</b>
	<b>Capital Expenditure for training centre<sup>28</sup></b>	<b>0</b>
<b>Potential Partners</b>	<b>Partner</b>	<b>Areas of Support</b>
	Goa State Skill Development Mission	<ul style="list-style-type: none"> <li>• Overall implementation and execution of the project</li> </ul>
	Private training provider	<ul style="list-style-type: none"> <li>• Providing training centre space</li> <li>• Mobilization of trainees</li> </ul>
	Domestic Worker SSC, Healthcare SSC	<ul style="list-style-type: none"> <li>• Develop model training programs</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
	Directorate of Skill Development & Entrepreneurship	<ul style="list-style-type: none"> <li>• Mobilization of trainees for Upskilling</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• Private training partners empaneled with Healthcare SSC and GSSDM to provide training to nurses</li> <li>• Private training partners empaneled with Domestic Worker SSC and GSSDM to provide training to domestic workers/ housekeepers</li> <li>• Training centre to be setup by training provider</li> </ul>	

### Work Plan

<b>Nursing and Dometic Workers</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Partnership with SSC and Knowledge partners						
Development of QPs						
Establishment of Training infrastructure and facility						
Furnishing of the training centre						
Purchase and installation of lab equipment						
Appointment of staff members (instructors, counsellors, mobilization in-charge, placement officers, administrative staff etc.)						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

<b>Project 3: Skill Development Center for Logistics</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• One major port at MPT and 5 minor Port</li> <li>• Proposed new airport near Morjim beach</li> <li>• Vedanta group to start operations from April 2017 on 3 berths of MPT</li> <li>• Mining activity slowly picking up</li> </ul>

<sup>28</sup> Training centre will be setup by a private training provider



		<ul style="list-style-type: none"> <li>Enhancing the existing road connectivity by building 2 bridges</li> <li>Many big ticket projects coming up in hospitality sector and sourcing cement and other raw material from outside Goa</li> </ul>			
<b>Rationale for a Training Center</b>	The ports and associated logistics service providers such as the CFS, logistic firms, container yards, shipping agencies are located in close proximity. The number of such firms is expected to increase with proposed new airport, enhancing road connectivity and upcoming smart city projects. Considering that there is a cluster of employers and potential beneficiaries available in close proximity in the district, training program for fresh training of truckers and helpers and RPL of existing truckers can be conducted.				
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>	
	Training for Truckers	<ul style="list-style-type: none"> <li>Existing Truckers</li> <li>Local community members</li> </ul>	Upskilling	1500 persons in 5 years	
	Helpers	<ul style="list-style-type: none"> <li>Existing Helpers</li> <li>Local community members</li> </ul>	Upskilling	1000 persons in 5 years	
<b>Availability of curriculum</b>	<b>Job Role</b>	<b>Target groups</b>	<b>QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Truck Drivers	<ul style="list-style-type: none"> <li>RPL – Current Truckers</li> <li>Training Programmes – for potential Truckers</li> </ul>	<ul style="list-style-type: none"> <li>Reach Truck Operator</li> </ul>	Course available for: <ul style="list-style-type: none"> <li>Driver HMV</li> <li>Driver LMV</li> </ul>	No course available
	Helpers	<ul style="list-style-type: none"> <li>Existing Helpers</li> <li>Local community members</li> </ul>	No course available	No course available	No course available
<b>Investment (INR In lakhs)</b>	<b>Truck drivers</b>				
	Operational Expenditure				91
	<b>Helpers</b>				
	Operational Expenditure				61
	<b>Total operational expenditure</b>				
<b>Capital Expenditure for training center<sup>29</sup></b>					<b>0</b>
<b>Potential Partners</b>	<b>Partner</b>	<b>Areas of Support</b>			
	Goa State Skill Development Mission	<ul style="list-style-type: none"> <li>Overall implementation and execution of the project</li> </ul>			
	Port/CFS/Industry partner	<ul style="list-style-type: none"> <li>Access to port facilities for practical training</li> <li>Guest faculty</li> <li>Input for designing curriculum</li> <li>Provision of used equipment for training</li> <li>Facilitate implementation of Upskilling for existing work force</li> </ul>			

<sup>29</sup> Training centre will be setup by a private training partner

	Industry Association (Automobile Association of India)	<ul style="list-style-type: none"> <li>Facilitate implementation of Upskilling for existing workforce</li> </ul>
	Training Partner (Port/CFS/TSP)	<ul style="list-style-type: none"> <li>Training delivery and establishment of training centers</li> <li>Co-management of the training facility</li> </ul>
	Logistic Sector Skill Council	<ul style="list-style-type: none"> <li>Development of QPs for the identified job roles</li> <li>Identification and certification of Trainers</li> <li>Identification and certification of assessors</li> <li>Assessment of trainees</li> <li>Certification of Trainees</li> </ul>
<b>Training Delivery</b>		<ul style="list-style-type: none"> <li>Private training provider to rent/develop the training facility and deliver the training programme</li> <li>Mobilization to be done by respective industry players</li> </ul>

### Work Plan

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

Project 4: Skill Development Training in Sea food processing				
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>Presence of 14 sea food processing units in Goa</li> <li>Upcoming processing units</li> <li>On an average one processing unit employing 250-300 workers and average turnover of INR 50-100 Cr</li> <li>Huge demand of seafood items in foreign market</li> </ul>			
<b>Rationale</b>	<p>In goa, around 14 sea food processing units are present which employ women from nearby Karnataka region and men from north east India. There is a huge demand of Indian sea food items in foreign markets especially European market. With more food processing plants coming up, the requirement of trained manpower is a must. Currently, the women employed are not trained or certified and they are provided the training once they join the processing unit. People could be trained per year by the Department of Fisheries or MPEDA and on completion of training a certificate could be issued. Such certification will help them to get loans from the banks to engage/ venture into self-employment prospects as well</p>			
<b>Trainings</b>	<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>

		Grading supervisor	<ul style="list-style-type: none"> <li>Existing workforce engaged in fishery</li> <li>Coastal communities</li> <li>Workforce from Karnataka working in sea food processing units</li> </ul>	Fresh Training	300 persons in 5 years
		Shop floor worker	<ul style="list-style-type: none"> <li>Existing workforce engaged in fishery</li> <li>Coastal communities</li> <li>Workforce from Karnataka working in sea food processing units</li> </ul>	Fresh Training	900 persons in 5 years
				Upskilling	1500 persons in 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Grading supervisor	<ul style="list-style-type: none"> <li>Existing workforce engaged in fishery</li> <li>Coastal communities</li> <li>Workforce from Karnataka working in sea food processing units</li> </ul>	No course available	No course available	No course available
	Shop floor worker	<ul style="list-style-type: none"> <li>Existing workforce engaged in fishery</li> <li>Coastal communities</li> <li>Workforce from Karnataka working in sea food processing units</li> </ul>	No course available	No course available	No course available
<b>Investment (INR In lakhs)</b>		<b>Grading supervisor</b>			
		Operational Expenditure		46	
		<b>Shop floor worker</b>			
		Operational Expenditure		228	
		<b>Total Operational Expenditure</b>		<b>274</b>	

	<b>Capital Expenditure<sup>30</sup></b>	<b>0</b>
<b>Potential Partners</b>	<b>Partner</b>	<b>Areas of Support</b>
	Goa State Skill Development Mission	<ul style="list-style-type: none"> <li>• Overall implementation and execution of the project</li> </ul>
	MPEDA	<ul style="list-style-type: none"> <li>• Industry linkage and tie-ups</li> <li>• Inputs for designing the course curriculum</li> </ul>
	Industry Partners/Private training providers	<ul style="list-style-type: none"> <li>• Support in setting up/scaling up the training centre as per the required SSC norms</li> <li>• Training delivery</li> <li>• Provide faculty members</li> </ul>
	Food Processing SSC	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>	<ul style="list-style-type: none"> <li>• Food processing SSC to support in development of course curriculum</li> <li>• Food processing industries to provide training space for Upskilling</li> <li>• Fresh trainings to be conducted at a training centre set up by a private training institute</li> </ul>	

### Work Plan

<b>Sea Food Processing</b>	<b>in Months</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Identification of training providers and industry players						
Partnership with Food Processing SSC						
Setting up RPL training centre within industry premises						
Setting up of training centre by training provider						
Development of QP for the required course						
Purchase of consumables						
Appointment of additional staff members						
Mobilization of prospective trainees						
Enrolment of students						
Roll-out of training programme						

<b>Project 5: Trainings in Construction sector</b>	
<b>Key economic drivers</b>	<ul style="list-style-type: none"> <li>• Big ticket tourism and hospitality sector projects coming up</li> <li>• Proposed new airport near Morjim beach</li> <li>• Proposed smart city project of Panjim</li> <li>• Investment in development of industrial and manufacturing hubs</li> </ul>
<b>Rationale</b>	A lot of real estate projects have been sanctioned by Goa IPB. Hospitality sector is coming up with more than 23 big ticket projects comprising of 5 star properties, resorts and recreational hubs for tourism activities. The upcoming new airport and smart city is going to provide employment opportunities for entry level jobs in construction sector.

<sup>30</sup> Training centre will be setup by a training partner

		Most of the manpower is from outside goa and migratory in nature. Goan people do not prefer doing low level jobs in construction sector. There is a huge requirement of <b>trained and certified</b> manpower in the construction sector in mason, bar bending, carpentry, plumbing and electrician trades.				
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>	
		Skilling of workers in entry level jobs in construction sector	<ul style="list-style-type: none"> <li>Existing workforce engaged in construction sector</li> </ul>	Upskilling	5000 persons	
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>	
	Mason, carpenter, bar bender, plumber, electrician	<ul style="list-style-type: none"> <li>Existing workforce in construction sector</li> </ul>	QP available for: <ul style="list-style-type: none"> <li>Mason, carpenter, bar bender, plumber and electrician</li> </ul>	Course available for mason, carpenter, bar bender, plumber and electrician	Course available for mason, carpenter, bar bender, plumber and electrician	
<b>Investment (INR In lakhs)</b>		<b>Training centre for skilling in construction sector</b>				
		Skilling for Construction Workers of Infrastructural Facilities				
		Operational Expenditure				304
		<b>Total Operational Expenditure</b>				<b>304</b>
		<b>Total Capital Expenditure<sup>31</sup></b>				<b>0</b>
<b>Potential Partners</b>		<b>Partner</b>		<b>Areas of Support</b>		
		Training Partner		<ul style="list-style-type: none"> <li>Provide infrastructure for training either at construction sites or setup a training centre</li> <li>Training delivery</li> </ul>		
		Plumbing Sector Skill Council Automotive Sector Skill Council Construction Skill Development Council of India		<ul style="list-style-type: none"> <li>Develop model training programmes for the identified Job Roles</li> <li>Identification and certification of Trainers</li> <li>Identification and certification of assessors</li> <li>Assessment of trainees</li> <li>Certification of Trainees</li> </ul>		
<b>Training Delivery</b>		<ul style="list-style-type: none"> <li>Engage a TSP that is affiliated with DDU-GKY/NSDC/GSSDM to deliver the training</li> <li>Training can also be conducted at the construction sites for existing workers</li> </ul>				

### Work Plan

Manufacturing and construction	in Months					
	1	2	3	4	5	6
TSP empanelment						
SSC affiliation						
Training centre setup						
mobilization of prospective trainees						
Enrolment of trainees						

<sup>31</sup> Training centre will be setup by a private training partner

Manufacturing and construction	in Months					
	1	2	3	4	5	6
Roll-out of training programme						

Project 6: Trainings for job roles emerging in Smart City					
<b>Key economic drivers</b>		<ul style="list-style-type: none"> <li>Smart City Project: Panjim</li> </ul>			
<b>Rationale</b>		Smart city that is lined up in Panjim will demand skilled workforce that will be able to use smart technologies in not only building the smart city but also maintaining them. There will be demand for workforce that could work in solar panel installation technician and solid waste management			
<b>Trainings</b>		<b>Training courses</b>	<b>Target Beneficiaries</b>	<b>Type of Trainings</b>	<b>Total Number of beneficiaries</b>
		Solar panel installation technician	<ul style="list-style-type: none"> <li>Coastal communities</li> </ul>	Fresh Training	250 persons in 5 years
		Solid waste management	<ul style="list-style-type: none"> <li>Coastal communities</li> </ul>	Fresh Training	250 persons in 5 years
<b>Availability of curriculum</b>	<b>Job Roles</b>	<b>Target groups</b>	<b>Available QP/NOS</b>	<b>MES</b>	<b>CTS</b>
	Solar panel installation 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> </ul> Solar PV Installer (Suryamitra)	Course available for Solar electric System Installer & Service Provider, Solar Hot Water system installer, Assistant Solar PV Technician, Solar PV Technician	No course available
	Solid waste management technician	<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> </ul> Wastewater Treatment Plant Technician	No course available	No course available
<b>Investment (INR In lakhs)</b>		<b>Training centre for skilling for Smart Cities</b>			
		<b>Solar panel installation technician</b>			
		Operational Expenditure			38
		<b>Solid waste management technician</b>			
		Operational Expenditure			38
		<b>Total Operational Expenditure</b>			<b>76</b>
		<b>Total Capital Expenditure<sup>32</sup></b>			<b>0</b>
<b>Potential Partners</b>		<b>Partner</b>		<b>Areas of Support</b>	
		Goa State Skill Development Mission		<ul style="list-style-type: none"> <li>Nodal agency for implementation and execution of the project</li> </ul>	
		Training Partner		<ul style="list-style-type: none"> <li>Provide infrastructure for training</li> </ul>	

<sup>32</sup> Training centre will be setup by a private training partner

		<ul style="list-style-type: none"> <li>• Training delivery</li> </ul>
	Industry Associations	<ul style="list-style-type: none"> <li>• Industry interface</li> <li>• Facilitate On-Job-Training</li> <li>• Facilitate in identifying the firms that could recruit the trained graduates in Raigad</li> </ul>
	Green Jobs Skill Council	<ul style="list-style-type: none"> <li>• Develop model training programmes for the identified Job Roles</li> <li>• Identification and certification of Trainers</li> <li>• Identification and certification of assessors</li> <li>• Assessment of trainees</li> <li>• Certification of Trainees</li> </ul>
<b>Training Delivery</b>		<ul style="list-style-type: none"> <li>• Engage a TSP affiliated with DDU-GKY/NSDC/GSSDM to deliver the training</li> </ul>

### **Work Plan**

Smart City	in Months					
	1	2	3	4	5	6
TSP empanelment						
SSC affiliation						
Training centre setup						
mobilization of prospective trainees						
Enrolment of trainees						
Roll-out of training programme						

## **Appendix 1 A.A.A - State level consultations- Goa**

Stakeholder	Person	E-mail	Cell/Phone
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Sl. No.				
1	Directorate of Planning, Statistics & Evaluation	Mr. Vikas S N Gaunekar (Director) - 9822153252	dir-dpse.goa@nic.in	+ 91 - 832-2417439,2417445
2		Mr. T Furtado (Statistical Officer) - 9822489710	dir-dpse.goa@nic.in	+ 91 - 832-2417439,2417445
2	Directorate of Fishing	Mr. Chandrakant D Velip (Deputy Director of Fisheries) - 9923499855	dir-fish.goa@nic.in	0832-2224838,
3	Department of Tourism	Mr. Ganesh R. Teli, Assistant Director of Tourism (Planning)	dir-tour.goa@nic.in	0832 - 2494205
		Ms. Jasmine (Assistant Planning Officer - Planning Section)	dir-tour.goa@nic.in	0832 - 2494205
4	TTAG	Mr. Savio Messias, President, TTAG	<a href="mailto:ttagoasecretariat@gmail.com">ttagoasecretariat@gmail.com</a>	0832-2437738, 9823056261
5	GTDC	Gavin Dias, Dy General Manager, Hotels & Marketing	<a href="mailto:gavindias@goa-tourism.com">gavindias@goa-tourism.com</a>	9922193395, 08322437132
6	Food and Drugs Administration	Salim Velji, Director		9822980727
7	Captain of Ports Department	Capt. James Braganza, Captain of Ports	cpt-port.goa[at]nic.in	0832-2426109 / 0832-2225070
8	Directorate of industries	Ms. R Maneka, IAS	<a href="mailto:dir-indu.goa@nic.in">dir-indu.goa@nic.in</a>	2226377/2422268 (Ext. 21)
9	Directorate Of Skill Development & Entrepreneurship	Shri Aleixo F. Da Costa, Director	dir-ct.goa@nic.in	+91 942 0975953
	The Marine Products Export Development Authority (MPEDA)	Mr. Ashok Kumar, Drputy Director	sro.goa@mpeda.gov.in	+91 832 2224283
11	River Naviation Department	Vikramsing N Rajebhosale, Senior Superintendent (Workshop & Traffic)	<a href="mailto:admn-river.goa@nic.in">admn-river.goa@nic.in</a>	8322410790
12	CREDAI, Goa	Ms. Ruby Redgar, Manager	<a href="mailto:goa.credai@gmail.com">goa.credai@gmail.com</a>	9881102295; 8326512295
13	Goa Chamber of Housing and Industries	Mr. R S Kamath, Director	<a href="mailto:dir-indu.goa@nic.in">dir-indu.goa@nic.in</a>	2226377/2422268 (Ext. 21)

## Appendix 1 A.A.A - District level consultations- South Goa



SN	Stakeholder	Person	E-mail	Cell/Phone
1	Murmagao Port Trust	Jerome Celment, Assistant Traffic Manager	tm@mptgoa.com / tmmgpt@gmail.com	+91-832- 252 1140
2	Murmagao Port Trust	S P Mohan Kumar, Sr. Secretary	secretary@mptgoa.com / secymgpt@gmail.com	+91-832- 252 1120
3	Murmagao Port Trust	Mr. Ganeshan, Chief Mechanical Engineer	ce@mptgoa.com / mgptce@gmail.com	+91-832- 252 1160
4	Adani Murmagao Port Terminal Pvt. Ltd.	Anurag Bhagauliwal, Business Head	<a href="mailto:anurag.bhagauliwal@adani.com">anurag.bhagauliwal@adani.com</a>	7659047774
5	South West Port Limited	Anthony J B Fernandes, Unit in charge	<a href="mailto:anthony.fernandes@jsw.in">anthony.fernandes@jsw.in</a>	8322523000
6	M/s Boxco Logistics India Pvt. Ltd.	Capt. Hiranand B Aghicha, General Manager	<a href="mailto:hirananda@boxcoworld.com">hirananda@boxcoworld.com</a>	8322510397/484, 08322512583
7	M/s J M Baxi and Co.	Capt. Hiranand B Aghicha, General Manager	<a href="mailto:hirananda@jmbaxi.com">hirananda@jmbaxi.com</a>	8322510397/484, 08322512583
8	NUSI Maritime Academy	Capt. Hemant	nusi@bsnl.in	0832-2773859; 2773861,2773681
9	Zeebop by the sea	Mr. Baiju, Manager	<a href="mailto:zeebopbythesea@gmail.com">zeebopbythesea@gmail.com</a>	832-2755333
10	Zuari Cement	Mr. Chidanand (AGM)	<a href="mailto:bmogoa@zcltd.com">bmogoa@zcltd.com</a>	0832 - 2730895, 09844041320

## Appendix 1 A.A.A - District level consultations- North Goa

SN	Stakeholder	Person	E-mail	Cell/Phone
1	ITI Bicholim	Principal	itibco2315@gmail.com	0832 236 2315
2	Adventure Sports (Atlantis Water Sports)	Valerian Dsouza (Tour Operator)	info@atlantiswatersports.com	180030008208, +91 9767213311 / 9767213322
3	Madgavkar Salvage/Goa Shipyard/Paradise Cruises	Anand Madgavkar		9822100002
4	Dempo Ship Building & Engineering Pvt. Ltd.	Mr. Sajiv Kanekar	contactus[at]goashipyard.com	91-832-2512152/2513954
5	Palacio De Goa (Hotel)	Allan Cunha, General Manager	<a href="mailto:palaciodegoa@gmail.com">palaciodegoa@gmail.com</a>	832-2424289, 2426742, 2421785/6
6	Milroc Good Earth Property & Developers LLP	Mr. Kantipudi Kulasekhar, Designated Partner	<a href="mailto:kkulasekhar@milroc.com">kkulasekhar@milroc.com</a>	832-2230536, 8378969395

