



LABOR MARKET INTELLIGENCE REPORT  
**SKILLS DEMAND  
AND SUPPLY MAPPING**

Technical Education and Skills Development Authority



## **SKILLS DEMAND AND SUPPLY MAPPING**

### **I. Introduction**

Sound policy and program decisions depend a lot on fact-based data and information. The availability of timely, relevant and accurate data would be helpful in charting out the directions of technical vocational education and training (TechVoc) in the country. Thus, TESDA has initiated the conduct of Skills Demand and Supply Mapping to generate much needed information on the skills requirements of industries as well as the availability of much needed skills in each of the provinces in the different regions in the country.

The Skills Demand and Supply Map contains skills priorities that are needed by the sector by location (regional/provincial) from 2014 to 2016. This gives the projected demand for the in-demand and hard-to-fill occupations identified in the DOLE's Project JobsFit Report 2013 and the corresponding supply that are available in terms of graduates and certified workers, to the extent possible.

This was consolidated in line with the updating of the National Technical Education and Skills Development Plan (NTESDP) 2011-2016. This is aimed at providing direction in the prioritization and implementation of TechVoc programs and services. Estimation of the projected demand would help in meeting and responding to the skills requirements of the different sectors for the next three years.

Consolidated results show the following industries that registered high demand for skilled worker:

1. Information and Communication Technology/Business Process Management (ICT/BPM)
2. Infrastructure/Construction
3. Tourism
4. Agriculture
5. Manufacturing
6. Health, Social and other community development services
7. Electronics
8. Logistics
9. Automotive
10. Metals & Engineering
11. Wholesale & Retail
12. Garments & Textile
13. Homestyle Products
14. Mining
15. Home-style Products
16. Heating, Ventilation and Air Conditioning/Refrigeration (HVAC/R)
17. Infrastructure/Construction
18. Maritime
19. Other Industries (Utilities, etc)

## II. Brief Industry Prospects

### Information Communication Technology–Business Processing Management (ICT-BPM)

Per the IT-BPM and Global In-House Center Roadmap 2012-2016<sup>1</sup>, the IT-BPM industry is projected to earn US\$25 billion in revenues and employ 1.3 million and 3.2 million Filipinos directly and indirectly by 2016. At this size, it could account for about 8 percent of Philippine GDP. Moreover, the roadmap has outlined key initiatives that will focus on four areas: Talent, Ecosystem, Marketing & Branding, and Role of the Business Processing Association of the Philippines.

### Infrastructure/Construction

Per the PDP 2011-2016, infrastructure plays a vital part in the country's economic development and growth. Investment shall be directed towards the development of air and sea ports; roads; agricultural support facilities such as irrigation systems and systems for water supply; commercial infrastructure for trade and exposition; waste management systems (i.e. solid and liquid waste); and energy source facilities for power supply.

### Tourism

The National Tourism Development Plan 2011-2016<sup>2</sup> has outlined its target of 10 million international visitors and 56 million domestic travellers by 2016. To achieve these targets three strategic directions are being pursued: 1) *Develop and market competitive tourism products and destinations*, 2) *Improve market access, connectivity and destination infrastructure*; and 3) *Improve tourism institutional, governance and human resources*. Moreover, it should be noted that per the Travel and Tourism Competitiveness Index 2013<sup>3</sup> Report, the Philippines is the most improved country in the Asia Pacific Region, ranking 16th regionally and 82nd overall, up by 12 places since the last edition of the report in 2011. The index aims to measure the factors and policies that make it attractive to develop the travel and tourism sector in different countries.

### Agriculture

This industry grew by 1.44% in the first half of 2013. Output increments from the livestock, poultry and fisheries subsectors contributed to the overall production gain during the period. However, the crops subsector suffered a contraction during this period. At current prices, gross earnings in agriculture amounted to P697.2 billion, higher by 0.88% than last year's record.<sup>4</sup> The Department of Agriculture (DA) is pushing for inclusive growth through broad-based rural agro-industrial development through the following strategies: raise farm productivity and competitiveness, increase efficiency in investments on agriculture & fisheries, raise productivity & production, strengthen regulatory capacity, intensify market development efforts, design & establish climate resilient agri-fishery

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<sup>1</sup> IT-Business Processing Association of the Philippines (IBPAP)

<sup>2</sup> Department of Tourism

<sup>3</sup> The World Economic Forum, [http://www3.weforum.org/docs/WEF\\_TT\\_Competitiveness\\_Report\\_2013.pdf](http://www3.weforum.org/docs/WEF_TT_Competitiveness_Report_2013.pdf)

<sup>4</sup> The Department of Agriculture website: <http://www.bas.gov.ph/>

infrastructure; and develop & improve agri-fishery technologies. The DA's programs are focused on the five basic commodity, ten champion high value commodities, public investments in agri-infrastructure and support services.<sup>5</sup>

## **Manufacturing**

The industry continued to accelerate its pace with a 10.3% growth in the second quarter 2013, more than doubling the 4.3% performance recorded in the same quarter in 2012. The upbeat trend in manufacturing was largely driven by the further expansion of Chemical and chemical products which grew by 82.5 % from 10.8 %. Other contributors to the growth were: Food manufactures, grew by 6.3 % from 5.7%; Radio, television and communication equipment and apparatus, which rebounded to 12.7 % from a decline of 10.5%; Furniture and fixtures, grew by 54.2% and Basic metal industries, which recovered to 116.3 % from a slump of 40.0%.<sup>6</sup> The Manufacturing Industry Roadmap provides the direction where to devote government's energies & resources, strategy and priorities. It has outlined short-run, medium term and long-run strategies that will bring the manufacturing industry to its goal of "a globally competitive manufacturing industry with strong forward and backward linkages" in 2028.

## **Health and wellness (including social and other community development services)**

Health and wellness continue to be one of the country's Key Employment Generators. The industry covers the establishment and operation of clinics, spas, therapeutic centers, traditional and alternative healing, and medical care services. Health and wellness that is directly linked with tourism in the Philippines increased in current value by 18% in 2012. Much of this robust growth can be attributed to the rise of medical tourism, the major contributor to total value sales in health and wellness tourism in the Philippines. Health and wellness tourism is expected to increase in constant value at a compounded annual growth rate of 16% over the forecast period. This robust growth is set to be due mainly to the Department of Tourism's efforts to boost medical tourism and increase the number of inbound arrivals to 10 million by 2016. The anticipated improvement in domestic tourism flows during the forecast period due to the country's bright economic outlook is also expected to boost the performance of health and wellness tourism over the forecast period.<sup>7</sup>

## **Electronics**

The Philippine electronics industry is still the biggest contributor to the total Philippine exports. It has contributed significantly to the rapid export growth ending 2012 with a 43% share, equivalent to US\$23 billion. Total imports of the Philippine Electronics industry last 2012 is US\$16billion.<sup>8</sup> The Philippine Semiconductor and Electronics Industry Roadmap has identified key targets in terms of investment, exports and employment that the industry hopes to achieve

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<sup>5</sup> Department of Agriculture Roadmap (HDPR Planning Tool)

<sup>6</sup> <http://www.nscb.gov.ph/sna/2013/2nd2013/2013mfg2.asp>

<sup>7</sup> <http://www.euromonitor.com/health-and-wellness-tourism-in-the-philippines/report>

<sup>8</sup> Semiconductor and Electronics Industries of the Philippines, Inc. (SEIPI)



in the short, medium and long term which is by 2030. The industry targets a 500,000 direct employment by 2016, on a business as usual scenario. However, it is also aiming a one million (1M) direct employment in the same year on a scenario of optimum business conditions for industry and with support from the government and the academe. An optimum business conditions for the industry and government/academe support by 2030 would result to three million (3M) direct and 21 million indirect employment, US\$10 billion in revenue and US\$112 billion in exports.

## **Logistics**

Logistics encompasses an array of essential activities to move goods across borders covering transport, warehousing, cargo consolidation, border clearance, distribution, payment systems.<sup>9</sup> Accordingly, the institutional framework for logistics in the country has always been reviewed in the context of other sectors such as transport and agriculture and not as a logistics sector by itself. Thus, the logistics component has minimal data available. With the forthcoming ASEAN 2015, increased competition and trade would mean greater movement of goods and services, thus the need for an efficient transportation and logistics system.

## **Automotive**

The Philippine Automotive industry is comprised of the vehicle manufacturers and the parts & components manufacturers. The vehicle manufacturers include fifteen firms and have a direct employment of about 68,000. The parts and components manufacturers, on the other hand, have 272 industry players. The Philippine Automotive Manufacturing Industry Roadmap outlines the industry's vision for 2022 which is, the Philippines shall be a competitive manufacturing base of motor vehicles and parts & components, serving both the domestic and export markets.<sup>10</sup>

## **Metals and Engineering**

Metals and Engineering cut across the Infrastructure/Construction industry. The thriving of the industrial/residential buildings in the country paves way in the creation of more jobs in this sector. Metal-based products are iron, steel, aluminium and copper products.

## **Wholesale & Retail**

The industry covers the wholesale and retail sale of any type of goods and the rendering services incidental to the sale of these goods or its distribution. Wholesaling and retailing are the final steps in the distribution of goods. Goods bought and sold are referred to as merchandise. Also included in this sector is the repair of motor vehicles and motorcycles. Sale without transformation is considered to include the usual operations (or manipulations) associated with trade, like sorting, grading and assembling of goods, mixing (blending) of goods

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<sup>9</sup> Henry Sandee, " *Logistics Performance Index: Connecting to Compete 2010*"

<sup>10</sup> Vicente Mills, Presentation on the *Philippine Automotive Manufacturing Industry Roadmap*

etc. This industry accounts for an average of 6 million employees/workers for the period of 2003-2011.<sup>11</sup>

### **Garment & Textile**

Articles of apparel and clothing accessories is the fifth-largest export category of the economy, with a 3.9 percent share in total export receipts with a value of \$144.7 million in February 2013. Combined garment and textile exports from the Philippines amounted to \$1.74 billion in 2012, down a significant 16.34 percent from the \$2.08 billion recorded the preceding year. Overseas shipments of garments fell to \$1.57 billion, a decrease of 17.03 percent. According to the DTI, fabric exports dropped 7.26 percent to \$170.36 million.<sup>12</sup> Most garment manufacturers are based in Regions 3, 4A, 4B and 7.

### **Home-style Products**

Annual growth of 7% is targeted in the design-driven home-style products, which includes furniture and furnishings, holiday décor, house ware and ceramics, woodcraft, gift ware (excluding toys) shell craft and basket work. The strong design capability of exporters, capitalizing on the mixed-media furniture, shall be continuously developed and sustained.<sup>13</sup>

### **Mining**

Mining and quarrying declined by 2.7 % in the 2nd quarter of 2013 from a growth of 6.5 % in the previous year. Growth of the sector was pulled down by Crude Oil, Natural Gas & Condensate, slipping further to negative 7.3% from negative 2.8%; Nickel Mining, down by 6.3% from a huge growth of 61.7%; and Other metallic, down by 2.5% from a growth of 60.1%. On the other hand, the sector benefited from the favourable performances of the following during the period: Copper posted a robust growth of 40.3% from 18.4 %; Chromium, up by 18.4% from negative 6.9%; Stone Quarrying, Clay and Sandpits, up by 13.9% from 11.3%; and Other Non-metallic, mostly coal, grew by 3.2% from 13.2%.<sup>14</sup>

### **Maritime**

Maritime is considered as one of the Key Employment Generators identified in the DOLE Projects JobsFit LMIR. The Philippines considers the maritime industry as a vital component in achieving socio-economic progress, as shipping remains the major means by which movement of goods and people are achieved. The country aims to generate employment opportunities for almost half million maritime graduates and professionals not just limited to ship navigation of ships but also in other related maritime activities such as stevedoring, ship management, shipbuilding and ship repair as well as in related maritime consultancy activities.<sup>15</sup>

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<sup>11</sup> Bureau of Local Employment

<sup>12</sup> <http://business.inquirer.net/119177/garments-sector-pushes-cut-in-labor-power-costs>

<sup>13</sup> Philippine Development Plan 2011-2016

<sup>14</sup> <http://www.nscb.gov.ph/sna/2013/2nd2013/2013mq2.asp>

<sup>15</sup> DOLE Project JobsFit LMIR

## **Other Industries**

Other industries would include utilities such as electricity, gas, steam and air conditioning supply industry that include the activity of providing electric power, natural gas, steam, hot water and the like through a permanent infrastructure (network) of lines, mains and pipes. It also includes the distribution of electricity, gas, steam, hot water and the like in industrial parks or residential buildings; operation of electric and gas utilities, which generate, control and distribute electric power or gas; and the provision of steam and air-conditioning supply.<sup>16</sup>

### **III. The Skills Demand and Supply Map**

#### **A. Skills**

In economics, demand is an economic concept that describes a buyer's desire, willingness and ability to pay a price for a specific quantity of a good. And for a labor market, demand refers to how much of a service is desired or is being needed by the industry. As the Philippine economy continues to grow annually, parallel to this is the upsurge of demand for workforce.

Through the Project Jobs Fit of DOLE and the Regional consultations of the TESDA regional offices, projected demand per region per sector is estimated (please see Table 1).

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<sup>16</sup> Project JobsFit LMI Report

Table1. Report on Regional Skills Demand and Supply Mapping

INDUSTRY	CAR	I	II	III	IV-A	IV-B	V	VI	VII	VIII	IX	X	XI	XII	CARA GA	TOTAL
ICT/ BPO	2,162	-	5	7,605	225,71 2	-	35,988	61,505	279,53 7	17,187	2,625	-	91,840	3,050	208	727,424
Infrastructure / Construction	2,831	3,84 1	4,440	12,300	90,446	9,665	2,862	36,800	3,200	38,800	295	-	35,085	433	5,482	246,142
Tourism	1,763	-	2,247	16,663	51,317	23,567	24,605	7,495	-	7,495	1,974	-	49,024	349	2,531	207,739
Agri- Business/ Forest Based Products	601	484	1,501	4,657	2,255	1,670	492	6,055	-	6,055	3,514	34,907	60,914	25,934	509	150,303
Others	-	-	259	-	231	-	-	2,260	-	2,260	-	-	79,836	13,776	535	102,174
Manufacturin g	-	-	-	13,084	35,624	-	162	1,185	-	1,185	-	-	18,233	-	60	68, 655
Health, Social and other Community Devt. Services (Health & Wellness)	-	-	1,556	5,257	2,860	-	84	4,890	-	4,890	390	-	27,043	4,398	699	47, 978
Electronics	306	621	80	-	8,300	-	66	-	-	-	-	-	14,982	212	-	25, 371
Logistics	-	-	422	4,650	-	10,495	78	-	-	-	210	-	4,801	-	165	20,821
Automotive/ Motor Vehicle Parts & Components	-	-	536	-	2,524	-	330	-	-	-	-	-	16,126	-	225	20, 271
Metals & Engineering	210	-	280	3,807	6,430	-	108	-	-	-	425	-	8,344	-	-	19, 640
Wholesale & Retail	-	-	2,030	-	-	-	143	-	-	-	-	-	13,341	2,227	135	17, 876
Garments & Textile	-	-	100	1,706	7,275	-	84	-	-	-	-	-	2,863	-	60	12, 088
Homestyle Products	-	-	107	-	-	-	-	-	-	-	-	-	5,068	-	-	5,175
Mining	-	-	175	-	-	-	-	-	-	-	921	-	-	-	1,610	2,706
HVAC	-	-	295	-	-	-	-	-	-	-	-	-	2,203	-	-	2,498
Maritime	-	-	360	-	165	-	126	-	-	-	-	-	1,285	-	-	1,936
<b>TOTAL</b>	<b>7,873</b>	<b>4,94 6</b>	<b>14,393</b>	<b>69,729</b>	<b>433,14 0</b>	<b>45,397</b>	<b>65,128</b>	<b>120,19 0</b>	<b>282,73 7</b>	<b>96,417</b>	<b>10,354</b>	<b>34,907</b>	<b>430,98 8</b>	<b>50,379</b>	<b>12,219</b>	<b>1,678,797</b>



Figure1. Sectors with highest skills demand per region

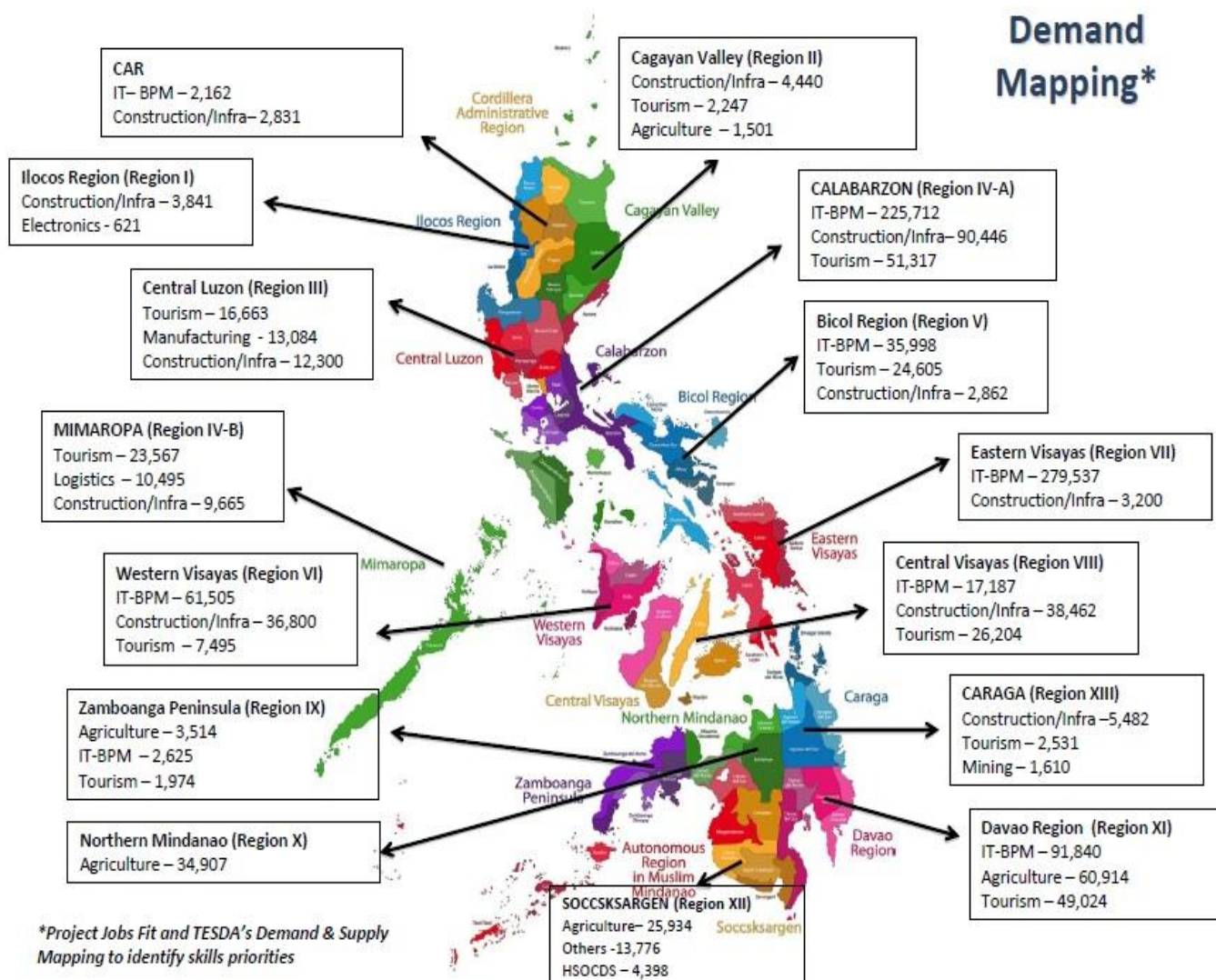


Table2. Sectors with skills priority per region

## Demand Mapping\*

Industry	Region	Demand
Agri-Business	CAR, 1, 2, 3, 4-A, 4-B, 5, 6, 8, 9,10, 11, 12, CARAGA	150,303
IT-BPM	CAR, 2, 3, 4-A, 5, 6, 7, 8, 9, 11, 12	727,424
Electronics	CAR, 1, 2, 4-A, 5, 8, 11, 12	25,371
Garments & Textiles	2, 3, 4A, 5, 6, 8, 9, 11, 12, CARAGA	12,088
Health, Social & Other Community Devt Services	2, 3, 4A, 5, 6, 8, 9, 11, 12, CARAGA	47,978
Homestyle Products	2, 11	5,175
HVAC	2, 11	2,498
Const/Infra	CAR, 1, 2, 3, 4-A, 4-B, 5, 6, 8, 9,11, 12, CARAGA	246,141
Logistics	2, 3, 4B, 5, 9, 11, CARAGA	20,821

*\*Project Jobs Fit and TESDA's Demand & Supply Mapping to identify skills priorities*

The table (Table1) illustrates the number of projected demand per industry per region. This will show which industry can generate more employment in the next three years. The following are the list of sectors ranked from having the highest projected demand to the lowest:

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- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. ICT/BPO</li> <li>2. Infrastructure/Construction</li> <li>3. Tourism</li> <li>4. Agriculture</li> <li>5. Other high potential industry</li> <li>6. Manufacturing</li> <li>7. Health &amp; Wellness</li> <li>8. Electronics</li> </ol> | <ol style="list-style-type: none"> <li>9. Logistics</li> <li>10. Automotive</li> <li>11. Metals &amp; Engineering</li> <li>12. Wholesale &amp; Retail</li> <li>13. Garments</li> <li>14. Home-style Products</li> <li>15. Mining</li> <li>16. HVAC</li> <li>17. Maritime</li> </ol> |
|--|---|

**ICT-BPO.** This is the top industry gaining 727,424 demand from the results of the regional consultation. The TVET qualification - Finishing Course for Call Center Agent NC II has the largest projected demand of 508,105. And base on the result gathered in the skills demand and supply mapping the region that has the largest demand is from Region IV-A (210,022).

**Infrastructure/Construction.** This sector has 246,141 demand ranked second among the industries identified. From that total, Shielded Metal Arc welding takes the biggest part of about 40,391 demands projected for three (3) years. Among the regions that have been consulted, Region IV-A has the greatest demand for welders with a total of 19,887. Furthermore, Carpentry NC II gains 24,606 demand and more than thirty percent (30%) of the total was from Region XI.

**Tourism.** This has 207, 739 projected demand for three consecutive years. The qualification that has the largest projected demand is the Food and Beverage Services NC II with a total of 61,914. From the total demand, 17,019 came from Region VIII and 10,986 was from Region IV-A.

**Agribusiness.** In this sector 41,112 demand has been projected for Agricultural Crop Production from the total of 150,303 projected demand for Agribusiness sector. The biggest demand per region is 20,383 and 7,383 from Region XI and Region X respectively.

**Other industries.** One of the sub-sector that projected the largest demand is the Entrepreneurship which has a total of 74,929. Entrepreneurship Training Program was recommended by Region XI in order to produce this number of workforce.

The following table shows the top qualifications identified per sector per region. It should be noted that there are skills with high demand but there are no training programs or TVET qualifications for such.

Table3. Skills/Qualifications with High Demand (top 5), per region, per sector, as submitted by the regional offices

CAR	Demand 2014-2016		Demand 2014-2016
<u>Agriculture</u>		<u>Infrastructure/Construction</u>	
Agriculture Crop Worker	368	Heavy Equipment Operator/Mechanic	75
Landscape Installation & Maintenance	63	Welder	45
Bee keeper	60	Carpenter	
Livestock Raiser/Poultry Raiser	60	Mason	45
Horticulturist	41	Electrician	45
<u>Electronics</u>		Plumber	45
IC Assembler	135	<u>Tourism</u>	
Electrical Installer & Maintenance	108	Therapeutic Masseur	360
Consumer Electronics Service Technician	63	Bread and Pastry Production	258
<u>Metals and Engineering</u>		Tourist Guide	211
Machinist	195	Healthcare Service Worker	197
Field Service Technician	15	Food & Beverage Services / Waiter	190
<u>ICT/BPM</u>			

Customer Service Representative	615		
Call Center Agent	600		
IT Support Staff	180		
Computer Hardware Servicing	125		
Team Leader	90		

Region I	Demand 2014-2016		Demand 2014-2016
<a href="#">Agriculture</a>		<a href="#">Electronics</a>	
Poultry Workers	108	Electricians	392
Dairy Farm Workers	93	Aircon Technicians	220
Butchers	85	Heavy Equipment Mechanics	9
Farm Technician	66		
Fish Cage Caretakers	55		

Region II	Demand 2014-2016		Demand 2014-2016
<a href="#">Agriculture</a>		<a href="#">Metals and Engineering</a>	
Agricrop Laborer	238	SMAW Welder	242
Food Processor	229	Machinist	38
Animal Producers	200	TIG/MIG Welders	30
Fish Farmer	124	<a href="#">Maritime</a>	
Farm Cartakers	120	Welders	360
<a href="#">Electronics</a>		<a href="#">Mining</a>	
Computer Electronics Technician	60	Quarry workers	120
Audio Servicing	20	Miners	55
<a href="#">Garments</a>		<a href="#">Wholesale and Retail</a>	
Dressmaker	51	Customer Service Assistant	735
Tailor	49	Saleslady/man	735
<a href="#">Furniture and Fixtures</a>		Stock Clerk	470
Furniture & cabinet maker	70	Bookkeeper	90
Furniture Finisher	35	<a href="#">Automotive</a>	
Upholstery	2	Driver	240
<a href="#">HVAC</a>		Gas/Diesel Engine Mechanic	60
Ref and aircon technician	230	Automotive Body Repairman	45
Air duct Technician	24	Small Engine Mechanic	40
Transport Ref and Aircon technician	21	Automotive Electrician	37
Ice plant technician	12	<a href="#">Manufacturing</a>	
<a href="#">Health and Other Comm. Devt Services</a>		Skilled Sewer	3,000
Massage Therapist	438	Pyrotechnician	2,780
Security Guards	302	Machine Operator	1,500
Beautician	129	Food Repacking	1,324
Tour Guides	127	Welders	1,200
Events Mgt. Services	80	<a href="#">Logistics</a>	
<a href="#">ICT/BPO</a>		Driver	293
Cable TV Installer	3	Conductor	130

		Auto-Diesel Mechanic	120
		Motorcycle Mechanic	9

Region III	Demand 2014-2016		Demand 2014-2016
<u>Agriculture</u>		<u>Logistics</u>	
Landscaping	1,489	Communication Specialist	3000
Rice Machinery Operators	828	Heavy Equipment Operator	1200
Horticulturist	662	Broker	300
Aquaculturist	662	Freight Forwarder	150
Farm Equipment Operator	570	<u>Metals and Engineering</u>	
<u>Garments</u>		Welder	3,807
Sewer	911	<u>ICT/BPM</u>	
Pattern Maker	464	Contact Center Agent	6,000
Needlecraft (Embroidery)	331	Back Office and Accounting Staff	600
<u>Health and Other Comm. Devt Services</u>	Demand 2014-2016	Graphic Designer	330
Massage Therapist	3,767	Animator	300
Hair dresser	993	Software Developer	225
Beautician	497	<u>Infrastructure</u>	
<u>Tourism</u>		Mason	3,000
Waiter	4,759	Auto-CAD Operator	3,000
Cook	2,121	Heavy Equipment Operator	1,200
Housekeeping Service Worker	1,800	Allied Worker	900
Tour Guide	670	Carpenter	900

Region IV-A	Demand 2014-2016		Demand 2014-2016
<u>Agriculture</u>		<u>Electronics</u>	
Butchers/Slaughterer	877	Assembly line machine operator	4,500
Animal Husbandry	596	Mechatronics technician	1,650
Bamaboo Propagation/Processing	168	Die cat machine operators	1,650
Animal Production	84	Forklift operators	275
Horticulturist	84	Electricians	225
Agrifishery	84	<u>Health and Other Comm. Devt Services</u>	
<u>Garments</u>		Massage Therapist	1,178
Sewer	4,500	Hilot Wellness	1,178
Pattern Maker	1,650	Beauty Care	505
Cutter	450	<u>Maritime</u>	
Electrician	225	Billing Clerk	90
Quality assurance inspector	225	Heavy Equipment Operator	75
<u>Metals and Engineering</u>		<u>Automotive</u>	
Welder	3,700	Automotive Mechanic	2,020
Welding Supervisors	550	Crane Operators	337
<u>Manufacturing</u>		Customer Service Officer	168
Electronics Operator	18,000	<u>ICT/BPO</u>	
Cellphone Technician	5,958	Call Center Agent	215,312



Equipment Operator	3,972	Financial Services	3,350
Welders	1,986	IT Help Desk	2,300
Electrician	813	Inbound and Outbound Sales Agent	1,990
<a href="#">Infrastructure</a>		Computer Technician	1,683
Pipefitter	19,900	<a href="#">Tourism</a>	
Welder	19,887	Waiter	14,958
Molder	6,600	Housekeeping Service Worker	7,724
Insulator/Cladder	5,940	Massage Therapist	6,007
Scaffolder	5,000	Chef/Cook	3,866
		Bartender	2,797

<b>REGION IV-B</b>	Demand 2014-2016		Demand 2014-2016
<a href="#">Agriculture</a>		<a href="#">Logistics</a>	
Organic Agriculture Farming Technician	603	Mechanics	4,615
Agronomist	338	Driver	3,035
Horticulturist	250	Air-condition mechanic	1,150
Aquaculturist	247	Auto-electrician	1,005
Artificial Insemination Technician	232	Auto-body painting	380
<a href="#">Infrastructure</a>		<a href="#">Tourism</a>	
Welder	4,690	Housekeeping Services Worker	8,345
Scaffolder	1,375	Food Attendant	5,220
Electrician	1,195	Massage Therapist	3,398
Mason	840	Chef/Cooks	1,567
Carpenter	760	Tour Guides	1,110

<b>REGION V</b>	Demand 2014-2016		Demand 2014-2016
<a href="#">Agriculture</a>		<a href="#">Electronics</a>	
Horticulturist	230	Electronics technician	66
Food Processor	127	<a href="#">Garments</a>	
Farmer	93	Sewer	48
<a href="#">Health and Other Comm. Devt Services</a>		Tailor	36
Massage Therapist	261	<a href="#">Metals &amp; Engineering</a>	
Nursing Assistant	111	Welder	108
Caregiver	90	<a href="#">Automotive</a>	
Brgy. Health Worker	57	Auto Mechanic	252
<a href="#">Wholesale &amp; Retail</a>		Small Engine Mechanic	78
Salesperson	878	<a href="#">Infrastructure</a>	
Marketing Manager	17	Plumber	814
<a href="#">Manufacturing</a>		Carpenter	416
Food Processor	162	Electrician	415
<a href="#">ICT/BPO</a>		Mason	383
Call Center Agent	8,572	Steelman	336
Medical Transcriptionist	7,129	<a href="#">Tourism</a>	
Bookkeeper	2,368	Waiters/Waitress/Barista	2,478



Auditor	2,205	Cook/Chef	2,009
Accountant	2,200	Tour Guide	1,748
<a href="#">Logistics</a>		Housekeeping Service Worker	1,586
Driver	78	Frontline Desk Service	1,304
<a href="#">Maritime</a>			
Steward	126		

<b>REGION VI</b>	Demand 2014-2016		Demand 2014-2016
<a href="#">Agriculture</a>		<a href="#">Health and Other Comm. Devt Services</a>	
Farmers trained in organic farming	3,535	Massage Therapist	2,690
Fish processing technician	960	Trained manicurist and pedicurist	2,200
High-end famer	875	<a href="#">ICT/BPO</a>	
Marketing specialist	300	Contact Center Representatives	49,600
Landscape architect	235	IT Specialist	3,550
<a href="#">Manufacturing</a>		Healthcare Manager	2,700
Welder	810	Application Developer	2,050
Machinist	300	Software Product Developer	1,780
CNC Lathe Machine Operator	75	<a href="#">Tourism</a>	
<a href="#">Infrastructure</a>		Driver	6,350
Welder	5,475	Waiter	3,500
Mason	5,250	Cook	3,200
Electrician	4,860	Baker	425
Carpenter	4,100	Tourism Instructor	335
Plumber	3,620		

<b>REGION VII</b>	Demand 2014-2016
<a href="#">ICT/BPO</a>	
Customer Service Representative	279,537
<a href="#">Infrastructure</a>	
Mason	1,000
Welder	1,000
Tile Setter	200
Scaffolders	200
Painters	200

<b>REGION VIII</b>	Demand 2014-2016		Demand 2014-2016
<a href="#">Agriculture</a>		<a href="#">Electronics</a>	
Farm laborers	2,785	Electronics Technician	600
Handicraft production	1,800	Electrician	204
Fisherman	950	<a href="#">Health and Other Comm. Devt Services</a>	
Horticulturist	783	Massage Therapist	585
Animal Production technician	336	Caregiver	131

<a href="#">Metals &amp; Engineering</a>		Safety Officers	85
Payloader Operator	30	<a href="#">Automotive</a>	
Machinist	6	Automotive Technician	530
<a href="#">ICT/BPO</a>		<a href="#">Manufacturing</a>	
Info Technician	10,800	Machinist	176
Customer Service Representative	4,455	Pay Loader Operator	131
System and Network Administrators	1,361	<a href="#">Infrastructure</a>	
<a href="#">Tourism</a>		Welders	6,253
Food Servers	17,064	Electricians	5,728
Bartender	5,603	Workers	5,100
Housekeeping	1,346	Skilled Construction Worker	4,200
		Mason	3,945

<b>REGION IX</b>	Demand 2014-2016		Demand 2014-2016
<a href="#">Agriculture</a>		<a href="#">Health and Other Comm. Devt Services</a>	
Rubber plantation worker	1,340	Pharmacy Aide	150
Agricultural Farm Technician	775	Security Guard	150
Welder	450	Biomedical Equipment Services Technician	45
Heavy equipment mechanic	240	Dental Laboratory Technician	45
Oiler	200	<a href="#">Metals &amp; Engineering</a>	
<a href="#">Mining</a>		Welder	335
Heavy Equipment Operator	648	Machinist	45
Welder	185	Auto-body builder	45
Electrical Engineer	45	<a href="#">Infrastructure</a>	
Bookkeepers	43	Carpenter	85
<a href="#">Tourism</a>		Electrician	85
Waiter	820	Plumber	65
Cook	499	Tile Setter	60
Receptionist	345	<a href="#">Logistics</a>	
Baker	150	Driver	160
<a href="#">ICT/BPO</a>		Motorcycle Technician	50
Call Center Agents	2,300		

<b>REGION XI</b>	Demand 2014-2016		Demand 2014-2016
<a href="#">Agriculture</a>		<a href="#">Electronics</a>	
Agricultural technician/worker	28,570	Computer Technician	6,351
Organic agriculture farmer	10,247	Consumer Electronics Technician	2,578
Horticulturist	4,246	Programmer	2,617
Fish cage operators	4,098	Mechatronics Technician	1,836
Rubber tapper	3,783	Small Appliance Serviceman	496
Coconut Coir Production Worker	2,119		
<a href="#">Garments</a>		<a href="#">Furniture and Fixtures</a>	
Dressmaker	2,697	Furniture Maker/Finisher	4,819

Tailor	166	Veneer/Pallet and Crate Production Worker	166
<a href="#">HVAC</a>		Sawmill Machine Operator	83
Commercial & Air-conditioning Technician	784	<a href="#">Health and Other Comm. Devt Services</a>	
Domestic Refrigeration and Air-condition Technician	547	Security Guards	4,655
Aircon Technician/ Refrigerator/Water Dispenser Technician	397	Hair dressers	3,105
Ice Plant Refrigeration Technician	240	Barangay Health Worker	2,928
Transport Air-conditioning & Refrigeration Technician	235	Manicurist	2,750
<a href="#">Logistics</a>		Beautician	2,444
Professional Driver (light vehicle)	1,345	<a href="#">Metals &amp; Engineering</a>	
Driver	593	SMAW Welder	2,671
Tricycle Driver	331	CNC Lathe Machine Operator	1,861
Small Engine technician	331	Welder (covering sectors of construction, automotive and transport and agriculture)	1,650
Air-conditioning technician	331	GMAW Welder	1,056
<a href="#">Manufacturing</a>		<a href="#">Automotive</a>	
Production Aide	12,899	Automotive Mechanic	6,721
Slaughterer	1,937	Drivers	4,965
Carpenters	993	Small Engine Mechanic	2,174
Food Technologist	316	Automotive Painter	1,004
<a href="#">Infrastructure</a>		Boat Engine Mechanics	757
Carpenters	6,713	<a href="#">ICT/BPO</a>	
Skilled Construction Worker	4,965	Back office Processor	29,049
Masons	4,395	Call Center Agent	16,292
Building Wiring Electrician	2,898	Animator	13,685
Welders	1,655	Medical Transcriptionist	8,212
<a href="#">Tourism</a>		Computer-Based English Proficiency	7,007
Waiters	8,453	<a href="#">Wholesale &amp; Retail</a>	
Housekeepers	6,986	Sales Clerk	10,846
Tour Guides	6,919	Cashier	1,157
Chef/Cook	6,813	Merchandiser/Promodiser	662
Baker	6,516	Customer Service Assistant	195
<a href="#">Maritime</a>		Accounting Assistant	133
Seaman	682		
Oiler	438		
Engine Utility	219		

<b>REGION XII</b>	Demand 2014-2016		Demand 2014-2016
<a href="#">Agricultue</a>		<a href="#">Electronics</a>	
Craftsman	23,600	Electronics Technician	200
Banana Growing workers	600	Electricians	12
Deboning Crew	600	<a href="#">Health and Other Comm. Devt</a>	

		<a href="#">Services</a>	
Evisceration Crew	150	Security Officers	4,255
Degutting Crew	150	Housekeeping	36
<a href="#">Wholesale &amp; Retail</a>		Office Clerk	20
Shop Crew	750	Massage Therapist	20
Sales Clerk	550	<a href="#">ICT/BPO</a>	
Cashiers	425	Call Center Agents	1,500
Packers	300	CAD Designers	500
<a href="#">Infrastructure</a>		Programmers	500
Heavy Equipment Operator	104	Gen. Transcriptionist	500
Welder	84	<a href="#">Tourism</a>	
Foreman	64	Chef/Cook	167
Carpenter	26	Waiter	102
Driver	13	Housekeeping Service Worker	21

<b>CARAGA</b>	Demand 2014-2016		Demand 2014-2016
<a href="#">Agriculture</a>		<a href="#">Health and Other Comm. Devt Services</a>	
Farmers	320	Massage Therapist	609
Horticulturist	65	Hair & Make-up artist	30
Aquaculturist	41	Photographers	30
Animal Farm Technician	36	Tourist Guide	30
Farm Manager	30	<a href="#">Automotive</a>	
<a href="#">Logistics</a>		Small Engine Mechanic	150
IT Specialist	60	Automotive Service Technician	45
Drivers	45	Automotive Painters	30
Cellphone technician	30	<a href="#">ICT/BPO</a>	
Graphic artist	30	Computer Programmers	60
<a href="#">Wholesale &amp; Retail</a>		Auto-CAD Designers	55
Merchandisers	45	Call Center Agents	40
Cashiers	45	Animators	39
Office Clerks	30	<a href="#">Tourism</a>	
<a href="#">Metals &amp; Engineering</a>		Waiter	1,180
Welders	15	Housekeeping Services Worker	540
<a href="#">Mining</a>		Cook	315
Heavy Equipment Operator	1,460	Front Office Attendant	180
Driller	150	Tour Guides	166
<a href="#">Garments</a>		<a href="#">Infrastructure</a>	
Dressmaker	30	Welders	1,352
Tailor	30	Masons	1,345
<a href="#">Manufacturing</a>		Carpenters	945
Laborers	60	Construction Painter	945
		Electrician	560

## B. Supply

In view of the need to provide equitable access and provision of TechVoc programs to the growing number of clients, TESDA continues to undertake TechVoc services direct training provisions of its TESDA Technology Institutes (TTIs). And as TESDA's mandate to ensure quality assurance of TechVoc programs, Training Regulations (TRs) are constantly being developed and updated. TRs are being developed in consultation with industries. In this way TESDA can prioritize the in-demand occupations per sector and therefore aligning TechVoc programs with industry standards and qualifications.

Since the establishment of TESDA through the enactment of RA No. 7796 otherwise known as the "Technical Education and Skills Development Act of 1994", it has promulgated 241 Training Regulations in different sectors and its sub-sectors. From 2012 up to the first quarter of 2013, there are about 1,130,882 and 996,094 assessed and certified graduates, respectively. These individuals are in the TESDA registry of certified workers and can supply of the workforce needed in different industries. (please see Table 4)

The assessment process seeks to determine whether the graduate or worker can perform to the standards expected in the workplace based on the defined competency standards has been institutionalized. Certification is awarded to those who meet the competency standard provided in the TR. This ensures the productivity, quality and global competitiveness of the middle-level workers.

Table4. Number of persons assessed and certified per Qualification per Sector

Sector	2012		2013		Total	
			(Jan-June)			
	A	C	A	C	A	C
Agriculture and Fishery	9,989	9,089	4,057	3,678	14,046	12,767
Automotive	62,294	53,308	20,348	17,717	82,642	71,025
Construction	55,025	48,706	18,907	17,000	73,932	65,706
Electronics	18,329	13,971	8,712	7,334	27,041	21,305
Furniture and Fixtures	95	94	15	15	110	109
Garments	6,661	5,782	2,556	2,240	9,217	8,022
Health, Social and Other Community Devt. Services	235,451	217,144	103,702	93,947	339,153	311,091
HVAC/R	5,204	4,714	2,061	1,934	7,265	6,648
ICT	73,252	46,739	28,336	22,530	101,588	69,269
Maritime	62,945	56,948	1,068	950	64,013	57,898
Metals and Engineering	52,528	45,418	21,757	19,565	74,285	64,983
Processed Foods	8,195	7,776	3,604	3,475	11,799	11,251
Tourism	224,480	202,722	99,919	92,031	324,399	294,753
Utilities	70	70			70	70
TVET (TVET Trainers)	774	729	548	468	1,322	1,197
<b>TOTAL</b>	<b>815,292</b>	<b>713,210</b>	<b>315,590</b>	<b>282,884</b>	<b>1,130,882</b>	<b>996,094</b>



### C. Gaps and Challenges

During the regional consultations, gaps and challenges were also identified in order to help TESDA do necessary actions to enhance and or further sustain the delivery processes. (please see Table 5). Several cross-cutting concerns were identified which includes inadequate training facilities, equipment and lack of qualified trainers, not responsive curriculum to industry needs, lack of English proficiency, among others. Moreover, the need to capacitate the techvoc institutions to offer higher level qualifications (NC III and NC IV) was also identified as a gap and challenge. There were also concerns that are specific to a sector such as the declining interest in agriculture related trainings for agriculture and the lack of skilled workers in the construction sector. The concern on the lack of specialized training and trainers for HEO under the construction sector was also mentioned. It is worthy to note, however, that the regions have identified strategies to address the identified concerns. Most have identified the need for a partnership/collaboration with key stakeholders such as industry, other agencies and LGUs to implement their programs.

Table 5. Gaps and Challenges in meeting the Projected Demand and Proposed Strategies

Gaps and challenges in meeting the demand	Strategies to address the gaps and challenges identified	Key stakeholders and industry associations who will engage in responding to the identified demand
<b>CROSS-CUTTING CONCERNS</b>		
1. Inadequate training facilities, equipment and qualified trainers	- Tie-up with schools/universities to offer scholarship and improve OJT - Tap private sectors/industries in implementing training programs for retention, retooling and upskilling.	CHED; DOST; Industry partners
2. Lack of English proficiency.	Implement a program focusing on improving competency in English and review school curriculum to include basic report preparation.	DepEd / HEI / CHED / TESDA
3. Lack of experiences on the position applying for	Make OJT work experience relevant to students' field of work, Practicum programs required by schools should assess/grade students based on outputs accomplished and the competencies developed through related work, rather than meeting the required hours for training.	Industry, HEI and Training Institution, CEZA
4. School curriculum is not responsive to industry needs.	Education Sector should develop a framework that will enable to address the gap in the education system.	HEI, Training Institution, LGU, CHED, TESDA, Industry, CEZA
5. Applicants fail to pass series of examinations and interviews due to lack of supervisory and leadership potentials. There is less focus on personality development of students.	Leadership skills must be developed at all levels of education to prepare for supervisory work. Enhance the course curriculum focusing also on personality development.	TESDA, CHED, Training Institutions, HEIs

<b>Gaps and challenges in meeting the demand</b>	<b>Strategies to address the gaps and challenges identified</b>	<b>Key stakeholders and industry associations who will engage in responding to the identified demand</b>
<p>6. Attractiveness of TVET and need for paradigm shift from the concept of white collar jobs as the only major source of productivity and pride among workers.</p>	<p>Provision of Comprehensive Local Skills Develop programs for the TechVoc sector to include: --TechVoc programs using the concept of Training cum Production; -Alignment of program offerings of TechVoc providers to the Province's priority programs and thrusts;</p>	<p>LGUs, Workers Guild, TVET Associations, Employers, Industries, Social Media, NGOs, NGAs, POs, Sectoral groups, Informal workers/sectors.</p>
<p>7. The need to capacitate the TechVoc Institutions to offer programs with higher qualifications (NC III, NC IV) so as not to duplicate those offered by the Department of Education under the K to 12 program.</p>	<p>Explore for possible TechVoc financing schemes to assist the interested training institutions to offer TVET programs with higher qualifications. --Institutionalize convergence among government agencies with skills development the implementation of community-based training at the municipal/barangay levels.</p>	
<p>8. There are no registered programs in the region for some TVET Qualifications that could produce the skilled workers for some in-demand/hard-to-fill jobs (i.e. Animal Health Care Management NC II; Pipe Fitting NC II, Reinforced Steel Bar Installation NC II, etc.</p>	<p>-Encourage TVIs and other TESD partners to register those identified TVET qualifications for in-demand/hard to fill jobs. -Encourage industry/company-based training thru enterprise-based training center, apprenticeship or dual training program.</p>	<p>TVIs; TVI Associations; LGUs; R/PTESDCs; Private Industries; Civil Society Groups</p>

Gaps and challenges in meeting the demand	Strategies to address the gaps and challenges identified	Key stakeholders and industry associations who will engage in responding to the identified demand
<b>AGRICULTURE</b>		
9. Declining interest of young generations to pursue agriculture/ agri-fishery courses.	<ul style="list-style-type: none"> <li>-Promote/advocate careers on agriculture to parents too</li> <li>-Development of Agri-business opportunities w/c will cater to additional employment.</li> <li>-Enhance agri-business related subjects in secondary curriculum.</li> </ul>	Provincial / City/ municipal Agri Offices, Agri Associations (Local players, investor and workforce), Secondary School and CHED
<b>CONSTRUCTION</b>		
10. Lack of TESDA trainer and specialized training center e.g. Training Center for HEO.	TESDA to partner with LGUs/DPWH and industries especially in tapping the expertise of the industry workers to serve as trainers and to make use of the available equipment in the conduct of community-based using the convergence strategy.	TESDA-PTCs, LGUs, industries
11. Lack of skilled workers in the construction sector. Skilled workers learned their craft through work experience.	-In the absence of TVIS offering hard trades, community-based training to shift from soft trades to hard trades.	Provincial/Municipal LGUs active participation in the conduct of various community-based training programs.

#### IV. Next Steps/Recommendations

- Pursue trainings relevant to the market needs. The importance of training can be improved by continuously involving the private sector in institutional management. In this way the private sector who is in need of the workforce are the ones who will train and teach the needed skills.
- Strengthen TESDA-industry partnerships in the local level, especially with the sectors that have high demand for skilled workers. The partnership will also be in terms of labor market intelligence, training delivery, assessment and certification and financing.
- Pursue and market enterprise-based trainings like dual training system (DTS) and apprenticeship with the industry.
- Improve and strengthen linkages between TechVoc providers and enterprises.
- Consistently improve the quality of and provide information and career guidance to students on their career choices and employment opportunities in the industry.
- Improve and or sustain the assessment and certification process. Professional accreditation plays a key role in the maintenance of quality and standards of skill.
- Purposively direct scholarships and other training assistance to critical and hard-to-fill skills requirements/qualifications for the priority sectors in the locality.



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