



Exploring Labor Opportunities: THE LIGUASAN MARSH

QUICK LABOR MARKET INFORMATION | 2023

I. Background

A. Site Overview

In Mindanao, Liguasan Marsh is said to be the largest swamp on the island. It is a vast system of river channels, small freshwater lakes and ponds, extensive freshwater marshes, and flood-prone arable land in the Cotabato Basin. The majority of the land is submerged during periods of intense precipitation, but about 140,000 hectares become cultivable during drier periods. Although the marsh is commonly known as *Liguasan*, it comprises two adjacent marshy basins with distinct water regimes: Liguasan Marsh and Libungan Marsh. Liguasan is situated at the confluence of the Pulangi, Maganoy, Buluan, and Allah Rivers, whereas Libungan is situated at the confluence of the Libungan and Mindanao Rivers. There are approximately 5,000 hectares of old-growth forest within the estuary, see Figure 01..

Figure 01. Map View of Liguasan Marsh



Source: *Birdlife.org*

When water levels are high, the estuary is home to 112,000 Maguindanaon families whose primary source of income is fishing, and when water levels are low, agriculture. The wetland has a great deal of potential for nature tourism due to its abundant biodiversity. However, the region is a stronghold for rebels, so access is restricted. The

government has recognized the economic and political significance of Liguasan Marsh and, as part of the Cotabato Agusan River Basin Development Project, has initiated the construction of a flood control channel from the Pagulungan sector of the Rio Grande de Mindanao (Key Biodiversity Areas Partnership, 2023).

B. History

Because of the National Government's previous conflict with the militant forces in Mindanao, the Liguasan March remained a "No Man's Land" for decades, barred from any sort of development or exploration. The conflict has long been an issue in the region, which desires greater economic activity, which the Liguasan March can supply.

The area is significant in terms of oil and gas reserves; however, this information is not fairly new. The whole Cortabato Basin was the starting point for some oil and gas exploration in the Philippines; between 1916 and 1996, 12 wells were drilled in the Cotabato Basin. Other local and international businesses also conducted exploration, but the majority of them failed. This era of exploration came to an end in 1997, when a significant security incident in Barongis "prompted the PNOC and the Department of Energy (DOE) to halt further exploration in the area" (Cotabato Basin History, 2022).

This status quo has recently altered; under Rodrigo Duterte's presidency, his government supervised three (3) key events that influenced the peace process in the region and opened the region to national development, which are as follows:

- Republic Act (RA) No. 11054, "Organic Law for the Bangsamoro Autonomous Region in Muslim Mindanao," was signed into law on June 26, 2018. This law is intended to "establish a political entity, provide for its basic structure of government in recognition of the justness and legitimacy of the Bansamoro people's cause, as well as the aspirations of Muslim Filipinos and all indigenous cultural communities in the Bangsamoro Autonomous Region in Muslim Mindanao to secure their identity and posterity, allowing for meaningful self-governance within the framework of the Constitution and national sovereignty as well as territorial sovereignty" (Republic Act No. 11054, 26 July 2018).

RA No. 11054 also established the new Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), which "relieves the country from the security issues and stress started by the founders of the Mindanao Independence Movement (MIM) and the Moro Islamic Liberation Forces (MILF)" (Cotabato Basin History, 2022). The BARMM also covers large portions of the Cotabato Basin, including the Liguasan Marsh. This has reopened the door to oil and gas development and exploration.

- In October 2019, President Duterte gave instructions to the then Governor Suharto “Teng”Mangudadatu, Ph.D. of Sultan Kudarat to “drill already the oil and gas deposits in his provinces to include Liguasan March” (History of Cotabato Basin, 2022)
- On 12 January 2022, PRRD issued a Presidential Memorandum directing the Department of Energy to sign and award the Petroleum Service Contract (PSC) 77 to SK Liguasan Oil and Gas Corporation (SKLOGC), an all Filipino Mindanao-based company.

The actions of the Duterte Administration, as well as past government administrations, demonstrate the Philippines' commitment to peace in Mindanao. Now that the region has reached relative calm, attention has shifted to its development and improvement through commercial and government projects, such as the return of oil and gas exploration in the Cotabato Basin.

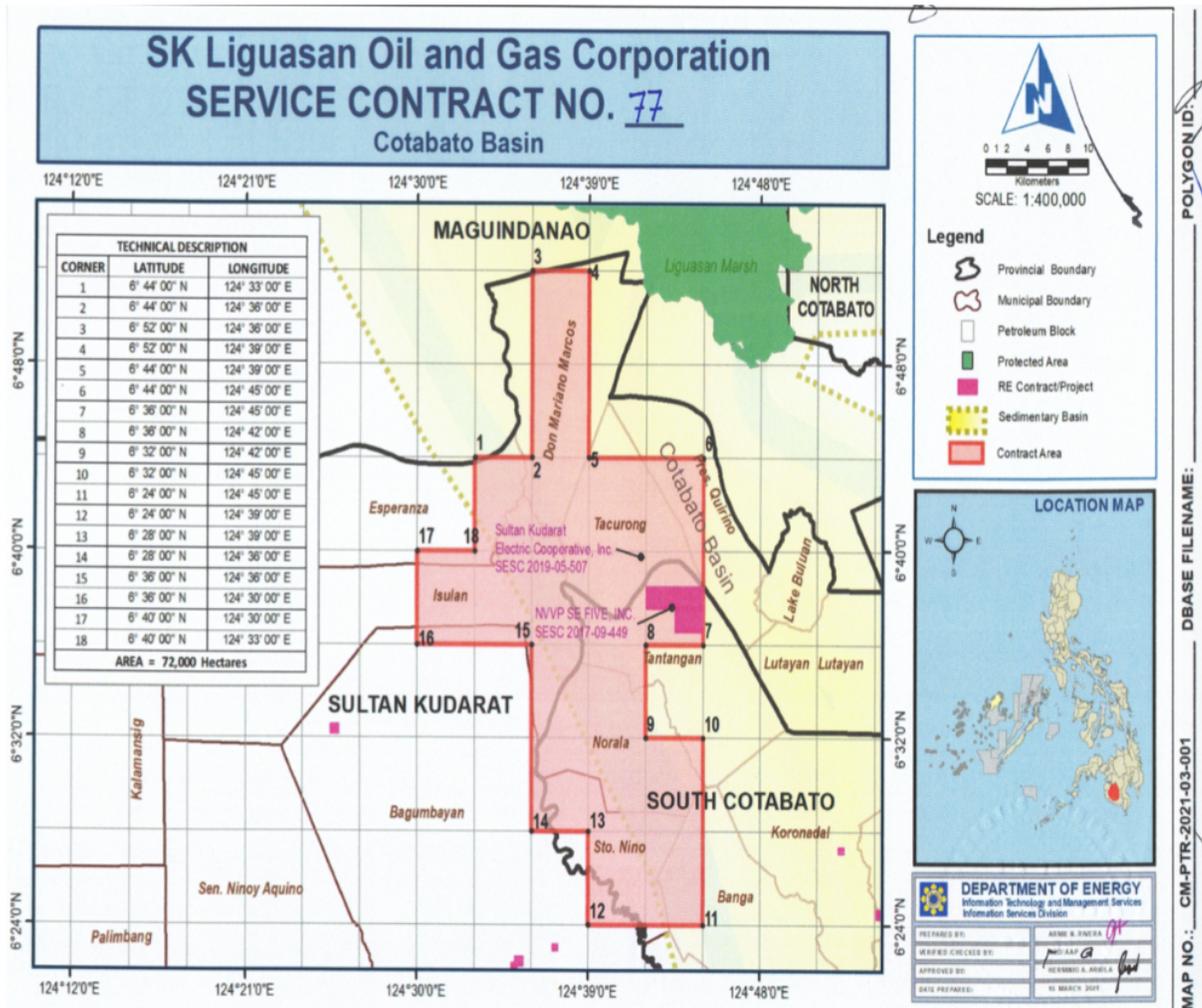
C. Issuance of Petroleum Service Contract by the Department of Energy (DOE)

The Department of Energy is the primary national department in charge of "preparing, integrating, coordinating, supervising, and controlling all government plans, programs, projects, and activities related to energy exploration, development, utilization, distribution, and conservation" (DOE, n.d.).

With this, one of its responsibilities is the granting of Petroleum Service Contracts (PSCs) under the Philippine Conventional Energy Contracting Program (PCESP). This contract essentially gives the winning contractor the government's permission to explore petroleum in a certain area of the Philippines. Under the PCEC, the Cotabato Basin in Mindanao is separated into two areas; Area 09 and Area 10. Area 09 is located in Sultan Kudarat and South Cotabato (Region XII), whereas Area 10 is located in BARMM. DOE has authority and control over Area 09, while BARMM has control over Area 10.

In April 2022, Petroleum Service Contracts (PSC) 77 was awarded by the DOE to the SK Liguasan Oil and Gas Corporation (SKLOGC), an all Filipino Mindanao-based company, see Figure 02.

Figure 02. Petroleum Service Contract 77 Map



Source: skloilandgas.com

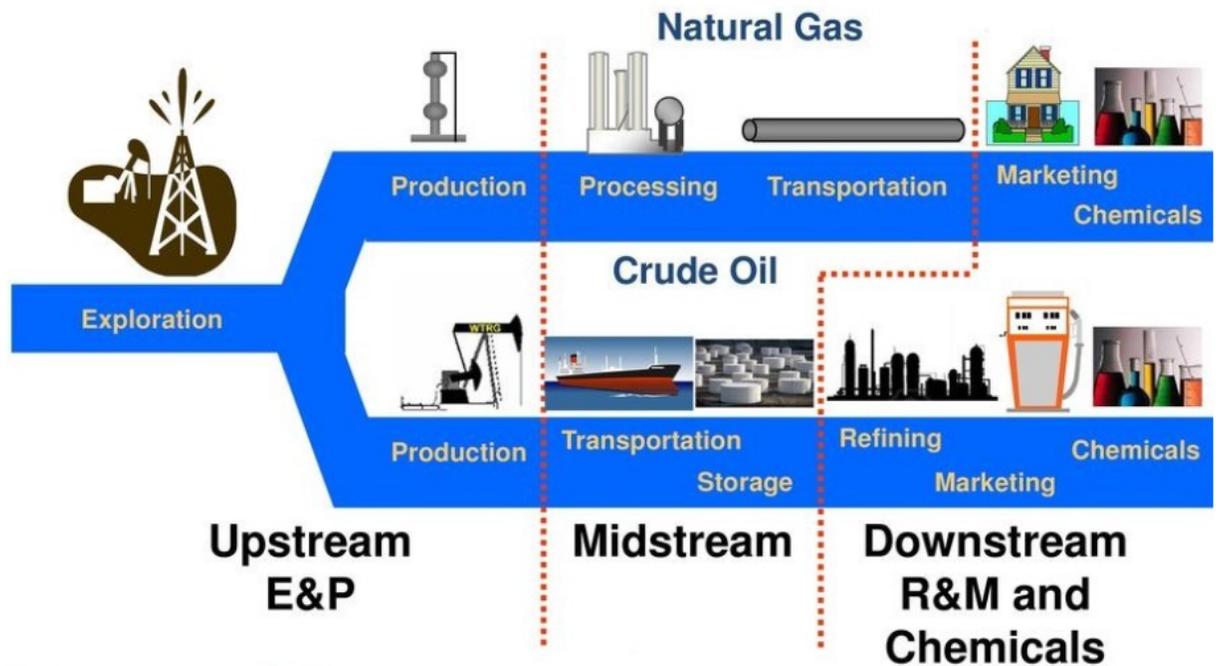
The overall land area of PSC 77 is 72,000 hectares, which includes the provinces of Sultan Kudarat and South Cotabato. It contains the massive natural gas reserve (3.4 Trillion Cubic Feet) in the municipalities of Bilumen (Gansing 3), Lagao and Tambak in Lambayong, Bambad in Isulan (Bambad 2), and Pedtubo. The large oil reserve (4.8 BBL) in the Roxas mountain range between Tantangan and Banga towns in the province of South Cotabato is also featured. SKLOGC has been awarded a 7-year Work Program for exploration and a 25-year contract that can be extended for another 25 years provided its drilling objectives in Area 09 are met.

D. Oil and Gas Industry

In line with the standard oil and gas industry value chain. There are three (3) segments or “streams” to the value chain which are, see Figure 03:

- Upstream – Exploration and Production
- Midstream – Transportation and Storage
- Downstream – Refining and Retail Markets

Figure 03. Oil and Gas Industry Value Chain



Source: <https://cyleong.com>

In terms of the current state of SKLOGC, the company is in the *upstream phase*; this phase is where companies identify oil and natural gas deposits and extract resources from underground.

The next is the *midstream phase*, which is the processing, transportation, and logistics segment of the produced hydrocarbon from upstream companies to downstream companies. This phase also includes the storage of hydrocarbons such as natural gas, oil, and natural gas liquids (NGL).

The end phase is the *downstream*, where the companies receive the hydrocarbons and refine them into derivative products. In a refinery, crude oil is transformed into market fuels and other petroleum products.

II. Data

A. Jobs related

As stated in the Petroleum Service Contract (PSC) to SK Liguasan Oil and Gas Corporation (SKLOGC), there will be a 7 year - period of petroleum and gas exploration in the Marsh; thus, this activity falls under the Upstream Segment of the Value Chain. Using the the value chain segment as a reference, the projected in-demand jobs/skills/occupations under the phase, are as follows:

Table 01. Jobs/Skills/Occupations Under Upstream Segment with corresponding TVET Qualification

Job/Skill/Occupation	Related Qualification
Architectural Drafters	Technical Drafting NC II
	CAD/CAM Operation NC III
Automated Systems Technician and Technologist	No Equivalent Qualification
Automotive Service Attendants	Automotive Servicing NC I
	Automotive Servicing (Chassis Repair) NC II
	Automotive Servicing (Electrical Repair) NC II
	Automotive Servicing (Engine Repair) NC II

Job/Skill/Occupation	Related Qualification
	Automotive Servicing NC III
Civil Drafters	Technical Drafting NC II
	CAD/CAM Operation NC III
Derrick Operators	No Equivalent Qualification
Dispatchers	No Equivalent Qualification
Drilling and Service Rig Operator	No Equivalent Qualification
Environmental Technician	No Equivalent Qualification
Extraction Workers	No Equivalent Qualification
Gas Compressor Operators	No Equivalent Qualification
Gas Pumping Station Operators	No Equivalent Qualification
Geological Technicians	No Equivalent Qualification
Geoscience Technician and Technologist	No Equivalent Qualification
Health and Safety Professional	No Equivalent Qualification
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Commercial Refrigeration Installation and Servicing NC III
	Commercial Air-Conditioning Installation and Servicing NC III
Heavy and Tractor-Trailer Truck Drivers	Driving (Articulated Vehicle) NC III
Heavy Equipment Mechanic	Heavy Equipment Servicing (Mechanical) NC II

Job/Skill/Occupation	Related Qualification
HEO Operator -Backhoe	HEO (Hydraulic Excavator) NC II
HEO Operator -Bulldozer	Heavy Equipment Operation (Bulldozer) NC II
HEO Operator -Crane	HEO (Crawler Crane) NC III
	HEO (Rough Terrain Crane) NC III
	HEO (Truck Mounted Crane) NC III
	HEO (Overhead and Gantry Crane) NC III
HEO Operator -Dump Truck	HEO (Articulated Off-Highway Dump Truck) NC II
HEO Operator -Grader	HEO (Motor Grader) NC II
HEO Operator -Loader	HEO (Wheel Loader) NC II
HEO Operator -Loader	HEO (Backhoe Loader) NC II
Instrumentation Technician	No Equivalent Qualification
Oil and Gas Drilling and Service Laborers	No Equivalent Qualification
Petroleum Engineers	No Equivalent Qualification
Petroleum Pump System Operators	No Equivalent Qualification
Pump Operators	No Equivalent Qualification
Rotary Drill Operators	No Equivalent Qualification
Rotary Drill Operators	No Equivalent Qualification
Roustabouts	No Equivalent Qualification

Job/Skill/Occupation	Related Qualification
Roustabouts	No Equivalent Qualification
Seismic Operator	No Equivalent Qualification
Separating, Filtering, Clarifying, Precipitating, and Still Machine Operators	No Equivalent Qualification
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters	No Equivalent Qualification
Separating, Filtering, Clarifying, Precipitating, and Still Machine Tenders	No Equivalent Qualification
Service Unit Operators	No Equivalent Qualification
Slickline Operator	No Equivalent Qualification
Surveyor	No Equivalent Qualification
Swamper	No Equivalent Qualification
Truck Driver	Driving (Passenger Bus/Straight Truck) NC III
Vibe Technician	No Equivalent Qualification
Watercraft Service Attendants	No Equivalent Qualification
Welder	Shielded Metal Arc Welding (SMAW) NC I
	Shielded Metal Arc Welding (SMAW) NC III
	Shielded Metal Arc Welding (SMAW) NC IV
	Gas Metal Arc Welding (GMAW) NC I

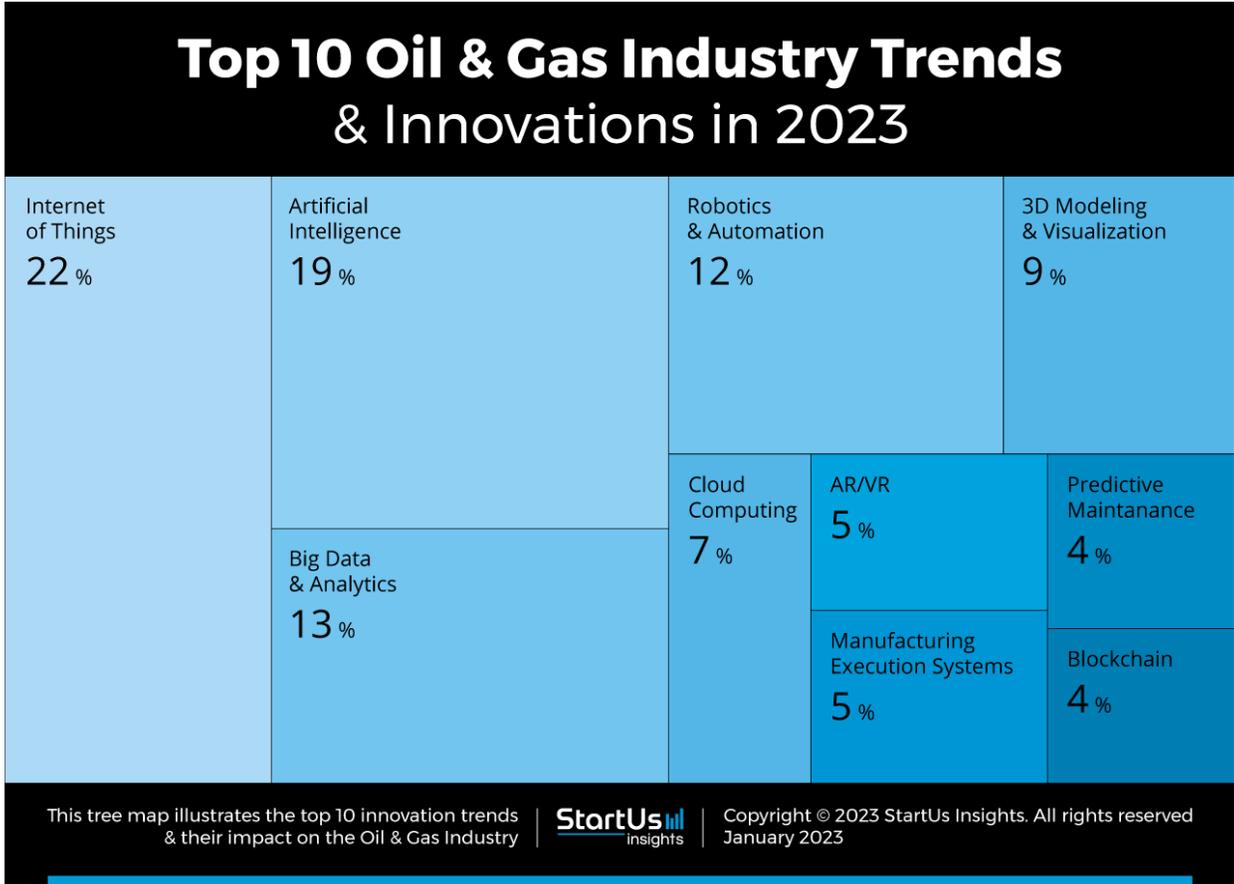
Job/Skill/Occupation	Related Qualification
	Gas Metal Arc Welding (GMAW) NC II
	Gas Metal Arc Welding (GMAW) NC III
	Flux Cored Arc Welding (FCAW) NC I
	Flux Cored Arc Welding (FCAW) NC II
	Flux Cored Arc Welding (FCAW) NC III
	Gas Tungsten Arc Welding (GTAW) NC II
	Gas Tungsten Arc Welding (GTAW) NC IV
	Submerged Arc Welding (SAW) NC I
	Submerged Arc Welding (SAW) NC II
	Gas Welding NC I
	Gas Welding NC II
	Shielded Metal Arc Welding (SMAW) NC II
	Well Testing Operator
Wellhead Pumpers	No Equivalent Qualification
Wellsite geologist	No Equivalent Qualification
Wellsite Geologist	No Equivalent Qualification

It should be noted that more jobs/skills/occupations may be added as a result of upstream activity spanning different sectors such as energy, construction, logistics, and others.

In addition to the jobs/skills/occupations, there are also emerging skills and technologies that make the industry more efficient, effective, and safer by exploring ways to competitively digitize, automate, and solve complex sub-surface engineering challenges. Figure 04 shows the emerging skills and technologies that are needed in the oil and gas industry.

The oil and gas industry's most significant developments are the IoT and AI. Critical data management and analysis tools are made possible by advancements in areas like big data analytics, cloud computing, predictive maintenance, and factory execution systems, all of which contribute considerably to increased operational efficiency. Oil well imaging procedures may also be improved with the use of AI's robotic applications and increased efficiency. Blockchain solutions developed by Oil and Gas companies provide transparency and visibility throughout the whole oil and gas value chain. Last but not least, augmented and virtual reality technologies boost worker safety, allow for distant operations, and facilitate virtual training.

Figure 04. Top emerging skills from the Oil and Gas Industry in 2023



Source: *startus-insights*

B. TVET Capacity

Below are the data on the TVET Capacity based on the job/skills/occupations listed above in terms of National Level (Table 02) and Regional Level (Table 03). The TVET capacity of Region XII highlighted due to the location of the contract.

Table 02. Total National Number of Enrolled, Graduated, Assessed, and Certified (WTR), 2020-2022

Training Regulation	Coverage (2020)				Coverage (2021)				Coverage (2022)			
	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified
Automotive Servicing (Chassis Repair) NC II	0	0	0	0	0	0	22	22	0	0	560	544
Automotive Servicing (Electrical Repair) NC II	0	0	0	0	0	0	12	12	44	0	517	491
Automotive Servicing (Engine Repair) NC II	0	0	0	0	0	0	39	39	20	2	1,618	1,602
Automotive Servicing NC I	4,910	5,587	8,561	7,985	4,234	4,244	4,885	4,349	2,582	2,580	8,084	7,733

Training Regulation	Coverage (2020)				Coverage (2021)				Coverage (2022)			
	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified
Automotive Servicing NC III	98	51	101	90	18	34	155	123	16	16	544	537
CAD/CAM Operation NC III	0	0	0	0	0	0	12	12	0	0	18	17
Commercial Air-Conditioning Installation and Servicing NC III	0	0	0	0	0	0	0	0	15	15	38	38
Commercial Refrigeration Installation and Servicing NC III	0	0	0	0	0	0	0	0	0	0	0	0
Driving (Articulated Vehicle) NC III	25	25	910	886	100	75	1,820	1,750	77	100	3,196	2,976
Driving (Passenger Bus/Straight Truck) NC III	236	130	2,239	2,148	711	518	3,950	3,716	951	1,028	5,990	5,679
Flux Cored Arc Welding (FCAW) NC I	0	0	27	27	75	24	0	0	6	47	0	0

Training Regulation	Coverage (2020)				Coverage (2021)				Coverage (2022)			
	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified
Flux Cored Arc Welding (FCAW) NC II	25	48	104	104	73	25	103	100	168	166	413	412
Flux Cored Arc Welding (FCAW) NC III	0	0	0	0	0	0	0	0	0	0	0	0
Gas Metal Arc Welding (GMAW) NC I	0	25	62	60	125	46	0	0	52	74	121	98
Gas Metal Arc Welding (GMAW) NC II	679	643	600	586	956	970	1,122	1,114	1,076	1,249	1,594	1,545
Gas Metal Arc Welding (GMAW) NC III	0	8	8	8	23	23	23	23	0	0	1	1
Gas Tungsten Arc Welding (GTAW) NC II	791	988	1,072	1,026	1,472	1,570	1,737	1,717	891	1,076	1,784	1,738
Gas Tungsten Arc Welding (GTAW) NC IV	0	0	0	0	0	0	0	0	0	0	0	0
Gas Welding NC I	0	0	0	0	25	25	0	0	25	24	37	37

Training Regulation	Coverage (2020)				Coverage (2021)				Coverage (2022)			
	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified
Gas Welding NC II	0	9	0	0	2	2	0	0	11	16	0	0
Heavy Equipment Operation (Bulldozer) NC II	458	235	395	379	908	1,003	1,111	1,056	667	775	1,154	1,103
Heavy Equipment Servicing (Mechanical) NC II	0	25	51	51	145	46	136	127	168	24	335	321
HEO (Articulated Off-Highway Dump Truck) NC II	0	0	0	0	0	0	0	0	0	0	0	0
HEO (Backhoe Loader) NC II	1,367	740	1,109	1,097	2,842	3,042	2,981	2,878	1,341	1,639	2,579	2,371
HEO (Crawler Crane) NC III	0	0	0	0	0	0	14	9	0	0	20	20
HEO (Hydraulic Excavator) NC II	1,295	960	2,237	2,187	3,601	3,454	5,027	4,880	3,683	4,133	7,095	6,851

Training Regulation	Coverage (2020)				Coverage (2021)				Coverage (2022)			
	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified
HEO (Motor Grader) NC II	167	178	300	289	515	416	527	509	276	348	569	534
HEO (Overhead and Gantry Crane) NC III	0	0	0	0	0	0	9	9	0	0	62	62
HEO (Rough Terrain Crane) NC III	0	0	0	0	0	0	40	20	0	0	144	113
HEO (Truck Mounted Crane) NC III	0	0	0	0	0	0	24	5	0	0	282	233
HEO (Wheel Loader) NC II	1,267	1,033	1,510	1,483	2,668	2,500	3,169	3,017	2,062	2,438	3,681	3,491
Shielded Metal Arc Welding (SMAW) NC I	13,058	13,753	16,440	15,360	25,330	24,870	24,578	23,288	22,957	26,820	28,034	26,588
Shielded Metal Arc Welding (SMAW) NC II	17,121	15,325	22,195	20,970	29,163	29,581	34,716	32,625	25,453	30,315	42,289	39,896
Shielded Metal Arc Welding (SMAW) NC III	673	578	595	587	1,905	1,950	1,850	1,791	785	1,059	1,150	1,120

Training Regulation	Coverage (2020)				Coverage (2021)				Coverage (2022)			
	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified
Shielded Metal Arc Welding (SMAW) NC IV	158	145	193	184	141	140	172	169	0	1,799	49	41
Submerged Arc Welding (SAW) NC I	0	0	0	0	0	0	0	0	0	0	0	0
Submerged Arc Welding (SAW) NC II	0	0	0	0	0	0	0	0	0	0	0	0
Technical Drafting NC II	1,064	817	2,186	1,896	2,002	1,955	2,403	2,111	1,490	1,714	5,410	5,297

Source. Information and Communications Technology Office

Table 03. Total Number of Enrolled, Graduated, Assessed, and Certified (WTR), 2020-2022 in Region XII

Training Regulation	Coverage (2020)				Coverage (2021)				Coverage (2022)			
	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified
Automotive Servicing (Chassis Repair) NC II	0	0	0	0	0	0	0	0	0	0	9	9

Training Regulation	Coverage (2020)				Coverage (2021)				Coverage (2022)			
	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified
Automotive Servicing (Electrical Repair) NC II	0	0	0	0	0	0	0	0	0	0	16	16
Automotive Servicing (Engine Repair) NC II	0	0	0	0	0	0	0	0	0	0	27	24
Automotive Servicing NC I	53	228	551	534	194	78	151	141	90	201	215	215
Automotive Servicing NC III	0	0	0	0	0	0	0	0	0	0	0	0
CAD/CAM Operation NC III	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Air-Conditioning Installation and Servicing NC III	0	0	0	0	0	0	0	0	0	0	0	0
Commercial Refrigeration Installation and Servicing NC III	0	0	0	0	0	0	0	0	0	0	0	0

Training Regulation	Coverage (2020)				Coverage (2021)				Coverage (2022)			
	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified
Driving (Articulated Vehicle) NC III	0	0	0	0	0	0	0	0	0	0	0	0
Driving (Passenger Bus/Straight Truck) NC III	0	0	35	16	0	0	34	23	0	0	12	9
Flux Cored Arc Welding (FCAW) NC I	0	0	0	0	0	0	0	0	0	0	0	0
Flux Cored Arc Welding (FCAW) NC II	0	0	0	0	0	0	0	0	0	0	0	0
Flux Cored Arc Welding (FCAW) NC III	0	0	0	0	0	0	0	0	0	0	0	0
Gas Metal Arc Welding (GMAW) NC I	0	0	0	0	0	0	0	0	0	0	0	0
Gas Metal Arc Welding (GMAW) NC II	25	24	1	1	0	0	0	0	0	0	0	0
Gas Metal Arc Welding (GMAW) NC III	0	0	0	0	0	0	0	0	0	0	0	0

Training Regulation	Coverage (2020)				Coverage (2021)				Coverage (2022)			
	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified
Gas Tungsten Arc Welding (GTAW) NC II	25	0	0	0	25	25	41	41	50	50	81	69
Gas Tungsten Arc Welding (GTAW) NC IV	0	0	0	0	0	0	0	0	0	0	0	0
Gas Welding NC I	0	0	0	0	0	0	0	0	0	0	0	0
Gas Welding NC II	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Equipment Operation (Bulldozer) NC II	86	0	18	18	51	97	85	68	90	90	0	0
Heavy Equipment Servicing (Mechanical) NC II	0	0	0	0	0	0	3	3	0	0	0	0
HEO (Articulated Off-Highway Dump Truck) NC II	0	0	0	0	0	0	0	0	0	0	0	0

Training Regulation	Coverage (2020)				Coverage (2021)				Coverage (2022)			
	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified
HEO (Backhoe Loader) NC II	0	0	0	0	46	46	92	88	15	15	0	0
HEO (Crawler Crane) NC III	0	0	0	0	0	0	0	0	0	0	0	0
HEO (Hydraulic Excavator) NC II	121	30	56	56	168	204	213	208	216	202	0	0
HEO (Motor Grader) NC II	56	31	16	16	91	116	120	116	21	18	0	0
HEO (Overhead and Gantry Crane) NC III	0	0	0	0	0	0	0	0	0	0	0	0
HEO (Rough Terrain Crane) NC III	0	0	0	0	0	0	0	0	0	0	0	0
HEO (Truck Mounted Crane) NC III	0	0	0	0	0	0	0	0	0	0	0	0
HEO (Wheel Loader) NC II	188	71	80	80	334	405	443	416	385	371	0	0

Training Regulation	Coverage (2020)				Coverage (2021)				Coverage (2022)			
	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified	Enrolled	Graduated	Assessed	Certified
Shielded Metal Arc Welding (SMAW) NC I	359	625	756	747	850	854	1,178	1,138	747	861	646	664
Shielded Metal Arc Welding (SMAW) NC II	956	751	1,670	1,587	1,022	1,189	1,457	1,340	1,790	1,784	2,620	2,449
Shielded Metal Arc Welding (SMAW) NC III	142	117	115	115	399	424	434	433	120	118	84	83
Shielded Metal Arc Welding (SMAW) NC IV	158	145	193	184	141	140	154	154	0	0	0	0
Submerged Arc Welding (SAW) NC I	0	0	0	0	0	0	0	0	0	0	0	0
Submerged Arc Welding (SAW) NC II	0	0	0	0	0	0	0	0	0	0	0	0
Technical Drafting NC II	0	0	108	82	141	0	67	49	0	0	463	453

The TVET infrastructure is a focus as well, as it can have an influence on the efficiency of the TVET Capacity for all TVET credentials that have been recognized.. The infrastructure is also divided in to the National Level (Table 04) and Regional Level (Table 05) for Region XII.

Table 04. Summary of the number of Assessment Centers, Competency Assessors, Registered Programs, and NTTC Holder per Qualification (WTR), F.Y. Q1 2023 in terms of National

Training Regulation	Coverage (2022)			
	No. of Assessment Centers	No. of Competency Assessors	No. Registered Programs	No. of NTTC Holder
Automotive Servicing (Chassis Repair) NC II	16	30	10	143
Automotive Servicing (Electrical Repair) NC II	20	31	8	144
Automotive Servicing (Engine Repair) NC II	22	33	14	149
Automotive Servicing NC I	95	209	196	0
Automotive Servicing NC III	10	13	7	51

Training Regulation	Coverage (2022)			
	No. of Assessment Centers	No. of Competency Assessors	No. Registered Programs	No. of NTTC Holder
CAD/CAM Operation NC III	1	1	0	3
Commercial Air-Conditioning Installation and Servicing NC III	2	4	1	6
Commercial Refrigeration Installation and Servicing NC III	0	0	0	0
Driving (Articulated Vehicle) NC III	38	41	5	65
Driving (Passenger Bus/Straight Truck) NC III	77	127	35	206
Flux Cored Arc Welding (FCAW) NC I	2	0	7	0
Flux Cored Arc Welding (FCAW) NC II	14	19	15	30

Training Regulation	Coverage (2022)			
	No. of Assessment Centers	No. of Competency Assessors	No. Registered Programs	No. of NTTC Holder
Flux Cored Arc Welding (FCAW) NC III	1	0	0	1
Gas Metal Arc Welding (GMAW) NC I	7	9	17	0
Gas Metal Arc Welding (GMAW) NC II	38	87	56	336
Gas Metal Arc Welding (GMAW) NC III	3	5	3	12
Gas Tungsten Arc Welding (GTAW) NC II	47	85	74	323
Gas Tungsten Arc Welding (GTAW) NC IV	0	1	0	0
Gas Welding NC I	1	2	1	0

Training Regulation	Coverage (2022)			
	No. of Assessment Centers	No. of Competency Assessors	No. Registered Programs	No. of NTTC Holder
Gas Welding NC II	2	2	4	1
Heavy Equipment Operation (Bulldozer) NC II	40	51	37	114
Heavy Equipment Servicing (Mechanical) NC II	6	9	4	22
HEO (Articulated Off-Highway Dump Truck) NC II	3	2	0	1
HEO (Backhoe Loader) NC II	44	56	65	133
HEO (Crawler Crane) NC III	7	1	0	1
HEO (Hydraulic Excavator) NC II	85	112	80	209

Training Regulation	Coverage (2022)			
	No. of Assessment Centers	No. of Competency Assessors	No. Registered Programs	No. of NTTC Holder
HEO (Motor Grader) NC II	30	36	21	61
HEO (Overhead and Gantry Crane) NC III	4	2	0	2
HEO (Rough Terrain Crane) NC III	9	2	0	2
HEO (Truck Mounted Crane) NC III	5	2	0	1
HEO (Wheel Loader) NC II	75	94	79	199
Shielded Metal Arc Welding (SMAW) NC I	314	425	569	0
Shielded Metal Arc Welding (SMAW) NC II	379	693	784	2,249

Training Regulation	Coverage (2022)			
	No. of Assessment Centers	No. of Competency Assessors	No. Registered Programs	No. of NTTC Holder
Shielded Metal Arc Welding (SMAW) NC III	46	70	58	324
Shielded Metal Arc Welding (SMAW) NC IV	7	10	4	59
Submerged Arc Welding (SAW) NC I	0	0	0	0
Submerged Arc Welding (SAW) NC II	0	1	0	0
Technical Drafting NC II	75	136	63	322

Table 04. Summary of the number of Assessment Centers, Competency Assessors, Registered Programs, and NTTC Holder per Qualification (WTR), F.Y. Q1 2023 in terms of Region XII

Training Regulation	Coverage (2022)			
	No. of Assessment Centers	No. of Competency Assessors	No. Registered Programs	No. of NTTC Holder
Automotive Servicing (Chassis Repair) NC II	2	1	0	5
Automotive Servicing (Electrical Repair) NC II	3	1	0	5
Automotive Servicing (Engine Repair) NC II	3	1	0	5
Automotive Servicing NC I	3	16	4	0
Automotive Servicing NC III	0	0	0	2
CAD/CAM Operation NC III	0	0	0	0

Training Regulation	Coverage (2022)			
	No. of Assessment Centers	No. of Competency Assessors	No. Registered Programs	No. of NTTC Holder
Commercial Air-Conditioning Installation and Servicing NC III	0	1	0	1
Commercial Refrigeration Installation and Servicing NC III	0	0	0	0
Driving (Articulated Vehicle) NC III	0	0	0	0
Driving (Passenger Bus/Straight Truck) NC III	1	2	0	1
Flux Cored Arc Welding (FCAW) NC I	0	0	0	0
Flux Cored Arc Welding (FCAW) NC II	0	0	0	0
Flux Cored Arc Welding (FCAW) NC III	0	0	0	0

Training Regulation	Coverage (2022)			
	No. of Assessment Centers	No. of Competency Assessors	No. Registered Programs	No. of NTTC Holder
Gas Metal Arc Welding (GMAW) NC I	0	0	1	0
Gas Metal Arc Welding (GMAW) NC II	0	0	2	12
Gas Metal Arc Welding (GMAW) NC III	0	0	0	2
Gas Tungsten Arc Welding (GTAW) NC II	1	0	1	2
Gas Tungsten Arc Welding (GTAW) NC IV	0	0	0	0
Gas Welding NC I	0	0	0	0
Gas Welding NC II	0	0	0	0

Training Regulation	Coverage (2022)			
	No. of Assessment Centers	No. of Competency Assessors	No. Registered Programs	No. of NTTC Holder
Heavy Equipment Operation (Bulldozer) NC II	4	4	4	11
Heavy Equipment Servicing (Mechanical) NC II	0	1	0	2
HEO (Articulated Off-Highway Dump Truck) NC II	1	1	0	0
HEO (Backhoe Loader) NC II	3	5	4	18
HEO (Crawler Crane) NC III	0	0	0	0
HEO (Hydraulic Excavator) NC II	6	9	8	19
HEO (Motor Grader) NC II	3	2	3	12

Training Regulation	Coverage (2022)			
	No. of Assessment Centers	No. of Competency Assessors	No. Registered Programs	No. of NTTC Holder
HEO (Overhead and Gantry Crane) NC III	0	0	0	0
HEO (Rough Terrain Crane) NC III	0	0	0	0
HEO (Truck Mounted Crane) NC III	0	0	0	0
HEO (Wheel Loader) NC II	5	11	12	23
Shielded Metal Arc Welding (SMAW) NC I	19	18	21	0
Shielded Metal Arc Welding (SMAW) NC II	27	41	42	125
Shielded Metal Arc Welding (SMAW) NC III	3	6	4	28

Training Regulation	Coverage (2022)			
	No. of Assessment Centers	No. of Competency Assessors	No. Registered Programs	No. of NTTC Holder
Shielded Metal Arc Welding (SMAW) NC IV	2	6	2	32
Submerged Arc Welding (SAW) NC I	0	0	0	0
Submerged Arc Welding (SAW) NC II	0	1	0	0
Technical Drafting NC II	4	8	1	14

III. Recommendation

Due to the recent developments in the Liguasan March and the planned petroleum exploration by the SK Liguasan Oil and Gas Corporation, TESDA has the opportunity to provide the key players in the project with human resources equipped with sufficient competencies needed in the specific jobs that will support the development in the area. In line with this, the following are recommended:

For TESDA Region XII

- It is recommended that TESDA Region XII collaborate and conduct a consultation with the Department of Energy and SK Liguasan Oil and Gas Corporation (SKLOGC) in the identification of jobs/skills/occupations needed in the project. These consultations may lead to either a development of an area-based Competency Standard.
 - Proper Identification of the specific jobs/skills/occupations may also assist in efficiently and effectively utilizing the TESDA's initiatives, programs and manpower.
 - Emerging skills and essential skills should be included in the identification process. The addition of the skills can prove useful as this can be included in the future competencies being developed in the area based CS or national TR and may provide an advantage to the future trainees in the labor market.
- TESDA Region XII has to update the Regional and Provincial Skills Priorities.
 - TESDA South Cotabato and Sultan Kudarat to determine the extent of the potentials of the Liguasan March, specifically on the skills requirements.
 - As of the latest report, the province of South Cotabato has identified priority under energy, however, it only define solar night light assembling.

Table 06. Identified Priority Sector and Skills

Sector	Region	Province	Occupation/Job	Corresponding Training Program
ENERGY	Region XII	South Cotabato	Solar Night Light Assembling	No Equivalent Qualification

Source: Based on the Enhanced Regional Skills Priority Report by Region XII

- Additionally, TESDA Region XII must help inform each province within it about rising labor needs from private or government initiatives.

- TESDA Region XII should increase its TVET Infrastructure.
 - Based on Tables 05, some training regulations offered in the regions have low numbers of assessment centers, competency assessors, registered programs and National TVET Trainer Certificate (NTTC) Holders. The lack of TVET Infrastructure components may have an impact on the region's capacity to train, assess, and certify potential trainees related programs. As a result, it is suggested that the Region review its TVET infrastructure and expand each individual infrastructure component accordingly

For TESDA Planning Office

- TESDA Planning Office should assist the Region in conducting the consultations with the Department of Energy and SK Liguasan Oil and Gas Corporation (SKLOGC).
 - As the office with experience in conducting industry consultations, it is recommended that the planning office assist the region in terms of tracking and informing the regions on the steps required in conducting industry consultations as well as the following phases after the consultation period.

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