
FROM BUILD, BUILD, BUILD TO WORK, WORK, WORK:

THE CONSTRUCTION INDUSTRY IN THE GOLDEN AGE
OF PHILIPPINE INFRASTRUCTURE

LABOR MARKET INTELLIGENCE REPORT



Technical Education and Skills Development Authority

October 2017

Table of Contents

I.	Executive Summary (infographics).....	ii-vi
II.	The Construction Industry Today.....	1-2
III.	Projection.....	2-3
IV.	Government Intervention.....	4
V.	Skills Needs.....	5-6
VI.	TVET Capacity in the Construction Industry.....	6-13
VII.	Way Forward.....	14-15
VIII.	Annexes.....	16-18
IX.	References.....	19

Executive Summary

The Labor Market Information Report on the Construction Industry in the Golden Age of Philippine Infrastructure provides general information on the current status of investment outlook, opportunities, and TVET Capacity for the construction sector. It also presents suggested strategies and specific recommendation for the government, specifically for the TVET sector.

Investment Outlook

- The Construction Industry is expected to play a vital role in advancing the country's forecasted economic growth.
- Average GDP from the construction industry from 2008 to 2017 is Php 43,289.93 million, which reached its peak in the second quarter of 2017 with 240,706.14 million.
- Construction investments grew 13.6 percent, amounting to P781.9 billion in 2016.
- Government infrastructure projects rose to P185 billion, while private construction projects increased to P596.9 billion.
- From CY 2017-2022, which is considered as the "Golden Age of Infrastructure", the Government is expected to spend Php 8 to 9 trillion to support various infrastructure projects. This includes development and rehabilitation of airport, maritime ports, power, roads and expressways, intra- and inter-urban railways and bus rapid transit, telecommunications, and water. The specific projects are annexed to this report
- The industry also has a substantial employment share which stood at 8.2 percent in 2016, which remarked the 25 percent increase from the 2.69 million workers in 2015
- By 2020, the Philippine construction industry is projected to trend around Php 286,000 million.

Skills Needs

- DOLE Project JobsFit 2020 identified in-demand and hard-to-fill occupation in the construction sector. This includes fabricator, pipe filter, welder, autocad operator, building wiring installation, laborer, pre-cast installer, pre-cast fabricator, roofer, sandblaster, tile settler, tinsmith, electrician, heavy equipment mechanic, production worker, rigger, driver, machine operator, and aluminum and glass installer.
- It is also noted that there are no available data yet on employment opportunities for the implementation of the Build, Build, Build Project. However, initiatives have been commenced by the industry and government sectors to identify specific jobs for the project.

TVET Capacity

- There are forty-three (43) construction-related Training Regulations (TR).
- As of June 2017, there are nine hundred eighty-three (983) registered program on construction related qualifications. Majority of these programs are in Regions X and NCR.
- Majority of the registered constructions related programs are: Carpentry NC II, Masonry NC II, Plumbing NC II, Technical Drafting NC II, Tile Setting NC II,

Scaffold Erection NC II, Hydraulics Excavator NC II, Backhoe Loader NC II, Forklift NC II, and Pipefitting NC II.

- TVET graduates from the sector has decreased from 2014-2016. Across the years covered, Region IVA accounted with the greatest number of graduates for construction-related programs, followed by Region NCR and Region X.
- The number of persons assessed and certified increased from 2014 to 2015 but decrease in 2016. Majority of certified graduates are in Carpentry NC II and Scaffold Erection NC II.

Gaps/Issues

- Lack of baseline data on the needed skills, and its magnitude, for the Build, Build, Build projects
- Low regard for construction-related training programs
- Limited number of TVET providers
- Increasing demand for assessment with the existence of TVET providers and manpower agencies in an area amid deficient assessment facilities and staff
- TESDA-certified workers, or those with formal training, have job contracts abroad. While those not TESDA-certified are retained locally.
- Low salary/no reasonable remuneration/delayed pay
- Some workers are forced to work under unsafe conditions which is aggravated by the absence of social protection (Workplace rights, access to healthcare)
- Labor supply in the construction industry is being managed through labor subcontracting scheme which has ramifications to the security of tenure of workers
- Exposed to frequent unemployment –hired on a per project basis

Recommendations

Program Strengthening

- Conduct industry consultation with experts regarding identified projects under *Build, Build, Build* to gather information on the required skills and number of workers needed
- Develop pool of trainers and assessors per region in cooperation with industry/associations present in the region
- Provide massive training and assessment in coordination with partner agencies and industry associations
- Ensure that TVET providers incorporate Occupational Safety and Health to their curriculum

Employment Facilitation

- Seek and locate prospective employers thru LGUs/PESOs/CTECS
- Create a national registry of trained and certified construction workers
- Create a national registry of trained and certified construction workers
- Organize trained and certified construction workers by creating associations

Support to TVET providers

- Provide incentives for TVET partners with construction-related registered programs thru more scholarships slots
- Encourage TVET providers to offer construction programs by lobbying for the legislation of law which offers deduction of certain training costs from their taxable income

Support to Construction Workers

- Train and assess for local employment by providing incentives for successful TESDA certified construction workers who stays in the country
- Lobby with DOLE to create Welfare Fund for the construction workers

Construction Industry

INVESTMENT OUTLOOK

CY 2017- CY 2022

The Golden Age of Infrastructure

Php8-9 T

Gov.t Planned Total Spending



Php4382.93 M

Industry Average Share to GDP
CY 2008-2017

Php286000 M

Projected Industry Average Share
to GDP by CY 2020

Php781.9 B (13.6%)

Construction Investments in 2016

Php 185 B(29%)

Increased in Gov.t Infra Projects
in 2016

Php 596.9 B (9.5%)

Increased in Private Construction
Projects in 2016

8.2% (3.37 M)

Employment Share in 2016 or 25%
Increase from 2.69 M in 2015

Construction Industry

SKILLS NEEDS

In-Demand Occupations (IDC)

- | | |
|--|---|
| Construction | <ul style="list-style-type: none"> ▪ Fabricator ▪ Pipe Fitter ▪ Welder ▪ AutoCAD Operator ▪ Building Engineer ▪ Building Wiring Installation ▪ Construction Manager ▪ First Line Supervisor ▪ Laborer ▪ Pre-cast Fabricator ▪ Pre-cast Installer ▪ Roofer ▪ Sandblaster ▪ Tile Setter ▪ Tinsmith ▪ Bookkeeper ▪ Electrician ▪ Heavy Equipment Mechanic ▪ Production Worker ▪ Rigger ▪ Driver ▪ Machine Operator ▪ Aluminum and Glass Installer |
| Ownership Dwellings & Real Estate | <ul style="list-style-type: none"> ▪ Building Manager ▪ Construction Manager ▪ Construction Worker ▪ Foreman ▪ Mason ▪ Welder ▪ Real Estate Agent/Broker ▪ Marketer |



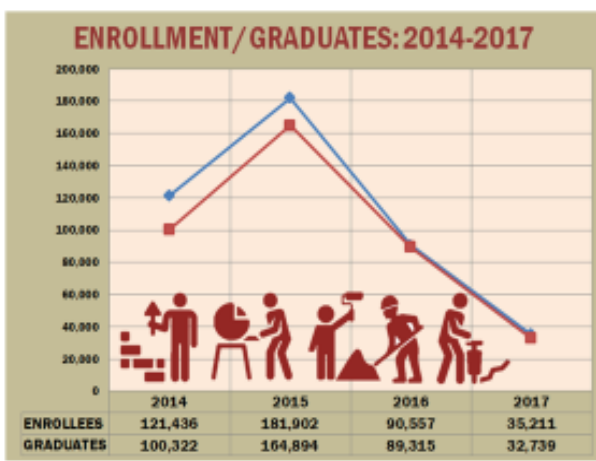
Hard-to-Fill Occupations (HTFC)

- | | |
|--|--|
| Construction | <ul style="list-style-type: none"> ▪ Engineer (Civil, Electrical, Design, Structural, Planning and Contract) |
| Ownership Dwellings & Real Estate | <ul style="list-style-type: none"> ▪ Civil Engineer ▪ Mechanical Engineer ▪ Surveyor ▪ Architect |



Construction Industry

TVET CAPABILITY/OPPORTUNITIES



983 Registered Programs under Construction Sector

43 Construction-Related Training Regulations

Top 10 Registered Programs

- Carpentry NC II
- Masonry NC II
- Plumbing NC II
- Technical Drafting NC II
- Tile Setting NC II
- Scaffold Erection NC II
- Hydraulics Excavator NC II
- Backhoe Loader NC II
- Forklift NC II
- Pipefitting NC II



Top 10 Assessed/Certified Qualifications

- Carpentry NC II
- Carpentry NC III
- Construction Painting NC II
- Construction Painting NC III
- HEO (Bulldozer) NC II
- Heavy Equipment Servicing NC II
- HEO (Articulated Off-Highway Dump Truck) NC II
- HEO (Backhoe) Loader) NC II
- HEO (Crawler Crane) NC II
- HEO (Forklift) NC II

BUILD. BUILD. BUILD Projects

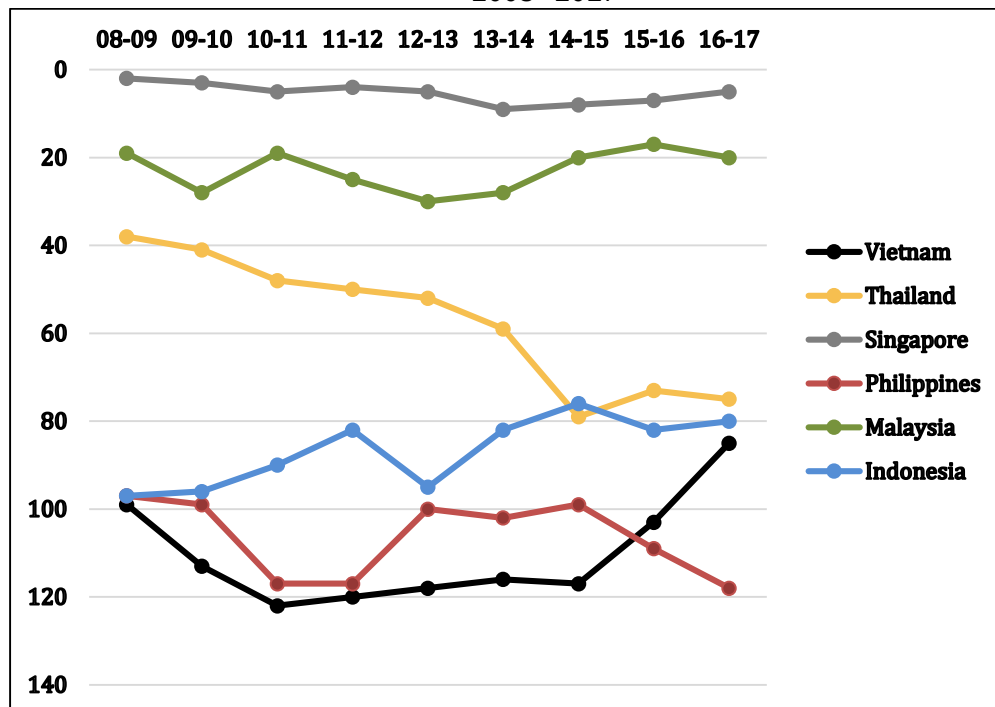
- DPWH - 15
- DOTr - 19
- BCDA - 4

I. The Construction Industry Today

Construction in the country is in its prime years today with its rapid and continuous growth. Having such notable success, it is expected to continue playing its vital role in advancing the country's forecasted economic growth, especially with the Duterte administration's game-changing projects under the so-called *Golden Age of Infrastructure*.

The prioritization is grounded on the fact that Philippine infrastructure has substantially lagged behind among the ASEAN-6. The country ranks the last in Overall Infrastructure Rank of the World Economic Forum (WEF). From the figure below, it can be seen that in 2008, the Philippines, Indonesia, and Vietnam were roughly in equal standing. By 2016, the Philippines has declined, while Indonesia and Vietnam improved close to Thailand¹.

Figure 1: Overall Infrastructure Rankings, ASEAN-6, 2008 - 2017



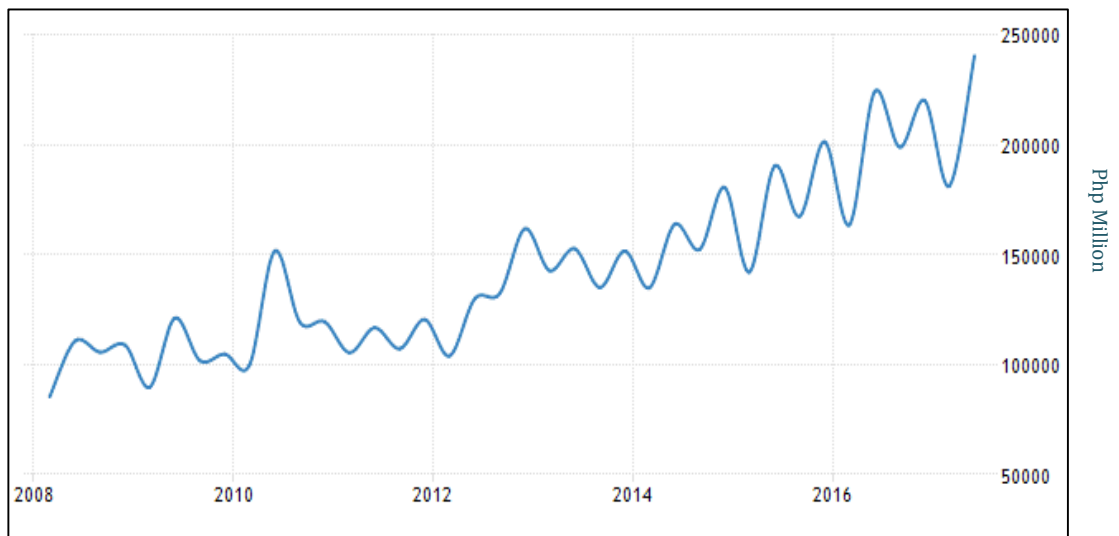
Source: WEF Global Competitiveness Report

Amid not being given the rightful attention in the past years, the contribution of the construction industry has been so valuable, it cannot be overlooked. In terms of GDP, the industry's share increased to Php 240706.14 million in the second quarter of 2017 from Php 181395.89 million in the first quarter of 2017. The average GDP from the industry averaged at Php 43282.93 million from 2008 until 2017. It reached its peak in the second quarter of 2017 with a total of Php 240706.14 million in the second quarter of 2017, and recorded its lowest with Php 85502.67 million in the first quarter of 2008².

¹Arangkada Philippines, 2017

²Trading Economics.com & PNSB, 2017

Figure 2: Construction Industry's Contribution to PH GDP



Source: TradingEconomics.com | Philippine National Statistical Coordination Board

The industry also has a substantial employment share which stood at 8.2 percent in 2016. The 3.37 million workers employed last year represented a 25 percent increase from the 2.69 million workers in 2015³.

In addition, construction investments grew 13.6 percent, amounting to P781.9 billion last year⁴. Corollary to this, government infrastructure projects rose 29 percent to P185 billion, while private construction projects increased 9.5 percent to P596.9 billion.

The abovementioned data is likewise evident on the Philippine Statistics Authority's finding that the country's economic growth last year was propelled by the industry and service sectors. Growth in the industry sector was further attributed to the strong performance of the construction industry.

II. Projection

"The industry sector is seen to stay vibrant. The construction industry, in particular, will be in the limelight following the government's aggressive commitment to approve and implement complex infrastructure projects."

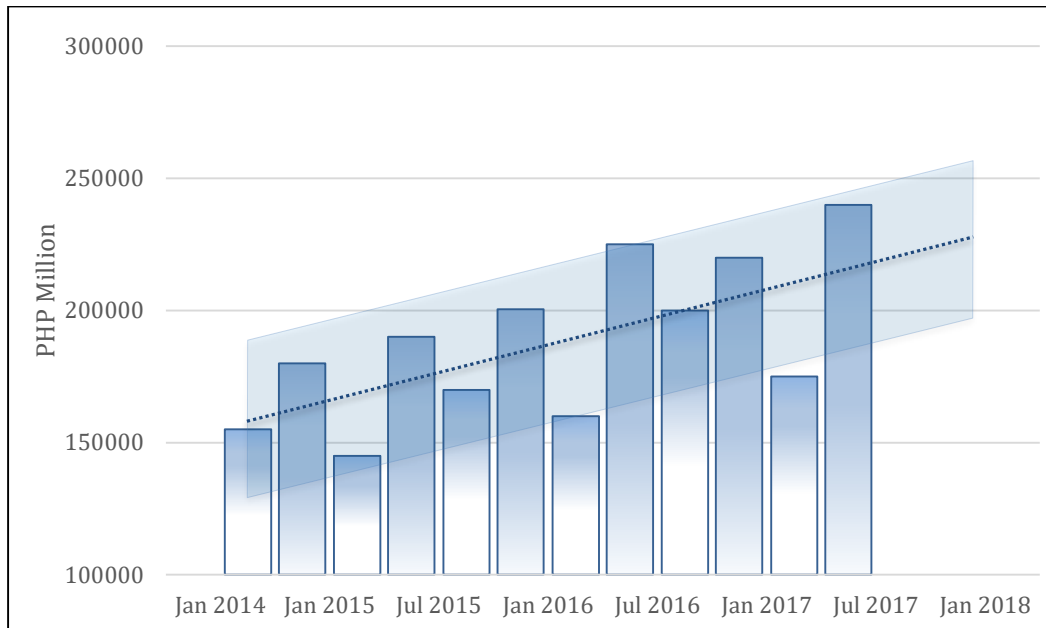
- CIAP, 2017

GDP Trading Economics claims that GDP from the construction industry is expected to stand at Php 214000 million by the end of this quarter. The group also estimates that GDP from the industry will amount to Php 244000 million in 12 months' time. By 2020, the Philippine construction industry is projected to trend around Php 286000 million.

³ <http://www.philstar.com/business/2017/04/24/1693190/construction-seen-fuel-phl-growth/>

⁴ CIAP, 2017

Figure 3: Forecast of Construction Industry's GDP Contribution



Source: TradingEconomics.com | Philippine National Statistical Coordination Board

The economic gains of the industry translate to work opportunities for the people which is why the 3.3 million workers generated by the industry last year, is expected to increase this by another 2.5 million over the spread until 2022⁵.

“One of the biggest contributors to employment in the country is the construction industry that’s why it is really providing a big boost to our economy.”

- CIAP, 2017

The same finding of remarkable continuous growth is maintained by the Construction Intelligence Center (CIC). CIC claims that construction in the Philippines is set to grow at a rapid pace over 2017–2021. Such development will be supported by the country’s development plan 2017–2022, as well as population growth, urbanization, and favorable government policies with regards to public-private partnerships (PPPs).

Moreover, the industry’s output value in real terms is expected to rise at an average of 9.8% a year over the forecast period. The Philippine construction industry is consequently expected to rise from US\$34.0 billion in 2016 to US\$54.3 billion in 2021, measured at constant 2010 US dollar exchange rates.

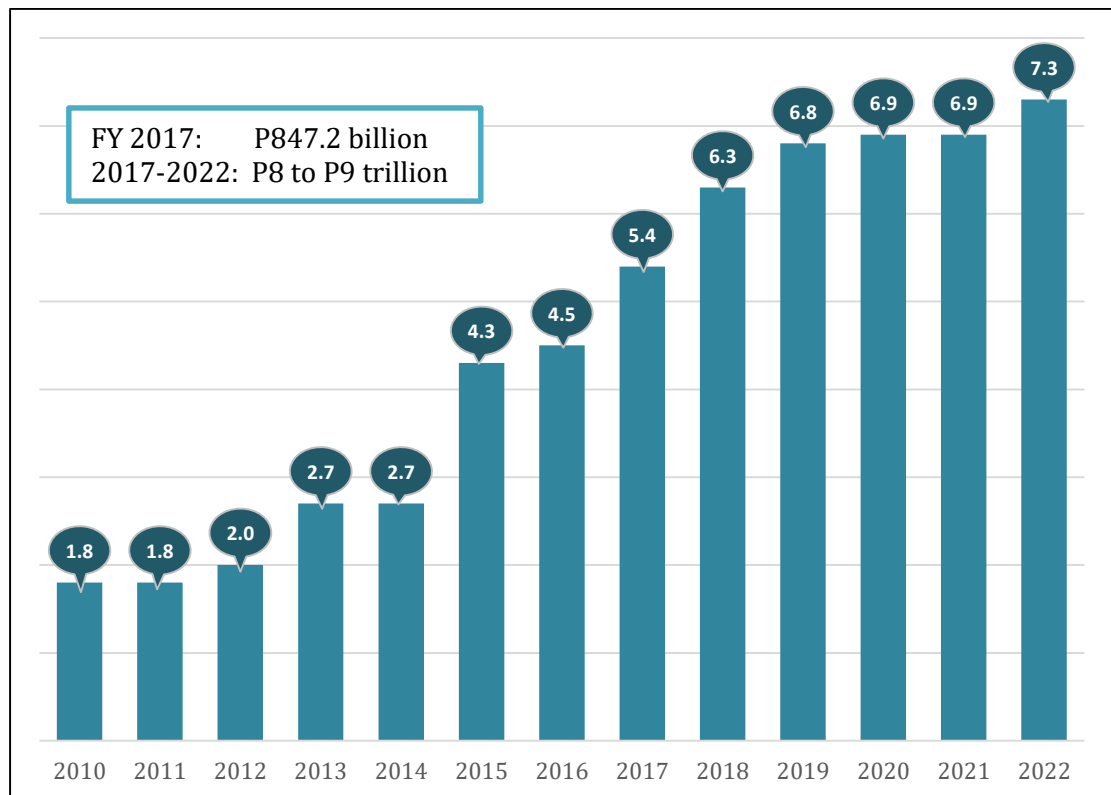
⁵ CIAP, 2017

III. Government Intervention

Infrastructure improvement is one of the top priorities of the Duterte Administration, as well as the second highest concern identified by the World Economic Forum (WEF) for doing Business in the Philippines.
-Arangkada Philippines, 2017

DBM Secretary Benjamin Diokno has often stated that the planned total spending target for infrastructure spending is Php 8 to 9 trillion in the 2017-2022 period- an evidence of the aggressiveness of the current administration in delivering *Build, Build, Build*. In fact, public spending on infrastructure will rise to 4.5% (2016) to 7.3% (2022) from 1.8% (2010) to 4.3% (2015).

Figure 3: DBM Infrastructure Spending as Percentage of GDP



Source: As presented by DBM Secretary Diokno at the Duterteomics Forum on August 10, 2017

To actualize this policy, there will be projects for the following structure/area: airport, maritime ports, power, roads and expressways, intra- and inter-urban railways and bus rapid transit, telecommunications, and water. The specific projects are annexed to this report (See Annex A).

IV. Skills Needs

With the intensification of construction in the country comes the growing demand for workers who can deliver the services needed by the industry. Aside from the areas/types of construction (See Annex A) which can be looked at to gauge the skills needs of the industry, the table below from the Department of Labor and Employment (DOLE) Project JobsFit 2020 could be used as a guide as well. DOLE has identified the following significant occupations under the Construction and Ownership Dwellings & Real Estate Industries:

Table 1: In-Demand and Hard-to-Fill Occupations in the Construction and Ownership Dwellings & Real Estate Industries

Industry	In-Demand Occupation ⁶ (IDC)	Hard-to-Fill Occupations ⁷ (HTFC)
Construction	<ul style="list-style-type: none"> * Fabricator * Pipe Fitter * Welder * AutoCAD Operator * Building Engineer * Building Wiring Installation * Construction Manager * First Line Supervisor * Laborer * Pre-cast Fabricator * Pre-cast Installer * Roofer * Sandblaster * Tile Setter * Tinsmith * Bookkeeper * Electrician * Heavy Equipment Mechanic * Production Worker * Rigger * Driver * Machine Operator * Aluminum and Glass Installer 	<ul style="list-style-type: none"> * Engineer (Civil, Electrical, Design, Structural, Planning and Contract)
Ownership Dwellings & Real Estate	<ul style="list-style-type: none"> * Building Manager * Construction Manager * Construction Worker * Foreman * Mason * Welder * Real Estate Agent/Broker * Marketer 	<ul style="list-style-type: none"> * Civil Engineer * Mechanical Engineer * Surveyor * Architect

While there is an available list in-demand and hard-to-fill jobs identified in the DOLE Project JobsFit 2020, skills needs in the context of TVET, and in line with the *Build, Build, Build* project, still remain uncertain. These are to be

⁶In-demand occupations refer to active occupations/job vacancies posted/advertised recurrently by and across industries/establishments

⁷ Hard-to-fill occupations refer to job vacancies for which an establishment has encountered difficulties in managing the recruitment process for reasons such as no applicants, applicant's lack of experience, skill or license, preference of working abroad, seeking higher salary or problem with location and other reasons.

determined through consultation with the industry and other government agencies. Such activity will be the first step of TESDA and other stakeholders in instituting their intervention in the said project.

V. TVET Capacity in the Construction Industry

A. Training Standards

Table 2: TESDA's Construction-Related TRs
As of February 2016

Carpentry NC II	HEO (Backhoe Loader) NC II
Masonry NC II	HEO (Gantry Crane) NC II
Carpentry NC III	HEO (Container Stacker) NC II
Masonry NC I	HEO (Screed) NC I
Masonry NC III	Structural Erection NC II
Construction Painting NC II	Pipefitting NC II
Construction Painting NC III	Technical Drafting NC II
Heavy Equipment Servicing (Mechanical) NC II	Plumbing NC I
Heavy Equipment Operation (Bulldozer) NC II	Plumbing NC II
HEO (Crawler Crane) NC II	Plumbing NC III
HEO (Forklift) NC II	PV System Design NC III
HEO (Hydraulic Excavator) NC II	PV Systems Installation NC II
HEO (Motor Grader) NC II	PV Systems Servicing NC III
HEO (Rough Terrain Crane) NC II	Construction Lift Passenger/Material Elevator Operation NC II
HEO (Tower Crane) NC II	System Formworks Installation NC II
HEO (Truck Mounted Crane) NC II	Reinforcing Steel Works NC II
HEO (Wheel Loader) NC II	Rigging NC I
Scaffold Erection NC II	HEO (Rigid On-Highway Dump Truck) NC II
Tile Setting NC II	HEO (Rigid Off-Highway Dump Truck) NC II
HEO (Articulated Off-Highway Dump Truck) NC II	HEO (Road Roller) NC II
HEO (Concrete Pump) NC II	HEO (Transit Mixer) NC II
HEO (Paver) NC II	

Source: Qualification and Standards Office, TESDA

To cater to the myriad needs of the construction industry, TESDA currently offers a total of 43 construction-related training regulations (TRs). The TRs are developed with the industry partners/experts. These are offered by both private and TESDA-administered training institutions across the country.

B. Registered Programs

Table 3: Number of Registered Programs on Construction-Related Qualifications, by Region
As of June 30, 2017

Region	Registered Programs
ARMM	51
CAR	31
CARAGA	35
I	42
II	29
III	42
IV-A	68
IV-B	27
IX	86
IX	3
NCR	108
V	79
VI	41
VII	86
VIII	41
X	124
XI	29
XII	61
Total	983

Source: Certification Office, TESDA

As of June 2017, there are 983 registered programs in construction sector-958 of which have training regulations. Region X has the most number of registered programs (12.6%), followed by NCR (11%). Region IX, on the other hand, has the least number of registered programs with only a 0.3% share.

Table 4: Number of Registered Programs WTR on Construction-Related Qualifications
As of June 30, 2017

Qualification Title	No.
Carpentry NC II	127
Masonry NC II	111
Plumbing NC II	71
Technical Drafting NC II	63
Tile Setting NC II	62
Heavy Equipment Operation (Wheel Loader) NC II	46
Pipefitting NC II	42
Scaffold Erection NC II	42
Heavy Equipment Operation (Hydraulic Excavator) NC II	35
Heavy Equipment Operation (Backhoe Loader) NC II	34
Heavy Equipment Operation (Forklift) NC II	33

Qualification Title	No.
Heavy Equipment Operation (Bulldozer) NC II	30
Construction Painting NC II	25
Heavy Equipment Operation (Motor Grader) NC II	22
Heavy Equipment Operation (Rigid On-Highway Dump Truck) NC II	22
Masonry NC I	19
Masonry NC II - Mobile Training Program	16
Plumbing NC I	14
Carpentry NC II - Mobile Training Program	13
Heavy Equipment Operation (Road Roller) NC II	10
Tile Setting NC II - Mobile Training Program	10
Heavy Equipment Operation (Wheel Loader) NC II - Mobile Training Program	7
Plumbing NC II - Mobile Training Program	7
Reinforced Steel Bar Installation NC II	7
Heavy Equipment Operation (Bulldozer) NC II - Mobile Training Program	6
Heavy Equipment Operation (Hydraulic Excavator) NC II - Mobile Training Program	6
Heavy Equipment Operation (Rough Terrain Crane) NC II	6
PV Systems Installation NC II	6
Scaffold Erection NC II - Mobile Training Program	6
Heavy Equipment Operation (Backhoe Loader) NC II - Mobile Training Program	5
Heavy Equipment Operation (Forklift) NC II - Mobile Training Program	5
Pipefitting NC II - Mobile Training Program	5
Rigging NC I	5
Heavy Equipment Servicing NC II	4
Heavy Equipment Operation (Truck Mounted Crane) NC II	3
Heavy Equipment Servicing (Mechanical) NC II	3
Construction Painting NC II - Mobile Training Program	2
Heavy Equipment Operation (Tower Crane) NC II	2
Masonry NC I - Mobile Training Program	2
Masonry NC III	2
Plumbing NC I - Mobile Training Program	2
Plumbing NC III	2
PV Systems Design NC III	2
PV Systems Servicing NC III	2
Carpentry NC III	1
Computer Aided Drawings leading to Technical Drafting NC II	1
Draft Architectural Lay-out & Details (Leading to Technical Drafting)	1
Draft Electrical and Electronic Layout and Details Leading to Technical Drafting NC II	1

Qualification Title	No.
Draft Structural Lay-out & Details (Leading to Technical Drafting)	1
Electrical Installation & Maintenance NC II	1
Electrical Installation & Maintenance NC II - Mobile Training Program	1
Heavy Equipment Mechanic NC II	1
Heavy Equipment Operation (Crawler Crane) NC II	1
Heavy Equipment Operation (Motor Grader) NC II - Mobile Training Program	1
Heavy Equipment Operation (Rigging) NC I	1
Heavy Equipment Operation (Rigging) NC I - Mobile Training Program	1
Heavy Equipment Operation (Rigid Off-Highway Dump Truck) NC II	1
Heavy Equipment Operation (Rigid On-Highway Dumptruck) NC II - Mobile Training Program	1
Heavy Equipment Operation (Road Roller) NC II - Mobile Training Program	1
Heavy Equipment Operation (Rough-Terrain Crane) NC II - Mobile Training Program	1
Heavy Equipment Operation NC II	1
Hydraulic Excavator Operation leading to Heavy Equipment Operation	1
Preparing Computer-Aided Drawings Leading to TD NC II	1
Reinforced Steel Bar (RSB) Installation NC II - Mobile Training Program	1
Reinforced Steel Bar Installation NC II - Mobile Training Program	1
Reinforcing Steel Works NC II	1
Rough Carpentry	1
Technical Drafting	1
Technical Drafting NC II - Mobile Training Program	1
Wheel loader Operation leading to Heavy Equipment Operations	1
Total	970

Source: Certification Office, TESDA

Carpentry NC II and Masonry NC II are the most registered programs. Other qualifications such as Plumbing NC II, Technical Drafting NC II, and Tile Setting NC II, significantly lag, relative to the two, but still register greater numbers, compared to the bulk of the group which have significantly lower registration numbers.

C. Enrollees and Graduates

Table 5: Number of Enrollees and Graduates on Construction-Related Qualifications, 2014-2017

Year	Enrollees	Graduates
2014	121,436	100,322
2015	181,902	164,894
2016	90,557	89,315
As of June 2017	35,211	32,739

Source: Labor Market Information Division- Planning Office, TESDA

TVET graduates from the sector has decreased from 2014-2016⁸. Data as of June 2017, when juxtaposed to the monthly average of the preceding year (7,546 enrolled/month and 7,443 graduates/month), give a gloomy picture as well for the current year; with only 35,211 enrollees and 32,739 graduates as of June 2017; compared to the 45,276 enrollees and 44,658 graduates as of June 2016.

Though data may indicate that supply is decreasing, its validity remains questionable at the moment because it has to be evaluated with the demand- which is to be based on the proposed infrastructure projects of the Duterte administration.

Table 6: Number of Enrollees and Graduates for Construction-Related Qualifications, by Region, 2015-2017

Region	2015		2016		As of June 2017	
	Enrollees	Graduates	Enrollees	Graduates	Enrollees	Graduates
NCR	4,456	4,840	3,775	3,864	2,807	2,912
Region I	3,624	3,735	4,117	4,071	1,140	1,140
Region II	7,560	6,593	6,977	6,568	1,231	788
CAR	16,035	12,718	6,640	6,577	2,632	2,270
Region III	8,061	5,696	3,098	2,873	1,162	1,043
Region IV-A	6,252	6,122	2,948	2,694	721	741
Region IV-B	17,800	17,737	3,988	4,343	1,274	1,153
Region V	23,854	22,299	12,910	13,224	5,343	4,883
Region VI	8,112	7,223	10,353	11,977	6,066	5,487
Region VII	7,194	4,502	3,442	2,915	1,203	1,063
Region VIII	16,982	15,254	4,412	4,195	1,826	1,181
Region IX	21,404	22,543	8,713	8,317	2,284	2,048
Region X	9,970	10,034	3,769	3,719	1,098	1,167
Region XI	7,350	6,921	3,118	3,087	954	946
Region XII	10,615	8,268	7,029	5,778	2,718	3,318
CARAGA	7,077	6,194	3,341	3,141	2,420	2,252
ARMM	5,556	4,215	1,927	1,972	332	347
Total	181,902	164,894	90,557	89,315	35,211	32,739

Source: Labor Market Information Division- Planning Office, TESDA

Across the years covered, Region IV-A produces the greatest number of graduates from TESDA's construction-related programs. NCR, which has the

⁸ 2017 data is not yet conclusive

second largest number of registered programs under construction, produces only around the half of IV-A's. The same case with the region with the greatest number of construction-related programs, Region X, which produces roughly a little over a third of IV-A's.

D. Assessed and Certified

Table 7: Number of Assessed and Certified for Construction-Related Qualifications, 2014-2017

Year	Assessed	Certified	Certification Rate
2014	92,640	83,831	90.5%
2015	127,815	115,753	90.6%
2016	85,820	80,853	94.21%
As of June 30, 2017	21,765	20,445	93.93%

Source: Certification Office, TESDA

The number of persons assessed and certified increased from 2014 to 2015 but decreased in 2016. While, the outputs of 2016 are lesser than 2014,⁹ the certification rate has increased quite significantly. Halfway through 2017, the number of assessed and certified is a quarter of 2016's.

Table 8: Number of Assessed and Certified for Construction-Related Qualifications, by Qualification, 2016-2017

Qualification	2016		As of 6/30/2017	
	Assessed	Certified	Assessed	Certified
Carpentry NC II	14,505	13,638	3,712	3,564
Carpentry NC III	154	128	39	38
Construction Painting NC II	1,850	1,718	290	290
Construction Painting NC III	14	14	-	-
Heavy Equipment Operation (Bulldozer) NC II	1,165	1,157	307	291
Heavy Equipment Servicing (Mechanical) NC II	408	340	57	47
HEO (Articulated Off-Highway Dump Truck) NC II	63	61	-	-
HEO (Backhoe Loader) NC II	2,238	2,120	544	526
HEO (Crawler Crane) NC II	156	156	50	50
HEO (Forklift) NC II	4,808	4,531	1,642	1,598
HEO (Gantry Crane) NC II	143	139	99	92
HEO (Hydraulic Excavator) NC II	3,117	2,970	1,281	1,213
HEO (Motor Grader) NC II	416	377	59	59
HEO (Paver) NC II	6	6	-	-
HEO (Rigging) NC I	141	141	-	-
HEO (Rigid Off-Highway Dump Truck) NC II	388	358	26	23
HEO (Rigid On-Highway Dump Truck) NC II	2,238	2,150	970	936
HEO (Road Roller) NC II	203	193	44	44
HEO (Rough Terrain Crane) NC II	563	561	98	98
HEO (Tower Crane) NC II	1,052	1,046	208	208

⁹ 2015 data is currently being processed

Qualification	2016		As of 6/30/2017	
	Assessed	Certified	Assessed	Certified
HEO (Transit Mixer) NC II	97	97	18	18
HEO (Truck Mounted Crane) NC II	605	599	381	379
HEO (Wheel Loader) NC II	2,538	2,418	629	608
Masonry NC I	1,029	920	181	167
Masonry NC II	9,198	8,445	3,614	3,187
Masonry NC III	168	147	76	51
Pipefitting NC II	5,238	5,090	1,108	1,083
Plumbing NC I	116	115	218	209
Plumbing NC II	7,036	6,590	679	598
Plumbing NC III	10	10	-	-
PV Systems Installation NC II	170	146	56	51
PV Systems Servicing NC III	3	3	26	26
Reinforced Steel Bar Installation NC II	136	130	-	-
Reinforcing Steel Works NC II	148	140	-	-
Rigging NC I	2,886	2,763	586	575
Scaffold Erection NC II	13,125	12,825	2,361	2,312
Technical Drafting NC II	5,022	4,154	1,477	1,184
Tile Setting NC II	4,667	4,457	929	920
Total	85,820	80,853	21,765	20,445

Source: Certification Office, TESDA

For 2016 and 2017, the training program with the most number of persons assessed and certified is Carpentry NC II. The second one is Scaffold Erection NC II. Most programs, singling out a few, register rather meager numbers relative to the two aforementioned.

E. Training for Work Scholarship Program (TWSP) Beneficiaries

Table 8: Number of TWSP Beneficiaries in Construction Sector, 2014-2017

Year	No. of Beneficiaries
2014	22,430
2015	32,865
2016	22,343
As of June 2017	10, 690

Source: Scholarship Management Office, TESDA

The number of beneficiaries dipped in 2016, returning to almost the same number in 2014. 2017 data is yet to be telling but stands half of last year's as of June.

F. Perceived Issues

- Lack of baseline data on the needed skills, and its magnitude, for the Build, Build, Build projects
- Low regard for construction-related training programs
- Limited number of TVET providers
- Increasing demand for assessment with the existence of TVET providers and manpower agencies in an area amid deficient assessment facilities and staff
- TESDA-certified workers, or those with formal training, have job contracts abroad. While those not TESDA-certified are retained locally.
- Low salary/no reasonable remuneration/delayed pay
- Some workers are forced to work under unsafe conditions which is aggravated by the absence of social protection (Workplace rights, access to healthcare)
- Labor supply in the construction industry is being managed through labor subcontracting scheme which has ramifications to the security of tenure of workers
- Exposed to frequent unemployment –hired on a per project basis

G. Helping Factors

- Available pool of unskilled workers in poor/rural areas
- Majority of the infrastructure projects, although dispersed among regions, are located in more urban areas
- Presence of other government agencies which can help provide specialized training, e.g. DPWH, CMDF
- Presence of industry associations in every region which can help in the massive training and assessment
- Large scale professional labor companies have a pool of projects in a specific area, which will help to reduce the unorganized labor flow
- Presence of TVET players in strategic regions

VI. Way Forward

“With the strong demographic fundamentals of the country, DTI aims to utilize the country’s labor force capacity to meet the massive labor requirements in anticipation of the surge of infrastructure projects in the coming years.”

-Department of Trade and Industry, 2017

The responsibility resulting from the prioritization of infrastructure development in the country does not solely lie on the construction sector alone; but is stretched out to different sectors- one of which is education. With the aggressive plans of the administration to boost infrastructure building- and thereafter use this as leverage for national economic development- the education sector must undertake thoughtful interventions in equipping the people with necessary knowledge and skills in the delivery of construction services.

Specific skills requirements is yet to be determined through the collaborative efforts of different agencies. One of the major current initiative is the Construction Industry One Registry System- the first online registry system in the Philippine construction industry. Its goal is to highlight relevant competencies of the construction human resource.

Labor-intensive work like construction activities require practical skills in order to be fulfilled. Hence, the utmost importance of TVET in developing capable workers for the industry. As such, the following could be explored:

Program Strengthening

- Conduct industry consultation with experts regarding identified projects under *Build, Build, Build* to gather information on the required skills and number of workers needed
- Develop pool of trainers and assessors per region in cooperation with industry/associations present in the region
- Provide massive training and assessment in coordination with partner agencies and industry associations
- Ensure that TVET providers incorporate Occupational Safety and Health to their curriculum

Employment Facilitation

- Seek and locate prospective employers thru LGUs/PESOs/CTECS
- Create a national registry of trained and certified construction workers
- Create a national registry of trained and certified construction workers
- Organize trained and certified construction workers by creating associations

Support to TVET providers

- Provide incentives for TVET partners with construction-related registered programs thru more scholarships slots
- Encourage TVET providers to offer construction programs by lobbying for the legislation of law which offers deduction of certain training costs from their taxable income

Support to Construction Workers

- Train and assess for local employment by providing incentives for successful TESDA certified construction workers who stays in the country
- Lobby with DOLE to create Welfare Fund for the construction workers

Annex

Build, Build, Build Projects

a. DPWH

1. Runway Manila
2. NAIA – X
3. Luzon Spine Expressway Network
4. Tarlac-Pangasinan-La Union Expressway (TPLEX)
5. NLEX-SLEX Connector
6. Harbor Link Project
7. Cavite-Laguna Expressway (CALA-X)
8. Central Luzon Link Expressway (CLLEX)
9. 12 Pasig River, Marikina River and Manggahan Floodway Bridges
10. Bacolod Economic Highway
11. Leyte Tide Embankment
12. Metro Cebu Expressway
13. Panguil Bay Bridge (Tangub City, Misamis Occidental- Tubod, Lanao del Norte)
14. Mindanao Development Road Network
15. Davao City By-Pass

b. DOTr

1. Puerto Princesa Airport – PhP 4 B (ODA)
2. New Bohol (Panglao Airport) – PhP 5 B (ODA, PPP)
3. Mactan Cebu International Airport – PhP 14 B (PPP)
4. Bicol International Airport (Albay) – PhP 5 B (GAA)
5. Night Rating of Airports (Naga, Dumaguete, Dipolog, Cotabato, Tuguegarao, Cauayan, Ozamis) –
6. Communication Navigation Surveillance Air Traffic Management System
7. PNR North Railway (Manila-Clark) – PhP 255 B (ODA)
8. PNR South Railway (Manila-Bicol) – PhP 270 B (ODA)
9. Mindanao Railway (Phase 1 – Tagum – Davao – Digos) – PhP 36 B (GAA)
10. Mega Manila Subway Phase 1 (Quezon City – Taguig) – PhP 227 B (ODA)
11. MRT Line 7 – US\$ 1.5 B (PPP)
12. LRT 1 Cavite Extension (Baclaran – Cavite) _ PhP 65 B
13. LRT Line 2 East Extension (Santolan – Antipolo) – PhP 10 B
14. Common Station for LRT and MRT Lines – PhP 3 B
15. Southwest Integrated Transport System (PRA-Paranaque) – PhP 3 B (PPP)
16. South Intermodal Transport System (ITS) – FTI, Taguig City – PhP 2 B (PPP)
17. EDSA Central Corridor BRT (EDSA, Ayala Avenue, Ortigas – BGC, NAIA) – PhP 38 B (ODA)
18. Cavite Gateway Terminal (Tanza, Cavite) – PhP 1.5 B (PPP)
19. Port Modernization Project (Iloilo, CDO, General Santos, Basco, Bataraza, Calapan, Catagbacan, Dapitan, Larena, Legazpi, Makar, Matnog, Opol, Tacloban, Tagbilaran, Tubigon, Zamboanga, Iligan, Surigao) –

c. BCDA

1. Clark International Airport New Terminal Building
2. BGC-NAIA Bus Rapid Transport
3. Subic-Clark Cargo Railway Project
4. New Clark City

References:

Arangkada Philippines: Implementing the 10-Point Agenda (2017). The Arangkada Philippines Project: Makati City, Philippines

CIAP (n.d.) Retrieved from https://ciap.dti.gov.ph/sites/default/files/publications/2016%20CIPP_rev.pdf

Trading Economics.com (2017). Philippine GDP from Construction. Retrieved from <https://tradingeconomics.com/philippines/gdp-from-construction>

Mercurio, R. (2017). Construction seen to fuel Phl growth. Retrieved from <http://www.philstar.com/business/2017/04/24/1693190/construction-seen-fuel-phl-growth/>

Construction Intelligence Center (2017). *Construction in the Philippines will continue to grow rapidly*. Retrieved from <https://www.construction-ic.com/pressrelease/construction-in-the-philippines-will-continue-to-grow-rapidly-5803058>

Department of Labor and Employment (2017). Project JobsFit: DOLE 2020 Vision. Retrieved from <http://www.ble.dole.gov.ph/downloads/Publications/FinalReport.pdf>



Planning Office
Office of the Deputy Director General for Policies and Planning
Technical Education and Skills Development Authority
TESDA Complex, East Service Road, South Superhighway,
Taguig City, Metro Manila
Tel. No. (+632) 888 5652 / 817 2675 / 893 1966
www.tesda.gov.ph