

The 27th
AsiaConstruct Conference

Indonesia Country Report

COUNTRY REPORT

Navigating Indonesia's Construction Workers Shortages: Challenges and Opportunities

1. Executive Summary

Indonesia's construction industry continued to serve as a cornerstone of economic development, providing employment opportunities for millions across various skill levels. The construction sector is the fifth-largest contributor to Indonesia's GDP, reaching 9,92 percent in 2023 which is closely related to employment, investment, number of infrastructure and building projects as well as other economic sectors.

Despite its pivotal role, the sector faced persistent challenges, including construction workers shortages (331.916 workers in 2023 compared to 334.916 workers in 2022), construction business entity lacks (78.908 business entities in 2023 compared to 90.113 business entities in 2022) may as well the need for technological advancement. Efforts to address these challenges focused on vocational training and education programs tailored to the needs of the construction sector. Collaboration between vocational schools and campus, construction services associations, professional and business entity certification boards along with construction service stakeholders aimed to equip workers with practical skills and enhance job readiness.

Discrepancy between construction workers emerges due to Indonesian law that requires all workers to be certified. According to the Central Statistics Agency (BPS), the number of Indonesian construction workers is around 8.3 million. However, only 4 percent are certified because of the new regulation in 2020 that only the Authorized Professional Certification Board can give certification. In the past, certification was authorized by the Construction Services Development Agency (LPJK) which had branches in every province in Indonesia. Besides, not all jobs require a certification except projects at the national level. To close the gap between uncertified workers, The Government encourages the community to establish a Professional Certification Board and campaign the regulation that every worker must be certified.

Both domestic and international workers, continued to play a significant role in Indonesia's construction industry, contributing to the Workers and bringing specialized expertise to large-scale projects. Technology adoption emerged as a key priority, with companies investing in modern construction techniques such as Building Information Modelling (BIM) and prefabrication to improve efficiency and productivity. The increase in export value in the construction industry shows that Indonesia's competitiveness becomes greater internationally, and rather the decline in the value of import in the construction sector actually shows the escalation in the percentage value of domestic production components (TKDN) which can encourage the growth and independence of local construction supply chain.

Against challenges, the construction industry presented opportunities for growth and innovation driven by infrastructure projects. Through continued investment in vocational training, education, and technology adoption, Indonesia aimed to strengthen its construction Workers and drive sustainable growth in the years ahead.

2. Macro Economic

a. Review and Outlook of National Economy

In 2023, Indonesia's economy showcased resilience and growth despite lingering challenges. GDP (Gross Domestic Product) experienced a steady expansion, contributing to the nation's economic stability. Although specific GDP figures for 2023 aren't available yet, the upward trajectory seen in previous years likely continued, supported by robust domestic consumption, increased investment activities, and recovery in key sectors such as mining and manufacturing.

The population continued to grow steadily, contributing to a dynamic workforce. Despite minor fluctuations, the Workers maintained an upward trend, signalling a growing pool of human capital available for economic activities. However, challenges such as unemployment persisted, even at lower rates compared to previous years, indicating improved workers' market conditions.

Monetary policy remained accommodative, with interest rates adjusted to support economic recovery while managing inflationary pressures. Short-term interest rates likely remained stable or experienced slight adjustments, reflecting the central bank's efforts to balance growth objectives with price stability. Long-term interest rates might have followed a similar trajectory, providing stability for investment planning and financing.

b. Main Economic Indicators

Table. Main Economic Indicator

Year	2019	2020	2021	2022	2023
GDP and Components					
GDP (current US\$ billion)	1,119.10	1,058.69	1,186.09	1,319.10	1,371.17
GDP (constant 2015 US\$ billion)	1,049.33	1,027.66	1,065.59	1,122.29	1,178.93
GDP growth (%)	5.02	-2.07	3.70	5.31	5.05
Agriculture, Forestry and Fishery	12.71	13.70	13.28	12.40	12.53
Mining	7.26	6.44	8.98	12.22	10.52
Manufacturing	19.70	19.87	19.24	18.34	18.67
Construction	10.75	10.71	10.44	9.77	9.92
Demographic Indicators					
Population (million)	269.58	271.86	273.75	275.50	277.53
Population growth rate (%)	0.94	0.84	0.69	0.64	0.74
Total Workers (million)	136.14	136.03	138.12	138.09	140.93
Worker growth rate (%)	2.11	-0.09	1.54	-0.02	2.06
Unemployment rate (%)	3.6	4.3	3.8	3.5	3.3
Inflation rate (%)	3.03	1.93	1.56	4.21	3.68

Year	2019	2020	2021	2022	2023
Financial Indicators					
Short term interest rate (%)	6.69	5.50	3.67	3.21	N/A
Long term interest rate (%)	7.47	6.90	6.36	6.97	N/A
Exchange rate against US\$	14,148	14,582	14,308	15,731	15,416

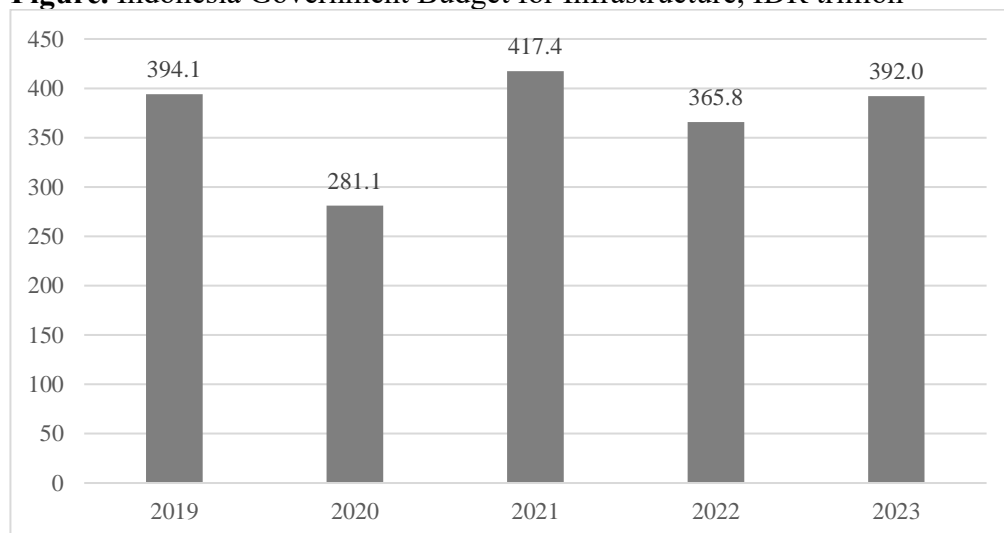
Source: Construction in Figures 2023, BPS-Statistics Indonesia

3. **Construction Industry**

a. **Construction Investment**

The construction sector plays a significant role in Indonesia's economy. Currently, the government of Indonesia focuses on increasing investment, both public and private, to boost Indonesia's economic expansion. The Government budget for infrastructure can be seen in the figure below

Figure. Indonesia Government Budget for Infrastructure, IDR trillion



Source: The Ministry of Finance

The investment in the infrastructure sector is mainly in order to improve connectivity throughout Indonesia. Infrastructure development in Indonesia is one of the reasons why the role of the construction sector in the Indonesian economy has been increasing in the past few years. This can be seen from the large contribution of the construction sector to the Gross Domestic Product (GDP), reaching 9,92 percent in 2023. The construction sector is the fifth-largest contributor to Indonesia's GDP.

Table. The Gross Domestic Product (GDP) of the Construction Sector

Description	2019	2020	2021	2022	2023
GDP at Current Prices (trillion IDR)	1,701.74	1,652.66	1,771.73	1,912.98	2,072.53
Percentage Distribution (%)	10.75	10.70	10.44	9.77	9.92

Source: Construction in Figures 2023, BPS-Statistics Indonesia

The construction sector is closely related to employment, investment, the number of infrastructure and building projects, and other economic sectors. It also becomes a facilitator in the growth of goods and services production and their movement. Equal distribution of development in all sectors such as food security, electrification, fulfilment of energy demand, improvement of education and health facilities, adequate road access for the transportation of goods and services, and the increase in tourism attractiveness are also supported by construction

b. Construction Companies

The Subsector of construction companies consists of construction consulting services, construction works, and integrated construction works (PP5/2021:80). Furthermore, construction companies are categorized based on their qualification which is based on the level of competency acquired by a construction company. It is also based on their ability to conduct construction works considering the risk, the level of technology used, and the level of cost incurred.

Table. The Construction Service Business Entity

Description	2019	2020	2021	2022	2023
Number of Construction Service Business Entity	142,364	144,097	151,367	90,113	78,908

Source: LPJK

Based on the table above we can see there is an increase in the number of construction service business entities until 2021 to 151,367. However, there is a significant decrease to 90,113 business entities in 2022 and 78.908 business entities in 2023.

Construction Service Business Entity by Criteria and Qualification

Table. Number of Construction Service Business Entity by Criteria and Qualification, 2023

Qualification	Consulting	Construction	Integrated Construction	Grand Total
Large	310	1,328	168	1,806
Small	6,750	60,116	-	66,866
Medium	596	6,471	-	7,067
Specialist	102	3,067	-	3,169
Grand Total	7,758	70,982	168	78,908

Source: LPJK, 2023

c. Employees and Construction Workers

Based on the following table, there is a significant decrease in the number of certificates of competency and construction workers in 2023. However, this derivation does not necessarily mean that the number is inadequate but rather detoxifying. This sudden withdrawal is due to the limitation policy that a construction worker is only allowed to have a maximum of 5 (five) certificates in two different qualifications.

Table. Number of Certificate and Construction Workers, 2019-2023

Year	2019	2020	2021	2022	2023
by Person					
Technician/ Analyst/ Operator	466,155	512,225	563,672	222,052	216,416
Expert	168,165	176,109	184,833	112,608	115,500
Total	634,320	688,334	748,505	334,660	331,916
by Certificate					
SKTK/SKK-K	675,024	717,550	776,068	274,407	249,543
SKA/SKK-K	263,598	273,682	290,326	159,664	154,290
Total	938,622	991,232	1,066,394	434,071	403,833

Source: LPJK

Certificate of Competency and Construction Workers by Grade

Table. Number of Certificate of Competency and Construction Workers by Grade, 2023

Grade	Level	Certificate of Competency	Construction Workers
Operator	1	47,172	45,313
	2	35,420	34,163
	3	38,306	31,845
Technician/ Analyst	4	54,940	43,442
	5	31,764	26,527
	6	41,941	35,127
Expert	7	75,534	60,282
	8	55,701	40,377
	9	23,055	14,841
Total		403,833	331,917

Source: LPJK, 2023

d. Productivity

As shown in the table below the value of construction completed has grown 8,44 percent with 1.523.778 billion rupiahs in 2023 from 1.405.167 billion rupiahs in 2022. The number represents the total value of works completed by a contractor based on the progress of a project in a certain period of time, based on the contract value between Bouwheer and Contractor. It includes building construction, civil engineering and specialized construction with values of IDR 509.561 billion, IDR 872.079 billion and IDR 142.138 billion respectively.

Table. Value of Construction Completed

Description	20223 (IDR Billion)	2023 (IDR Billion)	Growth (%)
Value of Construction Completed	1,405,167	1,523,778	8.44
Building Construction	469,972	509,561	8.42
Civil Engineering	802,891	872,079	8.62
Specialized Construction	132,304	142,138	7.43

Source: Construction in Figures 2023, BPS Statistic Indonesia

e. Construction Cost

Construction Cost Index (IKK) is a price index that describes the costliness of construction in each regency/municipality compared to a reference region. IKK is used as a proxy of the region's geographical adversity, where the more difficult the geographical location, the higher the price level in the area. IKK data is obtained through a quarterly Survey on the Construction Cost Price (SHKK) in all regencies/municipalities in Indonesia which includes the price of building/construction materials, heavy equipment rental, and construction wages. The Weight of Construction Cost Index uses data from the Bill of Quantity (BoQ), price per unit of analysis book Ministry of Public Works and Housing, and realization of the State Budget.

Table. Construction Cost Index (Based: 2019, index 100)

Type of Construction	2019	2020	2021	2022
Residential and Non-residential building	144.71	103.41	107.94	113.47
Public works for agriculture	143.22	101.99	104.38	110.07
Public works for roads, bridges and ports	141.08	102.79	107.17	114.84
Construction and installations of electrical, gas, water supply and communication	143.85	104.06	109.37	116.77

Type of Construction	2019	2020	2021	2022
Other constructions	138.45	101.76	106.40	112.07
Indonesia Construction	143.24	102.83	107.10	113.59

Source: BPS-Statistics Indonesia

f. Import and Export of Construction Services

Annual Export of Construction Services

Indonesia's construction services industry recorded a positive performance in developing the market abroad. The Construction Report in Figures 2023 by the BPS shows that the export value of construction services in 2020 was IDR 2,2 trillion. This value increased by 8,25 percent compared to 2019 which amounted to IDR 2,04 trillion.

Table. Construction Export Services 2016-2020

Construction Export Services	2016	2017	2018	2019	2020
Value of construction export trade services (IDR million)	736,042	804,570	1,005,536	2,039,410	2,207,668
Building Construction (IDR million)	3,396	116,671	574,868	1,695,624	1,666,039
Civil Engineering (IDR million)	732,646	687,899	330,148	220,119	254.710
Specialized Construction (IDR million)	N/A	N/A	100,520	123,667	289,919

Source: Construction in Figures 2023, BPS Statistic Indonesia

Exports of construction services have continued to increase in the last five years. In 2016, the export value of construction services was recorded at IDR 736.04 billion. The value increased by 9,3 percent to IDR 804,6 billion in 2017. In 2018, construction service exports increased 24,97 percent to IDR 1 trillion. Then, in 2019 recorded the highest increase of 102,8 percent to IDR 2,04 trillion.

According to the type, the export of construction services is dominated by building construction with a value of IDR 1,66 trillion in 2020. The export value of civil construction was recorded at IDR 254,7 billion, while special construction amounted to IDR 286,9 billion.

Annual Import of Construction Services

The BPS noted that the import value of Indonesian construction services in 2020 was IDR 130,6 trillion. Unlike the rising exports, imports of construction services in 2020 actually decreased 10 percent from IDR 145,2 trillion in 2019.

Table. Construction Import Services 2016-2020

Construction Import Services		2016	2017	2018	2019	2020
Number of Representative Office (Establishment)		149	172	162	155	207
a	Construction Service	23	140	131	122	164
b	Integrated Construction Services	126	32	31	33	43
Number of Workers (person)		13,540	16,321	18,484	17,962	13,024
a	Indonesian Citizens	1,211	1,180	1,846	2,159	1,942
b	Foreign Nationals	1,335	1,297	2,236	2,069	1,705
c	Daily Workers	10,994	13,844	14,402	13,734	9,377
Value of Construction Import Trade Services ((IDR million)		72,652,718	65,863,297	118,709,735	145,199,926	130,632,001
a	Building Construction	4,185,260	6,092,454	5,751,450	5,891,507	5,217,256
b	Civil Engineering	63,041,506	50,021,664	102,667,329	132,851,733	121,645,099
c	Specialized Construction	5,425,952	9,749,177	10,290,956	6,456,686	3,769,646

Source: Construction in Figures 2023, BPS Statistik Indonesia

Indonesia's import of construction services in 2020 was the largest in civil building construction with a value of IDR 121,64 trillion. Then, the construction of the building with an import value of IDR 5,2 trillion, as well as a special construction of IDR 3,76 trillion.

According to the trend, imports of Indonesian construction services tend to fluctuate from 2016 to 2020. The largest import value of construction services occurred in 2019 worth IDR 145,2 trillion, while the lowest occurred in 2017 worth IDR 65,86 trillion

Countries for Construction Import/Export

According to partner countries, the export of construction services from Indonesia is the largest to Senegal. Indonesia's construction services exports to the West African country reached IDR 875 billion in 2020.

Table. Export Trade Value of Construction Services by Partner Country (Million Rupiahs), 2016-2020

Partner Country	2016	2017	2018	2019	2020
Algeria	N/A	92,769	484,347	624,903	582,155
Salomon Islands	N/A	-	-	-	22,500
Myanmar	N/A	-	5,202	34,979	30,817
Taiwan	N/A	-	129	72,813	123,463
Japan	N/A	-	100,520	-	9,370
Malaysia	N/A	-	48,790	73,185	73,185
Nigeria	N/A	-	53,205	159,616	159,616
Phillipines	N/A	-	10,589	15,883	15,883
Timor Leste	N/A	579,049	156,588	33,445	12,211
Senegal	N/A	-	-	875,000	875,000
Thailand	N/A	-	-	-	107,340
United Arab Emirates	N/A	13,716	27,129	149,586	196,128
United Kingdom	N/A	119,037	119,037	-	-

Source: Construction in Figures 2023, BPS Statistic Indonesia

Indonesia's largest export of construction services to Algeria with an export value of construction services of IDR 582 billion. Then, the export value of construction services to the United Arab Emirates and Nigeria is IDR 196 billion and IDR 159.6 billion, respectively.

Table. Import Trade Value of Construction Services by Partner Country (Million Rupiahs), 2016 -2020

Partner Country	2016	2017	2018	2019	2020
China	9,139,207	13,455,744	55,185,388	73,547,660	71,698,282
Taiwan	-	-	-	60,805	38,593
France	-	187,500	562,500	562,500	187,500
Germany	-	72,891	87,932	10,413	-
Hungary	140,120	257,948	297,224	168,781	-
India	11,056	9,882	3,710	-	-
Italy	925,806	1,246,628	1,095,412	1,166,560	244,034
Japan	12,612,345	32,344,478	41,870,821	42,390,350	34,111,891
South Korea	6,956,351	10,110,524	9,247,040	19,931,812	20,394,354
Malaysia	18,284	10,597	139,843	605,306	1,032,904
Norway	-	93,483	224,360	-	-
United States	2,089,387	3,299,683	3,368,888	3,040,297	1,291,975
Poland	-	17,741	212,889	212,889	212,889
Portugal	-	-	-	5,250	9,000
Singapore	2,163,672	4,455,199	5,452,651	2,324,078	823,965
Spain	-	300,997	961,077	1,173,227	586,614
United Kingdom	38,596,491	-	-	-	-

Source: Source: Construction in Figures 2023, BPS Statistic Indonesia

China became the country of origin for importing Indonesia's largest construction services in 2020, with a value of IDR 71,69 trillion. After that, there is Japan with an import value of IDR 34,1 trillion. Importation of construction services from South Korea was recorded at IDR 20,39 trillion. The United States and Malaysia followed with import values of IDR 1,29 trillion and IDR 1,03 trillion, respectively.