

Policy Paper

Strategic Programs to Accelerate Competency Development of Construction Workers

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ABSTRACT

The quality of infrastructure highly depends on the availability of qualified, reliable, and competent and certified construction workers as stipulated in Law No. 2 of 2017. Based on the *Survei Angkatan Kerja Nasional* or *SAKERNAS* (National Labor Force Survey) conducted by *Badan Pusat Statistik* or *BPS* (Statistics Indonesia) in 2021, there are 8,293,769 million construction workers, of which less than 10% have competency certificates. This study aimed to explore the strategies for accelerating the certification of construction workers. A descriptive method with a qualitative approach was used by reviewing and observing existing data from the Ministry of Public Works and Housing, Statistics Indonesia and Construction Services Development Agency. It was found that certification can be accelerated by establishing Certification Agency for Profession (LSP), re-branding and modernizing SIBIMA Construction services, maintaining the quality of experts through continuous professional programs (PKB) and implementing Link & Match to synchronize competency with the needs of the construction industry. It can be concluded that there has been a rise in the number of certified workers but the figures are far from the ideal target. Several factors contributed to this condition, such as lack of finance, synchronization and data harmonization, lack of synergy among the stakeholders in construction services, and lack of technology adoption and information on government policies about training and certification of construction workers.

Keywords: infrastructure, construction workers, competence, certification

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1. Introduction

Infrastructure development is one of the government's priorities to support economic growth locally, regionally, and nationally. This national infrastructure development policy is outlined in various policies such as the National Long-Term Development Plan (RPJPN), the National Medium-Term Development Plan (RPJMN), Government Work Plans (RKP) and the Strategic Plans of Ministries. The acceleration of Indonesian economic development, especially during the pandemic, can be achieved by advancing infrastructure development, which has a strategic role in maintaining the sustainability of Indonesian economic growth to reach an average of 6% - 6.4% until 2045. This is ultimately to conceive the fact that Indonesia will be a developed country by 2045.

In line with the government's program, the Ministry of Public Works and Housing is preparing a development program plan for 2020-2024. The primary budget of the Public Works and Housing Ministry is mainly focused on road access and bridge constructions, water resources, housing provisions, residential area development, construction resource development, and management services.

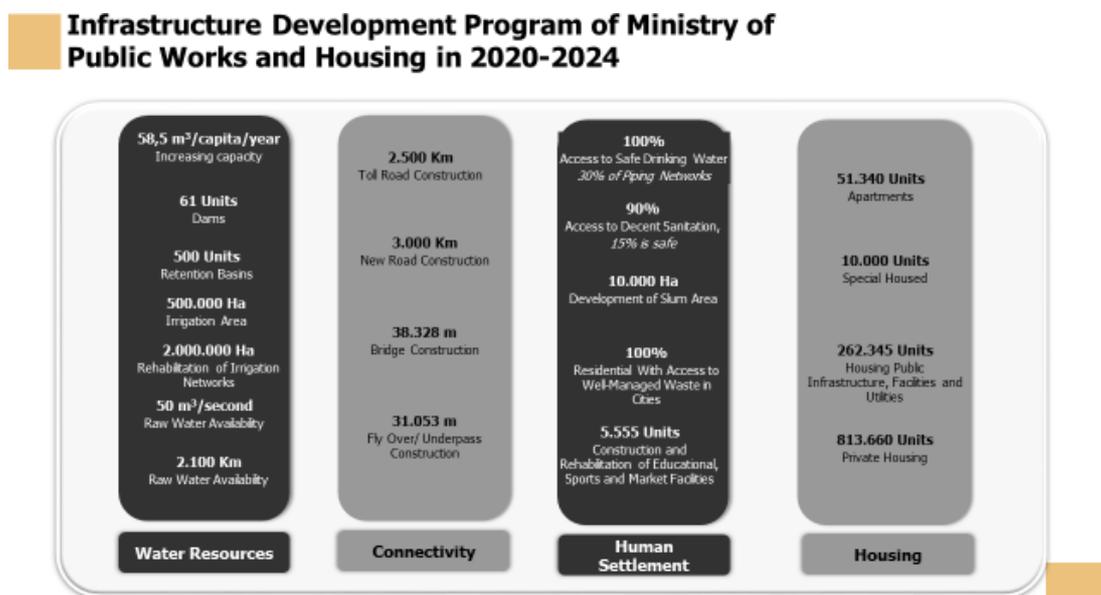


Figure 1. Strategic Plans of the Ministry of Public Works and Housing 2020-2024 (Ministry of Public Works and Housing, 2021)

The construction service sector demands a great number of workers; hence, this is as referred to the results of the National Labor Force Survey (SAKERNAS) by BPS Indonesia in the book of construction in 2021 as shown in Figure 1 above, a total of 8,293,769 million people work in the construction services sector. Consequently, infrastructure development is closely related to human resource development. To build high-quality and durable infrastructure, it is necessary to have competent and qualified human resources in an ideal number. Contrarily, certified construction workers are still less than 10% of the total construction workers.

Based on the Center for Strategic Studies of the Ministry of Public Works and Housing, each infrastructure development worth Rp. 1 trillion can absorb 14,000 certified construction workers. In regards to the national infrastructure budget allocation for 2022, which reaches Rp. 384.8 trillion, the ideal need for certified national construction workers is 5,387,200 people or more than 60% of the total construction workers at all qualification levels. Therefore, there is a large gap between the number of uncertified and certified construction workers.

The Ministry of Public Works and Housing has devised efforts as outlined in policies to accelerate the attainment of certified construction workers. However, these efforts have not been able to increase the number of certified construction workers significantly due to one main problem pertaining to financial supports.

Considering many shortages in an attempt to achieve the ideal number of certified construction workers, the government cannot work alone in implementing the programs. Supports from all stakeholders in the construction service sector are crucial. These efforts can be carried out through policy supports such as providing education, training, competency standards, and the recognition of competence (or certificates).

2. Methodology

2.1 Type and Approach

In relation to the background elaborated in the earlier section, this research employed a descriptive qualitative approach covering spatial analysis of policy and planning documents. Qualitative research is a research procedure that produces descriptive data, either written or spoken words from people and observable behaviour (Bogdan and Taylor, as cited in [Moleong, 2006, p. 4](#)). Thus, it is an approach based on facts obtained in the field.

The descriptive method examines the status of a group of people, a subject, a set of conditions, a system of thought, or a class of events in the present. This research used a descriptive method because it is profoundly adjacent to ongoing events and current conditions presented in this article. [Arikunto \(1992\)](#) also explained that if the researcher wants to know the status of something, then the research is descriptive in nature, namely explaining events and other matters.

Moreover, this research used a qualitative approach due to the specifications of the research subject and to obtain in-depth information and cover social realities; accordingly, this research focused on collecting descriptive data as much as possible to be recorded in the form of a report or description.

As this research used a qualitative descriptive approach, the data obtained in the form of words, pictures, or behaviour were analyzed and presented in the form of descriptions in accordance with the authentic situation and conditions.

The descriptive method aims to obtain information about the existing conditions and needs for construction workers and implement policies in the government programs to increase the construction workers' competence. This research focused on the investigation of facts found in observations and on the studying of secondary data. Researchers observed the phenomena that occurred in the field and then illustrated them. [Sudjana and Ibrahim \(2009\)](#) explained that descriptive research seeks to describe something, an event at present. In other words, descriptive research focuses on actual problems at the time of the study.

2.2 Data Sources

This research used secondary data or indirect sources. Data collection was carried out in various settings, sources, and ways. The data can be collected in a natural setting based on the setting. Data collection techniques are the most important stage in research as the main purpose is to obtain data. This research used a purposive sampling technique based on certain criteria. In other words, data were selected based on the relation, relevancy, and validity to construction worker development and improvement of certified construction workers.

2.3 Analysis

The data were collected in an attempt to investigate the current event systematically. [Sudjana and Ibrahim \(2009\)](#) define observation as systematic experiences and recording of the particular studied phenomena. Meanwhile, Hadi, as cited in ([Moersalah and Moersanef \(1987\)](#)), defines the observation method as systematically recording the investigated phenomena. [Morris \(1973, p. 906\)](#) defines observation as an activity of recording a symptom with the help of instruments for certain purposes. According to [Cholid & Achmad \(2009\)](#), the observation method is a data collection tool that is carried out by systematically observing and recording the investigated symptoms. This study

Conducted A Literature Review Of Secondary Data Obtained From The Ministry Of Public Works And Housing, The Indonesian Statistics Central Bureau, And The Construction Development Agency (LPJK).

Generally, Data Analysis On Population Economic Activities Focuses On Workforce Allocation. It Is Important To Consider The Quality Of Human Resources (HR), Such As The Workers' Education Level. The Composition Of The Working Population By Education Level Can Provide An Overview Of The Human Resource Quality And An Indicator Of The Human Capital Availability In A Region Or Country. It Is Assumed That The Higher the workers' education level is, the better the work quality becomes.

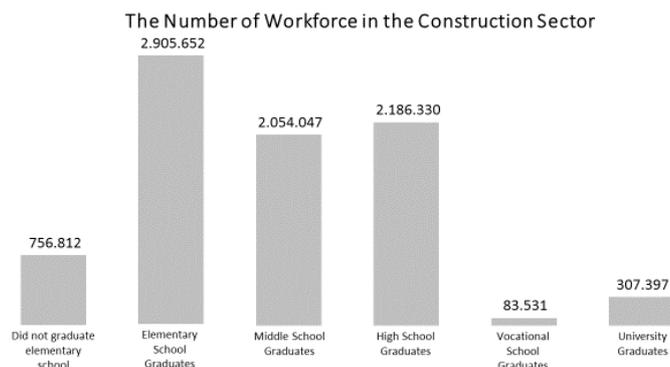


Figure 2. Graph of the Number of Workers in the Construction Sector by Education Level (Badan Pusat Statistik [BPS], 2021)

Table 1. Number of Workers in the Construction Sector by Education Level

TABEL : 37
 Penduduk Usia 15 Tahun ke Atas yang Bekerja Seminggu yang Lalu pada Sektor Konstruksi Menurut Provinsi dan Pendidikan, Agustus 2021
 Lanjutan Tabel / Continued Table 37
 Population 15 Years of Age and Over Who Worked During Previous Week on Construction Sector by Province and Educational Attainment, August 2021

Provinsi / Province	Tidak sekolah/ Tidak tamat SD / No Schooling/Not Yet Completed Primary School	SD atau sederajat / Primary School	SMP atau sederajat / Junior High School	Provinsi / Province	SMU atau sederajat / Senior High School	Diploma I/II/III	Universitas / University	Jumlah / Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Aceh	5 279	25 255	37 956	1. Aceh	63 908	841	7 492	140 731
2. Sumatera Utara	23 788	82 761	120 845	2. Sumatera Utara	150 060	2 367	10 907	390 728
3. Sumatera Barat	17 768	29 752	33 328	3. Sumatera Barat	43 219	1 753	6 410	132 230
4. Riau	13 011	41 230	35 800	4. Riau	56 254	1 514	6 402	155 111
5. Jambi	7 130	26 206	19 077	5. Jambi	28 421	132	3 495	84 461
6. Sumatera Selatan	25 784	63 373	55 446	6. Sumatera Selatan	66 891	1 715	9 407	222 616
7. Bengkulu	6 877	13 489	11 939	7. Bengkulu	15 053	442	1 151	48 951
8. Lampung	23 057	80 264	72 418	8. Lampung	71 412	1 480	2 379	251 010
9. Kep. Bangka Belitung	5 735	9 475	7 125	9. Kep. Bangka Belitung	8 807	61	587	31 790
10. Kepulauan Riau	5 047	13 822	15 508	10. Kepulauan Riau	34 077	697	3 042	72 193
11. D.K.I. Jakarta	6 273	29 321	41 460	11. D.K.I. Jakarta	77 015	4 758	38 402	197 229
12. Jawa Barat	103 160	735 814	336 920	12. Jawa Barat	325 556	26 326	62 243	1 590 019
13. Jawa Tengah	145 163	599 480	403 965	13. Jawa Tengah	296 170	8 827	24 326	1 477 931
14. D.I. Yogyakarta	15 531	34 449	35 588	14. D.I. Yogyakarta	50 313	1 167	8 399	145 447
15. Jawa Timur	113 108	500 845	386 139	15. Jawa Timur	315 551	6 855	27 433	1 349 931
16. Banten	29 133	134 502	72 731	16. Banten	85 982	9 373	26 307	358 028
17. Bali	18 958	45 814	34 192	17. Bali	48 264	1 460	6 773	155 461
18. Nusa Tenggara Barat	23 332	42 978	42 119	18. Nusa Tenggara Barat	60 739	332	5 386	174 886
19. Nusa Tenggara Timur	19 678	52 983	23 365	19. Nusa Tenggara Timur	33 273	1 781	4 591	135 671
20. Kalimantan Barat	25 087	49 937	36 300	20. Kalimantan Barat	34 849	1 027	3 186	150 386
21. Kalimantan Tengah	6 552	21 755	15 658	21. Kalimantan Tengah	17 324	314	2 815	64 418
22. Kalimantan Selatan	11 389	40 461	23 919	22. Kalimantan Selatan	24 599	1 743	2 875	104 986
23. Kalimantan Timur	10 539	18 421	23 944	23. Kalimantan Timur	36 306	2 403	8 080	99 693
24. Kalimantan Utara	2 405	5 365	3 803	24. Kalimantan Utara	4 640	163	790	17 166
25. Sulawesi Utara	8 190	22 642	25 640	25. Sulawesi Utara	28 455	491	2 950	88 368
26. Sulawesi Tengah	6 493	26 644	25 377	26. Sulawesi Tengah	27 554	363	3 213	89 644
27. Sulawesi Selatan	41 589	89 854	50 857	27. Sulawesi Selatan	70 883	2 657	12 566	268 406
28. Sulawesi Tenggara	10 914	22 125	18 706	28. Sulawesi Tenggara	30 890	397	3 535	86 567
29. Gorontalo	7 828	9 660	4 502	29. Gorontalo	6 859	314	583	29 746
30. Sulawesi Barat	7 998	13 464	5 786	30. Sulawesi Barat	9 264	153	703	37 368
31. Maluku	1 110	5 715	9 372	31. Maluku	17 371	770	1 409	35 747
32. Maluku Utara	2 159	7 914	8 509	32. Maluku Utara	11 046	429	1 661	31 718
33. Papua Barat	2 418	4 545	6 855	33. Papua Barat	10 513	166	3 439	27 936
34. Papua	3 429	5 337	8 898	34. Papua	24 812	260	4 460	47 196
INDONESIA	756 812	2 905 652	2 054 047	INDONESIA	2 186 330	83 531	307 397	8 293 769

Sumber/Source: Diolah dari Survei Tenaga Kerja Nasional (Sakernas) Agustus 2021, BPS
 Processed from Labor Force Survey August 2021, BPS-Statistics Indonesia

Sumber/Source: Diolah dari Survei Tenaga Kerja Nasional (Sakernas) Agustus 2021, BPS
 Processed from Labor Force Survey August 2021, BPS-Statistics Indonesia

Source: BPS, 2021

Based on the results of the National Labor Force Survey (BPS, 2021), the number of workers in the construction sector reaches 8,293,769 people. Then, their education levels varied from

elementary school (2,905,652 workers or 35%), junior high school (2,054,047 workers or 24.8%), senior high school/vocational school (2,186.330 workers or 26.4%), Diploma (83,531 workers or 1%), Bachelor degree (307,397 workers or 3.7%), and not completing elementary school (756,812 workers or 9.1%). Based on these data, the proportion of workers in the construction sector with primary and secondary education levels is higher than those with diplomas and bachelor's degrees.

According to the Center for Strategic Studies of the Ministry of Public Works and Housing, each 1 trillion infrastructure work needs 14,000 construction workers. Thus, with a national infrastructure budget allocation of 384.8 trillion, 5,387,200 certified construction workers are required. Meanwhile, based on the Directorate General of Construction Development data, the number of certified construction workers is only 749,241—consisting of 185,309 experts and 563,932 skilled workers. Referring to the Center for Strategic Studies of the Ministry of Public Works and Housing, there is a shortage of 4,637,959 certified construction workers to achieve ideal conditions.

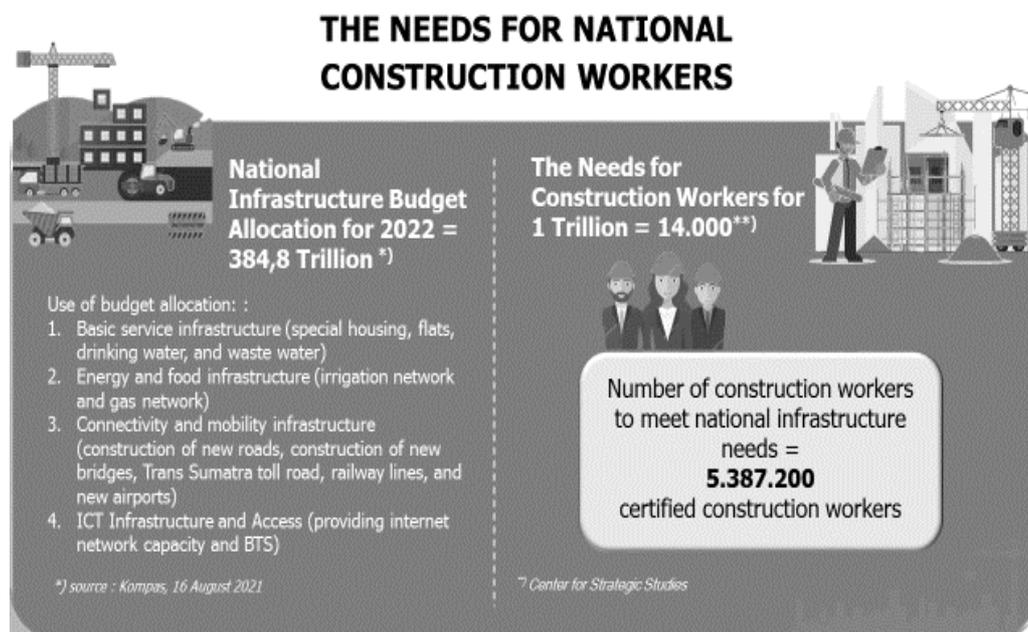


Figure 3. The Needs for National Construction Workers (Center for Strategic Studies of the Ministry of Public Works and Housing)

3. Results and Discussions

To provide advancement to construction workers, the Ministry of Public Works and Housing—as the supervisor of construction services—has formulated some policies to increase the construction workers' competence. The guidance program for the construction workers for 2020 -2024 emphasizes at developing and improving the system for professional construction workers. To develop the competence of the construction workers, the study discusses some government policies which are justified as having significant impacts on accelerating the certification of construction workers.

3.1 Acceleration of Certification of Construction Workers through Certification Agency for Profession

The definition of competence certification is a job certification required to obtain or improve certain competencies. This certification is a job certification issued by *Lembaga Sertifikasi Profesi* or *LSP* (Certification Agency for Profession) accredited by *Badan Nasional Sertifikasi Profesi* or *BNSP* (National Profession Standardization Agency). Therefore, the existence of LSP is a decisive factor in the success of accelerating the certification of Indonesian construction workers.

The definition and scope of LSP are explained in Article 30 and Article 30A to 30L and Article 176A of [Government Regulation Number 14 \(2021\)](#) concerning the Amendments to Government

Regulation Number 22 of 2020, in regards to the Implementing Regulations of Law Number 2 of 2017, in the matter of Construction Services. Based on Article 30, LSP can be formed by two elements, the Accredited Professional Association and the LPPK—which are under the provisions of the legislation.

According to Bakeri (2021) in the Construction Bulletin, Construction Sector LSP can only be formed by accredited professional associations and currently, approximately 26 professional associations have obtained accreditation. In addition to professional associations, those who can form LSP are LPPK that the minister has registered. Only these two organizations can form an LSP. LSP formed by Professional Associations is categorized as third-party LSP (LSP P3), while LSP formed by Educational and Job Training Institutions (BLK, LPK, SMK, POLTEK and Universities) are categorized as First Party LSP or LSP P1.

In the guidelines for establishing a Certification Agency for Profession (LSP) issued by BNSP Number 2 of 2014, the industry can form a Certification Agency for Profession which is categorized as a second party LSP and a first-party industrial LSP. The main objective of the LSP established is to carry out work competency certification for the human resources of the parent institution. Meanwhile, the main objective of the first industrial LSP established by the industry or agency is to carry out work competency certification for the human resources of the parent institution according to the scope provided by the BNSP.

According to National Profession Standardization Agency (BNSP, 2014), LSP has the function of carrying out Competency Certification and Duties as below:

1. Arranging and developing a certification scheme
2. Creating assessment tools and competency tests
3. Providing assessors
4. Carrying out the certification program
5. Carrying out certification maintenance surveillance
6. Establishing requirements, verifying, and assigning TUK
7. Maintaining the performance of assessors and TUK

THE SCOPE OF LSP

ELEMENTS OF LSP		THE SCOPE OF LSP FORMED BY LPPK		
		CERTIFICATION PARTICIPANTS	QUALIFICATIONS	CLASSIFICATIONS
Accredited Profession Association	LSP P3		Ahli, Analis/Teknisi, dan Operator	Providing Competency Certification with the classification and sub-classification of the Professional Associations
Educational Institutions				
Universities Polytechnics Vocational Schools	LSP P1	graduates of the educational institution	Expert Analyst/Technician Operator	All classifications and sub-classifications of the construction sector according to the department/study program of the Educational Institution
Training Institutions				
Private LPK	LSP P2		Expert, Analyst/Technician, and Operator	1 classification and at most 5 subclassifications
Government LPK	LSP P2	ASN in LPK units and their parent agencies and their networks.	Analyst/Technician, and Operator	All classifications and subclassifications of the construction sector
Company LPK	LSP P2		Expert	
			Expert, Analyst/Technician, and Operator	All classifications and subclassifications of the construction sector corresponding to the parent company's field services GOVERNMENT REGULATION NO. 14 YEAR 2021 concerning Amendments to Government Regulation Number 22 of 2020 concerning Implementing Regulations of Law Number 2 of 2017 concerning Construction Services

Figure 4. The Scope of LSP (Construction Development Agency, 2022)

Certification Agency for Profession (LSP) has to obtain a license granted through an accreditation process by BNSP stating that the relevant LSP has met the requirements to carry out professional certification activities. The availability of a licensed LSP in the construction sector is limited. The establishment of LSP in the construction sector is encouraged to support the continuity of work competency certification services for all job positions. The availability of a licensed LSP will greatly affect the progress of increasing the certification of construction workers, both in quality and time.

Table 3. The List of Licensed Certification Agency for Profession

Professional Certification Institute	Founder	Classification	Number of Schemes
LSP ASTEKINDO Konstruksi Mandiri	ASTEKINDO	Civil Engineering	104
LSP GATAKI Konstruksi Mandiri	GATAKI	Construction Management	19
LSP PETAKINDO Konstruksi Mandiri	PETAKINDO	Mechanical Engineering	45
PT. ATAKI Konstruksi Indonesia	ATAKI	Civil Engineering	10
LSP HATSINDO Indonesia Teknik	HATSINDO	Civil Engineering	7
Afiliasi Tenaga Infrastruktur	ASTTI	Civil Engineering	20

Source: Directorate General of Construction Development, 2020b

3.2 SIBIMA Konstruksi

The Independent Intensive Learning Information System (SIBIMA) for construction is a knowledge management service and competency-based distance training in the construction sector provided for construction workers (contractors, consultants, suppliers and other construction service providers). SIBIMA Konstruksi is a breakthrough in training and certification that utilizes digital media where training and certification are carried out remotely. The primary idea of this system is to provide as much access to learning as possible for construction workers across the Indonesian archipelagos.

Looking at the history of SIBIMA, the concept of e-learning was introduced to the construction sector in 2014. At that time, there was still very little interest. This is natural because people were not used to learning independently. The system started with a mailing list and Facebook group that facilitates coordination for participants to consult about learning materials. During the training, participants were provided with assistance by the instructors by using Facebook groups and mailing lists. At this stage, the exam was still conducted face-to-face, and the training certificate was created conventionally.

In 2015, the Ministry of Public Works and Housing conducted a full trial of distance learning training services for construction workers on the pjjak.net website. On 5 November 2016, this system was refined and named SIBIMA KONSTRUKSI (Independent Intensive Learning Information System for Construction).

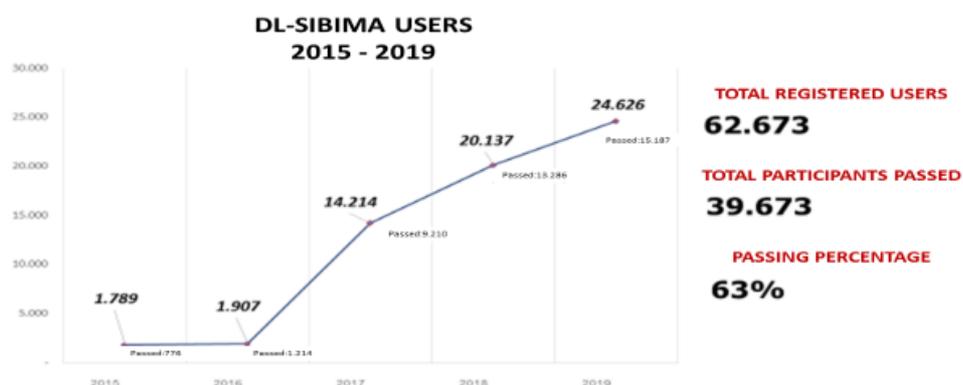
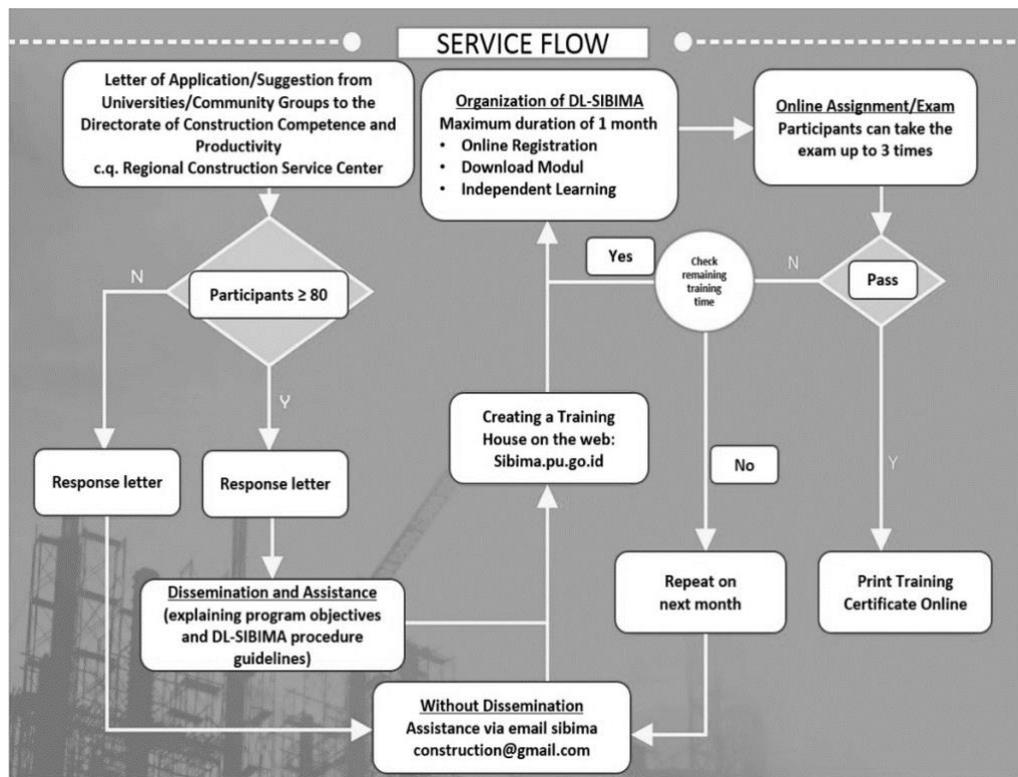


Figure 5. The Implementation and Impact of the Sibima SIGAP Innovation (Directorate General of Construction Development, 2020b)

On 7 July 2017, the pjjak.net website was officially changed to sibima.pu.go.id, the SIBIMA service had become more reliable in terms of security and speed of service. DL-SIBIMA is an independent learning system that is inclusive, easily accessible, cheap, fast, high-quality. It has a maximum capacity and

reaches all corners of the country. In 2015-2018, DL-SIBIMA reduced training costs from Rp. 4.8-11.6 million/person to Rp150-500 thousand/person (saving up to 70%).



Figurer 6. The Service Flow of SIBIMA Konstruksi (SIBIMA Kontruksi, 2021)

The implementation of DL-SIBIMA involves many parties, namely LPJK, universities, construction associations, and provincial governments. Participants who are involved in the DL-SIBIMA training will get a Training Certificate with a learning duration equivalent to 50 hours. The main benefits of the DL-SIBIMA Training Certificate include:

1. For SKA holders (competency certificate) in the construction sector

The DL-SIBIMA certificate has a value of 25 SKPK (Professional Development Credit Unit) points useful for CPD (Continuing Professional Development) for professionals (Lembaga Pengembangan Jasa Konstruksi [LPJK], 2014) in conjunction with LPJK (2017).

2. For S1/D4, fresh graduates
The DL-SIBIMA certificate for S1/D4 fresh graduates can be used to get the Young Professional competency certification without having to do the 1-year internship. (Circular Letter of the Head of LPJKN No.: 04/SE/LPJK-N/II/2015).
3. For prospective engineering graduates (S1/D4/D3)
The DL-SIBIMA certificate for prospective S1/D4/D3 fresh graduates can be used as an SKPI (Diploma Supplement).
4. For construction workers
The KM-SIBIMA is an online library in the construction sector intended for the entire construction service community.

As one of the innovations in fostering digital-based construction workers, SIBIMA has to be welcomed by all parties in the construction sector. However, the branding and information dissemination about SIBIMA to the construction service community is limited.

3.3 Maintaining Competency with Continuous Professional Development (Cpd) Program

To maintain and improve experts' competence, professionalism, and productivity on an ongoing basis and to fulfil the credit score as a requirement for the extension of the Work Competency Certificate (SKK), construction experts have to carry out or participate in Continuous Professional Development (CPD) activities.

With this competency standard, it is expected that our workforce will have international competence and qualifications to compete openly with foreign workers both domestically and abroad. This is in relation to the implementation of the Circular Letter of the Public Works and Housing Ministry No. 10 of 2019 concerning the Continuous Professional Development Program for Indonesian Construction Workers mandated by the [Government Regulation Number 14 \(2021\)](#) concerning Amendments to Government Regulation No. 22 of 2020 in regards of Implementing Regulations of Law No. 2 of 2017 in the matter of Construction Services.

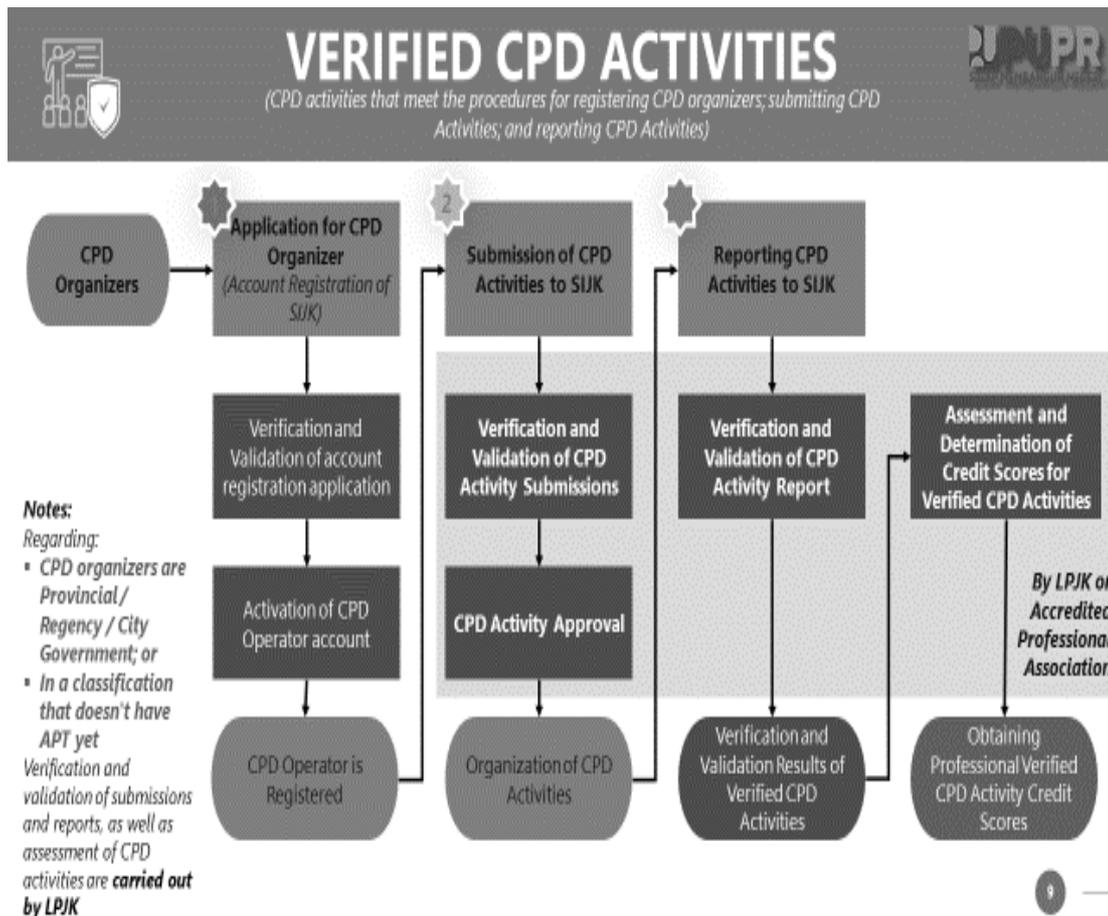


Figure 7. The Activities of Continuing Development Program (Construction Development Agency (LPJK))

Based on the Regulation of the [Ministry of Public Works and Housing \(2020\)](#) Number 13 concerning Organization and Work Procedures of the Ministry of Public Works and Housing, the Directorate of Construction Competence and Productivity carries out functions. One of the functions is the preparation of norms, standards, procedures, and/or competency criteria for construction workers, instructors, assessors, implementation of competency improvement of construction workers, and Continuous Professional Development. The number of expert accounts/Certificate of Expertise (SKA) holders registered at siki.pu.go.id as of 27 December 2021 was 35,049, which is very low compared to the total certified experts.

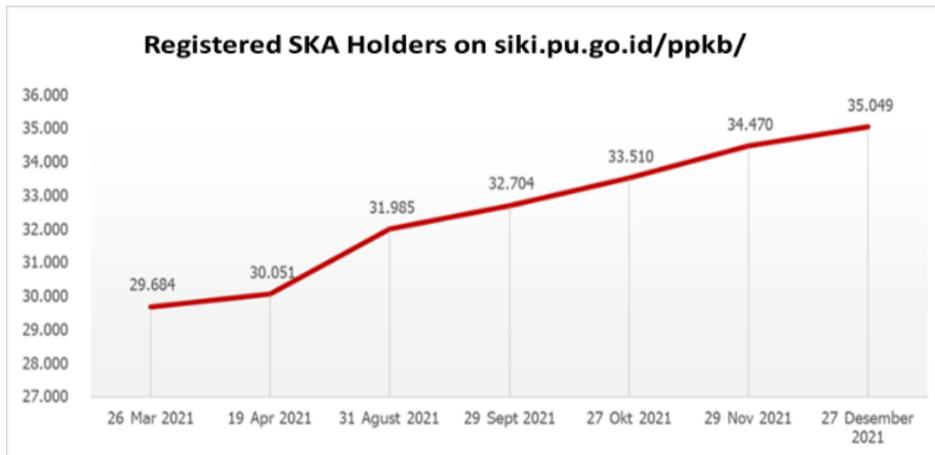


Figure 7. Number of Registered Construction Experts (LPJK, 2021)

CPD activities are organized based on government elements, professional associations/business, entities/construction service supply chains, educational and training institutions, consultants and contractors, assemblers/distributors/applicators of materials and equipment construction, and other institutions or organizations. The number of CPD organizer accounts registered at siki.pu.go.id as of 27 December 2021 was 502 organizer accounts. Then, the number of CPD activities submitted through the CPD application and approved throughout 2021 reached 455.

3.4 Link and Match

One of the strategic issues related to the construction workers is that not all graduates of educational institutions successfully get jobs in the industrial world directly after graduation. This is due to the mismatch of educational institutions in meeting the construction workers' needs following the competencies required in the construction service business and human resources. Around 20% of unemployment in Indonesia is educated, covering Vocational School (8.3%), Diploma (6.9%), and Bachelor (6.2%). One of the causes is the incongruity of competencies the prospective graduates have concerning the needs of the industrial world. A less adaptive curriculum has been assumed not to be able to address the needs of business and industry.

In relation to the link and match program, the Ministry of Research, Technology and Higher Education issued a decree regarding industrial internships and recognition of industrial internship credits on 5 April 2019 (Sihombing 2019). This decree legalizes student apprenticeships in the industry which are valued in the form of credits integrated into the curriculum.

In 2021, through the Directorate of Construction Competence and Productivity, the Ministry of Public Works and Housing had identified the implementation of link and match development at the Regional Construction Service Center. Based on the identification, most of the types of activities of the Construction Service Center are vocational activities, 60.66% of the total activities.

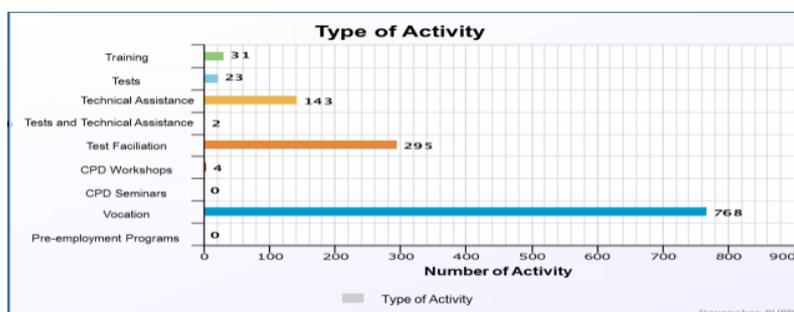


Figure 8. Number of Construction Services Guidance Activities based on the Type of Activity by All Regional Construction Service Centers (Directorate General of Construction Development, 2020a)

Vocational activities carried out by the Construction Services Center are included in the link and match activities because the objects are students and graduates of educational institutions. The Construction Services Center carries out vocational activities following the provisions of the Circular Letter of Director General of Construction Development Number 129/SE/Dk/2020 and Circular Letter of Director General of Construction Development Number 107/SE/Dk/2020.

To create competent construction workers in accordance with the needs of the construction industry, the government, through Regulation of General Procurement of the [National Public Procurement Agency \(LKPP, 2021\)](#) and Regulation of the [Ministry of Public Works and Housing \(2020\)](#), has required construction service providers to win the auction with a value of a budget reaching above IDR 50 billion to transfer experience/expertise in the construction sector through a practical work/apprenticeship system.

In practice, the link and match program receives less attention and lacks commitment from the government, educational institutions, and construction service businesses. The communication between these stakeholders and this program is poor. Thus, it affects the availability of data on the needs of the construction workers.

Conclusions

Based on the results of the analysis of policies to increase the number of certified construction workers, it can be concluded that there is an increase in the number of certified construction workers related to the achievement, target, and program indicators. However, these results are still far from the ideal target number due to various factors such as financial aspects, data synchronization and harmonization, lack of synergy between stakeholders in construction services, less optimal use of technology and information on various government policies in implementing guidance, training and certification programs for construction workers.

Recommendation

Based on the results of the analysis and discussion, the researcher provides the following recommendations regarding the plan to accelerate the certification program for construction workers :

- a. It is necessary to build synergy between stakeholders concerning the financial burden regarding the plan to accelerate the certification of construction workers. Currently, the government has allocated substantial funds for the training and certification of construction workers, but it is difficult for the government to work unaccompanied.
- b. The government needs to harmonize with various stakeholders of construction services, especially related to mapping the needs of the construction workers. The goal is to achieve effectiveness in implementing construction and certification for targeted construction workers.
- c. It is advisable to increase the use of digital technology, which will significantly support the plan to accelerate the construction worker certification, considering Indonesian geography as an archipelagic country.

Recommendations for Certification Agency for Profession (LSP):

In accordance with the mandate of [Government Regulation Number 14 \(2021\)](#) concerning Amendments to Government Regulation Number 22 of 2020 concerning Implementing Regulations of Law, Number 2 of 2017 in the matter of Construction Services, the Certification Agency for Profession (LSP) is believed to be able to increase the number of certified workers significantly. As the supervisor of construction services, the Ministry of Public Works and Housing assists and encourages LPPK to form LSP in accordance with statutory provisions.

In addition to supporting the implementation of accreditation for professional associations, helping registration for LPPK, directing assistance to prospective LSP, and assisting with other regulatory policies, the Ministry of Public Works and Housing can monitor and evaluate LSP in collaboration with the National Profession Standardization Agency (BNSP). Such monitoring and evaluation are expected to maintain the quality of LSP in the construction sector to ensure the implementation of quality competency certification and produce competent construction workers.

Recommendation for SIBIMA:

SIBIMA is quite effective in accelerating the number of certified construction workers. However, it is necessary to improve services, especially in remote areas with limited internet connections. Besides, socialization carried out by the government is necessary for all stakeholders, especially universities and vocational education.

Recommendations for Continuous Professional Development (CPD):

Deliberating the implementation of the Continuous Professional Development (CPD), which is still not optimal, the researcher provides the following recommendations:

- a. It is important to support CPD organizers to register for organizer accounts and submit activities through the CPD application so that experts get higher credit scores for verified activities.
- b. It is important to support CPD organizers to further improve the implementation of CPD activities both in terms of quality and quantity, such as:
 - the Provincial Government in accordance with the main tasks of the Technical Implementation Unit (UPT) of the Provincial Government's construction services.
 - professional Associations in accordance with the responsibilities in fostering their members.
 - universities in accordance with the scientific centres required for their graduates.
 - other interested organizers.
- c. It is important to encourage experts to register CPD accounts, participate in CPD activities, and record CPD activities followed in the CPD application to fulfil the credit score as a requirement for the extension of the Work Competency Certificate (SKK).

Recommendations for the Link and Match Program:

- a. Additional competencies for graduates and prospective graduates of Vocational High Schools, Polytechnic, and/or Higher Education in the construction sector are crucial to be based on a mutual agreement between educational institutions and service providers. Therefore, the needs of service providers and the curriculum used at educational institutions become the basis for fulfilling competencies to identify additional material required.
- b. In realizing vocational activities, besides possessing the latest knowledge and insights in the construction field, instructors need to be continuously levelled by master instructors from service providers.

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