

The Dynamics of Competence-Equating Policy Implementation in the ASEAN Economic Community Era: A Study on the Construction Sector Workers

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Abstract— In terms of the ASEAN Economic Community, to facilitate the liberalization of trade in services in the ASEAN region, ASEAN Mutual Recognition Arrangement (MRA) have been agreed, within which the construction sector, particularly the construction workers (engineers and architects), has become a sector that was agreed to be opened. This requires a quick equating of competence so that Indonesia is ready to compete. This study aims to look at issues emerging in the implementation of competence-equating policy in Indonesia, especially in order to face the AEC. It uses a qualitative approach. The results show that the dynamics of problems obstructing the implementation of the policy are among others i.e. Firstly, certification of Competence is not considered important in a career, which many workers consider that the need for certification is only to meet the required status, they do not consider it as their own personal need, although competence certification is an indicator of career progress. Secondly, there is a gap between academic world and the working world, which many consider that education and training are still not capable to fulfil the basic needs of construction workers with particular capability to work in the field. Thirdly, The role of Government and the Association in Implementing the policy on the field has been ineffective which the role of government to implement these regulations, including in socialization and competence training is still considered insufficient and associations are considered not actively voicing the importance of competence.

Keywords— Competence; Equating; Policy implementation; Construction workers; Globalization.

I. INTRODUCTION

The ASEAN Economic Community (AEC), a form of commitment to create a free market among ASEAN countries, has currently started. The establishment of AEC at the Kuala Lumpur Summit on December 1997 aims to enhance ASEAN's competitiveness globally and to attract foreign investment. According to Suroso [1], the main characteristics of AEC are the single market and production base; economic regions with high competitiveness; regions with equitable economic development; and regions fully integrated into the global economy. The impact of the establishment of AEC is the creation of a free market in the areas of capital, goods and services, and workers. The consequences of AEC agreement are the free flow of goods to the ASEAN countries, the free flow of services, the free flow of investment, the flow of skilled workers, and the free flow of capital. Another concomitant international policy is Mutual Recognition Agreement (MRA). The MRA is an

agreement to mutually recognize certain products between two or more countries to facilitate import and export activities without going through two or more testing. Generally MRA is applied to compliance certification (by test laboratory based on ISO Standard 17025) and certification of products (by Product Certification Institution based on the ISO Guide Standard 65). MRA is notably significant in dealing with AEC as it aims to facilitate trade and stimulate economic activity among the various parties through compliance in terms of one standard, one test, one certification and, where appropriate, one marking. MRA tends to support the regime of free trade, AFTA, to achieve trade liberalization among ASEAN countries. To facilitate the liberalization of trade in services in the ASEAN region, one of the efforts is to harmonize standards and compliance just like that of the trade in goods.

The standards in question here are related to the qualifications of people working in the service sector. Here we should emphasize that the free flow of workers is associated with the free flow of services, as included into the

framework of AFAS cooperation, as shown in point 4, i.e. movement of natural persons. In the context of ASEAN, Mutual Recognition Arrangement (MRA) have been agreed by ten (10) ASEAN Member Countries (represented by ten Ministers), in Kuala Lumpur on December 9, 2005. It is intended to facilitate the mobility of Engineering Services Professionals as well as to exchange information in order to encourage the adoption of best practices in the standardization and qualification. If the deal is executed as its primary purpose, it will create equality of competence and equitable competition in the world for workers, especially in Indonesia. According to Ajis *et al.* [2], most of the migration happened among ASEAN countries involving with the group of semi-skilled or unskilled workers. Role of ASEAN countries towards the development of labour migration is showed in two forms that are as source country or foreign worker exporter (Indonesia, Philippine, Myanmar, Vietnam and Cambodia) and importer countries of foreign workers such as Singapore, Malaysia and Thailand [2]. This group migration always happened as individual initiative to gain better income [2]. There were advantages of hiring foreign workers such as willingness to work under harsh conditions [3]. Demands for Indonesia construction worker are high among ASEAN Countries. As illustration, Adi & Wibowo [4], [5] describe that Malaysian construction sector is highly depend on foreign labours. The number of them nearly 70% of its workforce 71.3% of total foreign labour is Indonesian labour. Those foreign labours, largely unskilled, did not contribute to skill formation. According to this condition, Zaki, Mohamed and Yusof [6] states that Malaysian construction has to depend on foreign worker to respond to the high demand of skilled workers due to rapid development in Malaysia and poor participation from local people. The demand of the foreign workers will still exist as long as the locals are not interested in working in the construction industry and willing to receive the similar wages as paid to the foreign workers [3].

The MRA plays role to harmonize and set a standard that will be used in preparation for entering the ASEAN free market. MRA development in Indonesia is perceived from the number of workers who already have an international certification in accordance with their field and expertise to participate in the competition of ASEAN free trade. Certification was crucial issues for Indonesia construction services industry competitiveness. According to Adi & Niam [4], the evaluation of Indonesia current strategy to improve construction labours skills show that the certification process is too complicated and expensive, awareness of construction labours for skills training is lacking and there is no coordination the between government and the institution related to improve construction labours skills. This causes skills quality and competitiveness of Indonesian construction labours is low. This problem occurs because Indonesian construction workers mainly based on unskilled labour. Profile of construction labours in Indonesia showed that 62% of the total construction labours is unskilled labours [4]. Most of construction companies in Indonesia still use traditional workforce management. Workers do not become part of internal company and not bound to any contract with company [7].

The government has prioritized eight (8) professional fields in the signing of mutual recognition arrangements (MRA) between the ASEAN countries, i.e. accounting, engineering, surveying, architecture, nursing, medical-care, dental-care, and tourism. One sector that has become the centre of attention at the moment is the construction sector where the workforce (priority of engineering and architecture) has become an opened part in the MRA. This study aims to look at issues emerging in the implementation of competence equating policy in Indonesia, especially in order to encounter the AEC.

The rest of this paper is organized as follow. Section 2 describes proposed method. Section 3 describes some reference concepts of competence and equalization. Section 4 presents demand of competence of ASEAN Economic Community (AEC) 2015. Section 5 presents the dynamics of problems in implementing competence-equating policy in Indonesia. Section 6 presents implications and trends that may occur. Finally, the conclusions and recommendations of this work are described in Section 7.

II. PROPOSED METHOD

The study uses a qualitative method; referring to the action research approach based on Soft Systems Methodology (SSM) [8], [9] the process of collecting primary data in this study uses the technique of in-depth interviews and Focus Group Discussion (FGD). Informants involving officials in related ministries, the business community in the construction industry, construction related associations and institutions such as development agencies, construction services. The results are reinforced with secondary data obtained through desk study (literature study) on the documents and statistical data. The study also applies triangulation process to ensure the checking, re-checking and cross-checking process of the data obtained.

III. SOME REFERENCE CONCEPTS OF COMPETENCE AND EQUALIZATION

Competence is the ability and characteristics possessed by one, in the form of knowledge, skills, and behaviour necessary in the execution of one's duties. Competence is a basic human characteristic that based on real experience (visible behaviour) is found to affect, or may be used to estimate (the level of) performance in the workplace or the ability to overcome problems in certain situations [10]. Competence usually develops in the workplace through experience, and can be measured and evaluated, as well as reflected in the form of work, knowledge, skills, behaviours, attitudes, motives and talents, or combinations thereof.

According to Becker, Huselid and Ulrich [11], competence is defined by several elements: competence refers to an individual's knowledge, skill, ability or personality characteristics that directly influence job performance. According to them, competence is directed at individual's knowledge, skill and other personal characteristics that directly influence job performance.

Competence is used in many ways. According to Abdullah and Sentosa [12], an organization generally uses competence models for various purposes with a valid general reason. One use of competence is expressed by Palan (2003)

in Abdullah and Sentosa [12]: to provide the direction in which the concept of competence is applied in accordance with the needs of the organization; to understand the variables that determine the performance and its correlation and to enable the rapid utilization of competence for the organization.

Referring to the effective legislation, competence can be understood in several viewpoints. Law No. 20/2003 [13] on the National Education System, the Explanation of Article 35 (1) describes: *"The competence of graduates is a qualification of graduates' ability including the attitudes, knowledge, and skills in accordance with the agreed national standards"*.

While in Law No. 13/2003 [14] on Manpower, Article 1 (10) defines competence as *"the working ability of AECh individual that covers aspects of knowledge, skills, and working attitudes in accordance with the standards established"*. Government Regulation (PP) No. 23 of 2004 [15], concerning the National Agency for Professional Certification (BNSP) defines certification of job competence as *"a process of granting a certificate of competence systematically and objectively through a competency test that refers to the International or Indonesia's National Competence Standard for Work"*. Overall, the aforementioned definitions illustrate competence as the fulfilment of certain qualifying standards that have been defined nationally or internationally.

The standard of competence applied by Indonesia at the present is the National Competency Standard (SKKNI). The SKKNI formulation of work capability covers aspects of knowledge, skill or expertise and work attitude that are relevant to the duties and terms of office determined in accordance with the provisions of the legislation. SKKNI is the key in order to equalize requirements for performance and the type of individual occupation and/or employment. This standard should have equality with the applicable standards in other countries, even internationally accepted. The provisions concerning the standard of competence in Indonesia are contained in the Ministerial Regulation of the Ministry of Manpower and Transmigration No. 8 of 2012 regarding the Procedures for the Establishment of the National Competency Standard. Based on data, at the present, Indonesia has composed approximately 271 SKKNI of Job Title. Job Title selected in the Formulation of SKKNI is in fact should be synchronized again with the data of project organization and the needs of the existing competence in the field. Moreover, there is no clear and standardized flow of job title for construction sector so that many stakeholders have developed their job titles respectively. It leads in an absence of a clear carrier path for skilled labor.

Meanwhile, according to Presidential Decree No. 8 of 2012 [16] on the Indonesia's National Qualifications Framework, equating is the process of juxtaposing and integrating learning outcomes acquired through education, job training, and work experience. Equating (equalization) is something absolute, must be conducted to handle the processing of results, for example the national exam; it must be conducted in order to obtain an accurate and valid

mapping of the quality of education, without distortion of the difficulty level difference despite using different test devices. Equating test design, according to Petersen [17] as cited from Herkusumo [18], is not as simple as regression, because the equating method is an empirical procedure involving a design for data collection and a rule to set the transformation. Nationally, Indonesia's National Qualifications Framework (KKNI) is a framework of qualification levels and Indonesian labor-competence that juxtaposes, equalizes, and integrates educational sector with training sector as well as work experiences in a scheme of recognizing the ability to work in accordance with the structures of various employment sectors. KKNI is the embodiment of quality and identity of the Indonesian nation, in terms of the national education system, national job training system and the national assessment system of equal learning outcomes, owned by Indonesia to produce quality and productive human resources.

Qualification Description on KKNI reflects on learning outcomes obtained by an individual through: education, training, work experience and self-learning. Learning Outcomes include: internalization and accumulation of knowledge, knowledge, practical knowledge, skills, affection, and competencies achieved through a structured educational process including a specific branch of science/expertise or through work experience. KKNI is a self-supporting system and is a bridge between educational and training sectors to establish nationally qualified and certified human resources through a scheme of formal, non-formal, informal education, job training, or work experience. Level of qualification is the level of learning outcomes agreed nationally, compiled based on outcome measures of education and/or training gained through formal, non-formal, informal education, or work experience.

According to Ministry of Research, Technology and Higher Education, KKNI states the nine levels of qualification of productive human resources in Indonesia. KKNI consists of nine (9) levels of qualification, starting from qualification 1 as the lowest to qualification 9 as the highest qualification. The description of qualifications at every level of KKNI comprehensively considers whole learning outcomes that can be produced by a process of formal or informal education, or self-experience to be able to work with quality.

The description of each level of qualification is also adjusted to the development of science, technology, or the arts, as well as the development of supporting sectors of the economy and public welfare, such as industry, agriculture, health, law, and other related aspects. Learning outcomes also include developing aspects of national identity reflected in the Pancasila, the Constitution of 1945, and Unity in Diversity, i.e. upholding the practice of the five principles of Pancasila and the rule of law, and is committed to respect the diversity of religion, ethnicity, culture, language, and art that grows and develops in Indonesia.

		EDUCATION: Academic Title										
		SMP	SMA	D1	D2	D3	S1	PRO	S2	S3		
PROFESSION: Professional Certificates (Indonesia Engineer Union-PII)											9	
	U										8	
	M									7		
	D											
	M						6					
						5						
					4							
				3								
			2									
	1											
		OPERATOR			ANALYST			AHLI (Expert)				
		AUTODIDACT: Special Skill Experiences										

INDUSTRY: Job Position Function

Fig. 1. Level Achievement at KKNi through Various Ways

Each level of qualification at KKNi has equality with the learning outcomes generated through education, work training or work experience. Level 1 to 3 is grouped in operator positions, level 4 to 6 in technician or analyst positions, while level 7 to 9 in expert position. Graduates of basic education is equivalent to level 1; graduates of lowest secondary education is equivalent to level 2; the lowest Diploma 1 is equivalent to level 3; graduates of Diploma 4 or Applied Bachelor and the lowest Bachelor is equivalent to level 6; and so on up to level 9 for graduates of doctorate and applied doctorate.

According to the Ministry of Research, Technology and Higher Education [19], to be able to implement KKNi, each ministry should establish the Presidential Decree No. 8 of 2012 in accordance with the requirements of the sector. Currently, the Ministry of Research, Technology and Higher Education, the Ministry of Health, the Ministry of Manpower and Transmigration, and the Ministry of Home Affairs have been established regulations as follows:

- a. KKI Decree 12/2003 on the implementation of KKNi in Higher Education of Medicine
- b. Regulation of the Minister of Home Affairs No. 2/2013 on the Development Guideline of KKNi-Based Human Resources in the Ministry of Home Affairs
- c. Regulation of the Minister of Education and Culture No. 73/2013 on the Implementation of KKNi in the field of Higher Education (currently under revision associated with changes in the ministry)
- d. Regulation of the Minister of Education and Culture No. 81/2013 on the Diploma, Certificate of Competence and Profession in Higher Education

- e. Regulation of the Minister of Education and Culture No. 49/2014 on the National Standards for Higher Education (currently under revision associated with changes in the ministry)
- f. Regulation of the Minister of Manpower No. 21/2014 on the Implementation Guideline of KKNi

Generally, KKNi is expected to generate an equalization system of qualification of manpower in Indonesia. Indonesia applies unified system or integrated system in which the learning outcomes of academic, vocational or professional education are considered equal with the same level of qualification. When every level qualification can be achieved through other ways outside formal education, the formal education should be more accountable in producing graduates in accordance with the programmed strata.

A. Demand of Competence of ASEAN Economic Community (AEC) 2015

ASEAN Economic Community (AEC) is committed to create a free market among ASEAN countries. The formation of AEC was done at the Summit (KTT) in December 1997 in Kuala Lumpur that aims to increase ASEAN's competitiveness globally and to attract foreign investment. The initiative of the establishment of the ASEAN regional integration or community of ASEAN through ASEAN Vision 2020 took place during the ASEAN Second Informal Summit that was manifested later in the form of long-term roadmap called Hanoi Plan of Action agreed in 1998.

The ASEAN Economic Community (AEC) in 2015 opens a large space for the liberalization of trade in goods and services. In the context of population, the largest directly related space is in the liberalization of trade in services of labor that demands competence. In an effort to increase the liberalization of trade in services, WTO forms GATS (General Agreements on Trade in Services) that plays a role in regulating the liberalization of the trade of 12 services sectors. The GATS regulates in detail the scope of trading services including four modes of supply, namely:

- Mode 1 is cross border supply, the provision of services in a territory of a member country to serve users of services from another member country.
- Mode 2 is consumption abroad, the provision of services within the territory of a member country to the territory of another member country.
- Mode 3 is commercial presence, the provision of services by a provider from a member country through the presence of service companies in the territory of another member country.
- Mode 4 is movement of natural persons, the provision of services by service providers from one member country through the presence of natural person from a member country in the territory of member countries.

The four modes of supply prioritize the movement or mobility of the population in active cross border manner. It is clearly the main focus in the context of population administration. The Population Administration should be prepared properly, particularly in the term of data system that is able to monitor and control the flow of population movement, so that it can affect the country positively. Rules in the GATS are the main references in the implementation of the liberalization of the services sector performed not only at international level but also at regional and bilateral level. At the ASEAN level, this rule is adopted in the implementation of the ASEAN Economic Community (AEC) that was applied in 2015's.

The effort to liberalize the trade in service sector was preceded by the signing of AFAS (ASEAN Framework Agreement on Trade in Services) in 1995. The 13th ASEAN Summit in November 2007 agreed on the adoption of the Blueprint of the ASEAN Economic Community (AEC Blueprint) as a comprehensive plan document to guide the realization of an ASEAN Community by 2015. The document states that ASEAN will not only be a single market, but also a single production base that requires the free flow of factors of production, including the capital and skilled labor. However, this agreement also provides protection for the integrity of the borders of ASEAN member countries and also provides the protection for the domestic labor and permanent employment in the ASEAN member countries.

According to Suroso [1], the description of the main characteristics of AEC is a single market and production base; high competitive economic region; region with equitable economic development; and a region fully integrated in globalized economy. The impact of the creation of AEC is the creation of a free market in capital, goods and services, and labor. The consequences of the agreement of AEC are the impact of the free flow of goods, the impact of

the free flow of services, the impact of the free flow of investment, the impact of the free flow of skilled labor, and the impact of the free flow of capital for ASEAN member countries.

The AEC 2015 will be directed towards the establishment of a regional economic integration by reducing trade transaction costs, improving trade and business facilities, as well as improving the competitiveness of the SME sector. The establishment of AEC 2015 aims to create a single market and production base that is stable, prosperous and highly competitive and economically integrated with effective regulations for trade and investment, in which there is free flow of traffic of goods, services, investment, and capital as well as facilities for free movement of business actors and labor. The implementation of AEC 2015 will be focused on 12 priority sectors, consists of seven of the goods sectors (agricultures, electronics, automotive, fisheries, rubber-based industries, wood-based industries, and textiles) and five of the services sectors (air transport, health care, tourism, logistics, and information technology industries or e-ASEAN). However, in addition to opportunities in sight, there are also obstacles that need our attention.

In terms of human labor, Indonesia has some homework that yet to be completed until today, including:

- Low productivity of labor;
- The uncertainty of wage labor;
- Low education and foreign language skills;
- High unemployment rate.

Therefore, the effort to overcome the problems of human labor is considered as an important factor in the ASEAN Economic Community (AEC).

Qualified and ready-to-compete Human Resources (HR) are the main capital of Indonesia in facing the competition in the regional and global levels; particularly in the ASEAN Economic Community (AEC) in 2015. The condition of AEC that will change the mapping of the market in Southeast Asia into a single market is considered as a condition where the competition will be intense. The main thing to do to face it is to prepare qualified Human Resources (HR) able to compete with other ASEAN member countries. When economic integration is valid, it will be easy for the labor of other countries to access the opportunities and employments in other countries, including Indonesia. A related general term used is the free flow of skilled labor that deploys skilled labor in sectors such as health care, tourism, logistics services, e-ASEAN, air travel transport, agro-based products, electronics, fisheries, rubber-based products, textiles and apparels, automotive, and wood-based products.

The development process of Human Resources can be conducted through training, formation of attitude and work culture that are closely related to the ability to build individual's self-competence in the process of employment and career development. Building the individual's self-competence will be a major force to survive in the arena of changes. Changes and developments in technology have changed the entire structure of expertise, skills and patterns of employment in an industry. The consequential changes have prompted a change in the value of time, in the economic value of each activity associated with services and

also a change in organization. Thus, the improvement and enhancement of the quality of human resources in Indonesia is also a focus of reform in order to improve the competitiveness of Indonesian labor in the ASEAN market. Not only in terms of the ability of education, skill, and productivity but also in the provision of abilities of foreign languages for Indonesian labor. It is widely reported that the ASEAN member countries such as Thailand and even Australia have included Bahasa Indonesia in their education. It can be a threat to the local labor market from the invasion of foreign labor.

The quality of human resources is reflected in the level of education, health and incomes of the population, that are core components of Human Development Index (HDI). HDI of Indonesia continues to increase from 71.8 in 2009 to 73.8 in 2013. The HDI illustrates the average length of the population aged 15 years and over in attending school during 8.14 years. The literacy rate of population aged 15 years and above is 94.1 percent. Meanwhile, life expectancy at birth reaches 69.9 years and gross domestic product (GDP) per capita is about IDR 33.3 million. The percentage of poor population also shows a decrease, of 12.4 percent, or 29.9 million people in 2011 to 11.5 percent, or 28.6 million people in 2013.

Indonesia, with the largest population in ASEAN, should be a champion in the battle of free flow of skilled labor; although many parties still feel pessimistic that Indonesia can be a host in its own country. Armed with confidence, strategies contained in policies, programs and activities and also supported by serious implementation through triple helix cooperation between Governments, Academicians, and the business world (industry), Indonesia has been prepared to face AEC in 2015.

B. The Dynamics of Problems in Implementing Competence-Equating Policy in Indonesia

In general, the Indonesian construction workers' competence is currently still considered good in quality domestically. Basically the entire users of national construction company acknowledge that the competence of Indonesian construction workers is adequate, even capable to compete in a foreign country. It is as recognized by an informant from PT. Brantas Abipraya:

"Currently our company is not hiring Foreign Workers (TKA) for we deem local workers qualified in the domestic construction industry [...] Local construction workers have adequate skills and competence compared to those of other ASEAN countries, since some Local construction Companies, particularly the State-Owned Enterprises, have gotten a lot of construction work in foreign countries such as Algeria, the United Arab Emirates, Brunei Darussalam, Myanmar, Saudi Arabia, East Timor etc."

In the context of ASEAN itself, our own construction workers competence is already almost equal to China and Korea; unfortunately this has not been accompanied by mastery of supporting competence like foreign language. This is as described by an informant from PT. Adhi Karya:

"Currently the condition of our construction workers competence, at undergraduate level, is similar to that in ASEAN countries; it may also comparable to China and Korea; we just miss the working device technology, nevertheless, the personal competence is almost the same. Only the mastery of English language is still lacking. For the construction workers at the manual level, however, our competence is still very low. At the Bachelor's level, the mastery of English alone is lacking; yet at the lower level, especially unskilled workers, fulfilled by Vocational School (STM) graduates, apart from language, the ability to pursue the most updated technological development and construction methods are still lacking."

It is also recognized by informants from PT. Brantas Abipraya, stating that, generally speaking, the Indonesian construction workers graduate can be said as ready for AEC (ASEAN Economic Community), although not 100%. However, despite the quite well competence of Indonesian construction workers, there is the equating issue that can be a major obstacle in the era of AEC. Facing the AEC after 2015, the construction sector should prepare for the era of open labour market at the ASEAN level, through the implementation of the Mutual Recognitions Arrangement (MRA). Creating procedures and mechanism of accreditation for achieving equality/equity, and recognizing the differences between countries in terms of education and training, experience, and licensing requirements for the professional practice are things to be prepared by each ASEAN country. In this case competence-equating is the key in preparing the construction workers to encounter AEC.

So far, competence-equating refers to Indonesia's National Qualifications Framework (KKNI) as a framework of qualification levels and competences that juxtaposes, equalizes, and integrates educational and training sectors as well as experience in the scheme of recognizing working capability in accordance to the structures of various employment sectors. KKNI largely participates in bridging Human Resource-equating between sectors. The equating process refers to Presidential Decree No. 8 of 2012, defining Equating as the juxtaposing and integrating process of learning outcomes acquired through education, job training, and work experience.

In the world of engineering, one form of equating at the international level is a Professional Engineer (PE), i.e. an engineer who already has professional certification from the Association of Indonesian Engineers. Professional Engineer is divided into three stages, namely Junior Professional Engineers (JPE), Middle Professional Engineers (MPE), and Senior Professional Engineers (SPE). The prerequisite to get these titles of PE is engineers who have measurable experience in the world of engineering through construction project trainings, both public projects and industrial ones with a minimum experience of 3.5 years for JPE and at least 6 years for MPE. A Middle Professional Engineer (MPE) already gets equating at international level, namely at the level of ASEAN and APEC (ASEAN Engineer and APEC Engineer).

The certification of national- and ASEAN-level through AA/ACPE has helped users, in this case the construction companies, to improve their quality standards. It is recognized by the corporation informants in interviews. According to them, this certification has helped the preparation and improvement of competence standards of local construction workers who own businesses. On the other hand it is also thought to affect corporate construction

workers to continuously improve their quality and develop themselves to meet the suitable standard predetermined by the association. The statements of the interviewees provide a portrayal that basically the competence-equating framework through KKNI/Professional Engineer as well as AA and ACPE has essentially provides a space for policy in the process of national construction workers competence-equating.

TABLE I
THE NUMBER OF PROFESSIONAL CERTIFICATION OWNERS IN PROVINCES IN INDONESIA

Province	Number	Province	Number
Aceh	700 engineers	North Sulawesi	2,374 engineers
North Sumatera	3,559 engineers	Central Sulawesi	897 engineers
West Sumatera	8,077 engineers	South Sulawesi	4,217 engineers
Riau	13,995 engineers	Southeast Sulawesi	990 engineers
Jambi	1,114 engineers	Bali	2,359 engineers
South Sumatera	1,694 engineers	West Nusa Tenggara	1,029 engineers
Bengkulu	364 engineers	East Nusa Tenggara	1,792 engineers
Lampung	1,414 engineers	Maluku	976 engineers
DKI Jakarta	19,938 engineers	Papua	1,131 engineers
West Java	6,006 engineers	North Maluku	387 engineers
Central Java	5,378 engineers	Banten	1,577 engineers
DI Yogyakarta	1,672 engineers	Gorontalo	4,119 engineers
East Java	5,258 engineers	Babel Islands	650 engineers
West Kalimantan	2,061 engineers	Riau Islands	3,429 engineers
Central Kalimantan	2,594 engineers	West Papua	610 engineers
South Kalimantan	1,089 engineers	West Sulawesi	63 engineers
East Kalimantan	3,093 engineers	North Kalimantan	-
Total Nationally			104,606 engineers

Source: <http://www.lpjg.net/sertifikat-tenaga-ahli> [20]

TABLE II
THE NUMBER OF ASEAN ENGINEERS REGISTERED THROUGH ACPE

Country	Number	Country	Number
Indonesia	569 engineers	Laos	3 engineers
Malaysia	228 Engineers	Myanmar	133 engineers
Singapura	230 engineers	Filipina	119 engineers
Brunei Darussalam	2 engineers	Thailand	65 engineers
Kamboja	-	Vietnam	134 engineers
Total in ASEAN			1.454 engineers

TABLE III
THE NUMBER OF ASEAN ARCHITECT REGISTERED THROUGH AA

Country	Number	Country	Number
Indonesia	84 Architects	Laos	6 Architects
Malaysia	35 Architects	Myanmar	12 Architects
Singapura	74 Architects	Filipina	53 Architects
Brunei Darussalam	1 Architects	Thailand	11 Architects
Kamboja	-	Vietnam	9 Architects
Total in ASEAN			285 Architects

The implementation of the equating process through KKNi or Professional Engineer certification, however, remains a bottleneck in the field. Referring to the data of LPJK 2015, the number of engineers who already have a professional Certification (SKA) reached 104.606 engineers. While the number of engineers registered in ASEAN through the ACPE is the 486 engineers of the 1,260 available engineers; and architects registered in ASEAN through AA reaches 73 architects out of 255 available architects. Currently, Indonesia is an ASEAN country with the highest number of Engineers and Architects registered at the ASEAN (through ACPE and AA). Although Indonesia has the highest number of certified engineers, it has not met the demands since it is not proportional to the total population and the existing needs.

The disproportionate number of certified engineers to the real needs can actually be pursued, considering the many qualified and competent local engineers in their field. This is in line with the recognition from the user informants, stating that the quality of Indonesian Engineers is notable well, and even competent. Nevertheless the problem is not many who are registered and certified. It is also common for mining engineers; at least about 600 mining engineers are ready registered, but currently only about 20 engineers are already certified MPE.

This becomes a problem when the project needs on the ground require certified construction workers in large numbers, including in case of ASEAN certificate. It is recognized by an informant from PT. Jaya Konstruksi: *"Problems arise if projects require certified personnel in large numbers, from the highest level of construction workers to the lowest one in the project"*.

This shows that despite the existing certification policy, in reality the policy does not run on the ground. In a more in-depth look, such is called an implementation gap by Andrew Dunshire's dynamics, i.e. a condition in the policy process that shows a difference between what is expected by policymakers and what in fact happens [21]. Thus it can be said that basically implementation gap occurs in the competence-equating policy in Indonesia, especially in the construction sector. For the issues that have led to the implementation gap, it can be identified as follows:

1) Dynamics I: Certification of Competence has not been Considered Important in a Career

Basically the certification process is already well known in Indonesia. In the Law on Engineering, an architect and engineer are required to obtain a Certificate of Engineering. In the future, however, in accordance to the Law on Construction Services, every person who works in construction projects must have a Certificate of Expertise (SKA) nationally.

Until recently, the certification has not been considered important especially by the construction workers themselves. It is affirmed by an informant from Indonesian Contractors Association (AKI), that many workers consider the need of certification is only to meet the required status, rather than their own personal need or interest. Moreover, according to AKI, lately the interest to work in the construction sector seems to have diminished. At a certain moment or when there is a lot of work requiring ready-workers, users actually

get difficulty; thus worker-hijacking often occurs, making certificate does not obviously become a priority. This is affirmed by an informant from LPJK, stating that certification, particularly ASEAN certification, is not considered important because the order of projects handled also tend to be a lot. He said: "why would I need a certificate, I have already had a lot of projects".

This is also realized by users, as recognized by the informant from PT. Jaya Konstruksi: *"The resistance arising from the workers themselves is larger because competence is dominated by personal desire to move forward"*. This means that workers do not consider certification important for their career advancement.

The inclusion of competence certification as an indicator of career progress of construction workers should be encouraged to become part of the individual's carrier path. The weak role of certificates for user and worker is indicated by the large number of new construction workers who often move because they are not happy with their job, or frequently move from one company to other companies promising more in terms of salaries and careers, even though they have no certificate. This shows that users themselves have not prioritized the existence of competence certification.

One of the reasons why users and workers do not prioritize certification is the administrative process, including the fees to be paid, as affirmed by an informant from PT. SAC Nusantara: *"the problem for construction services is the relatively expensive annual cost to complete the professional certification of SKA/SKT for its employees: the cost to create new certificates and extend the expired ones"*. Frequently the cost issue and the complexity of required documents make workers reluctant to apply for the certification.

According to the informant from PT. Jaya Konstruksi, the reluctance to register or apply for certification program causes the measurement of worker competence cannot be done accurately. This will certainly have an impact on the quality of construction workers competence itself.

This requires the users, in this case construction companies, to encourage or even escort the administrative document completion process of certification. This has been done by PT. PP through acceleration of ASEAN certification program for its construction workers by holding a socialization program, the process of assistance in completing administrative documents, as well as arranging ASEAN certification training simultaneously within their corporate environment. Such positive support should certainly be emulated by other companies to encourage the fulfillment of the construction workers certification.

Many workers consider that the need for certification is only to meet the required status; they do not consider it as their own personal need, although competence certification is an indicator of career progress. In addition, the construction industry as the user has not fully prioritized competence certification itself. The Human Resource department is often required to immediately fulfill a vacancy. The neglect of professional certification as a priority both by the construction workers as well as by the construction companies clearly indicates different interests among stakeholders. It obviously hampers the implementation of professional certification policy.

According to Grindle [22], in the context of policy, compliance and implementers' capacity to grasp the policy rely heavily on the many different interests. The more different interests, the harder the policy is implemented, compared to those involving little interest. Therefore, the high-low intensity of various stakeholders' involvement (politicians, businessmen, community, target group and so on) in the policy implementation will affect the effectiveness of policy implementation. This shows that the involvement of the parties in the implementation of the certification policy becomes very important to put forward.

The reluctance of workers and the lack of corporate role in supporting certification program cause the measurement of workers' competence cannot be done accurately. This will certainly have an impact on the quality of the construction workers' competence itself. Thus, in line with the opinion of Grindle, in the future construction companies should be involved actively to encourage or even escort the process of certification document completion.

2) *The Dynamics II: The Gap between Academic World and Real World*

The worlds of education and training are the initial source of the achievement of workers' competence in the construction sector. The worlds of education and training are the initial capitals that determine the quality of the workers in addition to work experience. The academic world is expected to be the estuary for the introduction of the construction work completely.

Unfortunately, many people think that education and training are still incapable to provide basic needs of construction workers, in particular capability in the field. AKI sees that the interest of the graduates should be properly oriented, and they should be given an overview of the working world and equipped with proper competence. The informant from AKI revealed the following:

“Education is still normally considered less introducing the working world both in the private and government sectors, as researchers, lecturers, or entrepreneurs; students should be properly oriented where to go after graduating. In terms of training, it is usually less desirable, unless financed by the companies or institutions that commission them. If financed by the companies, they would normally ask whether the training certificate will be used, or whether it is a requirement in a project. Recent graduates of higher education are commonly not ready to work, and usually there are trainings at their respective companies, or they directly learn from their projects”.

Moreover, the academic world is considered running alone without establishing significant sustainability with the user. It can be seen from the lack of user feedback for the academic world and the ineffectiveness of the ongoing collaboration by the academic institution. This is affirmed by the informant of PT. PP, stating that the education results of construction workers in general do not generate workers who are ready to work. He added:

“The issue of competence is the unstructured employment patterns, and lack of feedback for the world of education and training. This situation causes inefficient allocation of labor, less properly orientated education and training, and ultimately contributes negatively due to the low quality and performance.”

The informant from PT. Brantas Abipraya also disclosed a lack of sustainability between academic institutions and the construction industry. He outlined:

“Generally there is no basic problem of education; however there are some things that need to be developed, especially regarding the lack of ongoing cooperation between Academic Institutions in general (Vocational School and Higher Education level) and the world of Construction Industry in Indonesia, as proven by many engineering graduates who are not ready and qualified to work directly in the construction company, instead need further trainings to improve their competence.”

Related to preparedness for AEC, PT. PP strictly stated that the unpreparedness is present among others from the academic institutions themselves. Based on his experience, the informant from PT. PP revealed so far academic institutions do not have the readiness to prepare for instructor/assisting team to support the efforts of ASEAN professional certification. This will certainly have an impact on the non-standard professional competence.

Moreover, the academic world is also considered not to set workers ready to work. The informant from PT. Jaya Konstruksi revealed that the problem mostly encountered is the availability of a living laboratory to apply the theory obtained. Some companies have cooperated with Higher Education/Vocational School to provide internship program. If such program is not encouraged the academic institutions will produce workers who are culturally less familiar with the process of apprenticeship and team work in the company. This is affirmed by the informant from Mining Competence Agency, stating that academic institutions have not produced graduates who are ready to work, due to limited work experience in the industry. Academic institutions are still oriented to graduates working in the country; whereas academic participants should get injections of values to be able to compete on a global basis.

Many consider that education and training are still not capable to fulfill the basic needs of construction workers with particular capability to work in the field. Consequently the academic world is considered to run alone without establishing real sustainability with the user. Many users think that the academic results of the construction workers in general have not supported them to be fully ready to work in the field. Hence, in terms of AEC, the currently existing academic institutions are considered to be unready to prepare for instructor/assisting team to support the program of ASEAN professional certification.

The gap between education and training sector and the needs in the field shows the symptom of coordination problem in policy implementation. Coordination among

parties having authority in the academic curriculum and training should always run and be in line with competence policy and stakeholders as users of construction workers. The quality of coordination lines among these organizations according to Van Meter and Van Horn [23] significantly determines the quality of public policy implementation. This is understandable considering the issue of sustainability is associated with many actors from various sectors both within the government, academic, to the business worlds as the user of the graduates; so that the coordination conducted are much more complex. This is in line with the opinion of Edward III [24], affirming that the more actors and agencies are involved in a particular policy, the more interrelated their decisions are, and the less likely the implementation shall be successful. He said the more coordination is needed to implement a policy, the less chance it succeeds.

The key to overcome this problem lies in communication of policy. According to Hogwood and Gunn [25], a perfect communication between the existing elements is one of the keys to policy implementation. The more policy actors communicate perfectly their needs to other actors, the more likely policy implementation will run.

3) The Dynamics III: The Non-Optimal Role of Government and the Associations in the Implementation of Policy in the Field

In terms of policy, all users and association interviewed consider that basically the existing regulations on standards of competence are complete both at legal level up to operational level. The Ministry of Public Work and Housing (PUPR) has set the standards of workers' competence through the Ministerial Regulation No. 7 of 2010 on the Implementation of Indonesia's National Work Competence Standards (SKKNI) for Construction Services Sector. Users and associations more emphasize on the issue of implementation of existing regulations. In this case, the role of government to implement these regulations, especially in terms of socialization and competence training is still considered insufficient.

Meanwhile AKI considers that in general the existing norms of policy and standards have been appropriate, nevertheless the understanding of users and workers about the competence readiness to face the AEC is still considered inadequate. This depends on the policy implementation on the field, particularly the government support. The informant from AKI outlined:

"The concept of legislation may already exist; the application, however, does not run well. Of course the first is the salary should be enough, then there is training; there is innovation in working the project. All require costs. The cost of course comes from the project profits."

It clearly shows user's expectation about government's role in supporting the implementation of the standard norms existing in the field. Such is also expressed by the informant from PT. Brantas Abipraya:

"The policy implementation has not completely worked well (less effective); socialization is required through several stakeholders related to the development of the construction workers in

Indonesia. As far as I know, the Government through the Ministry of PUPR (Directorate General of Construction Development) has set up a knowledge center in order to improve the competence of the construction workers in Indonesia."

In fact, the Ministry of Public Works and Housing always encourages any socialization effort in the preparation of human resources in the construction service industry, one of them by inviting representatives of the construction services perpetrator (SOE/Private/Individual) in a Seminar/Workshop related to the construction industry, as well as involving construction service actors to give input/opinions related to the existing policy. However, according to the informant from AKI a systematic process is required, one of which through a roadmap of preparing human resources in construction sector. This is to gradually maintain the sustainability of information from the government to users. Today, many big construction companies have owned and developed knowledge-management system; yet sustainability of information from the government is still required regarding competence equating.

Some informants admitted that the socializations and trainings/certifications funded by the government are increasing, though still felt lacking. The lack of socialization on the construction world by the government is related to the importance of skills and competencies, including an understanding of K3L (Health, Work Safety and Environment) for Indonesian workers to encounter AEC. The informant from PT. Wijaya Karya recognized that the competence socialization has not been fully implemented by the government to BUMN Karya.

Therefore, in policy implementation, we need more comprehensive Government's attention to the problems of construction industry in the field, especially in preparing competent construction workers, through socialization and so on, as one way to engage (be attached) with local construction companies.

The issue of standards is also of concern to the user: it is currently considered to be too many certification standards, issued by each association. In this case the role of the government is expected to coordinate the distribution of roles, so that the existing standard reference becomes more apparent. This was conveyed by the informant from PT. Adhi Karya:

"Work standards or reference that can be used to measure the competence of Indonesian construction workers is still lacking, particularly for non-managerial workers on the construction projects. Currently, policy on who is entitled to issue a certification of construction worker competence is not clear. All associations are allowed to issue a certification, so that there is no clear-cut standard. I heard that in the near future the government will revise the Law on construction services, related to the issuance of certification of construction service workers in Indonesia."

The same tone is expressed by several informants, including from PT. Wijaya Karya: *"The government better has a standard of competence for the entire construction workers that is disseminated evenly, so that the quality of work has a clear standard"*. This shows that the government's role is crucial in coordinating the implementation of competence standards existing in the construction sector. This is also stated by PT. Jaya Construction:

"The problem is more on the support and coordination of parties relevant to the construction field such as construction companies, Construction Service Development Agency, educational institutions, and the workers themselves".

Such coordination support would rest on the government as the focal point in the competence equating. Reflecting on these and the results of interviews conducted, it must be admitted there are companies that still have not fully understood the role and usefulness of KKN1 or SKKN1 as the basic standard of competence. This requires the further dissemination by the government; especially if associated with AEC, many do not understand or even cannot give answer regarding the ASEAN standard.

Analyzed from the policy side and the government side as implementer, there are several crucial issues:

- socialization has not been effective and touched user or workers directly,
- support for the training competence by the government is inadequate,
- government support in coordinating the implementation of the certification standards is still currently taken over by various associations, causing too many certifications.

This shows that government's role is crucial in coordinating the implementation of competency standards existing in the construction sector.

In addition to the role of government, associations and LPJK also play important roles as the implementers of policy. Associations as the embodiment of the stakeholders in the industry have a major role as a bridge over the various existing problems. Associations take the role to safeguard the interests of its members and also provide corridors for members in carrying out its activities. In the context of the construction industry, the role of the Associations should be used optimally to encourage the fulfillment of the construction worker competence equating at the regional level.

However, it must be recognized that the aforementioned role of the associations has not been developed, as recognized by the informant from AKI. He said the role of the Associations is still lacking. Association, as a container overarching the interests of its members, should be more routinely perform activities like Discussions, Seminars, and Workshops; the result of which should be submitted to the Government as an input in policy making.

Similarly, Association needs to conduct trainings, in collaboration with training agencies, so that the results are visible and the certificates are recognized. Such are rarely found not only in AKI but also in other associations

including IAI, or even associations on a regional level such as the AA and ACPE; which according to the interviewees still felt insufficiently active in voicing the importance of competence.

According to the informant from AKI, in addition to the Association, the agency that has an important role yet not optimal in performing its role is LPJK. So far the role of LPJK is considered to be still far from expectations. Research and Development, one of its duties, has not been done; this is associated with its Executive Boards who are not focused and have no funds, although they need significant amount of funds. According to informant from PT. Jaya Konstruksi, the role of LPJK is currently limited to standardize alone, not developed to support the achievement of competence. According to him

"The certification recognized by LPJK should have automatically been appropriate with ACPE standard; thus we merely have to register."

In reality, as recognized by the informant from LPJK, the role and function of LPJK is entirely run the norms and standards developed by the government. He said: "LPJK is the government's second hand, so that when the government issued a regulation governing construction, LPJK's duties are to implement it, make the implementing regulation, clarify it more technically, and elucidate the regulations that are later stipulated by the government as the operational standards". This means LPJK should be given wider powers, so that it can move more freely to develop the pattern of competence equating for construction workers.

In this regard it should be emphasized that the roles of the Association and LPJK are very strategic in preparing the competence equating. Associations and LPJK have important roles in terms of preparation & improvement of local workers' competence, and development of national construction in general, since they deal directly with local construction companies and construction workers. Nevertheless, it must be admitted that the role of the associations in such terms has not been developed, while LPJK as an institution that has an important role is still considered not optimal in its role other than standardization. In this case, associations and LPJK are considered not actively voicing the importance of competence.

Basically users consider the existing regulations related to standards of competence are complete both at the level of legislation to operational. The frequent concern is the implementation of the policies that runs not as it should be. The roles of government, associations, and LPJK as implementers become crucial. In view of Weimer and Vining [26] the success of a policy is influenced by the ability of the implementers, in this case, the level of competence and skill of the implementer of policies. Therefore, competence and innovation of government and associations, as the implementer of policy, are a challenge that must be improved in the future.

IV. IMPLICATIONS AND TRENDS THAT MAY OCCUR

The issues above are associated with the readiness of workers and institutions itself. If workers do not consider competence certification important and equip themselves with supporting competence, and if the institutions

concerned do not implement the existing policy on an ongoing basis, the implications that may occur include:

The number of certified workers does not increase significantly and the availability of local workers in accordance to ASEAN standard does not meet the needs of the construction workers and this shortage will be filled by foreign workers. The shrinking opportunities for local construction companies to get the construction work abroad are due to a variety of reasons both in terms of cost, tools, and most importantly Human Resources. The increasing number of incoming foreign companies that work on the construction projects in Indonesia is due to their considered better capability of handling tender requirements compared to local companies. The inaccurately measurement of workers' competence is due to the diversity of certifications issued by associations; thus there is no similar standard; consequently, so that the competence of certificate holder is also questionable.

If the implications are neglected, then the trends that will occur in the future include: If allowed to occur, the qualified competence of our construction workers, including the already certified, tends to not be recognized by domestic and international markets. As a result, since the credibility is questioned, our construction workers will not be sold in the market of large-scale construction projects both outside and inside the country. The difficulty of the national construction companies to compete in foreign markets is especially due to the inability to provide professional construction workers who are internationally recognized. Local construction companies have to compete closely with foreign companies incoming to the market of large-scale construction in the country with construction workers more recognized internationally. The credibility of national certification of workers' competence may decline because of varying standards applied by each association.

V. CONCLUSIONS

Basically, the existing regulations and policies related to standards of competence and its equating are complete both at the legal level and operational level. The issue is the extent to which the competence standard equalization is implemented, particularly when the AEC is already underway. According to figures of analysis, there are at least three dynamics of problems in the field that lead to the ineffective implementation of competency standards equating policy through certification. The dynamics include:

Certification of competence is not considered important in a career. Many workers consider that the need for certification is only to meet the required status; they do not consider it as their own personal need, although competence certification is an indicator of career progress. In addition, the construction industry as the user has not fully prioritized competence certification itself. The reluctance of workers and the lack of corporate role in supporting certification program cause the measurement of workers' competence cannot be done accurately. This will certainly have an impact on the quality of the construction workers' competence itself. In the future construction companies should be involved actively to encourage or even escort the process of certification document completion.

The gap between the education world and the working world. Many consider that education and training are still not capable to fulfill the basic needs of construction workers with particular capability to work in the field. Consequently the academic world is considered to run alone without establishing real sustainability with the user. In terms of AEC, the currently existing academic institutions are considered to be unready to prepare for instructor/assisting team to support the program of ASEAN professional certification. The gap between education and training sector and the needs in the field shows the symptom of coordination problem in policy implementation. The key to overcome this problem lies in communication of policy. The more policy actors communicate perfectly their needs to other actors, the more likely policy implementation will run.

The non-optimal role of government and Associations in the implementation of policy on the ground. Government's role is crucial in preparing competent construction workers, especially in coordinating the implementation of competency standards existing in the construction sector. The role of government to implement these regulations, including in socialization and competence training is still considered insufficient. The government is expected to coordinate the distribution of roles, so that the existing standard reference becomes more apparent. In addition to the role of government, associations also play important roles as the implementers of policy. Associations as the embodiment of the stakeholders in the industry have a major role as a bridge over the various existing problems. The roles of the Association are very strategic in preparing the competence equating. In this case, associations are considered not actively voicing the importance of competence. Therefore, competence and innovation of government and associations, as the implementer of policy, are a challenge that must be improved in the future.

Referring to the dynamics and implications, as well as trends that may occur, I recommend some of the following:

The Government and other relevant stakeholders should accelerate the fulfillment of the competence certification of the national construction workers ideally and proportionally. The Government together with the construction industry should mainstream Competency Certification as a career prerequisite for construction workers. The coordination and synergy among policy actors in the education sector and the construction working world should be intensified to develop appropriate curriculum in order to obtain ready-use construction workers. The active role of government, associations, and LPJK in the implementation of competence standards should be improved through innovative ways that can accelerate the fulfillment of competence certification as a way out for equalizing competence regionally.

ACKNOWLEDGMENT

This research is supported by Universitas Prof Dr Moestopo (Beragama), Jakarta, Indonesia.

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