Skilled construction workers in the construction industry: Workers certification dilemma?

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Abstract. This paper aims to provide an overview of the complicated problem of skilled workers in the construction industry faced with the demands of worker certification. The skilled workers in question are the ones at the construction sites or known as construction workers (builders). The number of groups of workers continues to increase every year along with the development of the country's construction industry which also increases in quantity. However, of the more than 8.3 million construction workers spread across various construction projects, only 7.4% are certified. This study uses descriptive qualitative methods with interview techniques, Focus Group Discussion (FGD), and document analysis. This research found that there was a large gap between the demands of modern industry on construction workers and the prerequisites for skills certification, and it became a major problem in the employment system in the construction industry. The contributing factors are the traditional work culture, lack of knowledge and information in worker certification, the institutional certification system, the difficulty of access to education and training to develop skills and gain recognition as indicated by increased welfare regarding minimum wages.

1. Introduction

The construction industry is one of the industries that is developing significantly every year, both in investment and employment. The scope of work includes construction in the field of architecture, civil engineering, mechanical and electrical, environmental management, and executive management. Global competition in this field is not only in investment and technology but also in workforce competence [1]. This has become an important issue and also a big challenge for Indonesia.

Manpower becomes an important part of the growth of an industry. They are not only seen in terms of quantity but also the quality, shown by expertise and vocational skills competencies. Classification of workers in the construction industry includes experts and skilled workers. According to UU RI No. 2, 2017 concerning Construction Services, both experts and skilled workers who work in the field of construction services are required to have work competency certificates [2]. The needs of the construction industry for certified skilled workers are still far from what was expected. The number of skilled workers increases each year, but the increase is not proportional to the total number of construction workers involved in various construction projects [3].

The demand for certification for construction workers (builders) in Indonesia is not a simple problem. The characteristics of work formed in this class of workers are a legacy of traditional work culture. They develop their skills in a self-taught manner, hereditary, and develop according to experience in the workplace [4]. On the other hand, in the employment structure, they are casual daily laborers who are
not permanently attached to the company/business where they only work as long as the work/project has been completed, so they automatically do not have an employment relationship. That is why juridical recognition and fulfillment of their rights as workers are often ignored.

Conceptually, certification should be a way and a tool to improve the lot and juridical recognition at work. But the facts on the ground show that the demand for certification for construction workers is a dilemma. There is a large gap between the real conditions of workers and the demands of certification. In fact, only around 7.4% (616,000 people) of the 8.3 million construction workers in Indonesia have been certified [5]. This research limits the study of skilled workers at the construction level who are often referred to as construction workers or builders in construction work in the field of architecture. Based on these, this paper aims to provide an overview of the complicated problem of skilled workers in the construction industry faced with the demands of worker certification.

2. Method

This study used descriptive qualitative methods. Data collection techniques with interview, Focus Group Discussion (FGD), and document analysis (data from Disnakertrans and LPJK). In conducting this study, stakeholders in the construction sector were chosen as informants. They were PUPR (Minister for Public Works and Human Settlements), LPJK (Construction Services Development Board), BNSP (National Professional Certification Board), Disnaker (Labor Offices), Construction Professional Association, Professional Certification Board in the construction industry, and the labor itself.

Interview techniques are used to obtain data on the extent of construction worker skills. The type of building construction worker skills measured includes three competency skills such as brick skills, wood construction, and light steel construction determined by LPJK. Informants interviewed numbered 24 construction workers who were active in construction work in several projects in the city of Bandung. They consist of 10 informants of brick construction workers, 10 informants of wood construction workers, and 4 informants of light steel construction workers. Implementation of the FGD to obtain information about the certification of skills of building workers in the field of building construction. The data analysis technique was descriptive. The FGD was carried out as part of a triangulation analysis to confirm field data obtained from interviews about the skill level of construction workers and the issue of "skills certification" requirements, and the extent to which the roles and functions of each institution were related to the issue.

3. Result and discussion

3.1. Skilled workers

The issue of labor competence is still a major problem that must be faced. The Department of Manpower and Transmigration (Disnakertrans) has the authority and obligation to provide public services in the development of human resources (HR) in the field of employment which are based on competencies and refer to national standards (SKKNI). "At present, the problem is that 50% of the workforce competency level is still below the industry's standard requirements, while 50% of the workforce who are already competent have not received official recognition in the form of a competency certificate" [6]. In fact, Law 13/2003 on employment, Article 18 paragraph 1 states that workers have the right to obtain recognition of work competence after obtaining a certificate of expertise or certificate of skills. Increasing the skills of building workers with vocational education and training oriented towards skills certification is an unavoidable demand related to the preparation of human resources in the field of Construction. The skills possessed by construction workers in several aspects still require improvement to conform to the competency standards required by the industrial world. The architectural work skills standards issued by the LPJK actually consist of 26 types of skills. However, most construction workers in the field only have two general skills, namely woodwork skills and stonework (bricklaying) skills.
Figure 1. (a) Woodworker skill level, (b) Stonework and bricklaying worker skill level, (c) Light-steel worker skill level, (d) Average worker skill level.

Other findings can be seen in the results of a questionnaire from LPJK measuring skill standard given to builders working in wood, brick, and light steel. Judging from the average measurement in each aspect, it can be seen that the construction wood skills group has a higher value (75.48%) between the other two skill groups. The brick skill group was second (64.47%) and the lowest was the skill level in the light steel construction workgroup (46.92%). In general, workers have not been able to reach the standards set by the LPJK, especially in light steel construction work that is classified as new material and technology. This means that the skills standards that are a prerequisite for the skills certification process need to be improved.

The gap above can be caused by the process of gaining knowledge about construction that is obtained autodidact, hereditary, or not through special training in construction. Based on research conducted in this regard, most construction workers in Indonesia obtain knowledge about building construction from their ancestors, or people who have already worked as labor in the construction sector, not through formal construction training [4]. The process of gaining this informal knowledge is likely to have differences with the standards set by LPJK regarding work competence in the field of construction. As a professional institution, it is certain that LPJK applies construction standards that have been agreed scientifically and professionally.

3.2. Skilled workers in construction services in Indonesia

Skills Certificate is proof of competency and professional skills in the field of Construction Services (contractor) that must be owned by workers/companies in order to be designated as Technical Responsible (PJT) in the application for Certification and Registration of Construction Services. The qualifications of skilled construction services are: (a). SKT-P, Educated at least high school/vocational school without experience, (b). SKT Level III, Educated at least DIII without experience or high school/vocational school with at least 2 years experience (c). SKT Level II, educated at least DIII with at least 1-year experience or high school/vocational school with at least 3 years experience, (d). SKT Level I, Minimum S1 education without experience, DIII with a minimum of 2 years experience or high school/vocational school with a minimum of 5 years experience.
Table 1. National skilled construction workers 2013-2015.

| No. | Skilled Construction Workers | Year |
|-----|------------------------------|------|
|     |                              | 2013 | 2014 | 2015 |
| 1   | Class 3                      | 13,895 | 14,657 | 23,400 |
| 2   | Class 2                      | 35,077 | 46,634 | 51,475 |
| 3   | Class 1                      | 73,843 | 108,258 | 146,624 |
|     | **TOTAL**                    | **122,815** | **169,549** | **221,499** |

Source: Indonesian Statistics Agency (BPS - Processed by Consultants) in PUPR 2016 [7]

The development of construction workers from 2013 to 2015 increased from year to year, this can be specified as follows: in 2013 there were 122,815 people, in 2014 there were 169,549 people, and in 2015 there were 221,499 people. The development number of workers continues to increase every year, although the disaggregated data between skilled workers and experts in the construction industry has not been updated. However, it is certain that the number continues to change until the latest skilled workers data in 2018 amounted to 616,000 people. The development of skilled workers in the construction industry, although increasing every year but is still far from expectations when compared to the total construction workers recorded until 2018 amounted to 8.3 million people [3]. This has become a challenge for all related parties relating to construction services starting from the government, LPJK, professional construction services association, contractors and the construction industry who employ them to be responsible for the process and facilitation for workers to access skilled labor certification.

The data from interviews with informants, which shows and reinforces the still lack of information and ownership of skilled labor certificates among construction workers, even though they work on medium and large projects. The total informants 88% admitted that they still did not have an understanding of certification due to lack of information. This information is usually obtained from their foremen, even if the company they employ requires (for example, related to tender requirements). The rest, the certification of workers is still not understood, let alone felt its benefits by the workers. On the other hand, in the discussion, it was revealed that certification for construction workers would provide many benefits both for the workers themselves and for the companies/industries that employ them. For workers will increase self-confidence, have proof of competence that is recognized, greater career opportunities, measurable skills/skills parameters and have an impact on the level of welfare of workers [8].

Basically, a skilled construction worker (architecture) is divided into several work competencies. Based on data obtained on the official website of [9], there are nine classifications of work competencies skilled workers that can be selected as competency qualifications. The expertise competence are: 1) Stonework and Bricklaying; 2) Woodworker; 3) Landscaper practitioner; 4) Painter (level 1); 5) Multilevel door and window jamb; 6) Ceramic plugs (floor and wall); 7) Ceiling fixer (level 1); 8) Plasterer, and 9) Landscape gardeners (level 1). Certification of the nine expertise competence can be submitted to LPJK independently or through associations (business entities) by following the schemes and processes established by LPJK. In general, the implementation of labor certification consists of several stages including acceptance of application, check of file completeness, verifying and validating data by the organizer association, and conduct classification and qualification assessments conducted by Unit Sertifikasi Tenaga Kerja (USTK). USTK of construction services (Architecture, Civil, Mechanical Electrical, Environmental Management, and Implementing Management) in Permen 10/2010 consists of the steering element, implementing element (implementing chief, administration, and quality management), and labor assessor. The National LPJK Management determines the registered SK of the VVA Organizing Association and the national LPJK implementing body in charge of receiving requests, compile a checklist, conducting an audit of documents and office surveys and file validation [10].
4. Certification dilemma

The needs of the construction industry for certified skilled workers are still far from what was expected. The number of skilled workers increases each year, but the increase is not proportional to the total number of construction workers involved in various construction projects. The acceleration of the achievement of certified skilled workers is still constrained by various factors, most workers do not get enough information about certification. Knowledge, understanding, and usefulness of certification have not been conveyed adequately, because the system related to the problem has not been well integrated, between the government, LPJK, education and training institutions, construction service associations and certification body associations. On the other hand, the growth of the construction industry continues to increase every year, from the industry side the need for skilled workers who respond to a variety of new materials and technologies is needed. The centralization of the system that manages the certification of construction workers in one institution (LPJK) is considered ineffective and tends to be an obstacle in its implementation because it is considered "unilaterally controlled". The high cost of certification will burden workers, while the welfare guarantee for certified workers is also unclear. That is the reason, the problem of construction workers, especially skilled workers, still requires a comprehensive solution and commitment from all parties to improve the qualifications of skilled workers so that they can compete with workers from outside.

Several research findings indicate many factors that cause many construction workers in Indonesia who do not have skills certification. These factors include regulations on ownership of skills certificates that are not too binding (not really needed to get a job), ownership of certificates also does not guarantee an increase in position or income [11]. Besides, expensive cost factors hampering construction workers in obtaining certificates [12]. Global Construction Report in 2025 projecting the average growth in the Indonesian construction sector projecting the average growth of Indonesia's construction sector in the range an average of 6% from 2012 - 2025. In that period, it is estimated that there will be an increase of five ranks from the 10th position to the 5th position in the world's largest construction market. This growth shows that the construction sector is always dynamic and remains an indicator of economic growth. Infrastructure development in each region, both city, and village also allows the absorption of labor in this field. However, absorption of labor in the construction industry sector is not proportional to the increase in work quality.

The vocational skills of construction workers still require commitment from all parties to encourage increased qualifications of skilled workers in the field of construction, in accordance with the skills certification requirements. Skills certification is one means to declare that someone is competent and professional in their field [13]. By having a certificate of skills in an occupational field, a person will get written evidence of recognition for the work skills he has mastered.

5. Conclusions

The large gap between construction workers on the one hand and the demands of modern industry and the prerequisites for skills certification, on the other hand, become a major problem in the employment system in the construction industry. The needs of the construction industry for certified skilled workers are still far from what was expected. The number of skilled workers increases each year, but the increase is not proportional to the total number of construction workers involved in various construction projects, this means that the need for certification of expertise or skills becomes a bridge for construction workers (builders) to get recognition for their expertise/skills. Increasing the achievement of certified skilled workers is still constrained by various factors including traditional work culture, lack of certification knowledge and information, and institutional system of certification that has not been well integrated, difficulties for workers' access to education and training to develop skills, and recognition indicated by an increase in welfare regarding minimum wages.

The work culture that is still traditional, which has been inherent in construction workers, is indeed difficult to change because the education and knowledge that has been passed down by their parents have been embedded in their mindset. However, some of the wrong mindset in working, especially in terms of personal safety such as the application of OSH in construction projects need to be given
knowledge and understanding, through training in construction services certification, which includes competency standards of various skills and skills that must be applied in the implementation of construction projects by workers building. Then, the lack of information and ownership of skilled labor certificates, because of the limited access of workers to education and training to develop skills, is the duty of the government and related parties to further enhance socialization and provide information to construction workers about the benefits of certification for both the workers themselves and for companies/industries that employ them. For workers will increase self-confidence, have proof of competence that is recognized, greater career opportunities, measurable skills/skills parameters and have an impact on the level of welfare of workers regarding minimum wages.

Meanwhile, the knowledge, understanding, and benefits of certification have not been conveyed optimally to construction workers because the institutional certification system has not been well integrated between the government (Ministry of PUPR), LPJK, BNSP, educational and training institutions, construction service associations and certification association associations, harmonization strategies and policies are needed between related parties. The certification system implemented by LPJK, BNSP, ESDM, and PII, requires harmonious arrangements to coordinate with each other in obtaining certificate recognition from each institution, which gives construction workers access to obtain expertise/skills certification as a form of recognition of the expertise and skills possessed by construction workers in Indonesia.

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