

# Readiness Of Parties On Certification Of The Construction Skilled Workers Competencies: Case Study Of Mass Competency Test In Jakarta, Semarang And Jepara

Sutik

**Abstract:** The acceleration of infrastructure development in Indonesia gives a consequence of construction labor needs. However, the disparity of certified labors at national level is only 9% out of 7 millions labors. This research aims to evaluate the readiness of skilled labor assessment process in mass assessment. The research method used was case study in 3 cities; Jakarta, Jepara, and Semarang. The strategy to answer the research purpose was by conducting interview towards 8 assessors with experience more than 10 years and have good reputation in Central Java. The research results identify five basic aspects which differentiate the result of assessment test from the assessors in three study location; they are discrepancy of labors' qualification before the test, location factor and the condition of test facilities towards the completeness and quality of the test process, the format of assessors' assessment towards the decision on the competence level, the number of total participants in one assessment period and the ratio of the participant per assessor as the workload indicator of an ideal assessment.

**Keywords:** readiness, assessment, competence test, skilled labors, assessor

## 1. INTRODUCTION

The consequences of infrastructure development growth in the world, including in Indonesia today, where not only in terms of the number of construction workers that must be met but also at the same time a competent and competitive worker towards the expanding construction market [1, 2]. If that is fulfilled, it will be able to encourage the achievement of a more prosperous Indonesia in a more tangible manner. Thus, the training and certification mission is no longer to create a competent and professional construction worker, but rather to make the construction worker directly contribute to improving the competitiveness of the construction business and protection for the community, in accordance with the current Construction Services Act No. 18/1999 has been amended into Law No.2 of 2017. Productivity is one of the competitiveness factors in the construction industry [3, 4]. Increased productivity will reduce the time of work which means it will reduce costs, especially the cost of work so that a minimum labor cost is obtained to get competitive prices both for auction and implementation [4, 5]. Employee productivity often happens due to the possibility of inconvenience in work, minimal wages, and also dissatisfaction at work. In the implementation on the field, this can sometimes occur because the worker is less effective in the work. Decrease in work productivity is a common problem for every project implementer. If this is not handled properly then the implementation of the work of a project can experience delays from the time the work implementation that has been set in advance. The productivity of labor, especially good skilled labor is very necessary for the success of construction projects. Labor

productivity will also greatly affect the magnitude of the profits or losses of a project [6, 7]. Thus, the labor certification system is expected to be able to provide quality standards for the construction industry in the future. However, the phenomenon of construction and building failures in several projects in the regions raises two research questions: (1) Has the worker assessment stage been effective in Indonesia, especially in Central Java? and (2) How to measure the competence of our worker and the problems faced so that a sustainable skilled labor certification system can be developed for construction services in the area.

### 1.1 Statement of the problem

Indications of several building quality issues in construction projects, especially in the regions, lead to several perspectives, namely the effectiveness of the regulation of skilled labor and the competency standards that apply to the assessment process [8, 9]. The low level of skilled labor education in Indonesia (BPS, 2017), and work experience factors are two things that are still being debated especially on the issue of the SKKNI construction worker [10, 11]. The assessment process carried out should be based on regulations determined by the government as National Construction Trustees. However, the challenges and needs of the construction market are developing rapidly. Thus, the consistency of regulations and market needs is a phenomenon that must be addressed how the readiness of the process of assessing skilled workerforces for stakeholders is more effective, both to the mandate of regulation and the needs of sustainable construction industries.

### 1.2 Research purposes

This study aims to evaluate the process of assessment of skilled workerforces according to the regulatory standards that apply to the LPJK (Lembaga Pengembangan Jasa Konstruksi or Institute for Construction Services

Development) for skilled workerforces (SKTK). The objectives of this study are:

- Analyze the factors causing readiness of the mass competency test of skilled workerforces in several locations with different characteristics.
- Analyzing the effectiveness and constraints of the process of assessing the competency test of skilled workers from the perspective of the assessor especially in the mass competency test.
- Identify the fundamental factors causing differences in the results of competency tests by assessors in the specified case studies.

## 2. THEORITICAL REVIEW

### 2.1 Development of skilled construction workers in Indonesia

According to LPJK data [10, 11] the number of construction workers in Indonesia who have an Expert Certificate is 163,518 and who have Skilled Labor Certification is 450,313. The BP construction data of The Ministry of Public Works (PU) noted that the number of construction workers in Indonesia only reached 6.3 million. Of that amount, only 10% of experts, 30% of skilled workers and 60% of non-skilled labor. Of that number only around 125,000 experts have certificates and 380,000 are skilled workers who have certificates. While others do not have certificates. The ownership of competency certificates by construction workers is still very minimal, both for skilled level and expert level. Several analyzes have been put forward on the

causes raised in the research conducted by Arifin [2]. Based on the results of interviews with construction experts working in the Department of Public Works and questionnaires on 104 experts members of the professional association of the Indonesian Engineers Association or *Persatuan Insinyur Indonesia* (PII), the Association of Indonesian Construction Experts or *Asosiasi Tenaga Ahli Konstruksi Indonesia* (ATAKI) - (Jakarta), Association of Indonesian Construction Experts or *Himpunan Ahli Konstruksi Indonesia* (HAKI) - (Jakarta), Indonesian Architects Association or *Ikatan Arsitek Indonesia* (IAI) - (Jakarta), and Indonesian Soil Engineering Association or *Himpunan Ahli Teknik Tanah Indonesia* (HATTI) - (Jakarta), it was obtained information on why many construction experts are not interested in having a certificate of expertise (SKA). The three main causes are the expensive certification process (19%), no influence in employment / benefits (18%), and no law enforcement (14%). Furthermore, the same respondents were asked about "What should the Government do so that more Indonesian construction experts are certified?" Three answers with the largest percentage are: certified experts receive guaranteed employment and are paid more (16%), certification for young experts are subsidized by the Government (14%), law enforcement, and black lists are applied for non-certified experts (12%). In comparison with ASEAN countries, the largest construction workforce from Indonesia is at the unskilled level (50.1%), while those who have expertise at the supervisor level are only 1.5% and are below the level of construction workers from the Philippines and Thailand. For more details, it can be seen in the table 1.

**Table 1. Percentage of Construction Workers' Skills Level.**

Country	Number	Unskilled (%)	Semi-Skilled (%)	Skilled (%)	Supervisor (%)
Philippines	1.160	41,7	8,3	41,7	8,3
Thailand	6.342	54,4	18,2	18,2	9,1
Myanmar	1.121	47,2	19,4	30,6	2,8
Indonesia	92.805	50,1	23,2	25,1	1,5
Bangladesh	26.464	47,4	33,6	17,5	1,5

**Source:** Azis in Adi and Wibowo [12]

Human resources play an important role in construction development, in order to achieve a construction activity, human resources that are ready to use, creative, skilled, high-quality and professional are needed. Utilization of the construction worker is an effort to obtain optimal results with the use of minimum worker in the construction field, which means that the potential of the worker involved in each work activity is used carefully, economically, and systematically [13].

## 3. RESEARCH METHODS

### 3.1. Research Location

This study will take the location of case studies from the mass competency tests conducted by LPJK assessors. Some examples of assessment activities will be taken from 3 cities, namely Jakarta, Jepara and Semarang. At that location, mass competency tests have been conducted.

### 3.2. Data Collection and Processing Techniques

The research method used is a case study with a qualitative approach. The strategy of obtaining data was by using an analysis of assessment documents from selected cities in Central Java and semi-structured interviews with thematic question topics. Documents to be analyzed include:

- Qualification documents for prospective skilled workers
- Statistic data on competency test participants per skill field.
- Reference data for LPJK competency test assessment
- The assessor's notes on the competency testing process of skilled workers.
- Data assessor owned by competency test institutions (LPJK)
- Competency test guidelines that are still relevant

Semi-structured interviews were carried out to obtain perceptions of assessors on competency test standards and map assessor behavior towards the assessment process. A

list of interview questions is built on the main questions. The topic of the question was developed from the interview process itself. The respondents of this study used a qualitative approach, so the number of respondents was not binding, but based on the level of saturation of the answers to the topics discussed. Respondents involved in this study consisted of 8 assessors of skilled worker in the Central Java region. Respondents to be interviewed were selected based on experience and competence as assessors of skilled worker. Before being interviewed, respondents will be asked to fill out a willingness form. The assessor distribution was chosen purposively with the following considerations:

1. The assessor has sufficient experience and is considered objective for the past 10 years.
2. The selection of assessor respondents is based on a record of experience and in-depth information from fellow assessors in the Central Java region through an assessment association so that the information is quantitatively accountable, but qualitatively the respondent's reputation describes

the assessor's profile which is considered objective and reputable.

The results of interviews with respondents were processed using descriptive methods to answer the research hypothesis.

## 4. RESULTS AND DISCUSSION

### 4.1 Results of Construction Workers Competency Assessment

In this study, assessment data from three assessment activities carried out by assessors from the Central Java LPJKP was used. The data used was an assessment of the acceleration program for worker certification or called the Mass Competency Test. The three assessments consisted of three cities namely Semarang, Jakarta and Jepara. The name of the project cannot be mentioned to maintain the confidentiality of the assessment data. The profile of the assessment results of the three cities is presented in table 3.

**Table 3. Recapitulation of Assessment Results for 2017 SKTK Competency Test**

City	Number of Location	Number of Assessor	Number of Participants	Number of SKTK (Competence)	Level of Passing Test (%)
Jakarta	8	35	874	849	97
Semarang	1	30	450	339	75
Jepara	1	9	146	128	88
Total	10	74	1470	1316	Average= 87

Source: LPJKP Central Java (2017)

In Table 4.1. it shows that in the mass competency test of 10 test locations involving 74 assessors. The number of participants who took the competency test was 1,453 workers. Test graduation rates is varies, for competency tests in Jakarta the graduation rate is 97%, in Semarang 75% and in Jepara 88%. The difference in graduation rates also varies from the number of participants and the ratio of participants to assessors. Based on the competency test assessment data at the locations of Jakarta, Jepara and Semarang, there were differences in the ratio of participants

to assessors. Jakarta has a fairly high ratio, where an average of one assessor tests 20 participants. If seen in more detail, 8 assessments in Jakarta in two locations had a relatively large number of participants, 168 participants of SCBD projects and 451 participants of PIR projects. This condition when compared to assessments in the other six projects has a large gap because the assessment process from one of the projects exceeds the average of the total assessment carried out. The full data on assessment results in Jakarta in this study is presented in table 4.

**Table4. Results of the Jakarta-based Mass SKTK Competency Test Assessment**

Project Code	Number of Assessor	K	BKP	Total Participants	Ratio of Participants/ Assessor
1PVC-1	3	22	0	22	7
1PVC-2	3	15	0	15	5
CG-1+2	6	82	5	87	15
LAS	3	22	0	22	7
MKO	3	60	1	61	20
RPMK	6	35	13	48	8
SCBD	9	162	6	168	19
PIR	11	451	0	451	41

Description: K = Competent; BKP = Not Competent.

Source: Central Java LPJKP (2017)

Whereas in Jepara has relatively different conditions with an average ratio of 16 people per assessor and Semarang was 15 people per assessor. The difference in assessment results in Jakarta with the assessment results in Jepara and Semarang due to the project location which is the same, but

the proportion of participants is more evenly distributed. Nevertheless, the results of the assessment in Semarang have far more participants than in Jepara. The SKTK competency test results in Jepara is presented in Table 5.

**Table 5. Results of the SKTK Mass Competency Test Per Location of Jepara**

No	Location	Project Code	Number of Assessor	K	BKP	Ratio of Participants/ Assessor
1	Jepara	TJB1	3	46	10	19
2	Jepara	TJB2	3	37	6	14
3	Jepara	TJB3	3	45	2	16
<b>Total</b>			9	128	18	16

*Description: K = Competent; BKP = Not Competent.*

The assessment characteristics in Semarang, including mass testing, were carried out in the same period of one apartment and hotel project with more than 400 workers. The assessment process in Semarang, in some classes has a ratio of 20 participants per assessor (SMR Classes No. 8

and 9). However, the average number of participants per class is almost evenly around 40 participants. The results of the SKTK competency test in Semarang are presented in full in Table 6.

**Table 6. Results of the Assessment of the SKTK Mass Competency Test Per Location in Semarang**

Project Code	Number of Assessor	K	BKP	Total Participants	Ratio of Participants/ Assessor
SMR1	3	36	1	37	12
SMR2	3	26	10	36	12
SMR3	3	26	11	37	12
SMR4	3	20	21	41	14
SMR5	3	32	15	47	16
SMR6	3	35	5	40	13
SMR7	3	27	13	40	13
SMR8	3	49	18	67	22
SMR9	3	41	19	60	20
SMR10	3	41	4	45	15

*Description: K = Competent; BKP = Not Competent. Source: Central Java LPJKP (2017)*

The unpreparedness of the parties can be seen in this assessment process, one of the factors is the test time which is only 2-3 days. The assessment conditions in Semarang and Jakarta have similar test processes in terms of the number of assessment participants. However, if it is seen from the rationality of implementation, there is a considerable difference in the fairness of the assessment process. If an assessor has the burden of assuring up to more than 20 people in a duration of 2-3 days, it is considered less realistic. The very fast competency testing process with large numbers has several limitations, including:

1. An assessor is a person with a normal level of fatigue working on average for 8 hours a day.
2. The experience of an assessor can never be linear with any assessment standard if done in large numbers. The standard class ratio of the learning process is around 20-25 people.
3. The assessment process carried out only with interviews has a weakness of high subjectivity.

As a justification for the analysis, interviewees were conducted purposively with sufficient experience to obtain in-depth information related to the assessment process they carried out on competency testing of skilled workers with LPJK assessment standards.

#### 4.2 Difference in Results of Construction Workers Competency Test Assessment from the Assessor Perspective

Based on data from the assessment of case studies in 3 cities, Jakarta, Jepara and Semarang, the fact that the assessor's format has differences is obtained. At least there are two types of assessment methods for assessors' competencies, namely numerical values and non-numerical values, or only mention competent (K) and not yet competent (BKP). The format of the assessment according to the regulations of the Institute (Perlem) No. 9 of 2012 concerning the establishment of the Construction Workers Certification Unit has been given a clear enough reference. In Paragraph 3 of page 24 Perlem No. 9 of 2012 explained about Competency Assessors. In this section, it mentions the Assignment's Tasks and Functions as an appraisal of worker competencies, which in this case particularly skilled workers in construction. However, one that is not explained in detail in the process of determining competency is by the form of numerical value or narrative explanation or decision directly from the competency category (K or BKP). This condition, especially in Central Java, began to be implemented in 2017. The fact is, from the results of observations in the field, the assessment of the competency of skilled workers is not the same and its nature tends to be subjective from the assessors.

### 4.3 Readiness of Mass Competency Test seen from Test Results and Perception Perspectives on Asean: Triangulation Approach to Administrative Documents

The consistency of the assessor's statement during the interview needs to be tested with supporting data that is relevant to the assessor, such as portfolio documents and field notes for each assessor. The track record of the competency test process is a variable that affects the final outcome of the assessor's decision. Six of the eight assessors in Competency Test for Construction Workers stated that the process had not been effective. Some of the issues conveyed by respondents concern several things about the condition of readiness of mass competency tests, as follows:

1. The assessment process takes time, it can't be rushed.
2. SKTK participants which have an educational background that is diverse or not all from the Engineering field.
3. The mass competency test has limited time and the procedure is not ideal (comparison of several locations, including case studies taken).
4. The sub-field of study has not been effective, especially for carpentry.
5. Briefing of workers must be adjusted to the competencies to be achieved.
6. The cost factor is still a gap for skilled workers in the field with income below the average (UMR)
7. Competency testing has not become a culture of the national workers especially in the region. Therefore, it still needs intensive socialization.

The success of the competency test can also be seen from the process. Respondent respondents explained several facts from their experience. The process of competency testing according to respondents should include several basic aspects, including:

1. Debriefing measurable for competency test participants before taking the assessment.
2. The written test process is an early indication of worker assessment.
3. The frequency of training must be more intensive, not only when the test will be conducted
4. The practice exam must remain because the skills can only be seen at work, not in writing.
5. Uniformity of the assessment process is still not fully implemented in practice.

Based on data from worker competency test results in 3 cities which are case studies in this study provides an indication that is relevant to the statement of respondents of the assessors. Several themes discussing the issue of worker readiness at this time include the implementation of competency test methods and instruments. Furthermore, from the interview, there were some data about the obstacles found by the assessors. The suitability of the proposal of the competency test participants to the results of practice when assessment became the main issue of the assessors. Some facts found, among others, are individual

prospective assessment test participants who are not yet experienced and do not have an educational background suitability or adequate skills experience. Institutionally, sometimes a business entity also sends their workers to the process of certifying skilled workers not to be counted according to their suitability. Another fact is that the masons who participated did not have any preparation or had never participated in the training so that the test was not able to complete the test material in accordance with the minimum standards. The most basic thing about competency test ability is that those who take the assessment have a professional profession and work as a handyman. However, in fact some competency test participants do not work as construction worker. This dilemma of the competency test process raises the problem of the quality of certified skilled workers. The standard assessment procedure often takes longer due to the correct test stages that have several aspects tested. For example, testing skilled buildings. The competency test of construction worker should show their skills from the bowplank installation process. This is explained by Respondent Assessor A06: "... from making bowplank to finishing. But I think that during the assessment for 2 days, it is not enough, so if I can go forward I suggest that the method be changed. For workers whose public buildings must have 10 training certificates starting from foundation workers must be able to make bowplank planning must be in accordance with the size, the foundation itself varies and must master. I have to divide the work in just one building, there are approximately 15 specific artisan fields." Some things that contradict the current situation are during the mass assessment, where the test time and the number of participants are not balanced with a ratio of more than 10 test participants per assessor. So, the issue of competency testing impressed formality, there were times when assessors had to assess 20 - 30 participants at once, as the Respondent A07 said: "Sometimes we are more calculated when our assessment is very much, for example a day is burdened by 20-30 people with limited time. So it's the duration and lots of participants, so we can't dig into details." If we evaluate the level of graduation from the competency test participants, there is a gap in the graduation level of the three cities studied. Jakarta has a smaller percentage of failures than the other two cities. The readiness conditions of test participants and supporting facilities based on the results of interviews with assessors illustrate these conditions, as presented in Table 10.

**Table 10. Percentage of Failures in the Mass Competency Test**

Project Code	Failure Percentage (%)	City
1PVC-1	0	Jakarta
1PVC-2	0	Jakarta
CG-1 dan 2	6	Jakarta
LAS	0	Jakarta
MKO	2	Jakarta
RPMK	27	Jakarta
SCBD	4	Jakarta
PIR	0	Jakarta
TJB1	18	Jepara
TJB2	14	Jepara
TJB3	4	Jepara
SMR1	3	Semarang
SMR2	28	Semarang
SMR3	30	Semarang
SMR4	51	Semarang
SMR5	32	Semarang
SMR6	13	Semarang
SMR7	33	Semarang
SMR8	27	Semarang
SMR9	32	Semarang
SMR10	9	Semarang

Source: Sutik (2019)

#### 4.4 Readiness of Parties on the Construction Workers Assessment: Case Study of Mass Assessment

The assessment results data from mass assessment case studies in Jakarta, Jepara and Semarang are facts that need to be discussed more deeply, not only based on quantity but also qualitatively. The assessment system for skilled workers according to LPJK standards is generally descriptive. So, in providing opportunities for differences in how to assess the assessors is quite diverse. Although, the certification decision is generally also descriptive. The role of the assessor as a recommendation provider on the minutes of competency tests as outlined in section 4.2. has revealed several obstacles in the process of assessing skilled worker that is quite diverse. The effectiveness of the skilled worker competency test process is influenced by factors of Administration, Technical factors and Socio-Economic factors. Administrative factors are all things related to the registration preparation process and supporting documents for the assessment process. Technical factors include things

that are technical in the implementation of competency tests, namely briefing schedules, duration of assessment, preparation of facilities and infrastructure, ideal ratio of the number of assessors to the duration of an assessor, and suitability of sub-fields of competence with participants who register and take skilled certificate tests. Socio-economic factors arise as a consequence of the market mechanism, that certification should be the needs of our worker. However, on the other hand the income of artisans or skilled workers is not standard because there is still a disparity in income and national awareness of ownership of labor certificates. Even though the Construction Services Act No.2 of 2017 mandates that construction workers must be certified, the implementation of these regulations has not been effective in practice. Comparison of conditions from the results of assessments at the Jakarta, Jepara and Semarang case study locations can be explained from the factors constraints or problems that arise in the process which can be categorized as in table 4.11.

**Table 11. Factors Influencing Differences in Assessment Results in 3 Locations**

Distinguishing Factor	Jakarta	Jepara	Semarang
Labors' Qualification	Very High	Medium	Medium
Condition of Competence Test Facilities	Very Complete	Complete	Complete
Assessment Format	Narrative	Number	Number
Number of Participants (People)	874	146	450
Ratio of Test Participants Per-Assessor	20	16	15

Table 10 compares the differences in principles from the competency test results, indicating that the more the number of test participants in a period of assessment will increase the assessment burden which is quite significant. Despite the discussion that has been discussed about the ideal ratio of assessors' burden which is in the range of 10 people in one assessment period. In all three locations, the mass assessment had a ratio of more than 10 participants per assessor. The highest conditions occurred in Jakarta. The assessment process is disproportionate. However, the field observations at the Jakarta test site have very high labor

qualifications. Therefore, the assessment process is relatively easy for assessors. Competency test locations such as Jepara and Semarang, both have relatively different constraints related to the assessment process. The preparation period of the test participants is still becoming the attention of the assessor because several times the test participants were found not ready to be assessed. The results of the above analysis are then presented in a comparison of the current mass assessment readiness conditions as presented in the following table 4.12.

**Table 12. Comparison Analysis of Ideal Condition and Mass Assessment Implementation**

Differentiator	Aspect of Assessment
	<b>Input</b>
Ideal	<ul style="list-style-type: none"> <li>a. Files as required are completed.</li> <li>b. Before the competency test / assessment is carried out by AKTK, the training has been given sufficient training (KKNi standard) in accordance with the competency standard.</li> <li>c. When training is carried out, material must be reproduced more in these following topics: applications, simulations / practices and or case studies.</li> </ul>
Implementation	<ul style="list-style-type: none"> <li>a. Required files are incomplete.</li> <li>b. It is very rare that before the competency test / assessment is carried out by AKTK, the training has been given sufficient training (KKNi standard) according to the competency standard.</li> <li>c. It is very rarely happens that when training material is reproduced in: applications, simulations / practices and or case studies.</li> </ul>
Gap	<ul style="list-style-type: none"> <li>a. There are requirements that are not yet complete, but SKTK remains.</li> <li>b. Knowledge / understanding is not the same between ases.</li> <li>c. SKTK holders have the potential / unable to make applications in the field.</li> </ul>
	<b>Process</b>
Ideal	<ul style="list-style-type: none"> <li>a. Participants are construction service workers.</li> <li>b. Having sufficient work experience in accordance with the material to be tested or working in the field of construction services.</li> <li>c. The test material should be comprehensive in accordance with the competency test standards (SKKNI)</li> <li>d. Test facilities / infrastructure is in accordance with competency test material.</li> <li>e. The number of participants per class is ideally 20-25 people.</li> <li>f. The testing team consists of 3 Construction Workers Competency Assessors (AKTK) according to their competence fields.</li> </ul>
Implementation	<ul style="list-style-type: none"> <li>a. Some of the worker tested is not in the field of competence in his field / work.</li> <li>b. The Test Material cannot be comprehensively tested.</li> <li>c. In some regions there are no supporting facilities / infrastructure for competency testing.</li> <li>d. In the mass competency test participants often exceed 20-25 people.</li> <li>e. It is potential to occur when the competency test is not carried out by 3 AKTK.</li> </ul>
Gap	<ul style="list-style-type: none"> <li>a. Educational background is not in accordance with the job.</li> <li>b. Background work experience is not in accordance with the job.</li> <li>c. The ratio of participants is not ideal for the number of assessors.</li> <li>d. The examining assessor is not in accordance with his competence.</li> </ul>
	<b>Result</b>
Ideal	<ul style="list-style-type: none"> <li>a. Pass the competency test and the holder of the work competency certificate is able to carry out assignments in the workplace according to competency standards.</li> </ul>
Implementation	<ul style="list-style-type: none"> <li>a. There were participants who passed the competency test and the holder of the work competency certificate, but their qualifications were doubtful.</li> <li>b. Some Participants are in the Over-Qualification category of their competency standards (example in Jakarta)</li> </ul>
Gap	<ul style="list-style-type: none"> <li>a. Pass the competency test and the holder of the work competency certificate has not been able / unable to do the task in the workplace according to the competency standar</li> <li>b. Disparity in Skilled Labor Competencies in each city or region still occurs.</li> <li>c. The Work Competency Standard has not accommodated some skilled workers whose qualifications are not regulated.</li> </ul>

## 5. CONCLUSIONS

Based on the analysis result and discussion which had been conducted, then it can be concluded as follows:

1. Some factors which show the unpreparedness of mass assessment in the study location were the discrepancy of assessment sub field at the registration, the participants were lack of experience, facilities completeness during competence test and assessment period was too short, and the ratio of participants' number per assessor.
2. Based on its process, mass assessment has some limitations such as the test time cannot be ideal until competence verification through practice test cannot be conducted completely. Assessment method differences become one of the decision cause of competence test certificate because of heterogeneous competence of the assessors.
3. Location factor and qualification of skilled labors are two basic problems of the assessment process. The higher qualification of participants' competence test, then the

test result will tend to be easier to be conducted and its result in general will fulfill the required standard by LPJK. The further the test location from the training center between the construction resources, then the more difficult the competence test process will be, especially its practice test caused of limited facilities.

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