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Analysis of the Implementation of SMK3 in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project at Mutiara Sis Al Jufri Airport, Palu City

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KEYWORDS
SMK3 EARR; 8 new factors of SMK3; factor analysis; the most significant factor

ABSTRACT
This research was carried out by Purwandriono, number f 11222002 with Supervisor Mrs. Nirmalawati and Mr. Tutang Muchtar Kamaludin, with a background in airports that must continue to operate in line with the implementation of Works Construction, wanting to know the influencing factors, as well as the dominant factors and factors the most dominant in the implementation of the Occupational Safety and Health Management System (SMK3) in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project at Mutiara Sis Al Jufri Airport, Palu City. Using the factor analysis method, eight (8) new influential factors were obtained, namely: 1. SOP K3, 2. K3 Reward and Punishment, 3. K3 Work Environment, 4. Role of Management in K3, 5. Role of Workers in K3, 6 .K3 procedures and regulations, 7.K3 implementation, 8.Job safety analysis. This study used a population of 119 staff and project workers and a random sample selection method with the slovin method, a total sample of 55 respondents was obtained. Research data was taken using the questionnaire method, so that the output of data processing was obtained using the factor analysis method, that the factor that had the most significant influence was factor 1 (Standard Operating Procedure/SOP K3), with the variable: The company provided Personal Protective Equipment (PPE) to the employees. project workers. (X11 with a loading factor of 0.895)

Introduction

Currently, the pace of building and infrastructure construction is so rapid. With the rapid development, the role of occupational safety and health also increasingly needs attention. However, the reality is that the implementation of Occupational Health and Safety in the project is still not considered important. The application of Occupational Health and Safety that lacks discipline can increase the possibility of work accidents in construction projects. In 2017 the Social Security Administration Agency or BPJS

Employment noted that the number of work accidents in Indonesia has an increasing trend, it is estimated that there were 123 thousand work accidents throughout 2017.

According to statistical data from the Social Security Management Agency, there was an increase of 20 percent compared to 2016 nationally with a total value of accident claims of 917 billion rupiah compared to 2016 of 792 billion rupiah (Saut, 2018). While the International Labour Organization (ILO) estimates the number of deaths due to occupational accidents occurs annually in the Asia and Pacific region more than 1.8 million deaths and two-thirds of deaths that occur due to work in the world occur in Asia. Globally, more than 2.78 million people die from workplace accidents and occupational diseases every year. There are also non-fatal occupational injuries and diseases every year around 374 million cases that mostly result in work absences. (Sintya Rani & Yuliana, 2020)

The implementation of construction projects is a variety / series of activities involving company management, labor, engineering equipment and construction materials. Construction work activities in general are carried out in closed spaces and open fields, sometimes can cause losses such as work accidents, fires, and others, as well as changing weather conditions that can cause disease and health problems.

Therefore, to prevent losses from construction projects, a K3 management system is needed that regulates and can be a reference for consultants, contractors, and construction workers. The implementation of the Occupational Health and Safety Management System (SMK3) in the implementation of construction projects can provide assurance that its performance will continue to meet applicable legal and policy requirements and to help achieve Zero Accidents and Zero Losses which greatly determine the success of construction projects (Resdiawan et al., 2020).

Occupational Safety and Health (K3) aims to prevent, reduce, and even eliminate the risk of work accidents (zero accident). In applying this concept, it should not only be considered as an effort to prevent work accidents and occupational diseases that cost a lot of company costs, but must be considered as a form of long-term investment that provides abundant benefits in the future. There are several main aspects of K3 law, namely safety, occupational health, and real work norms. To realize work safety, there are norms that must be seen which are means or tools to prevent unexpected work accidents caused by work negligence and a work environment that is not conducive.(Mustofa & Marbun, 2019). In the process of carrying out work that often arises and occurs are work accidents and health problems during work. This issue is one that construction service companies should pay attention to.

After the earthquake and tsunami in Palu City on Friday, September 28, 2018, there was damage in the airport area including: (i) the airport air side, namely the runway, box culvert and related mechanical/electrical equipment and (ii) the land side consisting of terminal buildings, supporting buildings, and related infrastructure facilities.

Terminal conditions and supporting facilities at Palu Airport after the earthquake and tsunami in 2018 have now improved. The newly completed improvements aim to keep airport operations running smoothly (Hermawan et al., 2023).

Currently in the Terminal building requires aesthetic improvements and function optimization so that the Terminal looks more beautiful and achieves passenger satisfaction. As for supporting facilities, PKP-PK building reconstruction design is needed, multipurpose building planning for airport support facilities and as an emergency operation center, the development of the Cargo Building to accommodate future capacity building needs according to master plan data, and planning entrance gate facilities and

Security Posts as well as rehabilitation of Official Houses to complete the improvement and aesthetic value of the area (Ariani et al., 2013).

Damage on the airside (runway) is: cracks, slope/slooping runway that changes not according to standards, decreased runway strength, and the need to upgrade the runway area lights. Similarly, in the box culvert area, there are sediment deposits and damage in the form of cracks, as well as peeling off the floor and part of the wall caused by the rapid flow of the river that passes through the box culvert.

Problems on flights are not only plane accidents but also other problems related to the cause of the accident itself, both unsafe act and unsafe conditions, including supporting facilities and infrastructure such as runways, signs and completeness of lights, navigation and others.

Unsafe act is unsafe or safe behavior in workers. Unsafe act occurs because of low awareness and understanding of safety in employees which causes employee behavior to be risky, other things also because of health conditions that are not good in employees both physical and mental health conditions that can cause physical and mental fatigue such as boring, stress, burnout. Unsafe condition is a condition that is not healthy or safe at work. Unsafe conditions are caused by workplace conditions that are not supportive to work safely and healthily, such as unhealthy work environments such as poor lighting, cold or hot temperatures, unhealthy ventilation (Almais et al., 2016).

Plane crashes should not happen because a one-time plane accident can cause tens or even hundreds of people to die. This death has an impact on the high mortality rate in the Indonesian population which has the potential to decrease the length of life of the Indonesian people. Accident prevention and control measures are necessary in order to reduce the risk of accidents on aircraft and employees in the workplace. Occupational safety and health efforts in the aviation sector are mandatory to be able to improve planning and management in the Indonesian aerospace aspect. (Kajian et al., 2020)

The Government of the Republic of Indonesia has obtained financing from the Asian Development Bank (ADB) under Loan 3792-INO Emergency Assistance for Rehabilitation and Reconstructio (EARR) to support the rehabilitation and reconstruction of Mutiara Sis Aljufri Airport, Palu. The Ministry of Transportation (Kemenhub) and the Directorate General of Civil Aviation (Dirjen Perngkae) became the implementing agencies for airport components. Design and Supervision Consultant (DSC) services are needed to prepare detailed designs and supervise such rehabilitation and reconstruction work.

After the design was completed, an auction process was carried out for the selection of prospective implementing contractors, which was then won by PT Adhi Karya (Persero) for both work packages, namely: Civil Works Package 1 (CW-1) / airside and Civil Works Package 2 (CW-2) / landside.

The next stage is a Pre-Construction Meeting (PCM), where the implementing contractor explains the work plan, work methods (Methods of Working Plan/MOWP), organizational structure etc. Similarly, the Design and Supervision Consultant (DSC) also delivered a presentation related to SOP procedures/mechanisms in overseeing the implementation of work in the field.

The Emergency Assistance for Rehabilitation and Reconstruction (EARR) project of Mutiara Sis Al Jufri Airport in Palu City, the physical work has been carried out since October 1, 2021 and is planned to end on August 31, 2023, of course, it will implement an Occupational Safety and Health Management System (SMK3) according to the mandatory of the lender, namely the Asian Development Bank/ADB.

Since the planning phase, a document on HSE (Health Safety Environment) has been prepared which includes the Occupational Safety and Health Management System (SMK3), so that supporting items are raised in the Built of Quantity (BOQ) offer of the Implementing Contractor in order to guarantee the implementation of SMK3 in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) project of Mutiara Sis Al Jufri Airport, Palu City.

The implementation of the Occupational Safety and Health Management System (SMK3) in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) project at Mutiara Sis Al Jufri Airport in Palu City, will be carried out within the scope of terminal building work and also within the scope of runway overlay work, where the difficulty and challenge factors are very large because the airport is still actively operating.

The overlay work is carried out at night, starting at 18.00 WITA and must be completed at 04.00 am the next day because at 06.00 WITA, the runway area must be able to be used for landing and taking off aircraft. Meanwhile, the work of the terminal building area and other locations is carried out from 08.00 to 22.00, so every day it must coordinate with the Airport Implementation Unit (UPBU) as a community service provider at Mutiara Sis Al Jufri airport, Palu City.

This means that the physical construction works mentioned above absolutely must be escorted by the implementation of a good and correct Occupational Safety and Health Management System (SMK3) so that runway overlay work and other physical construction work can run smoothly without any work accidents and the quality of work can still be maintained according to the required technical specifications.

Based on this, researchers are interested in researching more about the application of the Occupational Safety and Health Management System (SMK3) in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project of Mutiara Sis Al Jufri Airport in Palu City.

Research Methods

This research uses quantitative descriptive research methods, which can provide an overview or assessment by conducting analysis with the theoretical basis of literature as a reinforcement of discussion, so that this research can focus on the application of the Occupational Safety and Health Management System (SMK3) in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project of Mutiara Sis Al Jufri Airport in Palu City. The research site is at Mutiara Sis Al Jufri Airport in Palu City, Central Sulawesi and the research time was carried out for 2 months.

Results and Discussions

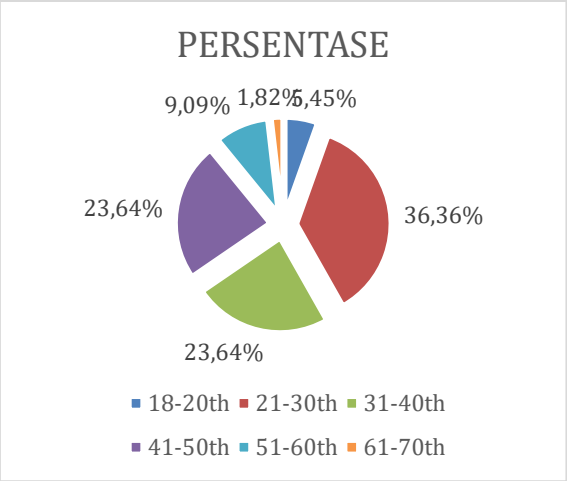
Based on the results of data processing obtained from questionnaire answers and direct interviews with project owners, Project Consultants, Implementing Contractors, and workers, it can be known what factors influence and are the most dominant factors in the implementation of the Occupational Safety and Health Management System (SMK3) in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project at Mutiara Sis Al Jufri Airport in Palu City.

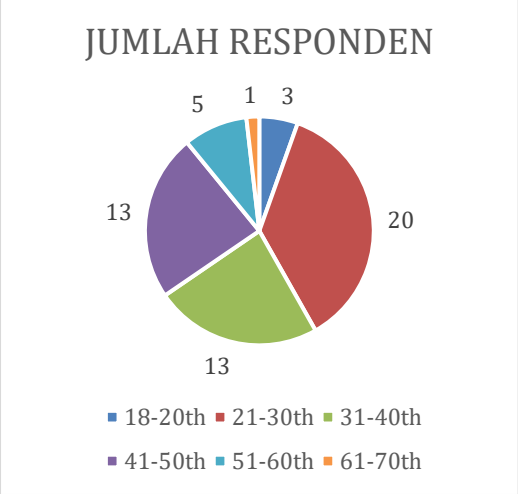
The characteristics of respondents to this study can be described as follows:

By Age

Tabel 1 Age Responden

18-20 years	21-30 years	31-40 years	41-50 years	51-60 years	61-70 years	Total
3 persons	20 Persons	13 persons	13 persons	5 persons	1 persons	55 persons
5,45%	36,36%	23,64%	23,64%	9,09%	1,82%	100%





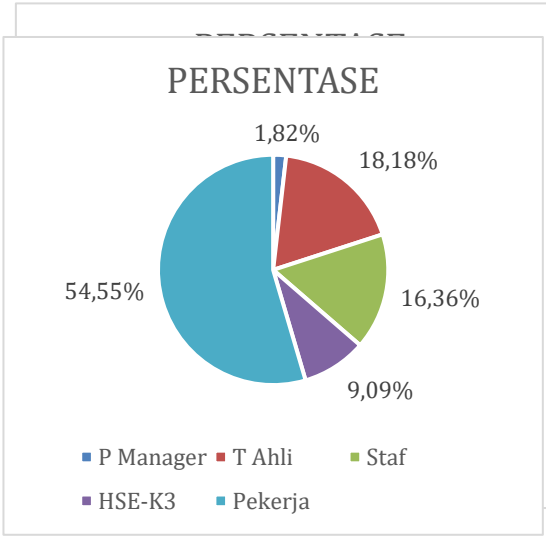
Based on the age of respondents, it can be seen that the age of 21-30 years dominating the percentage of respondents, which is 20 people or 36.36%.

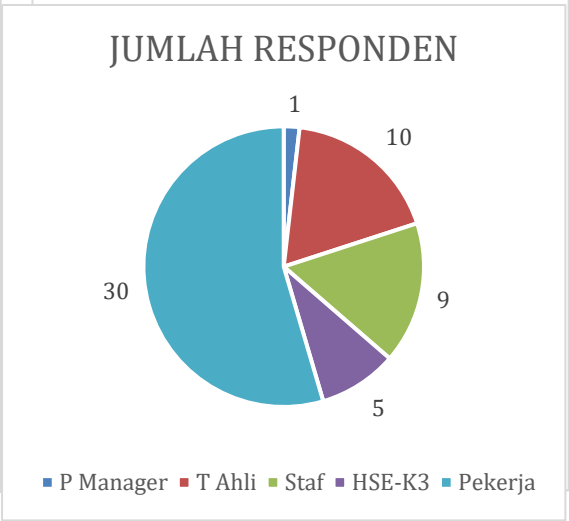
By Education Level

Table 2 Respondents' Education Level

SD	SMP	SMA	D1	D3	S1	S2
6 Persons	8 Persons	18 Persons	1 Persons	7 Persons	11 Persons	4 Persons
10,9%	14,54%	32,73%	1,82%	12,73%	20%	7,64%

Based on the level of education, it can be seen that the high school level is the largest respondent's education, which is 18 people or 32.73%.





Based on Position/Position

Table 3 Respondent's Position/Position

P Manager	T Expert	Staff	HSE-K3	Worker	Total
1 Persons	10 Persons	9 Persons	5 Persons	30 Persons	55 Persons
1,82%	18,18%	16,36%	9,09%	54,55%	100%

Based on position/position, the position of workers is dominant compared to other positions, which is as many as 30 people or 54.55%.

Characteristics of Respondent Responses

Respondents' responses can be described and compiled in accordance with respondents' statements with the aim of determining the tendency of respondents' answers to the statements or questions submitted in the questionnaire. The data presented will show the results of respondents' responses to each variable/question/statement in the questionnaire.

The questionnaire answer choices are displayed in five (5) categories of answer choices, namely: Strongly Disagree (STS), value 1; Disagree (TS), value 2; Neutral (N), value 3; Agree (S), value 4 and Strongly Agree (SS), value 5.

The results of respondents' responses are as follows:

Based on the Mean Value, the frequency distribution of respondents' responses showed that from the 40 variables displayed in the questionnaire, the dominant mean value was obtained from 3.58 to 3.98 contained in 24 variables, namely: X1, X5, X6, X7, X8, X9, X10, X11, X17, X19, X21, X23, X24, X25, X26, X27, X28, X29, X34, X35, X36, X37, X39 and X40. Then the mean value of 4.00 to 4.33 is found in 16 variables, namely: X2, X3, X4, X12, X13, X14, X15, X16, X18, X20, X22, X30, X31, X32, X33, and X38. This means that respondents agree and strongly agree with the application of K3 in the Palu Airport project.

This is in sync with the results of direct interviews with respondents when filling out questionnaires, because most respondents assume that the application of K3 in the *Emergency Assistance for Rehabilitation and Reconstruction (EARR)* Project at Mutiara Sis Al Jufri Airport in Palu City is indeed needed to prevent work accidents and maintain the health of workers.

Diagram 5 above can be clarified by the following table:

Table 4 Variables before and after factor analysis

Variables before factor analysis	Variables after factor analysis
X1: K3 Procedures and Regulations are indispensable	X1: K3 Procedures and Regulations are indispensable
X2: K3 Procedures and Regulations are very easy to understand	X2: K3 Procedures and Regulations are very easy to understand
X3: K3 Procedures and Regulations in their implementation are easy to apply consistently	X3: K3 Procedures and Regulations in their implementation are easy to apply consistently
X4: There are sanctions for violations of K3 procedures and regulations	X4: There are sanctions for violations of K3 procedures and regulations
X5: K3 Procedures and Regulations are periodically improved to increase employee knowledge of K3	X5: K3 Procedures and Regulations are periodically improved to increase employee knowledge of K3
X6: Changes to K3 procedures and regulations must be disseminated to employees	X6: Changes to K3 procedures and regulations must be disseminated to employees

Variables before factor analysis	Variables after factor analysis
X7: Review of K3 procedures and regulations that are no longer relevant	X7: Review of K3 procedures and regulations that are no longer relevant
X8: The Company pays attention to problems that occur during the implementation of K3	X8: The Company pays attention to problems that occur during the implementation of K3
X9: There are efforts by the Company to improve K3 performance in certain periods	X9: There are efforts by the Company to improve K3 performance in certain periods
X10: Company Management monitors the implementation of K3	X10: Company Management monitors the implementation of K3
X11: Company provides Personal Protective Equipment (PPE) to project workers	X11: Company provides Personal Protective Equipment (PPE) to project workers
X12: The lighting and lighting in the project area is good enough to do the job	X12: The lighting and lighting in the project area is good enough to do the job
X13: Equipment and work equipment provided by the Company according to the type and stage of work required	X13: Equipment and work equipment provided by the Company according to the type and stage of work required
X14: The layout of work equipment and work machinery can support work process activities	X14: The layout of work equipment and work machinery can support work process activities
X15: Sufficient material inventory can support the implementation of the job well	X15: Sufficient material inventory can support the implementation of the job well
X16: Ideal air temperature can support the implementation of work well	X16: Ideal air temperature can support the implementation of work well
X17: Noise and vibration due to work, so as not to affect the results of the work	X17: Noise and vibration due to work, so as not to affect the results of the work
X18: The cleanliness of the work environment greatly affects the comfort level of workers	X18: The cleanliness of the work environment greatly affects the comfort level of workers
X19: Workers involved in K3 program planning	X19: Workers involved in K3 program planning
X20: Active workers report accidents or dangerous situations on the job	**Not Worn/Discarded**
X21: Workers asked to remind each other about K3	**Not Worn/Discarded**
X22: Workers are involved in delivering information about K3	**Not Worn/Discarded**
X23: Workers are involved in hazard identification, risk assessment and control determination	X23: Workers are involved in hazard identification, risk assessment and control determination
X24: Workers, with the assistance of competent relevant parties, are involved in the investigation of incidents	X24: Workers, with the assistance of competent relevant parties, are involved in the investigation of incidents
X25: Workers involved in the development and review of K3 policies	X25: Workers involved in the development and review of K3 policies
X26: The company provides regular and continuous briefings in the form of presentations on K3	X26: The company provides regular and continuous briefings in the form of presentations on K3
X27: Coordination between the safetyman and foreman and executor takes place at all times	X27: Coordination between the safetyman and foreman and executor takes place at all times

Variables before factor analysis	Variables after factor analysis
X28: All workers wear standard Personal Protective Equipment (PPE)	X28: All workers wear standard Personal Protective Equipment (PPE)
X29: The Company conducts Job Safety Analysis at all times related to job risks	X29: The Company conducts Job Safety Analysis at all times related to job risks
X30: Work is carried out in accordance with Standard Operating Procedures (SOPs), to ensure the implementation of K3	X30: Work is carried out in accordance with Standard Operating Procedures (SOPs), to ensure the implementation of K3
X31: The company provides an explanation of APAR (Light Fire Protective Equipment) as well as technical practices on its use	X31: The company provides an explanation of APAR (Light Fire Protective Equipment) as well as technical practices on its use
X32: Worker explains the chronology of events (sharing accidents) at the job site	**Not Worn/Discarded**
X33: Company investigates accidents	X33: Company investigates accidents
X34: Workers know the general procedures on the safety of mechanical/electrical and plumbing work stages	X34: Workers know the general procedures on the safety of mechanical/electrical and plumbing work stages
X35: Workers know the general procedures for safety stages of infrastructure work	**Not Worn/Discarded**
X36: Workers know about aviation safety	**Not Worn/Discarded**
X37: All workers are actively involved in K3	**Not Worn/Discarded**
X38: All workers are responsible for the implementation of K3	**Not Worn/Discarded**
X39: Company supports K3 implementation	**Not Worn/Discarded**
X40: Company evaluates routine K3	**Not Worn/Discarded**
TOTAL : 40 VARIABLES	**TOTAL: 30 VARIABLES**

Measuring factors affecting the implementation of the Occupational Safety and Health Management System (SMK3) in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project at Mutiara Sis Al Jufri Airport, Palu City

To measure the factors that affect the implementation of the Occupational Safety and Health Management System (SMK3) in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project at Mutiara Sis Al Jufri Airport in Palu City in this study was carried out by looking at the value of the loading factor against eight (8) factors consisting of thirty (30) variables, where the variables have a loading factor value The highest, then that is the variable that has a dominant value that determines the influence on the implementation of the Occupational Safety and Health Management System (SMK3) on the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project at Mutiara Sis Al Jufri Airport in Palu City.

The following is a detailed description of the factors and variables that are dominant in the implementation of the Occupational Safety and Health Management System (SMK3) in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project at Mutiara Sis Al Jufri Airport, Palu City:

Factor 1: SOP K3 consists of 10 variables, namely:

Table 5 SOP Factors

No.	Variable breakdown	variable	Loading Factor
1.	K3 Procedures and Regulations are indispensable	X1	0,747
2.	K3 Procedures and Regulations are very easy to understand	X2	0,732
3.	The Company pays attention to problems that occur during the implementation of K3	X8	0,779
4.	There are efforts by the Company to improve K3 performance in the period certain	X9	0,744
5.	The Company's management monitors the implementation of K3	X10	0,626
6.	The company provided Personal Protective Equipment (PPE) to the project workers	X11	0,895
7.	The lighting and lighting in the project area is good enough to do the job	X12	0,793
8.	Workers are involved in the development and review of K3 policies	X25	0,771
9.	Coordination between the safetyman and the foreman and executor takes place at all times	X27	0,710
10.	All workers wear standard Personal Protective Equipment (PPE)	X28	0,769
No.	**Variable breakdown**	**variable**	**Loading Factor**
1.	There are sanctions for violations of K3 procedures and regulations	X4	0,744
2.	The cleanliness of the work environment greatly affects the comfort level of workers	X18	0,818
3.	Workers are involved in planning the K3 program	X19	0,756
4.	The Company provides regular and continuous briefings in the form of presentations on K3	X26	0,663

Based on the table above, the variable that has the highest loading factor value is X11 (0.895), where the Company provides Personal Protective Equipment (PPE) to project workers.

This is in accordance with the results of interviews in the field that. This is in line with Hendro Prayogo's (2019) writing that "The company provides Personal Protective Equipment (PPE) to project workers".(Konstruksi, 2020)

Factor 2: Reward and Punishment K3

Table 6 Factor Reward and Punishment

No.	Variable breakdown	variable	Loading Factor
1.	There are sanctions for violations of K3 procedures and regulations	X4	0,744
2.	The cleanliness of the work environment greatly affects the comfort level of workers	X18	0,818
3.	Workers are involved in planning the K3 program	X19	0,756
4.	The Company provides regular and continuous briefings in the form of presentations on K3	X26	0,663

Based on the table above, the variable that has the highest loading factor value is X18 (0.818), namely the cleanliness of the work environment is very influential on the level of worker comfort. This is in accordance with the results of interviews in the field that the cleanliness of the work environment is very influential on the comfort level of workers. This is in line with the writing of Ardian Zul Fauzi et al (2019) that "Efforts to increase labor productivity are by providing Safety induction, rewards, and punishment to workers". (Fauzi et al., 2019)

Factor 3: K3 Work Environment

Table 7 K3 Work Environment Factors

No.	Variable breakdown	variable	Loading Factor
1.	Equipment and work equipment are provided by the Company in accordance with the type and stage of work required	X13	0,741
2.	The layout of work equipment and work machines can support work process activities	X14	0,676
3.	Sufficient material inventory can support the implementation of the work properly	X15	0,749

Based on the table above, the variable that has the highest loading factor value is X15 (0.749), which is sufficient material inventory to support the implementation of the work properly. This is in accordance with the results of interviews in the field that . This is in line with the writing of Bhastary & Suwardi (2018), that " The environment including equipment and layout of work machines and sufficient material supplies can support the implementation of work properly".(Bhastary & Suwardi, 2018)

Factor 4: The Role of Management in K3

Table 8 Management Role Factors in K3

No.	Variable breakdown	variable	Loading Factor
1.	Noise and vibration due to work, tried not to affect the results of work	X17	0,807
2.	Workers are involved in hazard identification, risk assessment and control determination	X23	0,664
3.	Workers, with the assistance of competent relevant parties, are involved in the investigation of incidents	X24	0,619
4.	The Company conducts Job Safety Analysis at any time related to job risks	X29	0,510

Based on the table above, the variable that has the highest loading factor value is X17 (0.807), namely noise and vibration due to work, so as not to affect the results of the work. This is in accordance with the results of interviews in the field that noise and vibration due to work, are tried not to affect the results of work. This is in line with the writing of Bambang Endroyono (2006), that "The role of Management in K3 is very large, including reducing noise, involving workers and conducting K3 analysis".(Endroyo, 2006).

Factor 5: The Role of Workers in K3

Table 9 Factors of the Role of Workers in K3

No.	Variable breakdown	variable	Loading Factor
1.	Work is carried out in accordance with Standard Operating Procedures (SOP), to ensure the implementation of K3	X30	0,857
2.	The company provides an explanation of APAR (Light Fire Protective Equipment) as well as technical practices on its use	X31	0,827
3.	The company conducts investigations into accidents that occur	X33	0,842

Based on the table above, the variable that has the highest loading factor value is X30(0.857), i.e. Work is carried out in accordance with Standard Operating Procedures (SOP), to ensure the implementation of K3. This is in accordance with the results of field interviews that the work is carried out according to SOPs.This is in line with Ryan Adika Putra's writing (2021) that "The head handyman/foreman in addition to having responsibilities in supervising and smooth work is expected to be able to make additional contributions to occupational safety and safety, according to SOPs".(K et al., 2021)

Factor 6: Procedures and Regulations K3

Table 10 K3 Procedural and Regulatory Factors

No.	Variable breakdown	variable	Loading Factor
1.	K3 Procedures and Regulations are periodically improved to increase employee knowledge of K3	X5	0,588
2.	Changes to K3 procedures and regulations must be disseminated to employees	X6	0,524
3.	Review of K3 procedures and regulations that are no longer relevant	X7	0,757

Based on the table above, the variable that has the highest loading factor value is X7 (0.757), which is a review of K3 procedures and regulations that are no longer relevant. This is in accordance with the results of interviews in the field that K3 Procedures and Regulations are indispensable. This is in line with the writing of M Satria Adi Rahim et al, that "To ensure the safety and health of workers and other people in the workplace, as well as production sources, production processes, and work environments in a safe state, it is necessary to implement an occupational safety and health management system (SMK3)".(Rachim et al., 2017).

Factor 7: Application of K3

Table 11 K3 Application Factors

No.	Variable breakdown	variable	Loading Factor
1.	K3 Procedures and Regulations in their implementation are easy to apply consistently	X3	0,679
2.	The ideal air temperature can support the implementation of the work properly	X16	0,770

Based on the table above, the variable that has the highest loading factor value is X16 (0.770), which is the ideal air temperature can support the implementation of work

properly. This is in accordance with the results of interviews in the field that the application of K3 must be easy and consistent, supported by a clean air environment that will nourish workers. This is in line with the writing of Ahmad Ridwan et al (2021), that "The purpose of K3 is to increase the knowledge and understanding of K3 workers and create a comfortable and safe work environment".(Ridwan et al., 2021)

Faktor 8: Job Safety Analysis

Table 12 Job Safety Analysis Factors

No.	Variable breakdown	variable	Loading Factor
1.	Workers know the general procedures regarding the safety of mechanical/electrical and plumbing work stages	X34	0,885

Based on the table above, the variable that has the highest loading factor value is X34 (0.885), namely Workers know the general procedures regarding the safety of mechanical / electrical and plumbing work stages. This is in accordance with the results of interviews in the field that noise and vibration due to work, are tried not to affect the results of work. This is in line with the writing of Stevana et al (2022), that "By using the Job Safety Analysis method, mechanical workers can understand the dangers that will occur if they do not meet the JSA".(Silvia et al., 2022)

Determine the most dominant factors affecting the implementation of the Occupational Safety and Health Management System (SMK3) in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project at Mutiara Sis Al Jufri Airport, Palu City

Based on the descriptions mentioned above in point 4.2.2 determining the factors that influence the implementation of the Occupational Safety and Health Management System (SMK3) in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project at Mutiara Sis Al Jufri Airport in Palu City, it was found that **the most dominant factor was influential** is the factor that has the highest loading factor, namely: factor 1 SOP K3 with the variable, namely X11 (0.895), namely the Company provides Personal Protective Equipment (PPE) to project workers.

Interview researchers with project owners and Design and Supervision Consultants

Researchers want to get more in-depth information about the implementation of the Occupational Safety and Health Management System (SMK3) in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project at Mutiara Sis Al Jufri Airport in Palu City, so researchers conducted interviews with project owners and also Project Consultants with the following results:

1. According to the project owner, the implementation of the Occupational Safety and Health Management System (SMK3) in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project at Mutiara Sis Al Jufri Airport in Palu City is indeed required and mandatory required by the lender, namely the Asian Development Bank (ADB).
2. According to the Design and Supervision (DSC) Consultant, PT Artefak Arkindo Join Operation with PT Indulexco and PT Trans Intra Asia, that in the design phase, DSC Consultant has made a plan for the implementation of the Occupational Safety and Health Management System (SMK3) in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Projectat Mutiara Sis Al Jufri Airport in Palu City, in

accordance with the requirements written in the Terms of Reference (KAK) or in the Terms of Reference (TOR) of DSC Consultants.

So from the results of this interview, it can be concluded that since the beginning of the planning of the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project at Mutiara Sis Al Jufri Airport in Palu City, both from the lender, the Asian Development Bank (ADB), and from the DSC Consultant, planning has been carried out that accommodates and even makes mandatory (mandatory), related to the importance of implementing the Occupational Safety and Health Management System (SMK3) in The Emergency Assistance for Rehabilitation and Reconstruction (EARR) project at Mutiara Sis Al Jufri Airport in Palu City.

Conclusion

The conclusions of this study are as follows dominant factors influencing applicability SMK3 di Proyek Emergency Assistance for Rehabilitation and Reconstruction (EARR) Mutiara Sis Al Jufri Airport Palu City is:
Factor 1: SOP with its variables: Company delivers Tools
Personal Protection (PPE) to project workers. (X11 with loading Factor of 0.895)
Factor 2: Reward and Punishment K3 with its variables: X18 (0.818), i.e. The cleanliness of the work environment is very influential on the level of comfort of workers.
Factor 3: Work Environment K3 with its variable: X15(0.749), i.e. Sufficient material inventory can support the implementation of the workwell.
Factor 4: The role of Management in K3 with its variables: variables that has the highest loading factor value is X17(0.807), i.e. Noise and vibrations due to work, worked so as not to affect the outcome work
Factor 5: The Role of Workers in K3 with its variables: variables that has the highest loading factor value is X30(0.857), i.e. Jobs carried out in accordance with Standard Operating Procedures (SOP), for guarantee the implementation of K3
Factor 6: K3 Procedures and Regulations with their variables having the highest loading factor value is X7(0.757), i.e. a review is carried out against the already irrelevant K3 procedures and regulations.
Factor 7: Application of K3 with its variable having a loading value the highest factor is X16(0.770), i.e. the ideal air temperature can be support the implementation of work well
Factor 8: Job Safety Analysis with variables that have values the highest loading factor is X34(0.885), i.e. Workers know general procedures on the safety of mechanical employment levels/ electrical and plumbing.

Of the eight dominant factors mentioned above, there is the most dominant factor, namely factor 1 Standard Operating Procedure (SOP), with the variable: The company provides Personal Protective Equipment (PPE) to project workers. (X11 with a loading factor of 0.895). So it can be said that the most influential factors on the implementation of the Occupational Safety and Health System (SMK3) in the Emergency Assistance for Rehabilitation and Reconstruction (EARR) Project of Mutiara Sis Al Jufri Airport in Palu City are: factor 1 (Standard Operating Procedures / SOP), with the variable: The company provides Personal Protective Equipment (PPE) to project workers. (X11 with a loading factor of 0.895).

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