

# The Effectiveness of 'Salam Lima Jari' Program in Reducing Work Accidents at an Oil Drilling Company of the West Java

## Project

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## The Effectiveness of 'Salam Lima Jari' Program in Reducing Work Accidents at an Oil Drilling Company of the West Java Project

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**Abstract:** Currently, the development of the industry is increasing rapidly due to the implementation of many infrastructure projects. In addition, each industry has great risks. The drilling industry is one of the industry sectors that have a large risk of work accidents. The risk of work accidents can cause a decrease in productivity, so that it is important to minimize the impact of work accident risks. Oil Drilling Companies have projects throughout Indonesia, including in West Java province. The oil drilling project in this province implemented the 'Salam Lima Jari' program to reduce workplace accidents. Before this program, the number of work accidents was high in 2009-2014, that the company initiated to implement this program from 2015 to the present to reduce workplace accidents. This study aims to identify workers' knowledge and measure the effectiveness of the 'Salam Lima Jari' program applied in reducing workplace accidents in the oil drilling company in the West Java project. This quantitative study used a cross-sectional design involving 69 workers of the project. The data were collected using a questionnaire. The results showed a relationship between knowledge and the 'Salam Lima Jari' program on reducing work accidents at the oil drilling company of the West Java project with a p-value of <0.05. The relationship is significant with the knowledge correlation value of -0.670, and the correlation value of -0.0699 is considered in the strong correlation category in reducing work accidents in oil drilling companies.

**Keywords:** Knowledge, 'Salam Lima Jari' Program, Work Accident Reduction

### Introduction

The drilling industry is one of the industry sectors that has a fairly large risk of work accidents. It is associated with the economy, work location, limited execution time, meeting the targets, and demands for strong physical conditions. Implementing an occupational safety and health (OSH) management system that is still not optimal in the drilling industry can trigger work accidents (Ratman, 2020). Based on the International Labor Organization (ILO) data, more than 1.8 million work-related deaths occur annually in the Asia and Pacific region. Two-thirds of work-related deaths in the world occur in Asia. More than 2.78 million people die each year at the global level due to occupational accidents or illnesses. Besides, there are approximately 374 million non-fatal work-related injuries and illnesses each year causing absenteeism in working (ILO, 2018).

Based on data of the Health Care and Security Agency (BPJS), in 2020, work accident cases increased to 108,573 cases from 77,295 cases in 2019 and 2018 increased to 173,105 cases from 123,041 cases in 2107. (Irkas et al., 2020). Oil Drilling Companies have projects throughout Indonesia, including in West Java. In 2009-2014, work accident data fluctuated so

that the company has initiated to implement 'Salam Lima Jari' Program since 2015 to present to reduce work accidents in oil drilling companies for the West Java project in which the company's operational activities (1) focus on offshore drilling & workovers, (2) focus on leadership and HSE behavior, (3) develop and implement a QHSSE management system and risk identification for new projects (offshore, overseas & enhance PDC), and (4) develop technical competence for offshore drilling & workover personnel (PDSI., 2020).

## Methods

This study used a quantitative approach with a cross-sectional design that focused on measuring the independent and the dependent variable once at the time of measurement. Data were collected using questionnaires, and the results were analyzed to test the proposed hypotheses (Birana et al., 2019). The location of the study was an Oil Drilling company located in the West Java province. The population of this study was all workers of Oil Drilling Company in West Java in 2020 with 239 people. It involved 69 respondents determined using the Lemeshow formula. The data analyzed covered descriptive analysis using univariate analysis, bivariate analysis using Pearson correlation, and multivariate analysis using multiple linear regression.

## Results

**Table 1.** The relationship between knowledge and reduction of work accident

		Knowledge	Reduction of work accident	Degree of Relationship	
Knowledge	Pearson Correlation	1	-0.670	Strong correlation	There is a relation
	Value		0.000		
	N	69	69		
Reduction of work accident	Pearson Correlation	-0.670	1	Strong correlation	There is a relation
	Value	0.000			
	N	69	69		

The results showed that workers' knowledge and reduction of work accidents based on the Pearson correlation reached -0.670 with a strong correlation degree and a P-value of 0.000. As the P-value is <0.05, then there is a relationship between workers' knowledge and the reduction of work accidents at oil drilling companies in West Java.

**Table 2.** The relationship between 'Salam Lima Jari' program and reduction of work accidents

		Human Attitude toward Safety	Reduction of work accident	Degree of relationship	
Human Attitude toward Safety	Pearson Correlation	1	-0.669	Strong correlation	There is a relationship
	Value		0.000		
	N	69	69		
Reduction of work accident	Pearson Correlation	-0.669	1	Strong correlation	There is a relationship
	Value	0.000			

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N	69	69
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The results of applying the 'Salam Lima Jari' program of the Pearson correlation obtained -0.669 with a strong correlation degree and a P-value of 0.000. As the P-value is <0.05, then  $H_0$  is rejected, meaning that there is a relationship between the 'Salam Lima Jari' program and the reduction of work accidents at oil drilling companies for West Java projects

## Discussion

### 1. The relationship between knowledge and reduction of work accidents

The knowledge and work accident in oil drilling companies show a significant relationship. one of the triggers for work accidents was the lack of knowledge of occupational health and safety (OHS). Thus, it is important to improve the knowledge of OHS to reduce work accidents (Kusumaningtyas, 2020). This study is in line with a previous study by Robert Trevethan (2017) entitled Deconstructing and Assessing Knowledge and Awareness in Public Health Research with significant results obtaining a p-value of < 0.050. It indicates that good knowledge of Occupational Health and Safety (OHS) plays an important role in minimizing work accidents in the company. Good knowledge measurement can be done by evaluation, including interviews or distributing questionnaires related to the material available in the company (Hedaputri et al., 2021).

Knowledge can be improved in some ways. A study by Sayahputra (2017) entitled "The Relationship of OHS Knowledge and Motivation with Work Accidents of Production Employees of PT. Borneo Melintang Buana Exports" focused on the use of safety talks before working for all workers to establishing good communication with workers, including talking about Occupational Health and Safety (OHS) to improve knowledge among workers (Kristianti & Tualeka, 2019).

Another study by Dita (Hedaputri et al., 2021) entitled "The Correlation Between Knowledge About Occupational Accidents and Safe Work Behavior Among Employees at the Production Division of PT. X Indonesia" was presented at the ICO-HELIOS International Conference On Health, Technology and Life Sciences showed that good knowledge can minimize unsafe behavior and reduce work accidents with the correlation coefficient value of 0.824 and a p-value of 0.000.7 meaning significant or related (Shangareev, 2018). Another study was conducted in oil drilling companies in Java. The company carried out a safety morning program every morning to follow up and establish good communication so that workers remain obedient and apply knowledge of Occupational Health and Safety (OHS) in the company (Arifin & Chaerudin, 2020).

### 2. The relationship between 'Salam Lima Jari' program and reduction of work accident

The study resulted in the 'Salam Lima Jari' program, and decreased work accidents in oil drilling companies showed significant results or a relationship with a good correlation. The program only exists in oil drilling companies in Indonesia, including West Java. Based on the study results, the number of work accidents in oil drilling companies tended to fluctuate and decreased after implementing the 'Salam Lima Jari' program. This program emphasized management commitment, behavior-based safety, drilling environmentally friendly, quality assurance process, security in all aspects, both physical and non-physical. Besides, the

program also pays attention to leadership in the field, competence, and workers' behavior (PDSI, 2020).

This study is also in line with Arifin & Chaerudin (2020) study entitled "The Transformation Strategy and Safety Implementation of Culture Change At PT. Pertamina Drilling Services Indonesia" The HSE work culture change program during the 2015-2020 period has a strategic plan for all transformations of the HSE work culture until 2030 through the 'Salam Lima Jari' Program. Through a planned and systematic program until 2020, PT Pertamina Drilling Services Indonesia succeeded in implementing HSE Work culture at the Proactive level. The success of the HSE culture will be achieved if it has been supported by a consistent commitment from management and all related units that apply HSE culture as the main lifestyle in the company. Thus, the HSE culture does not stop at employees' cognitive and psychomotor aspects but also holistically becomes an effective worker (Arifin & Chaerudin, 2020).

The "Salam Lima Jari" program in oil drilling companies concerns applies QHSSE in the company environment to increase employee awareness by instilling a work safety culture. The approach process in improving safety, health, and the environment require various strategies as well as innovative, visionary leadership in creating an OHS culture and a safe working environment in oil drilling companies In the Green Drilling program in collaboration with third parties in handling toxic materials and waste generated from operational activities. The third party manages oil based on a permit from the Ministry of Environment. The management of toxic liquids and waste (used oil) produced by operational activities has been regulated in a policy issued by the President Director in collaboration with the Ministry of the Environment. Thus, not all parties can access waste management from rig operations (Arifin & Chaerudin, 2020).

In implementing QHSSE, oil drilling companies use an integrated strategy for a structured and systemic Quality, Health, Safety, Security & Environment program to increase operational efficiency and productivity. This integration is contained in the RJPP (Company Long Term Plan) with Safety Priority, which includes a special program for Leadership Engagement, Awareness & Personal Competence Improvement, 'Salam Lima jari' Program regularly with reactive work accidents results. Thus, the implementation of the 'Salam Lima jari' program has been effective so far and needs to be more developed considering the uncertain needs of the company (PDSI, 2020).

## Conclusion

The study results in oil drilling companies in the West Java project involving 69 respondents obtained a P-value of < 0.050. It means that there is a significant relationship between the knowledge of workers, the 'Salam Lima Jari' program, and a decrease in work accidents. It indicates a strong correlation in reducing work accidents with a knowledge correlation value of -0.670 and a correlation value of -0.0699. Therefore, it can be concluded that the 'Salam Lima Jari' program is effective but must adapt to the conditions and needs of the workplace as the main goal of the program is to reduce workplace accidents in the workplace.

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PAGE 1

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PAGE 2

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PAGE 3

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PAGE 4

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PAGE 5

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