

Implementation of Occupational Safety and Health Systems Mameh – Windesi Road Development Project in West Papua Province

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Abstract. Windesi is a district in Teluk Wondama district, West Papua Province. To reach the research location for the Mameh – Windesi Road Development, the distance traveled is \pm 100 km from Manokwari City, West Papua Province. Various risks can arise at every stage of construction, especially during implementation and operation, so that they can become risks for the owner, implementer, and the surrounding community and road users. This study aims to determine the extent to which the pattern of implementation of construction management in this case the Occupational Health and Safety Management System of the Mameh – Windesi Road Construction Project. This study uses a qualitative and quantitative approach. The results of this study are the application of SMK3 based on the assessment criteria in Government Regulation of the Republic Indonesia Number 50 of 2012 in the Mameh - Windesi Road Development Project in West Papua Province, the level of application is satisfactory with a value of 90.63% for the initial level and 89.34% for the initial level. transition.

Keywords: Application; Occupational Safety and Health; Construction; Road

1 Introduction

Along with the rapid development of construction development in Indonesia, the role of controlling the risk of work accidents is felt to be very important. However, in practice, the implementation of the Occupational Health and Safety Management System (SMK3) is generally still neglected. Occupational Safety and Health aim to prevent, reduce, and even eliminate the risk of work accidents (zero accident). The application of this concept should not be considered as an effort to prevent work accidents and occupational diseases that cost the company a lot of money but must be considered as a form of long-term investment that will provide abundant benefits in the future.

Various risks can arise at every stage of construction, especially during implementation and operation, so that they can become risks for the owner, implementer, and the surrounding community and road users. The main cause of workers being exposed to the risk of work accidents is the use of inadequate work equipment, as well as working hours that exceed the operational hours of work, therefore if there is no guarantee of occupational safety and health for workers, it will cause enormous losses to construction workers.

For this reason, every construction work must have an occupational health and safety control system. HSE (Health Safety and Environment) or Occupational Health and Safety is systematically structured as an organization's management system to achieve its goals,

objectives, and vision in the Occupational Health and Safety aspect so that it will not cause work accidents, injuries, or adverse effects on the environment.

Based on this background, research was conducted on the Application of Occupational Safety and Health Systems for the Mameh – Windesi Road Construction Project in West Papua Province. This study aims to determine the extent to which the pattern of implementation of construction management in this case the Occupational Health and Safety Management System of the Mameh – Windesi Road Construction Project.

2 Research Methods

Windesi is a district in Teluk Wondama district, West Papua Province. To reach the research location for the Mameh – Windesi Road Development, the distance traveled is ± 100 km from Manokwari City, West Papua.

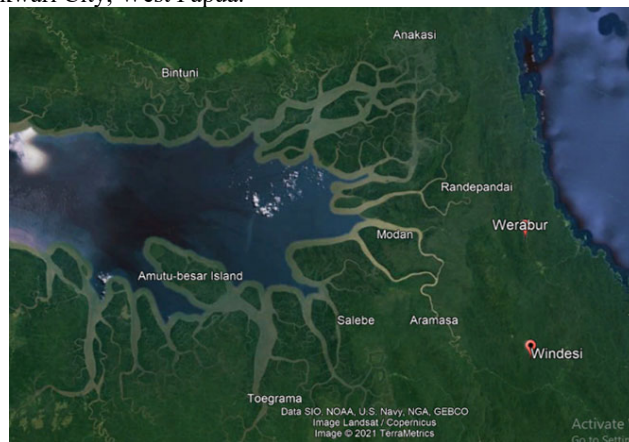


Fig 1. Research Location (Google Earth, 2021)

Broadly speaking, the research method to be carried out is as follows:

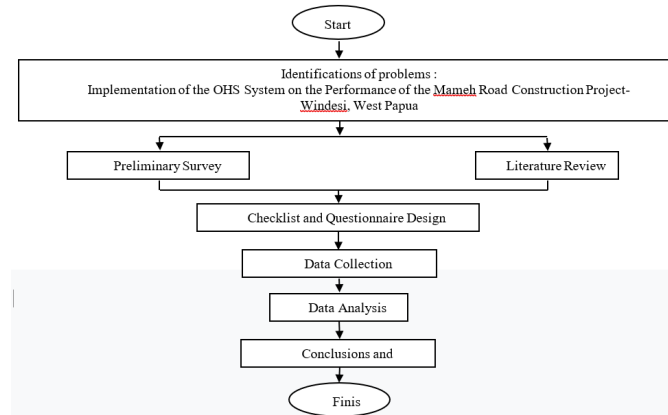


Fig 2. Flowchart of Research Methods

This study uses a qualitative and quantitative approach. Based on the data collection techniques, the research was conducted using survey data collection techniques, interviews, observations, and classified as survey research. The survey was conducted to obtain primary data. In survey research, field data is obtained through direct surveys on the research object.

- a. The survey, to find complete information about the problem from respondents.
- b. Interviews, how to get information by asking directly to the resource person face to face which refers to the list of questions that have been made.
- c. Observation, to complete the information that has been obtained from questionnaires and interviews. Researchers also make observations or make direct observations to the project site.
- d. Literature study.

To obtain secondary data, by looking for supporting library materials, both those that are the basis of research as well as those that are supporting, and references related to Occupational Safety and Health. The Assessment Criteria used following Government Regulation Number 50 of 2012 can be seen in Table 1. Assessment Criteria for the Implementation of SMK3.

Table 1. SMK3 Rating Scale

No	Rating Element
1	Commitment Development and Maintenance
2	Making and Documenting OHS plans
3	Design Control and Contract Review
4	Document Control
5	Product Purchasing and Control
6	Work safety based on SMK3
7	Monitoring Standard
8	Reporting and Fixing deficiencies
9	Material management and movement
10	Service Collection and Users
11	SMK3 audit
12	Skills and Ability Development

SMK3 Implementation Assessment Scale

The level of assessment of the implementation of SMK3 based on Government Regulation no. 50 of 2012, as follows:

- a. For the level of achievement of the implementation of 0 – 59%, including the level of assessment of the implementation is not good.
- b. For the level of achievement of the implementation of 60 - 84% including the level of assessment of the implementation is quite good
- c. For the level of achievement of the implementation of 85-100%, including the level of assessment of the application of very good.

Table 2. SMK3 Rating Scale

Policy Implementation Rate			
Value	Description	Percentage	Description
3 Major	The level of policy implementation is satisfactory	85 % - 100 %	Very Good
2 Minor	The good policy implementation rate	60 % - 84 %	Pretty Good
1 Critical	The level of policy implementation is not good	0 % - 59 %	Not Good

From Table 1. SMK3 Rating Scale, a satisfactory implementation assessment result will be given if all existing standards are implemented very well without exception. The results of the good application assessment will be given if the standard has been applied, but there are still shortcomings in its application. Poor implementation assessment will be given, if only a small part of the applied standards. After the assessment, a percentage calculation will be carried out to find out how many stages have been carried out without exception.

This rating scale is used to obtain a percentage result score in 5 aspects of the Occupational Health and Safety Management System. The following is the formula used:

$$\frac{Value}{FractionalValue} \times 100 \%$$

Information :

Value: Application value that is checked on the list

Fractional Value: The total number of application value items

3 Results and Discussion

The description of the implementation of SMK3 in the Mameh – Windesi Road Construction Project can be seen from the value of the category of SMK3 implementation levels following Government Regulation Number 50 of 2012. Data analysis is obtained from the results of the checklist as follows:

a. Beginning Level:

Total fit : 58 Criteria

Total not suitable : 6 Criteria

Achievement Level : $\frac{58}{64} \times 100 \% = 90,63 \%$

Incompatibility : $\frac{6}{64} \times 100 \% = 9,37 \%$

Applicability Rate : Satisfactory

Based on the observation of the initial level assessment checklist, of the 64 criteria for implementing SMK3 listed in Government Regulation Number 50 of 2012, the results obtained are the appropriate percentage of 90.63% and the non-conformance value of 9.37%. From this data analysis, the level of implementation of SMK3 is categorized as satisfactory.

- b. Transition Level :
- Total fit : 109 Criteria
 - Total not suitable : 13 Criteria
- $$\frac{109}{122} \times 100 \% = 89,34\%$$
- Achievement Level : 122
- $$\frac{13}{122} \times 100 \% = 10,65 \%$$
- Compatibility : 122
- Applicability Rate : Satisfactory

Based on the observation of the transition level assessment checklist, of the 122 criteria for implementing SMK3 listed in Government Regulation of the Republic Indonesia Number 50 of 2012, the results obtained are the appropriate percentage of 89.34% and the non-conformance value of 10.65%. From this data analysis, the level of implementation of SMK3 is categorized as satisfactory.

Application of Zero Accident

According to K3 performance records during the initial work up to the research conducted, no accidents were resulting in lost working days, or the cessation of work processes can be seen in table 3. Accident Cases.

Table 3. Accident Cases

No	Accident	Month		
		September	October	November
1	Fatal	0	0	0
2	Serious Injury / Disability	0	0	0
3	Medical Treatment	0	0	0
4	First Aid	0	0	0



Fig 3. Project OHS Information Board

The Project OHS information board (Figure 3) describes a map of the work location, number of workers, number of working days, total hours worked, number of accident cases, awards and safety warnings. The K3 performance of this research is:

Support and Management Policy in general for the company's K3 program. The contents of the contracting company's policy are to comply with the applicable laws and regulations.

- a. Implementation of OHS Organizational and Administration System
- b. The contractor always carries out Toll Box Meetings / Toll Box Talks to the workers and has also made an emergency response program and determined the person in charge.
- c. Hazard Identification, and Risk Assessment
- d. HIRADC (Hazard Identification Risk Assessment Determinating Control) the identification of hazards, risks, and controls is always carried out properly.
- e. Monitoring system for controlling the number of accidents in the work area

The monitoring system is implemented by contractors, supervising consultants, and the Public Works Department.



Fig 4. Project OHS Code of Conduct Information Board



Fig 5. Project OHS Slogan



Fig 6. Contractor and Consultant Offices in the Project area

The implementation of SMK3 on the Mameh – Windesi Road Construction project has been implemented well, this can be seen from observations in the workplace related to the implementation of K3, such as the use of Personal Protective Equipment (PPE) for all workers and all parties who enter the project site, it has been implemented Toll Box Meeting / Toll Box Talk and installation of signs in hazardous areas. Some of these programs are the company's efforts to socialize the importance of implementing SMK3 to all parties involved in the project.

4 Conclusion

The conclusion of the research on the Application of Occupational Safety and Health Systems for the Mameh – Windesi Road Construction Project in West Papua Province can be stated as follows:

- a. The implementation of SMK3 based on the assessment criteria in Government Regulation of the Republic Indonesia Number 50 of 2012 in the Mameh – Windesi Road Development Project in West Papua Province obtained a satisfactory level of implementation with a value of 90.63% for the initial level and 89.34% for the transition level.
- b. The implementation of SMK3 in the Mameh – Windesi Road Development Project in West Papua Province has been going well and needs to be maintained.

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