

Application of Occupational Safety And Health To The Construction Project of A Building For Indonesian Migrant Workers In Penang, Malaysia

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Abstract.

The increase in workplace accidents among migrant workers in Pinang, Malaysia, is alarming, with reports indicating a significant rise in injuries, particularly in the construction sector. The low implementation of Occupational Health and Safety (K3) standards contributes to this issue, as many workers lack adequate training and face unsafe working conditions, leading to higher risks of accidents. Many migrant workers do not receive sufficient Occupational Health and Safety (K3) training before starting their jobs, leaving them unaware of potential hazards and safety protocols. The construction sector often exposes workers to hazardous environments, including inadequate personal protective equipment (PPE) and non-compliance with safety standards. Through community service efforts by a team of Civil Engineering lecturers from Universitas Mercu Buana, who possess expertise and OHS certification, it is hoped that a safer and healthier working environment will be created for Indonesian migrant workers in Pinang, Malaysia. After the outreach and training sessions, a total of 21 participants (construction workers) shared their opinions about the PKM KLN activity, in which they rated the level of expectation (importance) at 77% and performance (satisfaction) at 81%.

Keywords: Safety; health; accident; migrant worker and buildings.

I. INTRODUCTION

A.1. Situation Analysis

The level of implementation of Occupational Health and Safety (K3) in the construction sector, particularly among Indonesian migrant workers in Pinang, Malaysia, shows concerning figures. Despite there being around 1.67 million Indonesian migrant workers in Malaysia, the construction sector is one of the main contributors to economic growth in the country, many migrant workers, including those from Indonesia, work in unsafe and unhealthy conditions. According to data from the International Labour Organization (ILO), the construction sector is one of the sectors with the highest rates of workplace accidents. In Malaysia 2023, reports indicate that 159 accidents occurred in the construction sector in Figure 1, and migrant workers often become the primary victims. Many of them do not receive adequate OHS training before entering the field, leaving them without sufficient knowledge of the existing risks and how to protect themselves.

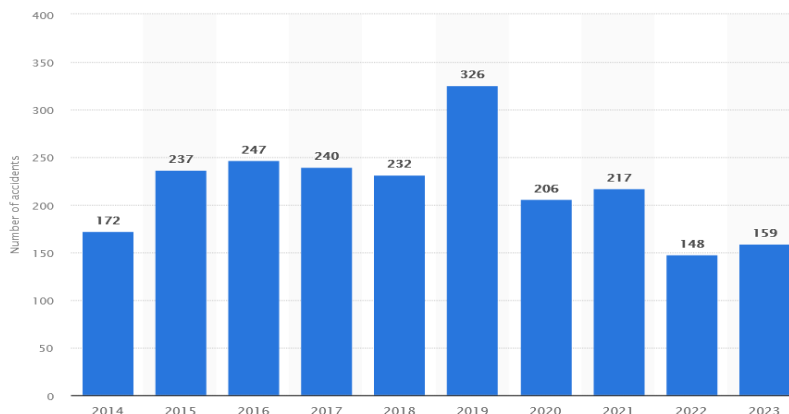


Fig 1. Total number of construction accidents in Malaysia from 2014 to 2023

One of the main factors contributing to the low implementation of OHS in the construction sector is the lack of awareness and understanding of the importance of OHS among migrant workers. Many workers

come from low educational backgrounds and do not have sufficient access to information regarding their rights and the safety standards that must be adhered to. Additionally, many companies neglect their responsibility to provide a safe and healthy working environment for their employees. Unsafe working conditions, such as a lack of personal protective equipment (PPE), the use of non-standard equipment, and insufficient supervision from authorities like OHS experts, further exacerbate the situation. Many migrant workers are forced to work in high-risk conditions without adequate protection, which can lead to serious injuries or even death. Moreover, the weak reporting system for OHS violations is also a significant obstacle. Many migrant workers fear reporting violations due to concerns about losing their jobs or facing termination from their companies. This creates a culture of impunity where OHS violations go unaddressed, and workers do not receive the protection they should. The governments of Indonesia and Malaysia need to collaborate to enhance protections for migrant workers in the construction sector. This includes providing comprehensive OHS training before departure and during employment, as well as strengthening regulations and law enforcement related to OHS in the construction sector.

Additionally, it is important to involve migrant workers in the decision-making processes related to OHS, so they can voice their needs and the challenges they face. By raising awareness of the importance of OHS, providing access to relevant training, and strengthening reporting mechanisms, it is hoped that OHS conditions in the construction sector for Indonesian migrant workers in Pinang can improve. This will not only protect their safety and health but also contribute to the productivity and sustainability of the construction sector in Malaysia.

A.2. Condition of Partner

1. Based on the situation analysis above, the partner's problems as follows:
2. Low implementation of OHS by migrant worker in the construction sector
3. Many migrant workers come from low educational backgrounds and do not understand about OHS
4. Lack of personal protective equipment (PPE) for migrant workers working in high-risk jobs
5. Many migrant workers fear reporting violations due to concerns about losing their jobs

PERMAI Pulau Pinang, an NGO specializing in social education and culture, is the target partner in this activity. Partners have collaborated with Universitas Mercu Buana to provide quality improvement activities, skills, and special skills for Indonesian individuals who are employed abroad, particularly in Malaysia. With the collaboration of Universitas Mercu Buana and PERMAI, it is hoped that they can work together and transfer knowledge in the fields of eCommerce, Fintech, Digital Technology and other special skills that are appropriate in order to establish a socio-cultural cooperation relationship between the people of Indonesia and Malaysia. As an entity of educational institutions, Universitas Mercu Buana organizes international community service KLN activities, especially for Indonesians working in Malaysia, especially Pulau Pinang, through NGO Permai, which is an application of one of the Tridharma of Higher Education activities, with reference to IKU-5, is Lecturers' work results are used by the community or receive international recognition.

II. METHODS

The methods of Stage in implementation providing training related to K3 to Indonesian migrant workers who work in the construction sector, especially in Pinang, Malaysia. Stages of Implementation

1. Initial survey and partner signing. The output of this stage is the signing of the partner's letter of intent.
2. Identification of data needed in the implementation of activities and teaching aids in order to provide material that is easily understood by partners. The output of this activity is the availability of the data needed to find out what problems are faced by partners to design suitable methods in delivering PKM activities.
3. When planning a task, the thing to think about is not only how to complete the task in the most efficient way possible. However, think and plan for other resources as well, such as safety requirements. The output of this activity is an activity monitoring report to achieve efficiency in implementation.

4. Deliver material about the importance of implementing K3 occupational health and safety in carrying out construction work. Some of the things conveyed were the importance of using PPE, using seat belts, understanding work safety signs, and understanding first aid measures for work accidents. The outcome of this activity is to realize the importance of complying with and implementing occupational health and safety in construction work.
5. Providing opportunities to ask questions and also input from the material presented. The output of this activity is the occurrence of good and harmonious communication between the implementing team and partners.
6. Carrying out the evaluation of this community service activity, after the lecture method was carried out, then continued with filling out a short questionnaire in the form of 10 questions to ask again the level of understanding about safety in traffic. The output of this activity is to monitor the results of PKM activities.
7. Conduct PKM publications and reports. The outputs of this stage are publication articles and PKM activity reports

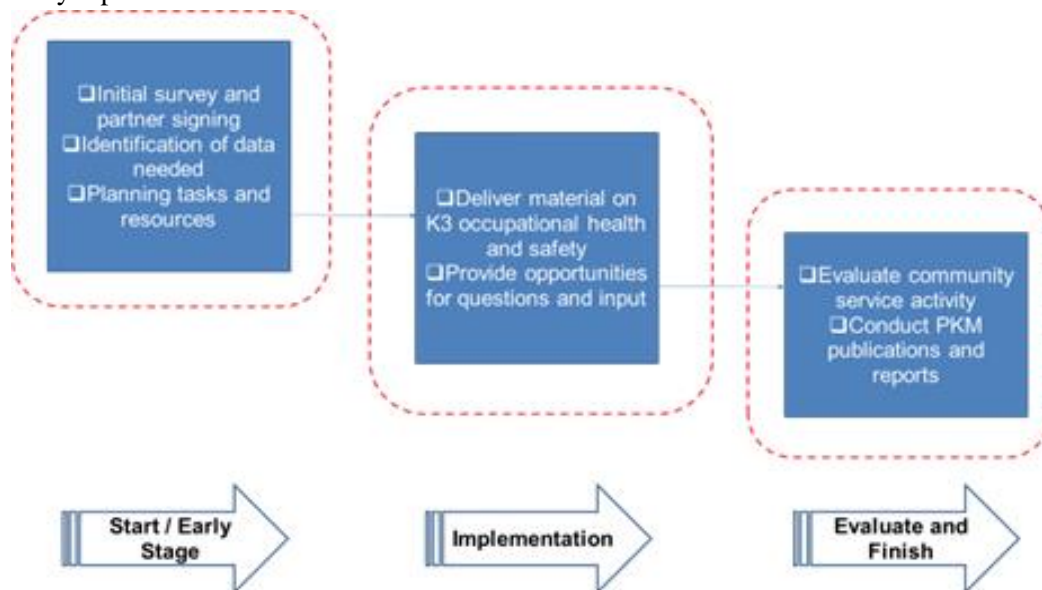


Fig 2. Stage of implementation providing training K3

The things that were introduced regarding K3 to migrant workers were as shown in the Figure 3 and Figure 4.

1. Community Program (Theory of Occupational Health and Safety (K3))



(a)



(b)

Fig 3. a. Theory of Occupational Health and Safety (K3), b. Construction Area Sign

2. Safety signs



Fig 4. Complete Safety Signs

Based on the above problems related to the increase in work accidents in the industrial sector and the large number of victims of Indonesian migrant workers, especially in Pinang, Malaysia, solutions to these problems can be implemented as follows: Improving occupational health and safety (K3) for migrant workers in Penang, Malaysia, requires enhancing awareness of safety risks, implementing comprehensive health services, and ensuring legal protections are enforced. Additionally, revising labor laws and providing accessible health insurance can significantly contribute to better working conditions. Furthermore, establishing regular training programs focused on safety practices and emergency response can empower workers with the knowledge they need to protect themselves. Collaboration with local NGOs and community organizations can also facilitate outreach and support for migrant workers, ensuring they are informed about their rights and available resources. Creating a feedback mechanism where workers can report unsafe conditions without fear of retaliation is essential for fostering a safer work environment. The team of Civil Engineering lecturers at Mercubuana University who have K3 expertise and certification through community service programs can also help with this problem by providing training related to K3 to Indonesian migrant workers who work in the construction sector, especially in Pinang, Malaysia.

III. RESULT AND DISCUSSION

The Community Service Activity (PkM) regarding the implementation of Occupational Safety and Health (OSH) was carried out at the construction site of a building for Indonesian Migrant Workers in Penang, Malaysia. The results of this activity are as follows:

1. **Increased Knowledge of OSH:**
After the outreach and training sessions, a total of 21 participants (construction workers) shared their opinions about the PKM KLN activity, in which they rated the level of expectation (importance) at 77% and performance (satisfaction) at 81% (**Figure 11**). Construction worker understanding of fundamental OSH principles, including hazard recognition, the importance of personal protective equipment (PPE), and emergency response procedures.
2. **Understand the use of PPE:**
Previously, only a very small number of workers used personal protective equipment (PPE) regularly, but after the awareness campaign, the number of workers using PPE is expected to increase.
3. **Installation of OSH Signage:**
Banners and informational boards related to OSH were installed at several strategic locations on the project site, such as entrances, heavy work zones, and hazardous material storage areas.
4. **Emergency Response Training:**
A fire and emergency evacuation drill involving all workers was conducted. The evaluation showed that the majority of participants were able to follow the evacuation procedures correctly.

Several documentation materials of the PKM KLN activities in Penang, Malaysia are as follows:



Fig 5. The activity involved delivering materi related to OSH



Fig 6. Participant training session of knowledge OSH

This activity highlights that awareness of OSH is still lacking, particularly in informal sectors or overseas work environments where OSH standards may not be fully enforced. Through outreach and training, there was a significant improvement in:

1. Safer Work Behavior:
Workers began consistently using PPE and following correct work procedures, such as inspecting equipment before use and maintaining a clean work environment.
2. Understanding of Work Hazards:
Many workers previously did not realize the high risks involved in activities such as lifting heavy loads, working at heights, or using unguarded electrical tools. After the training, they became more alert and cautious.
3. Role of Project Management:
The project management team began implementing routine safety inspections and providing essential OSH support facilities such as first aid kits, fire extinguishers, and incident reporting systems.

This PkM activity demonstrated that enhancing workers' capacity in OSH directly contributes to improved workplace safety and productivity. Recommendations for the sustainability of this initiative include regular monitoring, advanced training sessions, and policy support from relevant institutions, both domestically and internationally.

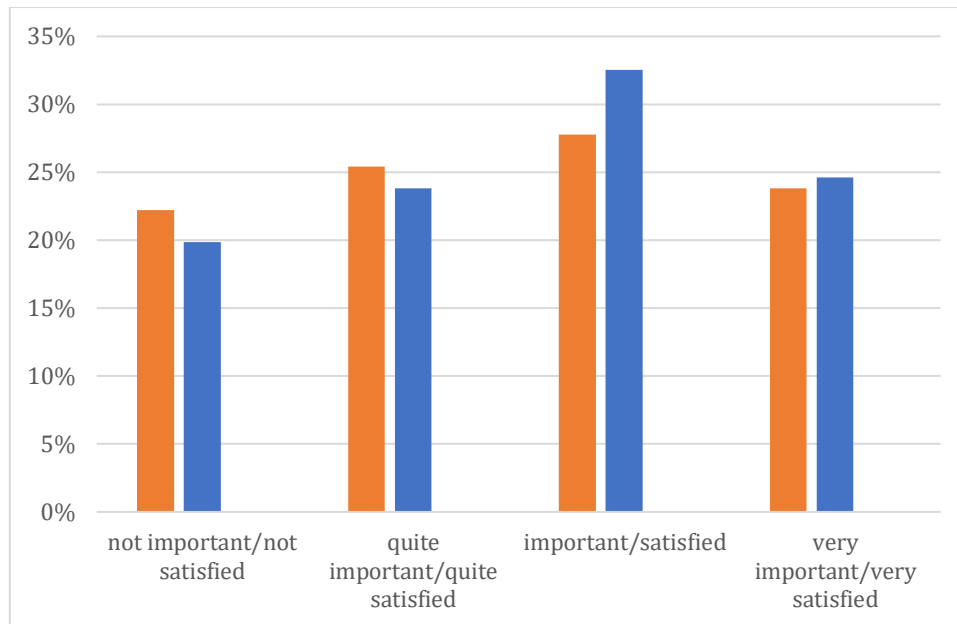


Fig 7. Level of expectations and satisfaction of participants towards PKM activities

IV. CONCLUSION

Many migrant workers do not receive sufficient Occupational Health and Safety (K3) training before starting their jobs, leaving them unaware of potential hazards and safety protocols. The construction sector often exposes workers to hazardous environments, including inadequate personal protective equipment (PPE) and non-compliance with safety standards. Through community service efforts by a team of Civil Engineering lecturers from Universitas Mercu Buana, who possess expertise and OHS certification, it is hoped that a safer and healthier working environment will be created for Indonesian migrant workers in Pinang, Malaysia. After the outreach and training sessions, a total of 21 participants (construction workers) shared their opinions about the PKM KLN activity, in which they rated the level of expectation (importance) at 77% and performance (satisfaction) at 81%.

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