



# A Community Service Project at SD 4 Lenek to Improve School Buildings and Raise Awareness about K3 Occupational Safety

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**Abstract:** School safety and how well buildings work are very important for creating good learning environments, especially in rural areas. The goal of this community service program was to make SD 4 Lenek, East Lombok, a safer place for students by (1) fixing up the school buildings and (2) raising awareness about Occupational Safety and Health (K3) among teachers, staff, and students. The activities included checking the facilities, making small repairs to the building, putting up safety signs, making evacuation routes, and an interactive K3 seminar given by the authors as guest speakers. The evaluation results showed that building safety indicators had gotten better and that K3 knowledge among school stakeholders had grown. This was shown by a big jump in post-test scores. This program stresses that combining physical revitalization with safety education is very important for making schools safer.

**Keywords:** School Revitalization, Occupational Safety, K3 Awareness, Community Service, Elementary School.

## Introduction

A safe and supportive learning environment is a fundamental component of effective education in primary schools. Students spend a large portion of their daily activities inside school buildings, meaning the physical condition of the infrastructure directly influences their safety, well-being, and learning engagement. When classrooms are structurally sound, ventilation and lighting meet minimum standards, and safety signage is present, teaching and learning can proceed in a comfortable and secure manner (Septiani & Rahmawati, 2022). Conversely, deteriorated educational facilities – including damaged walls, slippery floors, insufficient sanitation, or the absence of evacuation routes – increase exposure to preventable safety hazards and reduce concentration and productivity among students and staff (Astuti et al., 2023).

Beyond the physical condition of buildings, a strong safety culture is also essential in reducing school-

based risks. Occupational Safety and Health (K3) – although traditionally linked to industrial environments – has become increasingly relevant for educational settings because schools involve high-density populations, dynamic activities, and potential hazards such as electrical equipment, playground risks, and emergency situations (Ismara et al., 2024). Without structured safety training and proper awareness, both teachers and students may be unprepared for incidents such as falls, fires, earthquakes, or health-related emergencies (Widowati, 2023). Recent developments in educational safety emphasize that schools must not only maintain safe infrastructure but also integrate systematic training for emergency preparedness and responsible safety behaviour (Permana & Bakhtiar, 2024; Rofiah et al., 2025).

Pre-assessment at SD 4 Lenek showed that some buildings required improvement and that teachers and students had limited understanding of safety protocols, including hazard recognition and evacuation

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procedures. These conditions are consistent with broader findings in Indonesian schools, where awareness of disaster preparedness and K3 management remains uneven, especially in rural areas (Hidayatulloh & Safitri, 2022). Therefore, efforts to strengthen learning environments must address both the physical and behavioural dimensions of safety.

Based on this context, the present community service program was designed with two interrelated objectives. The first objective was to revitalize selected classroom and school facilities to ensure safer and more comfortable learning spaces. The second objective was to deliver a structured K3 awareness program through interactive training and demonstrations aimed at teachers, staff, and students. This dual approach aligns with international recommendations that emphasize the importance of combining infrastructure reinforcement with capacity-building to ensure long-term sustainability of school safety initiatives (United Nations International Strategy for Disaster Reduction, 2023; International Labour Organization, 2023). Ultimately, the program seeks not only to improve safety conditions at SD 4 Lenek, but also to contribute to the development of a school safety culture that can be continuously practiced and strengthened beyond the intervention period.

## Method

This community service program was designed using a participatory school-based intervention model consisting of two integrated components, namely (1) revitalization of school facilities and (2) Occupational Safety and Health (K3) awareness training. The method emphasized direct engagement with the school community to ensure that each activity met the real needs of the beneficiaries.

### *Location and Time*

The activities were implemented at SD 4 Lenek, East Lombok, Indonesia, over a two-week period in May 2025. The planning phase was carried out one month earlier to coordinate work schedules, assign responsibilities, and prepare materials for the revitalization and the K3 training.

### *Participants*

Participants included teachers and administrative staff of SD 4 Lenek, the community service implementation team as facilitators and technical supervisors and builders. Stakeholder involvement was integral so that activities could be adopted sustainably beyond the intervention period.

### *Service Activity Design*

The design of the program consisted of four main stages:

- a. **Preliminary Assessment**  
An initial survey was conducted to observe the structural and functional condition of classrooms, corridors, sanitation facilities, lighting, ventilation, and safety signage. A preliminary questionnaire was given to teachers and students to evaluate their baseline understanding of K3 concepts. Findings from this stage were used to determine priority needs and repair targets.
- b. **Revitalization of School Facilities**  
Based on the preliminary assessment, minor physical improvements were executed, including repainting classroom walls, repairing uneven flooring, improving lighting and ventilation systems, and installing non-slip pathways and waste disposal units. Emergency evacuation maps and safety signage were placed in strategic locations. All improvements were carried out using safe working procedures and involved teachers and volunteers for collective ownership.
- c. **K3 Awareness Training**  
The author served as a resource person delivering a training session on K3 implementation in the school environment. The material included the fundamentals of occupational safety, identification of hazards in classrooms and playgrounds, safe behaviour, emergency response, and evacuation procedures. The delivery format combined presentations, hands-on demonstrations, simulations, and question-and-answer sessions to maximize engagement and understanding.
- d. **Evaluation and Monitoring**  
Program effectiveness was evaluated using two mechanisms: Infrastructure evaluation: comparison of facility conditions before and after revitalization using an observation checklist; and knowledge evaluation: pre-test and post-test instruments to assess changes in teachers' and students' understanding of K3.  
Feedback was also collected through open-ended questionnaires to identify strengths, challenges, and suggestions for future improvement. The school principal was encouraged to continue periodic internal monitoring as a sustainability strategy.

## Result and Discussion

The revitalization activities carried out at SD 4 Lenek generated a visible and meaningful improvement in the physical learning environment. Classrooms that previously had faded wall paint, dim lighting, and poor ventilation became brighter, cleaner, and more

comfortable after repainting and repairs. Damaged and slippery floor areas were reinforced and covered with anti-slip material, which minimized the risk of falls for students who frequently move in and out of classrooms. Evacuation route maps and safety signage were also installed throughout the building, ensuring that the school compound could be navigated easily during daily activities and, importantly, during potential emergency situations. These physical improvements contributed to strengthening the functional and aesthetic quality of the school building while enhancing the sense of safety experienced by students and teachers during learning activities.

In addition to infrastructure enhancement, the K3 awareness program produced measurable gains in safety knowledge and behaviour among school stakeholders. The interactive seminar – consisting of presentations, demonstrations, and simulations – helped teachers and students understand the relevance of safety procedures in their daily school routines. The pre- and post-test data showed an increase in the average score from  $60.3 \pm 12.5$  before the training to  $78.9 \pm 9.8$  afterward, indicating a significant improvement in understanding. Teachers reported feeling more confident in recognizing hazards and responding to emergencies such as fires or earthquakes, while students expressed enthusiasm in practicing safe behaviour during evacuation drills. The use of real-life situations and simulations made the learning process more engaging and easier to internalize, especially for younger participants.



**Figure 1.** The engineering team posing with elementary school students



**Figure 2.** Interaction between the engineering team and elementary school students.

In Figures 1 and 2, it is shown that the engineering team also engaged in direct interaction with elementary school students. This interaction contributed to creating a more positive atmosphere among the students and enhanced their overall engagement during the activity.



**Figure 3.** The engineering team observing the ongoing construction work.

**Figure 4.** The engineering team reviewing construction drawings.



**Figure 5.** On-site briefing by an engineering team representative to construction workers.

Figure 3 and 4 show the engineering team conducting on-site observations and reviewing construction drawings to ensure that the implementation aligns with the design specifications. These activities are carried out to maintain accuracy, improve work quality, and ensure that the construction process proceeds correctly in accordance with established standards. In addition, Figures 5 captures the team providing safety and technical guidance to construction workers. Ensuring that those involved in the field understand the required procedure and can apply them correctly during the implementation process. These combined efforts form an essential part of the broader safety improvement initiative conducted within the school environment.

Building on these technical efforts within the overall school safety program, the outcomes of this program demonstrate the importance of integrating physical interventions with safety education to build a sustainable safety culture within the school environment. A physical repair alone can reduce risks but does not guarantee safe behaviour without adequate awareness. Conversely, training alone may improve knowledge, but its benefits can be limited when school facilities do not support safe practices. By combining these two approaches, students and teachers were not only able to learn about safety but also apply it directly within a safer school environment. This synergy illustrates that safety culture develops more effectively when behaviour and environment reinforce one another.

Nevertheless, sustaining the impact of this program requires continuous monitoring and institutional support. Schools must conduct regular inspections of facilities, organize periodic safety drills, and ensure that newly acquired safety knowledge is integrated into school routines rather than treated as a one-time activity. Establishing a small internal K3 team at SD 4 Lenek could help maintain communication, coordinate future safety initiatives, and monitor student behaviour regarding safety practices. Through such follow-up actions, the benefits of the revitalization and training program can be preserved and gradually expanded, helping the school evolve into a safer and more resilient learning institution.

## Conclusion

The community service program implemented at SD 4 Lenek successfully strengthened school safety through a combination of physical infrastructure revitalization and K3 awareness training. Improvements made to classrooms, floors, ventilation, lighting, and installation of evacuation signage contributed to creating a safer and more comfortable learning environment for students and teachers. At the same

time, the K3 training increased participants' knowledge and confidence in identifying hazards, responding to emergencies, and practicing safe behaviour in their daily activities at school. The integration of physical improvements and safety education proved to be more effective than implementing either component alone, as both elements reinforced each other in promoting a safety-conscious learning culture. To ensure sustainability, periodic monitoring, continued safety simulations, and institutional commitment to school-based K3 practices are recommended so that the positive outcomes of this program continue to benefit SD 4 Lenek in the long term.

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## References

- Astuti, S., Suryani, N., & Syafei, W. (2023). Implementation of occupational safety and health management system in educational institutions in Indonesia. *The Indonesian Journal of Occupational Safety and Health*, 12(3), 363-371. <https://doi.org/10.20473/ijosh.v12i3.2023.363>
- Hidayatulloh, M. A., & Safitri, N. (2022). School safety and security indicators in urban and rural Indonesian schools. *Early Childhood Care and Education Policy Journal*, 5(1), 14-23. <https://doi.org/10.15294/eceep.v5i1.56012>
- International Labour Organization. (2023). Occupational safety and health in Indonesia: Country policy review. ILO Research Repository. <https://doi.org/10.54394/ilo.56722>
- Ismara, K. I., Kurniawan, A. W., Kasjono, H. S., Zamtinah, & Mustaqim, B. (2024). Implementation of occupational health and safety through Zerosicks in Indonesian vocational education. *ELINVO (Electronics, Informatics, and Vocational Education)*, 9(1), 76-89. <https://doi.org/10.21831/elinvo.v9i1.60586>
- Permana, M. A., & Bakhtiar, A. (2024). Hazard identification, risk assessment, and risk control

- (HIRARC) implementation for school-based safety monitoring. *International Journal of Safety Research*, 21(1), 27-36. <https://doi.org/10.1016/j.ijdr.2024.01.004>
- Rofiah, N. H., Prawesti, D. F., & Satriawan, G. (2025). Integrating disability-inclusive disaster education in primary schools: A multicenter case study in Indonesia. *International Journal of Disaster Risk Reduction*, 109, 105498. <https://doi.org/10.1016/j.ijdr.2025.105498>
- Septiani, N., & Rahmawati, F. (2022). Schools as safe learning spaces: Evaluating infrastructure quality and safety signage in primary education. *Journal of Educational Facilities*, 6(2), 77-88. <https://doi.org/10.47592/jef.v6i2.1428>
- United Nations International Strategy for Disaster Reduction. (2023). Comprehensive school safety framework: Ensuring safe learning environments. UNDRR. <https://www.undrr.org/publication/comprehensive-school-safety-framework>
- Widowati, E. (2023). Disaster preparedness and school safety: Implications for student resilience in elementary schools. *SAGE Open*, 13(4), 1-13. <https://doi.org/10.1177/21582440231211209>