

# CF Challenge Fund

## UNESCO

### Multi-hazard school safety in Indonesia through science-based information

Natural hazards often damage or destroy school infrastructure, threatening educational opportunities and risking the lives of schoolchildren. In collaboration with the University of Udine, a team from the United Nations Educational, Scientific, and Cultural Organization (UNESCO) set out to create a multi-hazard school safety assessment methodology called VISUS (Visual Inspection for defining the Safety Upgrading Strategies) to help policy makers decide where to focus risk reduction efforts based on available resources and scientific evidence.

The VISUS methodology helps assess schools using a holistic, multi-hazard approach that considers five aspects: site conditions, structural performance, local structural criticalities, non-structural components, and functional aspects. VISUS was used as an effective decision making tool for planning risk mitigation actions at the regional scale, yet remained grounded in local contexts and needs.

The project helped mainstream school safety components into the Ministry of Education's School Rehabilitation Program and School Disaster Education Data. The team's efforts also assisted in making investments decisions to strengthen the safety of schools efficiently and economically. At the same time, the project focused on reinforcing Indonesian capacities for critical infrastructure assessment, both at the ministerial level and within academic institutions. In order to facilitate the collection of data, the team also developed a mobile application.

#### CONTEXT

#### HIGHLIGHTS



Developed a VISUS mobile application to help streamline the evaluation of school safety on the ground.



Conducted a survey across 100 schools in Indonesia to gauge rehabilitation needs and identify key areas to build resilience.



Trained more than 30 inspectors in the methodology, reinforcing the existing capacities for critical infrastructure assessment.



Coordinated with a number of key stakeholders to better integrate VISUS into other online disaster risk platforms such as InaSAFE.



## APPROACH

In 2013, a special working group was established to focus on 'Safer Learning Facilities'. The team helped adapt the VISUS methodology to the Indonesian context in terms of hazard profiles and typologies of buildings, and helped integrate the methodology's outcomes into existing information systems. VISUS aligns with the 'Comprehensive of School Safety Framework', which aims to make all school buildings fully resilient to natural hazards by 2030.

The UNESCO office in Jakarta implemented the VISUS methodology in the Molucca Province, by focusing on Ambon City and Central Molucca District. This region was chosen because the Government of Indonesia has a priority focus in this area, and UNESCO has an ongoing disaster risk reduction project in the region as well. The VISUS methodology was based on a technical engineering approach that can be used by engineering students and building construction students to assist with local and regional government agencies to better prioritize safer school programs.

**"As a survey method, VISUS is a very useful tool for recognizing every single element and detail of buildings and structures for safety standards."**

*- Mark Ufie, Student of Civil Engineering of Patimura University, Ambon*

## NEXT STEPS

Results from this project are supporting the identification of existing vulnerabilities in the schools of the region, based on historical data and multi-hazards risk maps. This effort will be used by local governments to set up interventions strategies, while also raising community awareness around vulnerable schools and improving the preparedness of both schools and communities through their programs, such as the Village Resilience Program. The project can also be scaled up to other priority regions.

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