



75%

**estimated volume of schools
in hazard zones nationwide**

300,000

**schools dispersed over
6,000 islands**

80%

**of schools surveyed did
not meet the seismic
safety threshold**

4,700

**new junior schools needed
over the next five years**

RECOMMENDATIONS

- Develop a National Strategic Plan for Safe Schools addressing existing schools which need strengthening and new school construction.
- Consolidate retrofitting guidelines for existing school structural typologies.
- Create rapid visual assessment methodology and implementation plan to create a nationwide inventory of all 300,000 schools.
- Optimise model school designs and site selection/planning guidance for new schools to be adaptable for different regions.
- Consolidate Quality Assurance tools and regulatory environment measures to support quality of planning, design, and construction.

ASSESSMENT

Hazard Assessment

Indonesia is in a multi-hazardous region with frequent earthquakes and a history of tsunamis, volcanoes, landslides and flooding. Five million people live within volcano danger zones and many more in tsunami zones. Risk reduction measures must therefore include hard and soft strategies. Public and institutional awareness of hazards is very good but translating this to practical local solutions is a significant challenge.

Existing Education Infrastructure

There has been a considerable increase in demand due to the expansion of compulsory education and exacerbated by a lack of building maintenance, which has led to severe undersupply. Five structural typologies were identified during a fact finding mission to Padang and Lombok with a wide range of materials spanning an extremely diverse context. Unreinforced masonry buildings account for 30% of the buildings surveyed and are the most vulnerable typology. A further 50% of the schools surveyed were confined masonry which is more suited to seismic zones but can be difficult to build.

Implementation Process

Indonesia is very decentralised with unclear or overlapping authority across multiple ministries, municipalities and districts. School needs are generally represented by the Education District Office which seeks funding from national government. Policy has shifted from a national school building programme towards school managed construction with local consultants engaged to adapt model school designs. It is unclear whether adequate engineering design is carried out. Construction is executed by local contractors with limited quality assurance from the Ministry of Public Works (MoPW).

Regulatory Environment

The Indonesian Building Code is a direct translation of the American Code which can be overly complicated for low rise school buildings and does not include confined masonry construction. Schools may be built in exposed locations as there does not appear to be any planning regulations. Public Works engineers are responsible for approving school designs, but they are not required to be professionally qualified, which raises questions about the quality of the approval process.

Financial Environment

20% of the annual national budget must be spent on education according to the constitution. There are five funding streams for the implementation of education infrastructure; national funds from Ministry of Education and Culture (MoEC); special allocation fund (DAK) from Ministry of Finance (MoF); endowment fund from Ministry of Finance; provincial and district level funding; and national religious education funds from Ministry of Religious Affairs. National funds from MoEC is the largest funding stream and no evidence was found of schools receiving endowment funds from MoF.



This study was conducted in collaboration with the World Bank and GFDRR as part of the Global Program for Safer Schools to get an informed understanding of the structural vulnerability of Indonesia's existing public schools facilities and contributing factors of risk. It was conducted over an eight week period which included a 10 day fact finding mission in December 2014. For more information, please contact:

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