



## **Counting the exposure and potential disaster losses in the education sector globally: are we doing enough to protect our schools, teachers and students?**

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There are over 4 million pre-primary, primary, secondary and tertiary teaching institutions globally across the 250+ nations. These contain over 1 billion students and importantly over 50 million teaching staff. Historical experience suggests a significant number of them are at risk from major natural hazards such as earthquakes and cyclones, many of which are in developing countries, and that a major event has the potential to decimate the education and associated economy of entire regions for years after.

The first important question is to know where these institutions are located. Over the years, data has been collected in the CATDAT database from open data platforms, ministry websites around the world but has not been completed globally for every country with respect to location information, and partial asset information until now. The work within this abstract presents various filling techniques which have been used in order to provide a more comprehensive risk-compatible exposure set for the education sector globally.

The direct economic replacement value of the education institutions has also been calculated using capital stock modelling via expenditure data series, tested against ground-up construction cost analysis of school values.

By collecting this information, and overlaying earthquake and tropical cyclone event data (both historic and stochastic), and characteristic vulnerability functions, a view of education sector at risk from both the social and economic impact side is seen globally, providing estimates of total economic impact and potential social impacts. In addition, from PDNAs (Post Disaster Needs Assessments), CATDAT and other sources, historical loss data and trends are produced to support the model calibration. Potential large-scale mitigation options can also be examined.

This provides a first step in having the numbers to assess the needs of the education sector across the developing (and indeed developed) world in terms of potential losses, the need for mitigation strategies and financing strategies to invest in reducing losses in this key sector.