Supplementary Material

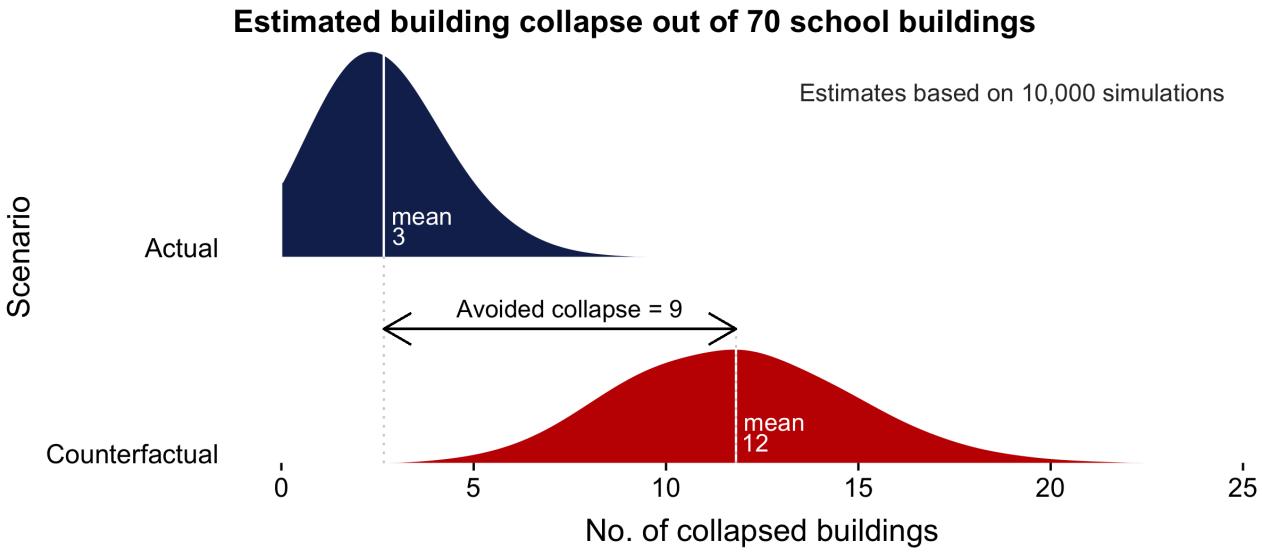

Figure S1. Distribution of building collapse fom the 2015 M_w 7.8 Gorkha earthquake based on earthquake intensity values from (Chen and Wei, 2019) and 10,000 Bernoulli trials. Two scenarios are shown: the actual scenario where all 70 school buildings were retrofitted prior to the 2015 Gorkha earthquake, and a counterfactual scenario where the schools were not retrofitted. In reality, none of the 70 school buildings collapsed after the Gorkha earthquake. Our probabilistic analysis estimate that 9 building collapses were avoided by the schools retrofit program during the Gorkha earthquake.

REFERENCES

Chen, M. and Wei, S. (2019). The 2015 gorkha, nepal, earthquake sequence: Ii. broadband simulation of ground motion in kathmandu. *Bulletin of the Seismological Society of America* 109, 672–687

Stevens, V., Shrestha, S., and Maharjan, D. (2018). Probabilistic seismic hazard assessment of nepal. *Bulletin of the Seismological Society of America* 108, 3488–3510

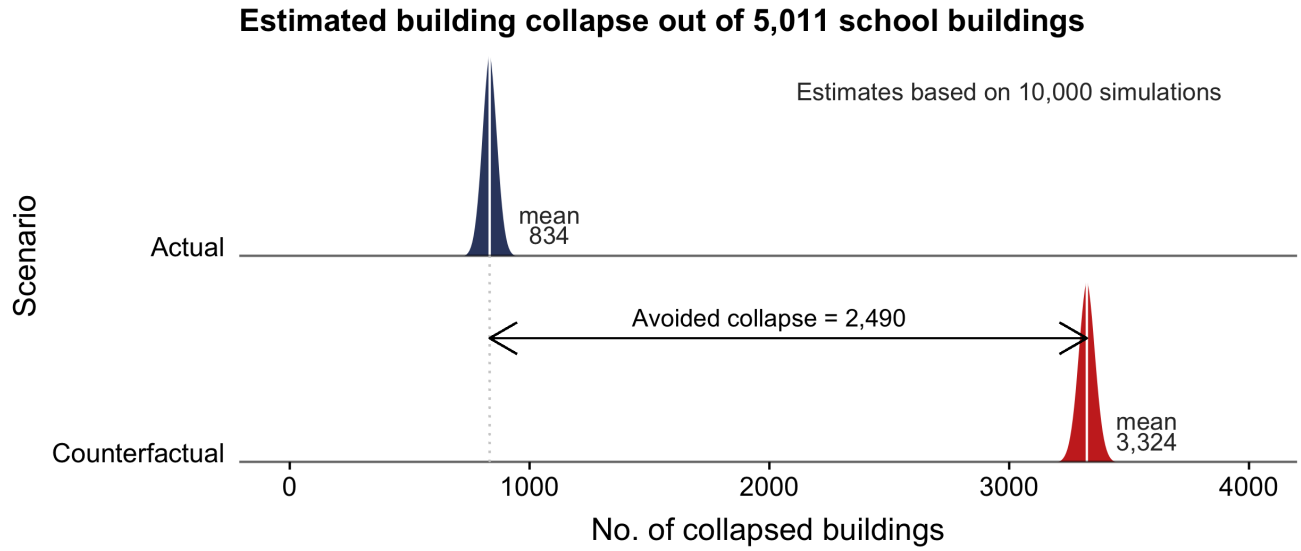

Figure S2. Distributions of building collapse based on PGA values for 10% probability of exceedance in 50 years from Stevens et al. (2018) and 10,000 Bernoulli trials. In the actual scenario, all 5,011 school buildings were completely retrofitted. For the counterfactual scenario, all school buildings were not retrofitted (i.e. the intervention doesn't exist). Our probabilistic analysis forecast an estimated of 2490 building collapses will be avoided in the event of a 10% in 50 years shaking.

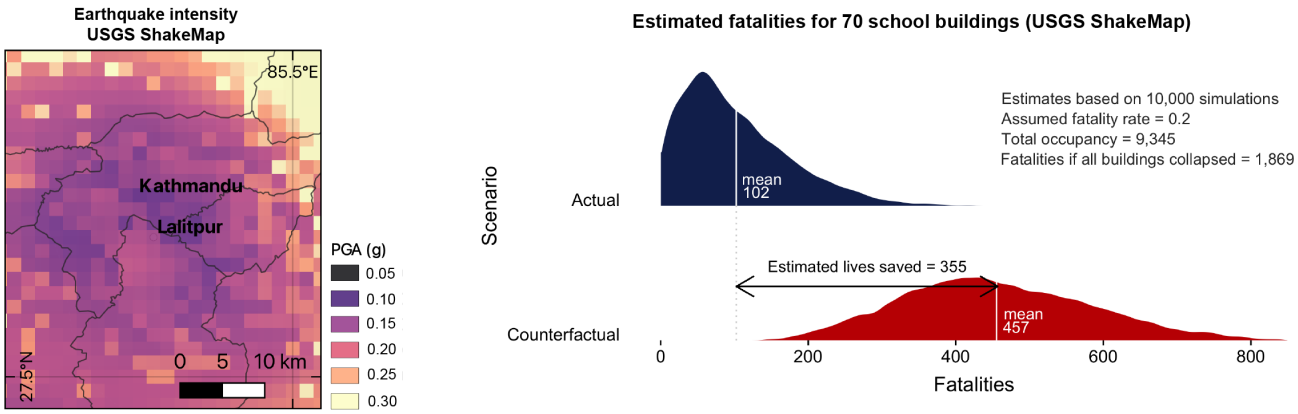

Figure S3. Peak ground acceleration values from USGS Shakemap for the 2015 M_w 7.8 Gorkha earthquake are shown on the left. Distribution of fatalities is shown on the right, which utilises the Shakemap's intensity map, a 20% fatality rate, and 10,000 Bernoulli trials. Two scenarios are shown: the actual scenario where all 70 school buildings were retrofitted prior to the 2015 Gorkha earthquake, and a counterfactual scenario where the schools were not retrofitted. Our probabilistic analysis show an estimated 355 lives saved by the schools retrofit program during the Gorkha earthquake.