Response letter

Quantification of uncertainty in rapid estimation of earthquake fatalities based on scenario analysis

Nat. Hazards Earth Syst. Sci.

Comments to the Author

Reviewer #2:

1.In addition, the method is quite local (specific to China), which casts the doubt with regard to its applicability to other seismic regions. From this perspective, the paper is suitable for Chinese journals, not international ones. These comments are elaborated below.

The title is misleading because, essentially, the proposed method and its applications are mainly for China, not other parts of the world. Of course the method can be adopted for other parts of the world.

Response: This method is not purely for China, because the model data is used in China, so the results of some parameters are for China. But if we use other countries' data, we can adjust the parameters according to the method. And the difference between earthquake casualties is very large, so the different models are to consider the difference between time and space.

2.The hazard and exposure elements are also important. The proposed method only uses the macroscopic earthquake information (magnitude and source intensity). Modern rapid earthquake impact assessment methods use site-specific estimates of ground shaking, local site conditions, and if available, real-time assimilation of ground motion data and/or human-based intensity observations.

Response: In this paper, we use the first-time acquired basic seismic parameters to evaluate the earthquake as it occurs before other loss data are obtained, so we select the intensity rather than the ground motion. Intensity is more macroscopic.

3.This comment is based on the deficiency of the hazard modelling aspect of the proposed method and the lack of the demonstration of the robustness/quantitative performance of the method.

Response: In this paper, two widely used empirical evaluation models in China are selected for comparison. The principle for the model selection is according to the data, because the empirical model has a great relationship with the selected data, so the model with the data in the same region

was selected.

4. Figure 6: what is ‘oder’?

Response: I had made amendments in the manuscript text, please see in < Methodology > section, line 274, page 16.