

Interactive comment on “Measuring and Characterizing Community Recovery to Earthquake: the Case of 2008 Wenchuan Earthquake, China” by Jie Liu et al.

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Dear Reviewer:

Thanks very much for your comments concerning our manuscript entitled "Measuring and Characterizing Community Recovery to Earthquake: the Case of 2008 Wenchuan Earthquake, China" (ID: nhess-2017-72). Those comments are all valuable and very helpful for revising and improving our paper, as well as the important guiding significance to our researches. We have studied comments carefully and have made correction which we hope meet with approval. The revised paper has been uploaded in the supplement file, and the added and revised sentences and paragraphs have been marked red in the revised paper. The main corrections in the paper and the responds

to the reviewer's comments are as flowing:

We have revised and rewritten the section 3 Data and Methods to provide a clearer explanations of the methods which we proposed in this paper to assess the community recovery, that the readers can understand how to measure the community recovery in this paper. The revised sentences and paragraphs which are used to illustrate the assessment method of the community recovery have been added in the section 3.2 Defining and assessing the community recovery to earthquake (the page 8 to 13) of the revised paper, and marked red. For example, 1)Page 8, line 447-Page9, line 475: We provided a clearer explanations of the four properties of resilience (4R's) which was proposed by Bruneau et al., 2003. And the recover time which was from the term of rapidity in the four properties can be used by us to define and assess the community recovery. 2)Page 9, line 476-page 10, line 538: We illustrated the concept of resilience triangle (Figure 4) and the calculation formula of resilience (page 10, line 531). In the concept of resilience triangle, the recovery time is taken to assess community recovery. 3) Page 11,line 567-page 12, line 656: We provided a clearer explanations of the assessment method of the community recovery to earthquake. We have extended the original concept of resilience triangle and used the term of rapidity from four properties of resilience (4R's). So the speed at which the community recovers to achieve a desired state can be used in our paper to assess the community recovery. Figure 6 sketched the assessment framework of the community recovery we proposed in this section. And the recovery score (RS) is formulated as the following two-stage stochastic program from page 12, line 628 to page 12, line 656.

We have tried our best to improve the manuscript and made some changes in the manuscript. These changes will not influence the content and framework of the paper. And the revised manuscript has been typeset according to the format of NHESD. We appreciate for Editors (Thomas Thaler) and Reviewer's warm work earnestly, and hope that the correction will meet with approval. Once again, thanks very much for editors (Thomas Thaler) and the Reviewer's comments and suggestions

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Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2017-72/nhess-2017-72-AC1-supplement.pdf>

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