

Interactive comment on “Monitoring of the reconstruction process in a high mountainous area affected by a large earthquake and subsequent debris flows” by Chenxiao Tang et al.

Anonymous Referee #2

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The authors present a multi-temporal study on an area near Chengdu, China, affected by earthquakes and subsequent gravitational mass movements such as landslides of different types and debris flow hazards. The main aim of the work is related to dynamics in elements at risk exposed, and the economic impacts caused by a hazard chain (from earthquake to mass movements). The authors show how planned reconstruction may result in high loss in cases where relocation places are not chosen in an optimal way, and how subsequent hazards following a major hazard as trigger may affect the overall risk in the case study region.

The overall topic is of considerable interest to the readers of NHESS as it is one of

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only few studies related to a quantification of hazard chains and underlying dynamics, including values at risk. As such, it would be good to see such material published, nevertheless, there are major shortcomings that need to be addressed before the material may become acceptable for publication.

The following general items should be addressed:

- This study on the effects of earthquakes and subsequent other hazards is an interesting case study, but authors do not tell potential readers what is novel. This needs to be done both at the beginning but also in discussion, telling potential readers the importance of multi-hazard and risk studies, such as e.g. done by Kappes et al. (2010; 2012a; 2012b). Moreover, the overall literature provided is quite restricted to Chinese sources while in the international field many other studies exist on distinct aspects, such as hazard and risk chains (see Kappes above), hazard and risk dynamics (Fuchs et al., 2013) and general land use dynamics (Cammerer et al., 2013; Rougé et al., 2015; Fuchs and Glade, 2016), etc. So it is highly recommended to extent the review to the broader context of such international sources, which in turn would allow the international readers to better understand the situation in China.

- Moreover, if authors were to explain the results of their case study to someone in another country, what would they gain from this Chinese case study? Do they learn from the methodology applied?

- In many phrases, authors provide facts, information, or ideas, but without supporting sources as to where those ideas or facts came from. All facts and information that are not common knowledge need to have citations (which are then put into the reference list) and all items in the reference list should be cited at least once in the manuscript. Examples include but are not limited to: Section 1.1., lines 30-36 and 40, then further lines 270-284, and the events descriptions (e.g., in section 3.4) and also the final section 5.

- The niche and gap for this research have to be clearly addressed in section 1.1 so

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that the overall need and motivation for this work becomes clear, ideally this will go in lines 85-90 of the present manuscript.

- Section 1.3 has to be shortened and included in section 1.2
- Figures: fonts are too small, Figures need north arrow, measured grid and maybe an inlet showing the case study area in China.
- Figure 2: only Figure 2A is mentioned in the main text body.
- Please carefully check the English again, even if the material reads fluently, there are some minor errors such as debrisflow versus debris flow, etc.
- As already noted by referee #1, the overall text reads more like a technical report as a scientific paper. As such, I recommend to shorten the overall text by putting more information in Tables, and by combining some of the materials presented to that the overall appearance becomes more concise.

I encourage the authors undertaking major revisions so that the material becomes more accessible because according to my opinion the overall study is definitely worth being published and discussed with the broader scientific community. Recovery from disasters is an asset, and should get broader attention (Davis and Alexander, 2016).

References mentioned

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