

Interactive comment on “A huge deep-seated ancient rock landslide: recognition, mechanism and stability” by M. G. Tang et al.

Anonymous Referee #2

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Submitted to: Natural Hazards and Earth System Sciences

General comments: The article focusses on a dormant deep-seated landslide at the Three Gorges Reservoir in China. The topic of the paper is interesting and useful for the rock and soil mechanics community and especially for geotechnical engineers and engineering geologist who are working in the field of slope stabilities or embankments near reservoirs. Furthermore, the high number of large buildings on the landslide require a comprehensive hazard and risk assessment. Thus, the reviewer likes the study/problem and encourage the authors to publish. Given that, the manuscript

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is now at a draft stage, considerable improvements and supplements are required to make the manuscript clear, comprehensible and traceable for readers, with that ready for publication.

It was surprising that the article shows a remarkable similarity with a published article at the IAEG 2014 in Torino, but was not cited: Minggao Tang, Qiang Xu, Xuebin Huang, Kaixiang Xu, Wenming Cheng, and Kai Wang, 2014: Recognition and Genetic Mechanism of Sanmashan Deep-Seated Landslide, Three Gorges Reservoir Area, China. In: G. Lollino et al. (eds.), Engineering Geology for Society and Territory – Volume 2, p. 571-575. September 19th 2014, Torino, Italy. 8 Figures were included into the manuscript but without any or only very small changes and without citing to the IAEG paper: Fig. 2 (=Fig. 97.1), Fig. 3 (=Fig. 97.3), Fig. 15 (=Fig. 97.5), Fig. 17 (=Fig. 97.7), Fig. 29 (=Fig. 97.8), Fig. 30 (=Fig. 97.9), Fig. 31 (=Fig. 97.10) and Fig. 32 (=Fig. 97.11). This has to be changed for publication! Given that the total number of figures is rather high, some figures can be deleted and cited to the IAEG 2014 article.

What's about the activity of the landslide? Are there any deformation measurements (monitoring) available showing that there is no actual slope activity? Please include some sentences about this topic.

Please include, if possible, information from boreholes (e.g. borehole logs, inclinometer measurements, piezometric measurements, borehole geophysics, ...).

The wording requires some improvement. Thus proof reading, ideally by an English native speaker, is suggested after revision of the manuscript.

Terms concerning structural and tectonic features and process are frequently unclear. For example, what do you mean with “conjugate shear joint”. The term “joint” usually is used for discontinuities without any shear displacement. And, what did you mean with the term “tension fault”? The term “fault” usually is used for structures formed by shear displacement. Which nomenclature for structures did you used? Please include a reference and try to be consistent to internationally used technical terms.

So far, it is difficult to see the relevance of centrifuge modelling.

Generally, most suggestions done by the reviewer are included directly in the pdf using the software Adobe Professional.

Title: The reviewer suggests to use the term “dormant” instead of “ancient”. Dormant is a term defined by the WP/WLI 1993. Please change the title too: A dormant deep-seated landslide: characterisation, mechanism and stability

Figures: Generally, figure captions are often very short and may not be very informative. The labelling of the figures are often very small and nearly unreadable. Please change and improve.

References: Please check the reference list carefully; For example, Huang, R. Q.: Mechanisms of large-scale landslides in China, B. Eng. Geol. Environ., 71, 161–170, 2012 is not cited in the text.

Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/3/C2915/2016/nhessd-3-C2915-2016-supplement.pdf>

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