

## ***Interactive comment on “Why the 2014 Ludian, Yunnan, China $M_s$ 6.5 earthquake triggered an unusually large landslide?” by Z. F. Chang et al.***

### **Anonymous Referee #1**

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The paper analyzes the cause of the large-scale collapse generated by Ludian earthquake of 2014 from various points of view, and it would be very meaningful as a case study. However, I suggest major revision.

1. p.371 L17 The authors state that the total projection area of the dam is 80 000 square meters and the total volume is 12 000 000 cubic meters in line 18, that means the average depth of the dam is around 150 meters. On the other hand, on p.369 line 7, the height of the dam is mentioned to be 120 meters. I suggest authors check these figures.
2. Figure 3 The name of the river may be "Niulanjiang River".
3. p.372 L12 There is no information of the old landslide on the left bank in figure 5.

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4. Figure 6 An explanation is needed for figure 6 in body text.

5. Section 5 On p.377 L1, authors state that initial  $F_s$  of the slope is 1.450. To evaluate validity of the calculation, further information is needed, such as cohesion, internal friction angle, etc.

I assume that the case A calculates the  $F_s$  of the block above slip surface, and case B calculates the  $F_s$  of searched block whose  $F_s$  is smallest.

On p.377 L6, authors state "if there was no existing slide plane, the scale of the seismic landslide would have been very small under the same seismic motion, at least not so large as the real case we see now". In order to prove this with slope stability analysis, the authors need to show that the  $F_s$  of yellow block of figure 14(a) is smaller than any other searched blocks.

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