Dear Dr. Chan,

We thank you for the opportunity to revise our manuscript and we thank the referees for their suggestions and for appreciating our work. We incorporated the suggestions by the referees #1 and #2 in the updated version of the manuscript. The detailed responses to the referees are given below.

With our best regards,

Qiang Xu, Xuanmei Fan, Gianvito Scaringi

Referee #1 (W.-A. Chao, vvnchao@gmail.com)

R1C1: The manuscript by Xu et al., in the case of 2017 Xinmo landslide, aims to layout the logistics of how such a dynamic early warning system is possible and should be established in the region with strong seismicity. I think that the subject is relevant to publication in NHESS, especially for format of "Brief communication", but there are several places where I think a bit more explanation and minor revision are needed. More detailed comments are listed below.

R1R1: *Dear Dr. Chao, we are very grateful for your comments and for acknowledging the relevance of the subject and of the issues we raise in our short communication. We agree with your suggestions and we incorporated them in the manuscript, as detailed below.*

R1C2: Lines 100-111: "tens of meters of interconnected cracks in the landslide area", please specify the size of this precursor cracks and don't simply refer tens of meters.

R1R2: *Several cracks up to 150 m long, interconnected to some extent, were detected. Some satellite images revealing the cracks were reported by Fan et al. (2017).*

R1C3: Lines 126-127: "for instance through ground-based SAR, ambient noise recordings and acoustic sensors", please add the references and paragraph on the description of "ambient noise recordings" and "acoustic sensors" for non-specialists.

R1R3: *We largely expanded this paragraph by adding definitions and several references that the reader may consult to get an insight on the techniques and their potentials.*

R1C4: Lines 134-136: Chen et al. (2013) also presented the characteristics of high-frequency seismic signals related to the different mass movements (e.g., rockfall, rock slide). Please also add a reference of Chen et al. (2013). Chen, C. H., W. A. Chao, Y. M. Wu, L. Zhao, Y. G. Chen, W. Y. Ho, T. L. Lin, K. H. Kuo and R. M. Zhang (2013) A Seismological Study of Landquakes Using a Real-Time Broadband Seismic Network. Geophys. J. Int., 194, 885-898.

R1R4: *We added this reference. Thanks for pointing this out.*

R1C5: Line 140: typo error "thee".

R1R5: *We corrected this error.*

R1C6: Lines 140-144: Please replace "energy released" by "potential energy released". Did you compute aforementioned values (runout distance, drop height, sliding velocity, energy release and collapse volume) by yourself? If not, you should add the references and/or the mathematic expressions to clarify above parameters, which relates to source kinematics. You show the potential energy released during the landslide to be 290 TJ. Do you think this is a realistic value for landslides? Please also compare your results with published studies. The reader may want to find explored by the authors.

R1R6: *We replaced "energy released" by "potential energy released". We added the reference for the given values (Fan et al., 2017). The energy was calculated following Lin et al. (2015), by calculating M_0 (seismic moment) from Lm (landslide magnitude). Then, it can be assumed that the energy released is equal to the work of the frictional forces or also to the loss of potential energy. With the former, knowing the runout of the landslide, an average mobilized friction coefficient can be estimated (see Lin, 2015). With the latter, knowing the elevation change of the sliding mass, the mobilized volume can be estimated as follows: $V=\rho gh/E$, where ρ is the material density, g is the gravity acceleration, h is the elevation change, E is the potential energy loss, and V is the landslide volume. The final velocity of the landslide can also be estimated knowing the runout distance and duration assuming, for instance, a uniformly accelerated motion (e.g. as in Lin, 2015). We believe that the results of such calculations are realistic, even though they are first-order approximations. The large energy of the Xinmo landslide can be explained by the very large change of elevation of the sliding mass (more than 1000 m). In the manuscript, we included results provided by other authors on two other landslides for comparison.*

R1C7: Lines 143-145: ". . .within seconds from. . .". In fact, the computing time depends mainly on the length of seismic waveforms used in the source determination. In a case of seismic waveform inversion (long-period seismic signals), a few minutes (> 100 sec) of data length is needed for an inversion scheme. Please replace "seconds" by "a few minutes".

R1R7: *We agree with the referee. We modified the sentence accordingly.*

Referee #2 (anonymous)

R2C1: The short communication submitted by Xu et al. tackles the theme of landslides that may affect mountain areas struck by strong earthquakes in the past to mitigate the risk associated with them. The authors underline the need to analyze the post-seismic stability conditions of slopes using all available ground and aerial methodologies along with the use of appropriate computer models. They also highlight the need for an appropriate monitoring of the unstable slopes and an efficient management of the postcollapse emergency by the territorial authorities. The text is well organized and correctly written and could be accepted as it is.

R2C2: *Dear referee, we are very grateful for your comment and for acknowledging the relevance of the issue we raised through our short communication. The long-term stability of slopes affected by strong earthquakes is a problem too often neglected, as much of the research efforts focus on the coseismic and short-term post-seismic hazard chain (days to years). We believe that only comprehensive and multi-technique analyses, that consider both the failed and the non-failed slopes, can provide the necessary input for reliable post-earthquake risk assessment and mitigation. The emergency handling and the secondary hazard management is another important point, which we believe cannot be split from the former. That is why we show how the fruitful collaboration and coordination among various expertise can be successful in such situations, and we insist on the need of a coordinating department, with appropriate resources and authority, that would handle the whole process of detecting, preventing and mitigating geological hazards in highly seismic areas.*