

Interactive comment on “Assessment of Landslide Susceptibility using Weight of Evidence and Frequency Ratio Model in Shahpur Valley, Eastern Hindu Kush” by Ghani Rahman et al.

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Reviewer # 1: The paper NHESS-2020-167 deals with approaches to assess landslide susceptibility for an area of Pakistan. The methods are well-known, hence some novelty on the discussion and comments are required. In the following my comments: 1) You have to add the description of the geological setting in the paragraph of the study area. Response: Thank you for your valuable suggestion. We have added a description of the geology of the area.

2) It is very important that you describe what kind of landslides you are studying. You need to classify them (follow Hungr et al. or Varnes Classification). The type of land-

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slide also affects the choice of the parameters to adopt for modeling. This will permit you to motivate the chosen parameters. Response: Thank you for your suggestion we have classified the landslide.

3) The adopted parameters require few words of motivation on their choice! Response: Thank you for your comment and suggestion. The motivation to choose the particular parameters are added in the manuscript.

4) You wrote about the field survey; some figures of the studied events will definitely enrich the paper. Response: Thank you for your comment and suggestion we have added the field photographs in the appendix section of the manuscript.

5) I did not understand the triggering of these landslides, earthquakes? In the case of seismic-induced events probably a seismic hazard map could be added as a parameter. Response: Thank you for your valuable suggestion. We have added the seismic map in the manuscript.

6) In the resulting map faults strongly control the results! I expect that they could have an important role if you deal with rockfalls and close to faults the rock mass is more fragmented, otherwise I can't understand their role very well. Response: Thank you for your valuable comment. The seismic map is added in this regard (Figure 2).

7) What's the criterion used to divide the susceptibility ranking? This is very important, several researchers worked on this topic. Response: Thank you for making our attention towards it. We have used the natural break classification method to divide the landslide susceptibility index map. Minor issues: line 46 pay attention to brackets line 113 almost every? what? Reviewer # 2: 1) English has to be revised, many awkward sentences, a lot of repeated and/or obvious concepts, use of non-standard terminology or unusual words (e.g. "causative" instead of "causal"). Some suggestions for improvement added to the corrected text. Response: The English of the manuscript is extensively revised, all the awkward and the proper terminologies are added in the manuscript.

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2) I don't know the meaning of the note (!!! INVALID CITATION !!!) it was put by another reviewer. Response: Thank you for your comment, actually some citations were missing, or maybe some problem with the endnote library. The citation problem is also fixed.

3) Not much new from the scientific point of view, actually the sole novelty in the study area. Response: Thank you for your comment. HKH region is geologically young mountains having high folds and faults as well as seismically active zone, therefore, a landslide is frequently occurring phenomenon in the study area

4) To authors: from fig 5 it is obvious that faults are the most important factor for the landslides susceptibility in the study area, so some information and data on the seismicity of the area would improve the paper value Response: Thank you for your valuable comment, the seismicity map of the region is added in the manuscript (Figure 2)

5) What was the pixel resolution for WoE and FR GIS models? Response: The pixel resolution for the selected methods are 30 meters.

6) Use a different name for the LSI from WoE and FR (e.g. LSI fr , LSIw) Response: Thank you for your suggestion it is added in the manuscript.

Please also note the supplement to this comment:

<https://nhess.copernicus.org/preprints/nhess-2020-167/nhess-2020-167-AC2-supplement.pdf>

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2020-167>, 2020.

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