

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC4
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FINAL Comment on nhess-2022-90

Anonymous Referee #2

Referee comment on "A Scenario-based Case Study: AI to analyse casualties from landslides in Chittagong Metropolitan Area, Bangladesh" by Fahim Sufi et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2022-90-RC4>, 2022

This study presents a modern tool to help understand the complex behavior of disasters triggered by natural events focusing on landslides. The paper describes a methodological framework to identify factors contributing to high landslide casualties by finding variable correlations from a collection of data from recorded landslides on CMA. I recommend considering the following comments before publishing this paper to underline the research contribution:

- Proofreading general comments:
 - Please re-read line 26; there may be writing errors.
 - Please re-read line 30; there may be writing errors.
 - Line 62. Make sure you settle AI and ML will be used as equivalent concepts if they are technically different.
 - Please re-read line 62; there may be writing errors.
- Line 29. Give some examples and references of the main events of this type.
- Line 33. If contributing to understanding your research aim, mention which were those causes.
- What do you mean by "scenario-based" in your research? Which is the scenario of analysis?
- Line 70. The authors suggest that the application of AI reduces disaster deaths. Do you mean this tool helps understand the factors over which actions can be made to reduce the risk of death?
- I recommend using a consistent term from those used in your paper (deaths, casualties), as they could represent a different concept in a disaster context.
- Figure 2. Make sure you are using the term vulnerability correctly or somehow define it when describing the photos on your figure. If possible, explain the expected consequences of a landslide scenario in this area shown in the figure, describe how many areas like those exist in the study region, etc.
- Make sure to clarify the implications of using techniques other than AI, or why your AI technique enhances/complements other types of analyses presented in the literature.
- Please clarify if this type of analyses can be conducted with any available data (as you suggested in your author response), or if minimum requirements (data collection size, completeness, etc.) exist to generate meaningful AI insights.
- Please show an extract of the final data used after the preparation process.
- Please discuss how your findings about the correlated variables (i.e. "Area of Mass", "Rainfall", and "Elevation") correspond or differ from the evidence of the variable

relationship in other investigations on landslides.

- [Discussion section] Highlight the implications of using incomplete datasets when generating AI insights like those used in your research.
- Finally, it should be interesting to mention how this tool could be used for future research on identifying the main factors influencing other loss metrics, such as injured people, for those researchers studying resources to cope with post-disaster response scenarios.