Nat. Hazards Earth Syst. Sci. Discuss.,
https://doi.org/10.5194/nhess-2020-195-RC2, 2020

Natural Hazards and Earth System Sciences
Discussions
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Interactive comment on "Integrated evaluation of water-related disasters using the analytical hierarchy process under land use change and climate change issues in Laos" *by* Sengphrachanh Phrakonkham et al.

Anonymous Referee #2

Received and published: 25 November 2020

The authors proposed and reported an integrated mapping approach in the context of the data-poor region which is promising. This can be very relevant within the scope of NHESS.

The empirical evidence is valuable for making climate-friendly development policy for many vulnerable countries with less economic advancements. The authors reported most of the fundamental elements for meeting the international and sound scientific standards; however, it may need to revise further before taking a publication decision. Here are some of the specific observations:

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The title seems to belong to and less declarative. Changing to “Mapping” might be a good fit than “Evaluation”

The abstract may be improved – highlighting generalization of results and limitations of this study approach

The introduction may restructure – pushing the facts about the case study (national) a bit later, better say something at the very beginning about international facts as a motivation of this study

It is understandable, the author is introducing the AHP as a method in the introduction; however, the objective comes very late. Here it may help to be short, but specific to the research gap. Anyway, AHP related discussion is also part in the method section.

In the methodology, it remains unclear –about sensitivity analysis. It was done or not! If not why not?

Under land use – only “forest and cropland” has been considered – is it because of data availability?

AHP is a popular method for making an expert judgement; however, it can be very complex and time-consuming to communicate with the expert respondents; it might be interesting for the readers to learn from your experiences. Moreover, what are the criteria for being an expert for answering your AHP Matrix?

Some of the discussion may help – why not other MCA approaches was considered like ANP. . ..

There is a number of literatures that has been already included – it might be relevant to look more on: - https://www.sciencedirect.com/science/article/abs/pii/S2212420915301023 - https://www.researchgate.net/profile/Asad$_{A}sadzadeh/publication/271065059_{A}ssessingsiteselection_{o}fnewroutesusing_{T}O$

The presentation of the results needs to be improved further. For example, the car-

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tographic presentation e.g. colour combination may rethink for better visualization of results. For example, following the presentation of the whole study area map, it will be nice to see some high-resolution map by zoom on some specific critical area for a close look at the output.

The discussion might be highlighted about the combined experience of multiple data sources, what are the major challenges. So far you have been using open data and automated workflow!! How about transferability and reproducibility of your proposed approach for countries that are having similar context and challenges.

The conclusion may summarize the significant results and contributions (i.e. in bullet points).

Please also note the supplement to this comment:
https://nhess.copernicus.org/preprints/nhess-2020-195/nhess-2020-195-RC2-supplement.pdf

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