

Reviewer	Comment	Category / paper section	Response / action taken
1	...the authors propose a research that aims to tackle a lot of issues on different hazards, their vulnerability, and climate change related aspects. This is a very ambitious work. However, lack of (i) methodological justification, (ii) use of local knowledge, (iii) discussion with respect to previous work, and (iv) absence of state of the art literature are factors that weakens the quality of this work. In addition, the research shows a lack a connection with its assume target audience. Per say, that is an point that one could understand, especially with respect to the constraint of going in the field (COVID restriction) and connecting with the local experts and institutions. Nevertheless, one would then have assumed a more elaborate discussion on those aspects.	General	Thank you for your comment. Indeed the work is ambitious but it reflects the requirement of the original project. It ´s difficult to convey the extent of the activities the team has carried out in the constrained space of a paper. However, rather than delving into the details of a single activity, we wanted to take a more comprehensive and multi-hazard perspective and illustrate both the final results as well as the challenges we encountered in the process. We believe this input can still be interested for the scientific community. According to your suggestion the introduction, discussion and conclusions have been extended. Further details have also been added to the specific risk analysis workflows.
1	However, what I want to point is that in its current version, this research misses the point of being framed around the state of the art knowledge in the region. Besides the implication it has for the science it itself, it is also problematic for the confusing message it could bring to the stakeholders. Why should new assessments be made if they are not discussed/compared with respect to current ones? Why should the local knowledge and expertise from researchers based in local institutions, even when available online, not be used?	State of the art and methodology	The activities we refer have been carried out in 2020-2021, so information and data published at a later date have not been taken into account. The team used the best data and information possible to the extent of our knowledge, although certainly relevant data might be missing. This aspect has been discussed in the conclusions as a future work.
1	The state of the art is missed, especially on multi-hazard risk assessment. It is thereover difficult to position the research beyond a simple case study in the literature. Furthermore, the introduction brings quite a substantial amount of methodological information.	State of the art	According to your comment the introduction has been updated adding references to the multi-hazard risk assessment. We would highlight that not much literature is available on mh risk assessment, while much more has been done in the context of multi-hazard analysis. Furthermore, we would narrow the discussion down to analytical approaches able to support probabilistic risk assessment.
1	Note that the introduction points to cascading and compounding hazards, issues that are barely addressed in the subsequent analysis.	Introduction	Indeed, in the introduction we better explained that, while the multi.hazard science has recently expanded to react to the challenges of interacting hazard, they pose several challenges and there is still a lack of multi-hazard risk assessments within integrated and consistent frameworks that would prove still useful to local stakeholder and would provide a good base for more comprehensive and sophisticated approaches.
1	Overall, the introduction reads more like a technical report than an research paper.	Structure	The introduction was extended to place the discussion within a wider framework
1	As stated in lines 40-42: "The results of the assessment were aimed at decision makers, civil protection authorities and other stakeholders at national and sub-national levels to support planning, decision-making and prioritisation of Disaster Risk Management (DRM) investments and activities.", the motivation of this research is to provide assessments for a specific audience. In that context, I find it a bit strange that the involvement of researchers from local institution is not considered. Usually, as expert, we are usually pleased to be invited to take part to a research were we can bring our own expertise. That would also have been a better strategy to try to overcome this gap between science and policy where the stakeholders are usually barely listened (Gill et al., 2021). Local scientists are certainly better at making stakeholders aware of the problems of natural hazards.	Introduction	Indeed, the team has been looking forward to discuss with local experts. Unfortunately the strong travel and mobility limitations induced by the COVID-19 have thwared these consultations. Also, the short timeframe of the project and the sheer amount of activities to be carried out also limited the availability on seide of the team. Lastly, the need for strong multi-disciplinary knowledge ranging from meteo and climate to hazards, to engineering to risk as well as social and economics has somemehow further limited the interaction with local experts, that are relatively few and tend to have highly specific domain expertise. The team for instance managed to organize a workshop within the scope of the landslide risk modelling, where local experts were presented and consulted about the ongoing activities. This has been a great chance to engage in very interesting discussions with experts. However, the team also noted in this case that very specific expertise (e.g., on lithology and morphology of portion of the territory) is not easily integrated into the large-scale statistical models used to obtain probabilistic risk estimates. Several of these considerations have been added in the discussion and the conclusions
1	The description of the study area remains very basic. One could have expected for example that reference to the rifting context is mentioned. Rifting is associated with the presence of faults and differences in relief, which has implication for earthquake hazard, local climate, and, as said earlier, landslide hazard.	Study area	Thanks. The presence and potential role of the rift has been explicitly mentioned in the presentation of the study area and in the discussion.
1	Figure 1. What data sources are being used for the map? Where does the classification map of the landform come from? What is the used of such an information about the forms?	Figures	Replaced the map - instead of terrain classes now showing land use land cover. Data sources are listed on the map.
1	The DRR context remains very general, relying on EM-DAT disaster data, a database that is known to come with some caveats. No reference is made to the local knowledge about the hazard (see earlier comments and the non-exhaustive list of references provided at the end of my comments).	DRR context	The EM-Dat database was used as just one of the potential sources. There was (and probably still there is) a strong lack of data on damage and losses and materialized risks with sufficient detail and quality. Luckily, the data collected by IOM in the field (described in the manuscript) has been a useful integration. This limitation, on the other side, is unfortunately very common also in Europe. The availability of hazard-specific expertise and publications has been mentioned in the updated introduction

1	In addition to what I mention above about the landslide assessment, a lot of methodological steps and choices are not clearly justified and the descriptions of the methods are overall too superficial, preventing any reproducibility. Reference to the literature is very limited, hence leaving the readers with questions about the relevance and reliability about the methodological Aspects.	Methodology	The workflows for each hazard-specific hazards have been now grouped in individual sections and more details about the methodological steps have been added, trying to strike a balance between the length of the manuscript and its readability.
1	For example, for the climate drivers, no justification is made with respect to the use of the climate models to extract climate information. Why these models? Why not other products? There is quite a lot of literature on climate product comparison (even for the region – e.g. Camberlin et al., 2019; Nkunzimana et al., 2020); something of importance especially with regard to the specific climate variables that are to be used for the hazard assessments.	Climatic Drivers	We appreciate this question. We imagine the reviewer refers to the use of the precipitation products - GPCC and IMERG- in the study for validation of the global climate models and regional WRF model, respectively. In general, these two products are also reliable, just like the ones referenced by the reviewer. The choice between products may vary depending on the applications they are intended for, the country, etc. In this case, there were two main reasons for using these products: 1) Consistency in spatial resolution with the models to be validated. GPCC at 1-degree resolution, similar to the climate models, and IMERG at 0.1-degree resolution, similar to the 9km regional model. 2) The second reason is the prioritization of global data coverage (author's decision) to allow uniformity and standardization of the method in other countries if needed. That said, regarding the references provided by the reviewer, one could also discuss the suitability of CHIRPS in flood studies, as this product is preferable for drought-related studies and may face challenges in representing extreme precipitation events. (https://doi.org/10.1007/s00704-023-04721-9 & https://doi.org/10.1016/j.ejrh.2024.102150) No additional information has been added in the word document
1	For the flooding, another example is with this statement “geomorphological analyses based on digital terrain model were carried out in those flood-prone areas that were insufficiently covered by the historical flood information. “ that is made without bringing extra information. This is much too vague.	Floods	Sentence added for clarification "Based on the input provided by local experts, flood plains and other relatively flat areas along river courses where considered as flood prone areas regardless of the lack of flood records in those specific areas."
1	For the pluvial flooding, the collection of the information is not explained. The authors says that they have an inventory of 64 events. How? For example, Monsieurs et al '2018) and Nsabimana et al. (2023) did similar work in the region bringing enough information for making sure that the method can be reproduced.	Floods	Data was collected from the following flood event databases: European Commission, Flood List, Dartmouth Flood Observatory, International Committee of Red Cross, Global Flood Modelling and Earth Engine. The data compiled were included in a Flood Event database and on a country map for internal use during the project implementation. This has been included in the manuscript text. It was considered most convenient to consult a wide range of international data sources rather than individual papers. With regard to Nsabimana et al. (2023), this research was published after our project completion.
1	Depicker et al (2020) produced a comprehensive landslide susceptibility map for a region that covers a large part of Burundi. This assessment is based on thousands of landside observations and has proven to deliver excellent predictive performances. The model is available online free access here: https://zenodo.org/records/5027004 Besides that, landslide inventories available online can be found here: • Shallow landslide inventory compiled by Depicker et al. (2021a) , with more than 800 entries for Burundi • Extra landslide inventory on a specific landslide event (Deijns et al., 2022): https://zenodo.org/records/7198322 For the region of Bujumbura in particular, comprehensive efforts on mapping landside processes have been done with the location of more than 1000 features (Kubwimana et al., 2021). For the same region, floods have been documented and analysed in details by Nsabimana et al. (2023). The relationship between landslides and flash floods has been investigated, either as cascading or compounding processes (Nibigira et al., 2018; Kubwimana et al., 2021; Deijns et al., 2021; 2024).	Landslides	Thank you. Unfortunately we could not use these publications and inventory as they were not available when the team carried out the analyses for Burundi, which was in 2020. These information has been added in the discussion and conclusions.

1	Once again, I am not able to put a critical eye on all the types of hazard assessment. However, when it comes to landslide assessment for which I have more knowledge, I have some concern. The analysis is based on a data-driven approach that is calibrated from an inventory of 770 landslides. The authors say that this information is from Nibigira et al. (2013 – a non peer-reviewed information that cannot be accessed) and from Broeckx et al. (2018). The PhD thesis of Nibigira (2019 - https://orbi.uliege.be/profile?uid=p125344) shows that he has mapped a total of 94 + 338 = 432 landslides over two well-constrained regions of Burundi (see page 66 of the thesis). The data by Broeckx et al. (2018) provide 204 entries for Burundi. We are therefore not having a total of 770 landslides. In addition, Broeckx et al. (2018) and Nibigira (2019) also contain deep-seated landslides. Furthermore, many entries in this dataset include mass movements associated with large gully features and with river bank erosion. These processes, in addition to not being landslides, are also strongly associated with human activities in the region (Dewitte et al., 2021; Kubwimana et al., 2021). Lastly, we shall also keep in mind that the dataset of Broeckx et al. (2018) is spatially biased towards the city of Bujumbura, where image availability and density are higher than in other parts of the country, especially at the time when the inventory was compiled (see Depicker et al., 2021a; Figure 5). The dataset of Nibigira is focused on only two regions of Burundi, which also leads to a spatial bias in the analysis.	Landslides	Thank you for your informed comment. Indeed, from the available inventory of Broeckx et al (2018) also events outside Burundi in geomorphologically comparable areas in Africa have been used. Overall the resulting inventory had 770 events. Potential limitations and biases of this inventory have been addressed in the text according to your comment and suggestion.
1	For the temporal analysis associated with landslides, reference to existing assessments with respect to landslide mobilisation rates (Depicker et al., 2021b, 2024) and rainfall thresholds (Monsieurs et al. 2019a, 2019b) would be welcome	Landslides	The suggested references have been added
1	Research in the region has shown that landscape rejuvenation due to the presence of migrating knickpoints associated with the rifting faults plays a major role in the distribution of the landslides. This is demonstrated at regional (Depicker et al., 2021a; 2024) and local levels (Kubwimana et al., 2021) for different types of landslides processes, whether form purely natural origin or from conditions associated with human activities (e.g. deforestation). Such influences of the rift is not even mentioned in the manuscript.	Landslides	This has been now mentioned in the discussion, along with the suggested references. Furthermore, need for further improvement of the models and underlying databases has been remarked in the conclusions and outlook.
1	For earthquake hazard, reference the work of Delvaux et al (2017) on seismic hazard assessment for a region that includes the whole Burundi is also missed.	Earthquakes	Thank you for noting. The reviewer refers to the Delvaux et al (2017) paper on the Seismic hazard assessment of the Kivu rift. In fact this paper and the related information have been used in the computation of the seismic hazard but a citation was missing. The study now is mentioned and referenced both in the introduction and in the hazard-specific section.
1	Vulnerability and risk to hazards have also been studied, either from a local perspective (e.g. Nsabimana et al, 2023) or from a regional one (Depicker et al., 2021b).	Vulnerability	A referece to Nsabimana et al. 2023 has been included in the study area description, highlighting their findings regarding the lack of drainage infrastructure in Bujumbura. Vulnerability is not assessed in the Depicker et al. 2021b paper, as stated in the paper itself: "...we account for the exposure of the population and not its vulnerability" and "...we adopt a fixed vulnerability factor of 1. Hence, we approximate risk as the product of hazard and exposure.". However, we have included a reference to this paper in the SEVA chapter in support of our argument on the lack of data and information regarding vulnerability in the region, as also mentioned in Depicker et al. 2021b " no quantitative information on vulnerability is available for the Kivu Rift. Moreover, a vulnerability assessment is hampered by data and fieldwork constraints."
1	For the vulnerability for the landslides, the authors invoke a lack of literature. Such work in an neighbour environment similar to that of Burundi could be useful (Sekajugo et al., 2024)	Landslides (vulnerability)	This is indeed a useful reference. The paper was mentioned in the hazard-specific section.
1	This part should be a key aspect of the research. However a proper discussion is missed and there is nothing that is said with respect to the existing assessments. What is the added value of this research? What is its use? Where are the caveats? The authors put an emphasis on climate change, which is of course a valid point. However, the main concerns about the natural hazards in this region are the exposure of the population and the weakness of the management (see for example Raju et al., 2022 that discuss such aspects in general). In addition, the impacts of human activities in the incidence of natural hazards such as landslides and floods (for example Depicker et al., 2021a, 2024) and the implication it has for the risk (Depicker et al., 2021b) are clear. These are points that for such as work would need to also be discussed, especially for a research that it aimed at targeting stakeholders. Overall, in that sense, the contextualized aspect of this research is weak I believe.	Discussion	Thank you for the comment. The discussion section has been extended to include these considerations, with a more focused look at the stakeholder perspective.
1	The climate change analysis was carried out with a rather straightforward analysis. I am surprised that such analysis is not carried out with reference to the state of the art (for example Souverijns et al., 2016) and the fact that conclusions on the issues of climate change are difficult to draw in the region due to the absence of relevant data; which often leads to conflicting perspectives (IPCC, 2021).	Climate change	The climate work conducted relies on the application of dynamical downscaling techniques to global climate models (GCMs) using a regional model (WRF). The choice of using global climate models rather than already downscaled models within the CORDEX framework provides the authors with greater flexibility in selecting and utilizing a broader range of scenarios and experiments. Dynamical downscaling with GCMs and WRF is also a well-established approach, frequently employed and widely recommended within the scientific community.

1	To summarize, the authors propose a research that aims to tackle a lot of issues on different hazards, their vulnerability, and climate change related aspects. This is a very ambitious work. However, lack of (i) methodological justification, (ii) use of local knowledge, (iii) discussion with respect to previous work, and (iv) absence of state of the art literature are factors that weakens the quality of this work. In addition, the research shows a lack a connection with its assume target audience. Per say, that is an point that one could understand, especially with respect to the constraint of going in the field (COVID restriction) and connecting with the local experts and institutions. Nevertheless, one would then have assumed a more elaborate discussion on those aspects.	Conclusions and outlook	Thank you for the very constructive comments and suggestions. The introduction, the discussion and the conclusions sections have been revised, expanded and integrated. Furthermore, preliminary comparisons on the risk results have been included, at least with respect to the GAR 2015 global assessment, and in the case of seismic hazard with the recent paper of Silva et al (2025). A consideration on the need to better consider target audience in this type of assessment has been included as well. Although the activities carried out are naturally quite technical and constrained in time but ambitious in scope, overall we believe that reporting these and the related findings to the scientific community might still be useful also to highlight some of the still existing gaps between research and praxis.
2	The references of Paul et al., (2022); and Paul and Silva, (2025) are missing. are missing. These studies contain valuable references that should be contrasted with the authors' findings. There has been no thorough bibliographic revision concerning multi-hazard risk. I fully agree with Reviewer 1 on this point.	State of the art	The work of Paul and Silva has been cited and referred to in the introduction and in the discussion, where its findings have been compared with the ones described in this manuscript.
2	Considering the final results the paper intends to convey, the structure of the submitted manuscript requires revision. Numerous sub-sections lack sufficient detail (e.g., the approaches followed for hazard-specific vulnerabilities) and surface late in the document. It would be beneficial to consolidate sections by creating "chunks" for each hazard-related physical risk. This means having risk as a header, with hazard and physical vulnerabilities (the adopted methods) presented together. Such an organization would harmonize text that currently mixes these components (e.g., lines 173-175 & 235-240) in the "Hazard" section, while exposure and social vulnerability could be presented separately.	Structure	According to your suggestion the structure has been revised, creating "hazard-specific" sections where single-hazard risk analysis has been described from hazard to vulnerability to risk. Exposure and social vulnerability has been kept separate since they are common to the other assesement (exposure) or independent (social vulnerability).
2	The current arrangement of having discussion as Section 9 (after Section 8: Results) and then Section 10 on 'Climate Change' is not appealing. I advise revising this structure	Structure	section 10 on climate change has been turned into an Annex to improve readability
2	The SEVA and Climate Change analyses were not integrated into the final results and therefore feel distracting. I suggest either completely removing them or presenting them as an Appendix, treating them as auxiliary analyses rather than part of the main text. The same applies to the details for the flood model for the five catchments (Fig. 4), as this is also distracting.	Structure	former section 10 on climate change has been turned into an Annex to improve readability
2	Access to geodata products is not only pertinent to reviewers; potential future readers may seek access to replicate the methodology using the developed tools in other study areas. This is crucial for adhering to and upholding the FAIR principles (Findable, Accessible, Interoperable, and Reusable) (Wilkinson et al., 2016)	Additional material	In the conclusion the link to the geodata repository managed by the local stakeholder to hold the project material has been provided.
2	A more thorough review of the English writing is recommended, focusing not only on grammar but also on the presentation of ideas. I am particularly surprised that this was not noted by the senior co-authors of the manuscript, who should have provided careful supervision and strict approval before resubmission.	Language	Text has been rearranged and checked
2	Please ensure uniform font style throughout the document. The text currently displays mixed font styles that do not comply with the NHSSS template (e.g., line 212)	Formatting	We harmonised the formatting throughout the document.
2	There are several disconnected sentences that appear as if different texts were mixed together without harmonization by a careful reader	Language	Text has been rearranged and checked
2	Similarly to Reviewer 1, I am surprised that no local authors were invited to contribute to this study. I recommend that the authors consult the EGU statement on Scientific Neocolonialism	Methodology	As stated in the conclusions, due to the short timeframe of the project and its extensive requirements and the difficulties related to COVID-19, the contribution from local authors has been unfortunately much smaller than expected. The authors therefore prefer to bear full responsibility
2	The paper appears to be more of a project report rather than a scientific manuscript, evident from its general structure and specific phrasing (e.g., lines 36, 43, 352, etc.). The scope of the study seems directed towards a specific audience, distinct from the scientific community, which is acceptable. However, the basics of the various methodologies and assumptions should be clearly stated, even if only in a supplementary section. Below are some related suggestions	Introduction	Thank you. The manuscript has been revised, also in the introduction, discussion and conclusions, in order to improve readability and foster interest in the scientific community. Further information and details about the specific approaches have been included.
2	Regarding damage functions for crops, the only mention is in line 115: "for the impact of fluvial flooding on agricultural areas and for landslides, a simpler binary fragility model was used due to a lack of consistent	Floods	With regard to the impacts of fluvial flooding to agricultural plots a comparable model was applied as the one implemented for landslide risk. Hence, 100% crop loss was associated to a flood event impacting the area associated to crops in the 2019 high resolution landcover map. This
2	Fig. 2: should be improved. It is not self-explanatory. I advise to include references for the adopted models.	Figures	The caption has been extended and reported in the text in the "methodology" section.
	The entire section "5.4 Earthquakes" lacks bibliographic references. This omission implies that the authors		The following references have been included:

claim all content therein as their own, which is likely not true.

2

Earthquakes

ASCE (American Society of Civil Engineers). (2022). ASCE/SEI 7-22 Minimum Design Loads and Associated Criteria for Buildings and Other Structures. Reston, VA: ASCE.

CEN (European Committee for Standardization). (2004). Eurocode 8: Design of structures for earthquake resistance – Part 1: General rules, seismic actions and rules for buildings (EN 1998-1:2004). Brussels: CEN.

Cornell, C. A. (1968). Engineering seismic risk analysis. Bulletin of the seismological society of America, 58(5), 1583-1606.

FEMA. (2012). Hazus-MH 2.1 Earthquake Model Technical Manual. Federal Emergency Management Agency.

FEMA. (2020). NEHRP Recommended Seismic Provisions for New Buildings and Other Structures (FEMA P-2082). Washington, DC: Federal Emergency Management Agency.

Kramer, S. L. (1996). Geotechnical Earthquake Engineering. Prentice Hall.

McGuire, R. K. (2004). Seismic Hazard and Risk Analysis. Earthquake Engineering Research Institute (EERI), Monograph MNO-10.

World Bank. (2014). Understanding Risk in an Evolving World: Emerging Best Practices in Natural Disaster Risk Assessment. Global Facility for Disaster Reduction and Recovery (GFDRR), The World Bank. <https://www.gfdr.org/en/publication/understanding-risk-evolving-world>.

Also, in line 254, the authors mention five hotspot localities without further elaboration. If this is not part of the final results, why is it included?

2

Thank you for your careful review and valuable comments. Following your suggestions, Section 5.4 has been revised.

First, we have incorporated appropriate bibliographic references to support the description of the seismic hazard assessment methodology, including citations to Cornell (1968), McGuire (2004), Kramer (1996), CEN (2004), FEMA (2020), and ASCE (2022). This ensures that all external sources are properly acknowledged.

Second, regarding the mention of the five hotspot localities, after careful consideration, we determined that this information was not directly relevant to the objectives of Section 5.4, which focuses on the national-scale hazard assessment. Therefore, the reference to the hotspot sites has not been maintained in the revised version, in order to prioritize the clarity and focus of the section.

Section 5.4 has been changed as follows:

The estimation of seismic hazard followed the methodological approach known as Probabilistic Seismic Hazard Assessment (PSHA), as originally introduced by Cornell (1968) and further developed by McGuire (2004) and Kramer (1996). This widely adopted framework integrates the results of seismic source modelling, ground motion propagation, and local soil effects to assess the probability of different levels of seismic ground shaking. The expected accelerations associated with return periods of 100, 250, 475, 975 and 2,500 years (corresponding to exceedance probabilities of 40%, 18%, 10%, 5% and 2% in 50 years, respectively) were computed considering all known seismic sources within a 300 km radius zone of influence around Burundi. The probability of exceeding specific levels of ground motion—both in terms of peak ground acceleration (PGA) and spectral acceleration (SA)—due to all identified seismic sources was then estimated. A logic tree approach was employed to incorporate multiple ground motion attenuation models, enabling the quantification of both the epistemic uncertainty inherent to these models and the aleatory variability associated with different input parameters. The peak ground acceleration (PGA) and the spectral accelerations SA (T) for the previously defined return periods across Burundi were computed under both reference rock site conditions and with local site effects. These seismic hazard maps do not reflect a specific earthquake event, but instead represent the probabilistic levels of ground shaking expected to be exceeded during an exposure period of 50 years.

Figure 6 presents the distribution of PGA, including local site effects, for the 475 year return period, which is widely used in seismic risk and design applications. This return period corresponds to a 10% probability of exceedance in 50 years and is adopted by numerous international and national seismic design codes, such as Eurocode 8 (CEN, 2004), the ASCE/SEI 7-22 Minimum Design Loads for Buildings and Other Structures (ASCE, 2022), and the NEHRP Recommended Seismic Provisions (FEMA P-2082, 2020), as the baseline for the design of ordinary buildings under the Life Safety performance level.

				The maximum projected PGA for the 475 years scenario is 0.37g. The hazard maps incorporating site effects reveal significant spatial variability, which reflects the lithological complexity of Burundi. The highest seismic hazard levels are observed in the sedimentary basins and alluvial deposits of the Imbo Plain, in the western part of the country, while the eastern regions, characterized by harder soils and lower seismic activity, show the lowest expected ground motions.
2	My understanding is that population (from Worldpop) was used solely to derive building counts, with no risk-related metrics developed (e.g., casualties, human displacement); only monetary risk metrics were assessed. This should be clearly stated from the outset.	Population		The following sentence has been added to the "population" section: "The spatially explicit population model has been used to better constrain the total count and distribution of residential buildings, as detailed in the following, but could be used to also quantify the potential impacts on health and well-being."
2	My understanding is that the left subplot in Fig. 7 derives entirely from Worldpop (the full citation is missing). However, it is unclear which spatial disaggregation technique was used to derive building counts on the right. No equations or methods were provided. The existing information does not sufficiently connect with the risk assessment. How do these counts compare to existing datasets such as IOM? What methodology (i.e., equations) was used to adjust these initial numbers? Why were existing datasets like the Global Human Settlement – GHSL not utilized, given they offer estimates on the number of buildings and even future populations at higher resolutions?	Population		We compared the population and building footprint data available in 2020 with the then available official datasets by administrative areas. The latest census data available was from 2008. We also did a visual interpretation using an Orthophoto. We looked at then available population data from Worldpop and Facebook. Building datasets from OSM, Google, GEM and Worldpop. GHS-POP data in 2020 was not considered.
2	Fig. 7: I advise to use a continuous colour bar, and not discrete intervals.	Figures		Not changed. Distinct classes simplify interpretation for non-expert audiences by grouping values into meaningful categories (e.g. low, medium, high population/building density).
2	The manuscript does not provide the spatial distribution of repair costs for residential buildings and crop values, nor does it include this information in a figure or table, or detail its derivation. This is crucial considering that a key result is the assessment of the Annual Average Loss (AAL). One option might be to include another subplot in Fig. 7 showcasing these repair cost values.	Exposure		Thank you, we appreciate the comment, and we agree that could be of interest for the readers. Following this reviewer's suggestion, two tables have been included in the manuscript within an Annex (Annex 2). One table describes the main taxonomical types of residential buildings with estimated typical features and the assumed replacement value per m ² as provided by local experts. The other table describes the estimated replacement value for the main crop types to be found in low-lands and river plains exposed to floods. Furthermore, the complete residential building exposure model at the colline level is now included as additional material.
2	References style: The footnote 1 (line 288) is not a correct citation. Please note that in that website, the citation suggested is mentioned.	References		Reference was included
2	Line 292 states that GEM taxonomy Version 2.0 is focused entirely on seismic vulnerability applications, including various attributes. This statement is inaccurate. For Fig. 8, only material and number of stories were included in the ten baseline classes. The authors claim that GEM and DTM building types were merged, but the basis for this is unclear. How was this validation conducted? If a test was performed, why not present it as supplementary information?	Exposure		The GEM taxonomies provide a flexible means to describe different combinations of structural and non-structural features. It was developed in the context of seismic risk, but many of the features included can also be relevant for other hazards (Brzev et al later explicitly extended the taxonomy but the multi-hazard version is largely overlapping with the previous version). GEM provided validated building types for the central-african geographical context (in the context of the SSAHARA regional project and as part of the global seismic risk assessment), although no building-type distribution rates across Burundi. On the other hand, the DTM platform provided colline-based allocation of building types according to a more simplified description. These two descriptions have been matched using the type of walls as the connecting descriptive indicator between the data sets. The connection between both datasets provided the disaggregated taxonomies set as representative and valid for the project scope.
2	In line 299, the phrase "finally..." implies that the presentation of the figure in pie charts is part of the methodology. This is misleading, as it represents merely a selected format of presentation	Exposure		Text changed to: Fig. 8 shows illustrative examples of the resulting proportional building taxonomies distribution in the collines of Bujumbura Marie and Cibitoke.
2	Several studies on flood vulnerability and risk in the African context were conducted under the CLUVA project. I recommend that the authors include and comment on these works (e.g., Jalayer et al., 2014, 2016).	Floods (vulnerability)		Thank you, the team working on flood risk was not aware of these interesting publications, and therefore proceeded using a different approach, also motivated by the lack of data. In fact, the approach proposed by Jalayer et al. (2016) is complex and heavily parameterized and would require extensive data both on the hazard and on the exposure side to be constrained: a challenging task at a national scale.
2	Fig. 10: The legend was never mentioned in the text. Also, it is unclear why this damage function is included when the adopted function for earthquakes is not shown. As this is not an original development, I recommend removing this figure	Floods (vulnerability)		Figure 10 removed
2	Vulnerability of buildings to landslides: In line 354, what exactly does "given distance" from the location assigned to a landslide event refer to?	Landslides (vulnerability)		The distance has been estimated as the radius of a hypothetical circle whose area has been assigned by sampling the Frequency-area relationship and centered on the landslide point stochastically generated by the Poisson process. A sentence has been added to clarify this in the text.
2	Line 342: notes that coping capacity may be one of the highlights and novelties of the manuscript. However, little detail on the methodology and its impact on final results is provided. This should be commented on in the conclusions.	SEVA		(Lack of) coping capacity is one of the three Dimensions of the INFORM risk assessment framework, and therefore the methodology for its assessment is the same as for the other dimensions. The text has been edited to better reflect this "In accordance with the INFORM framework,..."

2	Terms “indicators, components, categories, dimensions” is not well separated, and sometimes used interchangeably.	SEVA	The terms have not been used interchangeably but we recognise that other readers may make the same mistake as Reviewer 2 and have therefore sought to make the hierarchical structure of the assessment framework clearer with the inclusion of an additional sentence "We additionally included a subcomponent level between indicators and components."
2	Line 361, which proxies?	SEVA	The factsheet for this map will be included in additional material in which the hierarchical structure is described with text and graphically Many proxies were used; an example is provided: "Proxies were used for indicators where data was not available, for example for the indicator ‘infant health’ three variables were combined (Mortality rate of under 5 year olds; Prevalence of malaria in infants aged 6-59 months; Percentage of infants aged 0-59 months seeking care for diarrhoea) by calculating the unweighted arithmetic mean of their assigned vulnerability classes."
2	In the multi-hazard map shown in Fig. 12, why was the 85th percentile selected? This assumption has not been discussed or justified. Notably, the same percentile for different (and very different) return periods has been combined. How can this be technically justified?	Results	The choice of 85% is indeed arbitrary, as are other high percentiles typically used to characterize the upper part of statistical distributions. While 95th or 99th percentiles often refer to extreme values (i.e., typically on the tail of the distribution), it was deemed that the 85th percentile would have conveyed information on the distribution of "relatively high hazard intensity" without going to the extremes. As the reviewer correctly noted, this representation does not take into account recurrence (and in the case of landslides, not even hazard), but it intends to describe the geographical areas where relatively severe hazards might be experienced, and as such is an indicator of proneness to multiple hazards. The following sentence has been added: "The 85% percentile threshold has been chosen arbitrarily to capture the spatial distribution of high-intensity hazardous events without narrowing the description to extreme events"
2	Fig. 12: delete the title. The figure’s caption is enough. I advise to update the figure showing the two lower subplots and the table bigger.	Figures	Removed the title and replaced the figure. I find the two maps and the table at the bottom readable. Also, increasing them would mean having them in a separate figure, to not make one figure too large.
2	The final results presented in Fig. 13 come from aggregating the individual results in Table 1. My understanding is that 5 out of the 6 AAL columns were derived from assessing the risk to residential buildings, while only one column reflects the potential losses of crops due to river floods. This indicates that the vulnerability of crops was not assessed for torrential rains, winds, landslides, or earthquakes. This separation raises concerns.	Results (AAL)	Indeed, the loss of crops due to floods is significantly contributing to overall AAL, and Floods affect crops disproportionately w.r. to the other hazards, both because of the physical impact of water, its duration and the extension of the flooded area. This assumption was confirmed by the available impact data as well as by local experts from the Civil Protection Agency and Ministry of Internal Affairs, who specifically requested the we consider risk in agricultural river floodplains due to its recurrent impact. This has been mentioned explicitly and the related limitation has been addressed in the outlook.
2	The final result in Fig. 13 was obtained by dividing the physical risk by the area of the colline. This appears to be an arbitrary assumption; various results would arise if the AAL risk were divided by average gross income, total population, or any other aggregated parameter. This approach needs revision, commentary, and stronger justification.	Results (AAL)	Indeed several types of normalization are possible, each one affecting the overall representation. Normalization by area is common to avoid bias in the visualization due to the difference in the area. Plus, the exposure is largely area-dependent so the normalization capture the difference in the hazard patterns.
2	Given the difficulty in assessing impacts, open sources, such as the Climate Impact Explorer (https://climate-impact-explorer.climateanalytics.org/impacts/) and the ISIMIP repository (https://data.isimip.org/), could have offered valuable initial insights. Additionally, as pointed out by Reviewer 1, several existing datasets have been completely neglected.	Climate change	I agree that incorporating this source would have enriched our analysis. However, the idea of this multi-hazard evaluation was to approach the process from the ground up, providing us complete autonomy and the flexibility to tailor our approach to specific requirements. This allowed us to integrate diverse data sources and local insights, apply methodologies suited to our context, and focus on specific criteria that mattered most. It could also lead to new insights that pre-existing tools might not have revealed.
2	The use of several adjectives, such as "accurately" (line 456), "precise" (line 449), and "effectively" (line 457), is inappropriate given the uncertainties associated with global climatic models. I advise using more straightforward language.	Climate change	Words have been removed. I agree with the reviewer that such strong statements are not advisable when addressing climate projections. I believe they were written to convey to the reader that a prior analysis of the GCMs had already been carried out to select the three models. Additions have been made to the text.
2	Although I previously suggested moving the impact of climate change to an Appendix, I am concerned about lines 470-472, where the authors mention that Fig. 15 is derived from averaging three “future projections” (global climatic models) and “three return periods.” Is this map an average of three return periods and three climatic models? The authors should provide a justification or methodology for this assumption. How should these results be interpreted, and are they genuinely useful for practical applications?	Climate change	Thank you for the suggestions. The section has been turned into an annex to improve readability of the manuscript. As for your specific comment, the map is only supposed to provide an intuitive visualization of where in Burundi climate change could have a bigger relative impact. Since the models agree in shape in all provinces, taking the average is expected to provide a semi qualitative spatial estimate. The resulting representation would be biased in favor of longer return times, but this is consistent with a precautionary principle (i.e., in doubt consider the worst case).
2	Please, add every individual author’s contribution, as required by NHESS		M.P. and E.P. designed the study. E.P. Contributed to the development of the flood hazard map and the related analyses and developed the compilation of the risk assessment estimates (AAL) of the five hazards consulted directing the generation of the commune, province and country wide scale risk maps. S.S. and M.M. developed the landslide models and carried out the related analyses. M. B. B.O. conducted the Probabilistic Seismic Hazard Assessment. M.P., K.R., E.P. and P.C. developed the exposure models and carried out the related analyses S.S. and J.L.D. developed and conducted the Socioeconomic Vulnerability Assessment. J.P. and M.P. conducted the climate change analysis. K.R. designed the figures with input from all other authors. J.L.D. coordinated the manuscript production.

			All authors proofread and commented on the manuscript.
2	Official citations for datasets and other relevant sources are missing (e.g., Worldpop, IPCC).	Refernces	The references have been added.
3	I agree with Reviewers 1 and 2 that the manuscript would benefit from restructuring and integrating the findings into the broader literature, including the implications for existing DRR policies and practices in Burundi.	State of the art	The introduction, discussion and conclusion sections have been expanded accordingly.
3	to increase the relevance and uptake of the paper, I recommend that the authors engage with local experts and practitioners to refine the methods used in generating the multi-hazard map (Figure 12).	Methodology	We agree that a tighter interaction with local experts would have further improved the results described in the study. Unfortunately in the time-frame of the project this was severely hindered by the compound COVID-19 limitations, but we hope that future works could be undertaken in close collaboration with local scientists.
3	The discussion (Section 9) currently reads more like a results section; please integrate the findings into the existing literature.	Discussion	The discussion section has been further expanded and comparisons with published findings (e.g. GAR2015, Paul and Silva (2025) have been introduced. (see also next response)
3	Examine how your findings contribute to existing knowledge of Burundi's risk context and the implications of your multi-hazard risk assessment for developing current DRR strategies.	Discussion	added:"The use of AAL-oriented risk analysis implies a different and pragmatic perspective on the use of data. While AAL provides an actionable metrics which is well understood by decision makers and large-scale organizations, the monetization of risk often implies strong simplification and assumptions, which are ill-received by several scientific communities. A systematic understanding of such uncertainties is therefore crucial, while at the same time improved probabilistic approaches should be developed to tackle them efficiently. This outlines a further difficulty interacting with local experts and stakeholder, since the methodological approach required to obtain probabilistic estimates at national scale requires significant data, knowledge and information beyond the sheer consideration of hazards. The need for the analytical integration of exposure, physical and socio-economic vulnerabilities (Michellier et al., 2020) entail a significant multi-disciplinary effort which often strains local practitioners and research institutes lacking financial resources and personnel (Dike et al., 2018). Future work should include a more extended consultation process with local experts and a more in-depth consideration of the institutional and operational framework of local stakeholder is also advisable to ensure a more efficient uptake of the collected data and findings. " and "Several of the models described in this manuscript had to rely on simplifications and assumptions that should be revised in the future as new data and knowledge is increasingly made available. In particular, the risk from river floods (both on residential buildings and crops) given its significancy, should be further addressed by and with local experts and stakeholders. The estimation of landslide risk from probabilistic assessment was also relatively innovative and as such can be further refined and validated. AlsoMore in general, the assumption of independence of hazards should be subject to further studies in order to better account for cascading and compounding mechanisms in the impacts, e.g. the triggering of landslides due to intense precipitation and earthquakes, and the high probability of compounding across the impacts related to hydrometeorological hazards. Following the conclusion of the activities described in this manuscript, a public shared data repository has been implemented by national and local authorities in Burundi, who engaged in extensive restructuring and update of the risk management processes. As a first result, 90 communes and 17 provinces have developed or updated contingency plans and simulation exercises have been implemented for stress-test and validation purposes . These findings clearly indicate that more intense and concerted efforts are needed in Burundi to develop and maintain those data, information and knowledge that are paramount for understanding, treating and monitoring the different risks increasingly threatening socio-ecological systems and communities. This also includes consistent exposure and vulnerability data, as well as a systematic collection of impacts, damage and loss. Integrated risk assessment should be understood as a continuous process, calling for substantial resources to be mobilized by local and national authorities, and for the scientific community to further engage in pragmatic joint activities with decision- and policy-makers. In this context, non-governmental organizations operating on the territory, such as IOM in the case of Burundi, can also play an important role in collecting and sharing important information and bridging gaps with local institutions. "
3	Offer practical suggestions on how your multi-hazard risk assessment can be integrated into existing DRR policies and practices in Burundi. I recommend that this involves consultation and knowledge exchange with local experts and practitioners to identify individual methods that can be refined, thereby strengthening the multi-hazard map (Figure 12). This engagement could be online if appropriate.	Discussion	During the COVID time, we tried indeed to engage through online meetings with local experts but it proved less successful than expected, also due to language and cultural barriers that would be easier to overcome spending some time on the field and in person. Hopefully future activities might expand along this lines.
3	In the additional material, please include the model code and numerical results for each component of the methods.	Additional material	In the conclusion the link to the geodata repository managed by the local stakeholder to hold the project material has been provided. Further information and code could be released upon request.
3	In addition, please list the questions used in the semi-structured interviews and focus groups for the socio-economic vulnerability assessment.	Additional material	Relevant PDF provided as additional material

3	I recognise that you have described the limitations of the research throughout the methodology. However, I believe the discussion could be enriched with a summary of these limitations and how you plan to address these in future work.	Discussion	The introduction, discussion and conclusion sections have been expanded accordingly. Limitations have been highlighted and specific topics for future work have been included. For instance, in the discussion the following paragraphs have been added: ". Economic loss to crops has been addressed only in the case of river floods, so that risk to crops due to torrential rains, winds, landslides, or earthquakes were not assessed. This is based on the assumption that river floods affect crops disproportionately with respect to the other hazards, both because of the physical impact of water, the spatial extension of the flooded area and its duration. The expected AAL related to the impact of riverine floods in urban areas amounts to more than 33Mi USD, nearly ten times bigger than the GAR15 estimate (UNDRR, 2015). The flood risk estimates have not yet been validated through comparison with other sources, but a clear confirmation of the high level of risk was provided by the recent (2024) floods. From September 2023 to April 2024, in fact, the El Niño has wreaked havoc across Burundi, with floods (and landslides) affecting more than 200'000 people, forcing more than 37'400 to flee their homes and damaging 40'000 hectares of agricultural fields, resulting in the loss of 10% of 2024 crops (UNICEF, 2024). The contributions of the Bujumbura provinces can be explained due to the concentration of population and associated infrastructure in these provinces. The highest single contribution (0.78% of GDP) is indeed associated with fluvial floods in Bujumbura Mairie. The potential high exposure of this area was clearly shown by the Copernicus rapid assessment report triggered on the eve of the April 2024 floods, where more than 130km ² of flooded area were predicted (Copernicus, 2024) also due to the continuously increasing level of the Tanganyika lake (Gbetkom et al., 2024). With regards to Ngozi province, the significant AAL of 6.5 million USD is mainly due to potential losses to agricultural crops. Earthquakes, although relatively infrequent, still represent a concrete threat over longer time frames: the estimated 15.3Mi USD, while much higher than the GAR15 estimate of 3.87Mi USD (UNDRR, 2015) is very consistent with the recent estimate of 17Mi provided by (Paul and Silva, 2025). In this study a preliminary probabilistic landslides risk assessment has been carried out, which is still uncommon in the context of landslides hazard and risk assessment but allows for landslide risk to be quantified and compared with other natural hazards. This probabilistic model is based on a database of landslides compiled with data available in 2020, which is expected to be affected by the spatial heterogeneity of the data and by the potential biases associated with the potential presence of deep-seated landslides and mass movements associated with large gully features and with riverbank erosion. However the statistical characterization was quite robust, which indicates a relatively high level of consistency in the underlying data. After 2020 several other landslides inventories have been published (e.g., Deijns, 2022; Depicker et al., 2021b), which could be employed to further improve the model in future assessments. Other necessary simplifications and assumptions are related to the need to extend susceptibility estimates to probabilistic hazard models."
3	General: Include the geographical area of focus in each figure caption (e.g., Burundi, Cibitoke province). This is valuable if a figure is viewed outside the context of the manuscript/paper.	Figures	Added spatial reference in all captions
3	Figure 1: Can the topographical categories (i.e., colours) be differentiated more clearly?	Figures	Replaced the map - instead of terrain classes now showing land use land cover .
3	Figure 2: Be consistent with capitalisation in the figure.	Figures	The figure has been corrected
3	Figure 4: Add north arrows and scale bars to each panel in the figure.	Figures	Done
3	Figure 10: State what I, II, IIIa, IIIb, IVa, and IVb refer to in the figure caption.	Figures	Figure was removed
3	Figure 11: Add units to the colline and provincial vulnerability scales. Please amend the typo as follows: "...population density increase 2050...".	Figures	It is described in the text that vulnerability is presented with a continuous class description from less vulnerable to more vulnerable based on Fritzsche et al., 2014, in order to avoid an oversimplification of the understanding of vulnerability or the isolation of vulnerability from the context in which it occurs (which in Burundi is one of generally high vulnerability). The caption has been edited for clarity, although there was no typo, this was the name of the indicator we used (the increase of population density between base year and 2050)
3	Figure 12: Include a north arrow and scale bar on at least one of the seven panels. Can you increase the resolution of this figure?	Figures	Done.
3	Figure 15: The final line in the figure caption is unclear: "...different global and return periods." Should this be "...different global and ___ return periods."?	Figures	Figure caption changed in the manuscript updated
3	Section 2.1, Line 93: Include the threshold criteria used in EM-DAT to determine what disaster events are recorded.	DRR context	The sentence was modified accordingly
3	Section 2.1, Line 93: To aid the reader's understanding of the challenges posed by hazard data scarcity in the context of Burundi, it would be useful to include a figure or table comparing the impact data documented across EM-DAT and the IOM's Displacement Tracking Matrix (DTM) platform.	DRR context	We have added a comparative table (now Table 2 in the revised manuscript) that contrasts the EM-DAT and IOM Displacement Tracking Matrix (DTM) data characteristics, including their spatial and temporal coverage, granularity, and key limitations.
3	Section 5.1, Line 142: Why was the 99 th percentile of the time series chosen as the threshold for the Peak-Over-Threshold (POT) method?	Torrential rains and strong winds	We choose the p99 threshold to focus on the most extreme events, ensuring a conservative approach to modeling risks. Although I agree with the reviewer that the selection of thresholds in POT methods can be challenging, p99 helps balance capturing significant extremes with maintaining accuracy (statistical robustness).

3	Section 5.2, Lines 169-175: What is the source/are the sources of this information on the 64 flood events between 2000 and 2020?	Floods	The international sources that were consulted were: European Commission, Flood List, Dartmouth Flood Observatory, International Committee of Red Cross, Global Flood Modelling and Earth Engine. The data compiled were included in a Flood Event database and on a country map for internal use during the project implementation.
3	Section 5.2, Line 180: Be cautious with acronyms: here, I presume DTM refers to digital terrain model; however, you previously defined DTM in the context of the IOM's Displacement Tracking Matrix (DTM) platform in Section 2.1, Line 101.	Floods	Thank you for noting. This has been changed
3	Section 5.3.2, Line 228: Explain why you chose a heterogeneous Poisson Process model to address the lack of multi-temporal information in landslide observations.	Landslides	The use of an heterogeneous Poisson point process is mainly motivated by the need to have a consistent database of stochastic, simulated landslide events to carry out probabilistic landslide risk assessment, in a comparable way as it is done with other natural hazards (e.g.,
3	Section 5.3.2, Line 235: What specific aspects of Corominas and Moya (2008) did you apply to determine the parameters of the power-law frequency-size distribution?	Landslides	The Corominas and Moya reference illustrates rather the generic approach. The determination of the appropriate scaling law would require a more consistent dataset. However, it was deemed that an exponent of -2.3 is a plausible estimate. This is for instance the mean value (std
3	Section 5.4, Line 255: Provide a reference for the statement "...RP 475, which is considered the most representative return period for this hazard...".	Earthquakes	In the revised version of the manuscript, we have added explicit references to international seismic design standards — specifically Eurocode 8 (CEN, 2004), ASCE/SEI 7-22 (ASCE, 2022), and FEMA P-2082 (FEMA, 2020) — which establish a 475-year return period (corresponding to a 10% probability of exceedance in 50 years) as the standard reference for the design of ordinary buildings. This has been clarified in the text. Therefore this question has been solved in the new section 5.4. In particular, next sentence answer to the question. This return period corresponds to a 10% probability of exceedance in 50 years and is adopted by numerous international and national seismic design codes, such as Eurocode 8 (CEN, 2004), the ASCE/SEI 7-22 Minimum Design Loads for Buildings and Other Structures (ASCE, 2022), and the NEHRP Recommended Seismic Provisions (FEMA P-2082, 2020), as the baseline for the design of ordinary buildings under the Life Safety performance level.
3	Section 6.1, Lines 271-272: Provide references for the following sentence: "The population in Burundi has grown from around 8 million people in 2008 (year of the last census) to around 12 million people in 2019 (projection of the National Statistics office)."	Population	Inserted references to the sources used. The web pages we used when conducting the population analysis https://burundi.opendataforafrica.org/data/ and https://www.insbu.bi/wp-content/uploads/2023/06/Annuaire-statistique-2019-1.pdf are not available when conducting the review of this paper. However, we have got the data stored and can make it available to the reviewers if required.
3	Section 6.2, Line 298: Quantify this "good match" between the results and the projections for 2019.	Exposure	We agree that quantifying the match would strengthen the validation. However, due to limitations in the available data, particularly the lack of a complete and recent census of building stock at the commune level, a precise statistical comparison was not feasible. Instead, the match was
3	Section 6.3, Lines 308-310: Is there a method of validating this "mostly visual accuracy assessment"?	Exposure	we relied on a visual cross-comparison with available high-resolution imagery (e.g., Google Earth, Sentinel-2 composites)
3	Section 7.1.2, Line 329: Add a brief justification for why the "HAZUS scheme from Kircher et al. (2006)" was the most appropriate choice for assigning the capacity curves.	Vulnerability	Section 7.1.2 has been reworded to provide a clearer justification for selecting the HAZUS scheme from Kircher et al. (2006) for assigning capacity curves. The revised text explains that HAZUS offers internationally validated fragility and capacity models that match the predominant construction typologies observed in Burundi. In addition, references to relevant studies (Brzev et al., 2013; FEMA, 2012; Silva et al., 2018; World Bank, 2014) have been incorporated to strengthen the justification. A new paragraph has been included considering this issue: "The HAZUS scheme from Kircher et al. (2006) was selected as the most appropriate framework for assigning capacity curves because it offers a comprehensive, standardized, and internationally validated set of structural fragility and capacity models. HAZUS provides detailed vulnerability parameters for a wide range of common building typologies, particularly covering low- to mid-rise masonry and reinforced concrete structures, which are the predominant forms observed in Burundi (Brzev et al., 2013). Moreover, HAZUS models have been extensively tested and applied in different seismic risk contexts worldwide, not only in the United States (FEMA, 2012) but also in several international studies addressing developing country settings (e.g., Silva et al., 2018; World Bank, 2014). Given the limited availability of detailed local structural data in Burundi, applying the well-documented HAZUS-based capacity curves constituted a technically sound and practical choice for this study."
3	Section 7.2, Line 356: Provide a reference for the following statement: "...an INFORM subnational risk assessment in Burundi was published in 2020...".	SEVA	In text citation added

3	Section 11, Lines 513-514: Expand on this sentence detailing the stakeholder engagement: “To mitigate this, it was attempted to validate the conceptual approach and data sources with local experts, but this was limited due to the difficulty in engaging relevant informants.”. This could be mitigated by expanding the discussion to include future work.	Conclusions and outlook	The sentence has been rephrased and a more extended discussion on the limitation and perspectives of including local experts has been included.
3	Section 5.3.2, Line 228: Change “landside” to “landslide”.	Language	Done
3	Section 6, Line 265: Mismatched parenthesis: “(see (Campalani et al., 2023)”	Language	Done
3	Section 6, Lines 264-265: The text could be rewritten to read, “Key exposure information considered in this study includes population, residential buildings, and cultivated areas; additional information on infrastructure was also collected (see Campalani et al., 2023).”	Language	Reviewer suggestion integrated
3	Section 6, Line 266: Should “local authoritative sources” be rewritten as “local authority sources”?	Language	Text changed to 'local expert sources' for clarity
3	Section 6.1, Line 273: Change “In order to provide a realistic representation of current population distribution...” to “In order to provide a realistic representation of the current population distribution...”.	Language	Done
3	Section 6.1, Line 277 and in Figure 7: Change “Worldpop” to “WorldPop”.	Language	Done
3	Section 6.2, Line 287: Change “provided” to “providing”.	Language	Done
3	Section 6.2, Line 285: You have said “based on the following two information sources” and then listed three information sources.	Language	done
3	Section 6.2, Line 291: The hyphen in “construction-types” is not necessary.	Language	Done