



EGUsphere, referee comment RC1
<https://doi.org/10.5194/egusphere-2022-171-RC1>, 2022
© Author(s) 2022. This work is distributed under
the Creative Commons Attribution 4.0 License.

Comment on egusphere-2022-171

Anonymous Referee #1

Referee comment on "Identifying the drivers of private flood precautionary measures in Ho Chi Minh City, Vietnam" by Thulasi Vishwanath Harish et al., EGU sphere,
<https://doi.org/10.5194/egusphere-2022-171-RC1>, 2022

General Comments:

Incorporation of flood risk mitigation measures taken by the residents is an important part of flood risk analysis/management. This study aims to identify the drivers of the private sector to implement these measures in Ho Chi Minh City, Vietnam by analysing the survey data collected from 1000 at-risk households. For this purpose, the researchers used 'Protection Motivation Theory' in combination with the 'Transtheoretical Model' by accounting for both non-structural and structural measures based on both 'Proactive' and 'Reactive' behaviours. The article includes some interesting contents that are substantially practical in the real-world flood risk analysis. However, there lies a number of fundamental concerns, mostly related to the organisation and the flow of the information on the methodology and application.

Major Comments:

- It would appear that the majority of the contents are parts of a larger document that are put together without a decent amount of cohesion and linearity. This significantly disturbs the reader to follow the flow of the article and understand the novelty of the proposed method as well as the usefulness of its output in the context of flood risk management. More specifically:

- A bulk body of information in the 'Introduction' section constitutes the historical data on the flood events (lines 21-37), introduction to Flood Risk Management (lines 39-48) and the private precautionary measures (lines 49-65). Though important elements (and probably important for a thesis or dissertation), they are not specific to the research novelty and the method that the authors employed to "Identify the drivers of the

private flood precautionary measures in Ho Chi Minh City, Vietnam". However, Section 2, 'Study area – Ho Chi Minh City', appears to include the introductory information that the reader should obtain from an introduction section which is more focused on research itself. Also, the introductory information in Section 3 could aim the authors to rewrite the introduction section.

- Section 3, which is expected to convey the information on the 'material and method' in the research is not self-explanatory of what is specific to the research considering the aim and objectives. The authors could use the framework introductory information, explained in Section 2 (lines 99-124), in the rewritten 'Introduction' section and focus more on the materials and methods in the new section (such as lines 127-204).
 - Section 4, Results and discussion, does not respect the standard of a decent academic article and therefore should be rewritten to comply those requirements (authors could use other examples published in NHESS). More specifically, the section and the subsections lack introductory sentences to acquaint the readers with appropriate preparatory information for what sort of outputs will be discussed with respect to a specific purpose in the coming subsections. Take the instance of line 206, which jumps directly to the specific outputs without any preparation to answer: 'what', 'why' and 'how' with respect to what was said before in the 'materials and method' section. Also, this section includes a large amount of discussions on the previous research other than specifying the key findings of the present research.
 - Section 5, conclusion, should include the key findings of the research alongside the brief summary of the research. It should also include specific limitations in more details and suggestions for future research. It would also help the quality of the conclusion to provide information on the reproducibility of such outputs for other place/countries.
-
- The article does not weigh the privilege of the proposed research over other existing methods. For example, questionnaire surveys. In simple words, the article does not highlight the importance of using 'Protection Motivation Theory' and 'Transtheoretical Model' for conducting such research.

Technical/Minor Comments:

- The 'Abstract' should be revised so as to clearly elaborate on the method, what has been specifically analysed from the survey datasets, and what are the key findings of the research and what do they imply/show. Especially line 13 onwards, the flow of information does not seem to be correct; therefore, makes it difficult to understand. Also, avoid using long sentences as short ones would help the readability of the abstract and all your work.
- The 'Introduction' section has many repetitions, which could be made more concise with respect to the aim and objectives of the research. For example, doesn't line 24-26 convey similar meanings to the previous two lines?
- In-text citations does not seem to follow a uniform template. In some instances, a comma is used after et al. while in the others there is none. Compare for example, line 31, (Nguyen, et al. 2021(b)) and line 36, (Cao et al., 2021).

- Line 31-33, 'Developing countries ... 'could be more specific. For example by specifying 'What limited capacity?'
- Line 36. The authors have not reviewed any research yet; therefore, it would be better to provide some more explanatory information on the physical and environmental drivers of flood risk before providing such conclusion.
- Line 37. "To counteract the trend of increasing flood risk due to global change, improved flood risk management is necessary." is a trivial piece of information and sounds unnecessary as it has neither related to what has been said before nor has been specifically in line with the flow and aim and objective of your research.
- Line 42 is a good place to explain about proactive measures in the context of the implementation of flood risk management strategies.
- Lines 42-45: the authors could elaborate more. Do you mean: because the flood hazard changes rapidly in urban areas amongst the household units, implementation of the conventional large-scale flood protection measures, such as dikes and retention basins, is challenging?
- Lines 45-48: is not comprehensible as the previous paragraph is not structured based on the research scope.
- Line 49: use 'Private precautionary measures have demonstrated to be effective in reducing flood damage.' instead.
- Line 53: use "There is a knowledge gap in ..." instead.
- Line 60: "Experiencing repeated flooding can change this attitude (Bubeck et al., 2018; Chinh et al., 2016)." Using such sentences from other sources requires mentioning further backup from other research. For instance, what did they specifically conclude in their research? Using such assertion for your purpose in the introduction does not provide the reader with the required clarity.
- Line 63: "These insights can guide the design of targeted risk communication campaigns and incentives to improve flood preparedness" The authors should elaborate more on such sentences.
- Lines 49-71: This paragraph should be more specific and concise to fit the purpose of this study. The authors should provide a summary of what has been done in the present research as well as its basis and novelty.
- Line 76: add reference for "The city's population is expected to grow even faster in the coming years." Also, it is good to mention the population growth rate.
- Line 82: The flood risk is exacerbated by climate change, ongoing urbanization, increasing population and infrastructure density leading to a higher proportion of sealed surfaces." Is a repetition. The authors should consider removing the repetitive sentences in the revised/rewritten manuscripts, especially in the 'Introduction' and 'Materials and Method' sections.
- Line 94-96: as last lines of your subsection should conclude your discussion on the issue. Please consider to follow a more linear approach in providing the reader with the required information before they reach the next section of your manuscript.
- As mentioned above, the majority of Section 3 could be used in the revised 'Introduction' sentence and this section should be more concise and specific to the researcher's own work and method.
- Line 119: use "The present approach" or "The proposed framework" instead of "This framework".
- Line 129: "The survey collected 1000 valid responses from local households who suffered from floods in the recent 10 years." here the authors are expected to mention the representation percentage of the selected number of household with respect to the total population (9 million + 2 million?). And also, how this rate would influence the validity of the research findings?
- Lines 131-132: Could be more specific. For example, what class of socio-economic profiles and what types of flood types have been investigated?
- Line 152: use "Each precautionary measure is categorised into ...".
- Figure 2. Is this figure necessary? The authors could use a simple table instead.
- Line 164: the authors should explain the reason that the lasso and elastic net

regression models lead to identification of drivers. And in-detail explanation is required here.

- The authors should explain the notations in all the equations and avoid explaining the repeating ones. This can be done by providing a couple of lines below each equation/formula.
- Date shown in Figure 4: where did the authors derive/obtain the 'Implementation cost of the private precautionary measures'? If it is a part of the present research, there has to be some explanation. If not, the authors should provide information on how they obtain them. Also consider it in the further discussion.
- Lines 240-245: Study worth analysing the difference in the socio-economical drivers between the countries that influence households to take flood mitigation measures at individual levels. What are the differences and how they might change according to each country socio-economical driver?
- Section 4.2 (starting from line 245): The variables discussed here are not mentioned/explained previously in the article, therefore the reader is not familiar with these terms. The authors can make a table and explain each before the reader reaches to Section 4.2.
- Lines 251-253: Good to know what Table 3 has. It should be explained before discussion on the results. Please do not mix the discussion of Table 3 with Figure 5. The authors should first explain Table 3, then discuss figure 5. The authors should ensure that they explain about the variables before jumping into the discussions. It can be in a few lines in the introductory paragraph of this section explaining what has been studied with what aim and how.
- Lines 253-258: the meaning of these sentences are not clear. For example, what is the difference between 'house damage' and 'house impact'? The authors should explain 'house damage' and 'house impact' before reaching here to give the readers an idea of what they mean.
- Line 294: use comma after 'Next'.
- Lines 297-299: There is no need for mentioning the findings of the previous research in your discussion if they are not related to the results' discussion.
- Lines 301-305: require further elaboration.
- Lines 306-319: This is not a concluding paragraph for the discussion section. The authors can clearly explain what their discussion suggest with respect to the aim and objective of the research.
- In 'Competing interests', Is this necessary to mention that one of the authors is an executive editor at Natural Hazards and Earth System Sciences (NHESS) journal? Please do check it with the editor. Also, make sure that the Appendix is located in a correct place.
- Titles of the sections and subsections should be more informative elaborating on their contents by also preserving the linearity in the revised manuscript.
- Also consider using more informative caption for the figures and the table 1.