

Interactive comment on “Resilience issues and challenges into built environments: a review” by Charlotte Heinzlef et al.

Anonymous Referee #2

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1 General comments

This paper aims at providing a review on the concept of resilience specifically on the built environment. Since the concept of resilience suffers from less acceptance in practice mainly because of its theoretical character and numerous definitions (as it is concluded), it is worth to give an overview on the various approaches.

However, from my point of view, the authors miss to bring clarity to the jungle of terms and concepts, which would make a significant contribution to the discussion on the concept of resilience. The paper is very long (too long from my point of view) and could be substantially reduced without missing the main goal. Some paragraphs describe general concepts, which are not directly related to the concept of resilience. This carries

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the risk that the reader loses the main track to the major issues of the paper.

The language of the paper has to be considerably improved to meet the quality standards of a scientific paper in a WoS journal. Beside numerous typing errors, paragraphs are often not linked to each other and the red thread gets lost.

The paper deals with a social science concept and although some links to natural hazards are given, the question arises as to whether NHESS is the right target journal for this paper. I would have expected more information on how the concept could help to improve risk management of natural hazards. At the very end, the authors argue that a tool would be needed but it remains vague, what such a tool should contain and how such a tool should look like. Maybe that for a theoretical review of this kind of concepts other journals would be more appropriate.

If the authors decide to publish this article in this journal, I recommend a major revision of the paper including restructuring and reducing the content, a reduction of the content and a closer focus on the main issues underlined with some examples.

2 Specific comments

2.1 Introduction

- line 37: What is the growing success? In the next line you write the concept is questioned. Isn't this a contradiction?
- line 49: at the end of the sentence, I think a reference would be needed.
- line 132: why "attempted resilience definitions"? Consider to change the section title.
- line 134: . . . many different disciplines . . . redundant to paragraph above.

- line 136: you probably mean the criteria for determining when a system has recovered.
- lines 147 – 157: check for redundancies and language. Which capacities did Serre (2018) mean?
- lines 218 – 219 very unspecific. What is positive?
- lines 236 – 237: I do not understand what you want to say here.
- lines 277 – 278: “The concept . . .” this has been said several times.

2.2 Urban risks: . . .

- lines 291 – 292 what exactly has increased? The number?
- lines 303 – 309: where do these numbers come from? (UN, 2018)?
- line 322: isn't it primarily the exposure that increased rather than the vulnerability? Of course both could have increased, depends on the definition.
- lines 328 – 330: . . .live discontinuously from . . .natural functioning . . .natural functioning: very general
- lines 335 – 337: repetitions, consider rephrasing; also very general.
- lines 339 – 364: is the description here really necessary? Same holds for lines 370 – 400; could be at least reduced.
- lines 401 – 489: the question would be here, how the concept of resilience could help to better deal with these complex systems. You mainly describe the complexity. I suggest to cut these sections to closer link it to resilience.

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2.3 Urban resilience: ...

- line 499 – 500: is urban resilience really a tool? Shouldn't a resilience tool be rather a tool for analyzing the complexity and ways to improve it. In this context (and for the whole paper): what the difference between resilience and robustness? I think this term should be mentioned and defined somewhere.
- table 1: citations should be consequently added in the left column.
- line 513 and 552: check the section titles and rephrase
- line 518 – 519: check the sentence
- line 539: difference between city and town?
- lines 559 – 561: this sentence better fits at the beginning and is repeated several times

2.4 Methods and tools ...

I think this part is the most essential one, while the upper sections could be shortened as much as possible. I recommend to reduce general descriptions such the one on “indicators” (lines 669 –680) as much as possible.

- lines 813: Check sentence, same next line: “taking” is a complex ... not clear what you mean.
- The section 4.2.2 is very generally and could be shortened to those aspects really relevant here.
- line 871: ... it is It is ...

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- line 884: ... territories s response
- line 886: ...including ... please check.

2.5 Discussion

I think this is not really a discussion. I would expect that you discuss which of the concepts are used in practice and when not (what I assume for most of them), what's the reason for that. Is it the concept itself or the way it is implemented? What is missing that the concept could be used and implemented in practice? Wouldn't figure 1 better fit in one of the upper chapters?

2.6 Conclusion

- multiplication → multiplicity
- ... perfectly in line ... you perhaps mean ... is able to be used in the context of climate change and ... Next line: currently challenge → current challenge
- The last sentence sounds very hypothetical and you could say more in the discussion how this tool could look like.

3 Technical corrections

- line 13/14: ... innovate existing ? risk management strategies
- line 34: ... such as physics ...
- line 54: resiliences

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- line 123: word identity double
- line 142: We evaluate . . .
- first reference: who is the author? Reference is incomplete.

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