

Interactive comment on “Linking critical infrastructure resilience to social vulnerability through minimum supply concepts: review of gaps and development of an integrative framework” by Matthias Garschagen and Simone Sandholz

Matthias Garschagen and Simone Sandholz

sandholz@ehs.unu.edu

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We thank the referee for his very detailed review. Most of the issues raised in the text above will be dealt with in detail in the attached file where we respond to the detailed comments.

In general, we believe – based on our review and analysis of the status quo – that minimum supply so far has not been discussed sufficiently in CI debates that mostly focus

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on technical feasibility and speedy restoration after any kind of disruptions. Therefore our focus would remain on this part, however the question if it is reasonable or even technically feasible to expect, receive or privately stockpile minimum supply of different CI will be addressed more comprehensively in the paper revision. The literature review itself was done based on search terms given in the paper, all disciplinary fields were included in the basic search, and we will add that in the paper. While the scientific review had no regional focus the policy part arguably focused on the German/European contexts, the decision will be emphasized in the methodology section.

The critical comment on the conceptual framing is well-taken. The framework in the latter part of the paper is meant to provide heuristic guidance and to stimulate the discussion. It is not meant to provide a fully-fledged framework. In revising the paper, we will make sure to change the wording accordingly and shifting the emphasis away from the conceptual framing.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2017-375>, 2017.

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General comments This is an interesting topic that explores a challenging topic. With some re-structuring and a more distinct argument made for exploring the role of 'minimum supply' concepts in DRR, the paper would be much stronger. As it stands, I found it a little difficult to follow the argument's narrative, so I remain to be convinced that there is an issue worthy of further detailed explanation – that is, is there a role for minimum supply (conceptually or technically) beyond that which appears to already be set out in many of the policy documents examined. It is unclear to me whether the argument has been made that it is reasonable or even technically feasible to expect minimum supply to the broad array of stakeholders/community members mentioned in the paper? In my view, the paper would be stronger were it to make that case, and then testing that idea against current literature and practice to explore issues of feasibility, justice, etc. Moreover, I found the scope of the literature and policy review a little hazy.

Is the literature review global – and in which disciplinary fields – and the same re the policy review. And is the German case then situated within these, or was the literature review global and the policies examined only EU? Figure 1 only helps a little to clarify this, and it would be better to be clearly explained in the method. The paper does not yet do what its title suggests. Perhaps the title might be something more like, "is there a role for min supply concept in better linking CI and social vulnerability?" Finally, the paper sets out to provide a framework, but I could not find it.

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In general, we believe – based on our review and analysis of the status quo – that minimum supply so far has not been discussed sufficiently in CI debates that mostly focus on technical feasibility and speedy restoration after any kind of disruptions. Therefore our focus would remain on this part, however the question if it is reasonable or even technically feasible to expect, receive or privately stockpile minimum supply of different CI will be addressed more comprehensively in the paper revision.

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*Responses to detailed comments (comments are written in *italics*, newly written parts are highlighted in blue):*

1. *Comment: Specific comments Pg1 Line 11 – unclear why they should be Line 13 – are the "remaining gaps in management" to be informed by an understanding of social vulnerability*

Reply: You refer to the sentence "Increased attention has lately been given to, first, social vulnerability reduction and, second, critical infrastructure management in the context of natural hazards and disasters. However, strikingly little efforts have been made in linking the two in a coherent manner conceptually and practically. Addressing this gap is the objective of this paper. In its first part, it provides a structured review on

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Fig. 1.