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Comment on nhess-2021-326

Kai Kornhuber (Referee)

Referee comment on "Invited perspectives: A research agenda towards disaster risk management pathways in multi-(hazard-)risk assessment" by Philip J. Ward et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-326-RC2>, 2022

The article by Ward et al. provides an interesting perspective on how to respond and manage multi-hazard and their increasing risks in light of global changes such as globalization and climate changes. It offers a comprehensive overview of the historic developments in disaster risk management, summarizes challenges of traditional approaches and provides a suggested way forward, centred around sustainability. I particularly enjoyed the introductory references and remarks on ancient history and would very much welcome to see this paper published as it offers a helpful reference, a nicely written entry point to the general topic and some new important concepts. I therefore have only some minor suggestions and very much hope the authors find them useful.

As this is a perspective that highlights the need to unify language for progress it would be very helpful if some important terms such as disasters, hazards, risks and their multi-counterparts ('multiple-disasters', 'multi-hazards', 'multi-risks') are defined early on and then used consistently throughout. Currently they are used synonymously (e.g. Section 2 is headed risk to multi-risks but talks mostly about multi-hazards, later multiple disasters is used as well. e.g.l.285), but are they really the same? If multi-hazards lead to amplified risk (a probability?) of severe impacts, what is a 'multi-risk' etc.?

It would be helpful if the challenges listed in section 3 and the suggested research agenda discussed in section 4 would be closer linked and directly referenced in the text. Is there a correspondence between those sections that deserves to be further highlighted?

I.64: Is globalisation and concentration the only driver of increased impacts? Some Natural Hazards surely have become more impactful by increased frequency and magnitude due to Climate Change.

I.153. what would be a 'tool' and what would be a 'method' in this context? Are they the

same?

l.145 paradigm shift is needed. For what exactly? For disaster risk management?

The challenge in line l.194 is a bit difficult to understand as the aspects listed in the title are not necessarily related?

l.212 'has been'

l.239 The meaning of this sentence is hard to understand 'We present a research agenda that help us move towards this approach.' Is it rather a research agenda that implements this approach? How do you move towards an approach?

l.260 what is a 'risk-driver'?

l.281 This is a bit of a complicated sentence as 'framework' are used twice with likely different meaning? '..achieve this by co-developing the 'framework', and products and services to operationalise the 'framework'.

l.297 scales stand for temporal, spatial scales?