Response to first Referee's Comments on

"Towards risk-based flood management in highly productive paddy rice cultivation – concept development and application to the Mekong Delta"

by Nguyen Van Khanh Triet, Nguyen Viet Dung, Bruno Merz and Heiko Apel

Referee's comments:

The topic of risk-based flood management in paddy rice cultivation is an interesting one and appropriate for the journal. I read with interest the well-presented and concise paper. I also read the comments of the Editor and fully agree with his suggestion for improving some of the figures.

I congratulate the authors for the nice research work they have been carried out.

I would still suggest that the authors comment in the paper on the fact that the risk assessment is done for the whole Mekong delta, while there are many districts with many different decision persons involved. How would such a study contribute to common understanding of flood risk of these decision makers, and would it be possible for them to collaborate in the overall water management, or there are other factors that are needed before such a level is achieved.

Authors' reponse: We would like to thank the editor for the positive comments. In the revised manuscript we will comment if and how the presented work can contribute to actual flood risk management. The results of this study, i.e. flood damages to crops and associated risks, will provide to decision makers with information on the two important components in flood risk assessment: exposure and vulnerablity. Until now the predominant flood management approach was based on flood hazard, or in many caes even only on a flood anger assessment (i.e. flood exposure assessment without an estimation of probabilities). Based on this infrastruture was developed to control inundation, mainly dykes, sluice gates. Moreover, water-governance/management in the delta is still often defragmentted on the provincial level. Collaboration between provinces, and horizontal and vertical intergration and collaboration between different departments in charge of water resouces, or between sectors is limited, as recently (again) reported by Ha et al. (2018);Hoang et al. (2018). We certainly agree with the reviewer that all provinces in the Mekong Delta urgently need to collaborate in their flood management plans, in order to obtain sustainble management plans for the individual provinces and the Delta as a whole. How this can be achieved is basically a political problem. However, the results of this study can be broken down to provincial and even district level to support adapted management plans for the provinces, that will also be sustainable for the whole delta.

For possible implementation pathways we highly suggest to consider the two above mentioned recent publications of Ha et al. (2018) and Hoang et al. (2018), which provide more insight to the issue of water and flood management, and the policy framework in the Vietnamese Mekong Delta. The previously high level Steering Committee for the Southest Region (disbanded in early 2018), might have significant

contribution towards the development and implementation of flood management plans harmonized between the provinces.

Ha, T. P., Dieperink, C., Dang Tri, V. P., Otter, H. S., and Hoekstra, P.: Governance conditions for adaptive freshwater management in the Vietnamese Mekong Delta, Journal of Hydrology, 557, 116-127, https://doi.org/10.1016/j.jhydrol.2017.12.024, 2018.

Hoang, L. P., Biesbroek, R., Tri, V. P. D., Kummu, M., van Vliet, M. T. H., Leemans, R., Kabat, P., and Ludwig, F.: Managing flood risks in the Mekong Delta: How to address emerging challenges under climate change and socioeconomic developments, Ambio, 10.1007/s13280-017-1009-4, 2018.