

Interactive comment on “Interacting effects of land-use change, natural hazards and climate change on rice agriculture in Vietnam” by Kai Wan Yuen et al.

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Received and published: 19 November 2020

We thank the Reviewer 2 for taking the time to critically evaluate our manuscript and for providing constructive comments to improve our paper. Below, we reproduce all the comments that we have received from the reviewers and detail how we will address them in the revised version of our manuscript.

General comments

Overall, this is a very well written paper, with only a few usage errors (missing some hyphens). This type of analysis is relevant for understanding rapid changes in the

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important delta regions producing significant proportions of food globally. This systems level analysis is interesting and provides a structured way to understand the complex implications of climate change and human-cause land use changes on rice production in the Mekong River Delta and the Red River Delta. However, given that both climate change- and human-induced changes are the objective of the study, there are some glaring omissions. The authors should consider how urban and exurban expansion, especially in the RRD, are decreasing rice yields.

As well as the shifting local and international markets for more diverse agricultural products (orchards, aquaculture) are changing rice distributions, and thus where the climate and human-cause impacts will persist. These are important land use changes that have downstream, so to speak, causations, particularly on available land for rice yields. The authors should seriously consider justifying why these variables were not included and also add to the discussion how they could be included, if the decision is to not include them in a revised version of the analysis.

Response

We are pleased that the Reviewer has recognized the value of using systems-thinking and flow diagrams to identify and visualize the interconnections among the drivers of rice productivity in both deltas. We agree with the comments made by the Reviewer that we have not taken into consideration the impacts of urbanization. We also agree that increased demand for more diverse agricultural products as well as environmental challenges such as saltwater intrusion has meant that farmers may be incentivized to convert existing rice cultivation areas into orchards, vegetable plots or aquaculture ponds. We have taken these factors into consideration and revised Figure 2 accordingly to reflect the importance of these anthropogenic drivers. The new information will also be added to our manuscript.

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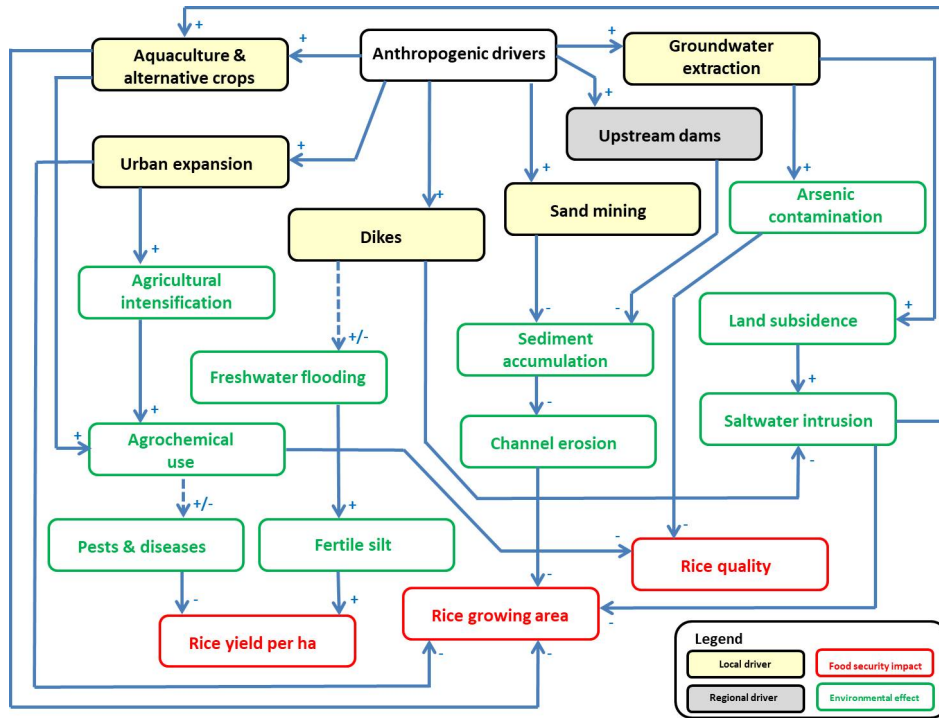


Fig. 1. Flow diagram showing the key anthropogenic drivers that affect rice production in the two mega-deltas of Vietnam.