

Interactive comment on “A review of current and possible future human-water interactions in Myanmar’s river basins” by L. Taft and M. Evers

Anonymous Referee #1

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In this paper the authors are anticipating the nature of coupled human-water system interactions and feedbacks that could be expected in Myanmar’s river basins, with the focus on those in the Ayeyarwady delta. They have attempted to do this using a framework for socio-hydrology proposed by Sivapalan et al. (2014).

I do welcome this attempt as I think this kind of long term (decade to century scale) analysis will be able to embrace the suite of climatic, hydrological, socio-economic and socio-cultural elements in projections in the future. After reading the manuscript, I can indeed see the place of socio-hydrology in such long term projections, including especially the two-way feedbacks between humans and water in these river basins. Since these river basins are rather large, and considering the heterogeneity of the hydro-climatic situation as well as the diversity of human populations and occupations, there is also a spatial dimension to the socio-hydrology.

C1

In spite of my enthusiasm for the paper, I am not sure that the current manuscript can stand alone as a research article. At best it is a literature review or weakly formulated opinion article. I would like to see the idea developed some more, before it can be published.

I understand that the idea is at a concept stage, not even a proposal stage, and there are no research results to present. Still I would like the authors to take the idea further, into at least a proposal stage. In two recent socio-hydrology papers, we have seen the recommendation to do “framing” of a socio-hydrologic problem. Framing involves using available information to identify a phenomenon and the domain/scale, putting together a perceptual model, choosing state variables, causal factors that affect the state variables, developing functional relationships, estimating parameters, and finally model parameter estimation. At the very least the authors could start with starting with a narrative and progressing to the stage of developing a perceptual model (and some hypotheses for identified phenomena), then it will qualify to be a publishable research article. It is disappointing that the paper has only two figures, one borrowed from Sivapalan et al. (2014) and the other a map of Myanmar. There needs to be more substance.

Therefore, this calls for major revision of the paper.

For more ideas on “framing” I encourage the authors to look up two recent papers (and references found therein).

Sivapalan, M., and G. Blöschl (2015), Time scale interactions and the coevolution of humans and water, *Water Resour. Res.*, 51, 6988–7022, doi:10.1002/2015WR017896.

Garcia, M., K. Portney, and S. Islam (2016). A question driven socio-hydrological modeling process. *Hydrol. Earth Syst. Sci.*, 20, 73–92, doi:10.5194/hess-20-73-2016

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2015-516, 2016.

C2