

Hydrol. Earth Syst. Sci. Discuss., referee comment RC2  
<https://doi.org/10.5194/hess-2021-388-RC2>, 2021  
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## Comment on hess-2021-388

Anonymous Referee #2

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Referee comment on "A conceptual framework for including irrigation supply chains in the water footprint concept: gross and net blue and green water footprints in agriculture in Pakistan" by Abdul Wahab Siyal et al., Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2021-388-RC2>, 2021

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The study shows a conceptual framework of water footprint accounting for irrigated croplands or districts. The improvement from the existing knowledge is a more detailed records of the blue water footprint related to irrigation supply networks. But it is not true as mentioned by the author, there are already several studies account for the irrigation canals related blue WF. My concerns start from the innovative aspect of the study. So that the title seems to be too ambitious to reform the concept of the WF. I think it is more likely an improvements in terms of regional agricultural water footprint accounting in cubic metre per year, specifically in irrigated fields supplied by artificial canals and reservoirs. As for the study content itself, it is really hard to convince me that such conceptual framework can be easily applied to other regions, given such high requirements of input data. So I recommend to resolve following concerns. 1. The graphical abstract is not totally relevant to the study. The study did not accounting for any virtual water flow. The scale of the study is from only water supplier to farmer. Grey water is not discussed in the proposed framework. 2. Figure 1 is not clear and hard for readers. 3. Figure 2 is the core, why not indicate clearly the key components in the framework on the scheme? Which processes constitutes the so called gross or net water footprint, etc. 4. The structure of the text is a mass, there is no section number since 'Results'. The conceptual framework hides in the system analysis for the study case. Please carefully re-arrange the text body to highlight the main information of the study. Only the case? Or the conceptual framework with a case showing? 5. In the discussion, it would be much more helpful to provide a input list and possible collection or monitoring measures. 6. I am confused about the inclusion of the WF of weeds. Can you explain?