

The study by Wang et al. with the title of “*Misinterpretation of hydrological studies in the Lancang-Mekong Basin: drivers, solutions and implications for research dialogue*” describes the politicization of hydrological science. The study then explains the drivers and intended consequences. Although the study makes good points in politicizing the hydrological science, the paper will probably make the readers confused about how this research contributes to the special issue of “socio-hydrology and transboundary rivers.” To make this contribution, the authors need to improve the literature review, which is currently very weak. Then, the submitted paper should mention the research gap. Thus, I highly suggest the submitted paper goes through a major revision at this stage with my following comment.

Thank you for your feedback. Based on the recommendations from you and the other reviewer, we (i) substantially revised the text, (ii) added the literature review, and (iii) added few tables as requested. For more details, see the comments below.

- My general comment is that the authors improve the writing of the submitted paper. In particular, please avoid using long sentences.

**Fully accepted** – the text has been substantially revised throughout the manuscript and long sentences have been shortened.

- The abstract is highly weak in terms of how the submitted paper contributes to socio-hydrology and transboundary rivers.

**Fully accepted** – the abstract has been revised and extended.

- I suggest removing the first sentence in the abstract. It has a loose connection with the rest of the abstract. Improve the last sentence in the abstract so that you can say

**Fully accepted** – the first sentence has been deleted.

- The introduction needs to discuss the purpose of socio-hydrology and how this paper is connected to this purpose.

**Fully accepted** – the introduction has been substantially revised to more reflect the connection between socio-hydrology and the politicization of science.

- Line 27: what do you mean by socio-hydrology perspective? How does this perspective help you with your research?

**Fully accepted** – the text has been revised (see Abstract, Introduction and Chapter 1).

Socio-hydrology considers science as a social process in which the water challenges cannot be solved in a purely technical manner and a plurality of both scientists and non-scientists is required to design more sophisticated water assessments.

- Line 39: typo error. The introduction is 1, and this title should be 2.

**Fully accepted** – the text has been revised and changed.

- Lines 42-46: the authors already claimed that they use the socio-hydrology perspective. Thus, they should mention the difference between socio-hydrology and hydro-sociology. Accordingly, the reason they use socio-hydrology perspective.

**Fully accepted** – the text has been revised (see Abstract, Introduction and Chapter 1).

- Line 48: improper references. Generally, the document really lacks a literature review on socio-hydrology. You may improve your literature review by the following studies and citing them:

- Di Baldassarre, G., Viglione, A., Carr, G., Kuil, L., Salinas, J. L., & Blöschl, G. (2013). Socio-hydrology: Conceptualising human-flood interactions. *Hydrology and Earth System Sciences*, 17(8), 3295–3303. <https://doi.org/10.5194/hess-17-3295-2013>

- Ghoreishi, M., Razavi, S., & Elshorbagy, A. (2021). Understanding Human Adaptation to Drought: Agent-Based Agricultural Water Demand Modeling in the Bow River Basin, Canada. *Hydrological Sciences Journal*.

- Elshafei, Y., Sivapalan, M., Tonts, M., & Hipsey, M. R. (2014). A prototype framework for models of socio-hydrology: Identification of key feedback loops and parameterisation approach. *Hydrology and Earth System Sciences*, 18(6), 2141–2166. <https://doi.org/10.5194/hess-18-2141-2014>

- Gonzales, P., & Ajami, N. (2017a). Social and Structural Patterns of Drought-Related Water Conservation and Rebound. *Water Resources Research*, 619–634. <https://doi.org/10.1002/2017WR021852>.

**Fully accepted** – the references have been added (see References).

Thank you for those very informative literature sources.

- Lines 48-49: “many authors” needs proper references.

**Fully accepted** – the references have been added and the text has been revised.

- Lines 49-50: what do you mean by calling uncertainty, politics, and power as variables?

**Fully accepted** – the text has been revised and integrated into Chapter 2 and Chapter 5 (Current challenges and dilemmas in depoliticization of science; Discussion and conclusions).

We investigated the standard research procedures to better understand the reliability of science. We focused on the biases in the peer-review process, the dichotomy between quantity and quality of the research studies, social and power inequality between multi-stakeholders, limits of the fact-checking tools and other verification mechanisms.

- Line 51: it seems that the reference is irrelevant to this sentence. You may cite the following study:

- Wei, J., Ghoreishi, M., Souza, F., Lu, Y., & Tian, F. (2020, May). Socio-hydrological approach to understand conflict and cooperation dynamics in transboundary rivers. In *EGU General Assembly Conference Abstracts*(p. 7148).

**Fully accepted** – the text has been revised and more references have been added.

- Lines 51-52: proper references for “To date ... assumption”

**Fully accepted** – the text has been revised and proper references have been added.

To date, there can be identified many water paradigms which are shaped by self-fulfilling theories and other socially constructed assumptions (see Zeitoun et al. 2017; Earle, Jägerskog and Öjendal, 2010; Zeitoun and Mirumachi, 2008; Yoffe, Wolf, and Giordano, 2003; Gleick, 1998).

- Lines 52-59: an example of a long sentence that confuses the readers.

**Fully accepted** – the text has been shortened and revised.

- Lines 60-62: ver unclear sentence.

**Fully accepted** – the sentence has been deleted.

- Line 117: if you mean baker (2021) by “authors”, use “the author”

**Fully accepted** – the text has been changed.

According to Baker’s research work exploring the politicization of science, at least half of the scientific papers can be trusted (Baker, 2016).

- Lines 124-126: not clear why “full trust is troublesome”

**Fully accepted** – the text has been revised and added.

We divided the reasons into three sub-chapters (2.1. Actors and peer-review process; 2.2. Uncertainty and limits of science; 2.3. Conclusions and research mindset) to provide a better explanation of the current dilemmas in the politicization of science.

- Line 334: At the end, the conclusion leaves the readers what the contribution of this paper to socio-hydrology is. I highly suggest adding a section to clarify this point.

**Fully accepted** – the text has been revised and added.

We divided the “Discussion and Conclusions” into three sub-chapters to reflect each of the research question and application of the scientific findings on the two case studies (Pöyry Report and Eyes on Earth Study).