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Reply on RC1

Leon M. Hermans et al.

Author comment on "Power and empowerment in transdisciplinary research: a negotiated approach for peri-urban groundwater problems in the Ganges Delta" by Leon M. Hermans et al., Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2021-419-AC1>, 2021

We would like to thank Roman Seidl for his supportive and useful review. It is nice to read that he considers our manuscript worth publishing.

MAIN SUGGESTION

Section 1: Introduction

The main suggestion is to start more clearly with the problem description, to clarify the 'why' of the paper. This resonates with comments made by Referee 2, and we agree. In the original submitted manuscript we started with transdisciplinary research (TDR), partly because of the special issue on TDR to which we hope to contribute. For a revised version, we would rework the Introduction to the following order, in line with what is suggested in the Review report:

- Sustainable groundwater management in peri-urban areas is urgently needed but this challenge involves various actors, none of whom can do this alone. Groundwater challenges need to be approached both from an equity and sustainability perspective.
- Actors have partly competing interests as well as power differences. Furthermore, limited information and knowledge make it hard to assess the consequences of different groundwater management strategies. (in other words: a "wicked" problem situation).
- Such situations (wicked problems) are the types of problems that TDR hopes to support.
- The 'power'-dimension is often lacking in TDR, but is essential in this problem (as it is for many other water-related problems). As highlighted by political ecology analyses around water governance, power is a key factor shaping differential access to resources.
- We explore ways to resolve these groundwater challenges by combining TDR with a negotiated approach.

Section 2:

This changed Introduction, being more explicit about the challenge of peri-urban groundwater management, and tackling it via TDR and the negotiated approach, will then also mean that some changes in Section 2 are needed:

In a revised version, Section 2 would start with what is now in Section 3.1, to briefly outline the challenge with peri-urban groundwater management in South Asia. Then it would go into the details of TDR (currently section 2.1), to end with the contributions of the negotiated approach in this context (currently section 2.2). In this, we will seek to make what is currently section 2.1 more to the point, while we hope to add a bit more information on the negotiated approach (in what is now section 2.2, in response to Referee 2).

We will reconsider Table 2, probably to confine it to the negotiated approach only, to clarify differences and synergies between the two approaches. (Referee 2 made a similar point on Tables 1 and 2.)

FURTHER REMARKS

We agree with the further remarks and we think we can resolve them if allowed to do so by the editors. Specifically:

Page 4 line 126 – we will add a reference to companion modelling, with which we are familiar

Page 6, line 182 – Prisoners' dilemma: This came from the cited article. Given the role of this example from Gurgaon in the paper, we will probably remove the reference to the prisoner's dilemma here, rather than go in further details to explain this.

Page 7 and page 8 – we can add the requested explanations and elaboration for our project, as we agree these are important.

Page 9 and page 11: We will make sure to explain the background for the arsenic risk issues in the village in India more clearly, earlier on.

Some of the further remarks also are related to the main suggestion, which we hope to address in the way outlined above.

The smaller edits may not need a separate response here but will be processed.