

RC2 Anonymous Referee #2

First of all, I would like to ask you can you provide a definition of how you define co-production; knowledge; social learning; and institutional capacities (difference to social capacity).

Thank you for your valid comment. We will add a subsection in the Introduction defining key concepts and will elaborate more on the concept in chapter 2.

Secondly, what's actually your theoretical framework you used for your study? At the moment, it's a little bit unclear about the main used theoretical concept.

Many thanks for this comment. We think we can present Chapter 2.3 more clearly as a conceptual framework, expand it and perhaps separate it from 2.1 and 2.2.

Another question is: what's actually new – or what we don't know so far from TD projects across the globe; especially section 3.2.

Thank you for your comment. We will strengthen the introduction in the revised version to highlight the research gap. Specifically, we will point out that while frameworks for TD research exist (e.g., Lang et al., 2012; Schneider et al., 2019), their application in flood risk management within North–South collaborations has rarely been systematically examined. Our paper contributes by applying and expanding Schneider et al.'s impact-generation framework. Specifically, we identified three mediators (joint formulation of research questions, trust and ownership, and anchoring of results) that are crucial in North–South TD settings. These two points represent a concrete conceptual and methodological contribution.

2. is something we already know and discuss for many years in different TD projects across the globe. How you deal with the challenge of North-South collaboration; especially in the sense of the ongoing decolonial discourse in different disciplines?

Many thanks for this comment. When revising the introduction and section 2, we will add the discourse on co-production of knowledge (e.g., Castelli et al. 2025 <https://www.tandfonline.com/doi/full/10.1080/02626667.2025.2571065#d1e1550>) and the plurality of knowledge referring also to the debate on de-colonizing referring to Chilisa 2017, French et al. 2024, Shackelton et al. 2023. and Zonta 2023.ⁱ

An important question of TD projects lies on the question about the impact: what's the actual impact of the project and second question lies on the long-term perspective of the TD process within the region; are there any hints for a long-term/institutionalised living lab in the region? Or does the TD process end with the project?

We will expand Section 3.2.2 (Anchoring results) and Section 4.3 (Products, outcomes, impacts) and will work out the specific results more clearly.

Another question reflects how are non-scientific actors involved within the overall research process, such as framing problem, analyzing problem, exploring impact; how you integrate both realm (science and practice) within your project?

Thank you. yes, we can work out the specific results more clearly.

How did you organise and manage the reflection process within the project and can you extend this part within your paper (results section)?

Reflection was institutionalised through iterative workshops, stakeholder feedback sessions, and joint evaluation of intermediate outputs after the second workshop. We can work out the reflection process more clearly in the manuscript.

Finally, I would like to ask you what's actually new of your paper in terms of theoretical discourse as well as methodologically in sense of TD research.

The theoretical novelty lies in extending Schneider et al.'s framework with mediators, providing a refined model of TD impact generation in North–South collaborations. We think that these examples can serve as a starting point for reflecting on the implementation of mechanism and mediators in future TD Flood Risk Research. We are happy to work out this more clearly in the manuscript.

ⁱ Chilisa, B. (2017). Decolonising transdisciplinary research approaches: An African perspective for enhancing knowledge integration in sustainability science. *Sustainability Science*, 12(5), 813–827.

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