

## ***Interactive comment on “Unravelling intractable water conflicts: the entanglement of science and politics in decision-making on a large hydraulic infrastructure project” by Jonatan Godinez-Madrigal et al.***

**Jonatan Godinez-Madrigal et al.**

j.godinezmadriral@un-ihe.org

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Dear Jeroen Vos,

Thank you for this additional comment and the fruitful discussion it originates. We do not deny the influence of politics in the technical decisions of the model nor suggest that the model is politically neutral; in fact, the title makes explicit reference of precisely that: “the entanglement of science and politics in decision-making on a large hydraulic infrastructure project”. However, we think that the concepts of epistemic uncertainties

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and ambiguity are analytical concepts that help understand the many ways in which important decisions over infrastructure projects can be inconclusive and/or biased, be that politically motivated or not (although in this case the evidence strongly suggests that it is so). However, we still want to make the strong case for the use of these analytical concepts. Even if the technical decisions over the water resources model were made in a way that would satisfy all the interests of all the actors in the conflict, decisions made with high epistemic uncertainty over the functioning of the water system could bring unsustainable results over time (e.g. if water demand or groundwater over-exploitation rate are improperly represented). So, in that sense, the importance of good models and management of uncertainties transcends the political sphere.

Over the discussion on the concept of ambiguity, we did not apply that concept to the model, but to the socio-hydrological reality the model was trying to analyze and understand. As mentioned before, we agree that in this case the technical decisions behind the model were, to an extent, influenced by politics. However, the socio-hydrological reality is undoubtedly ambiguous, since it is extremely difficult to agree among the stakeholders which is the optimal solution to a complex problem or even to agree on what the problem really is. Thus, the concept of ambiguity is a useful concept to analyze the perspectives of all the different actors in the conflict and the irreconcilable solutions each one proposes. This allows, in our view, a much richer interplay between science and politics. If political interests are more transparent and not disguised as unbiased scientific facts, stakeholders, with the aid of science, can create more innovative and hopefully fairer solutions.

Best regards,

Jonatan, Nora and Pieter.

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