



Interactive
Comment

Interactive comment on “The possible negative consequences of underground dam and reservoir construction and operation in coastal karst areas: an example of the HEPP Ombla near Dubrovnik (Croatia)” by T. Roje-Bonacci and O. Bonacci

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The topic of the manuscript is very interesting and it fits with the aims of the journal. The work is correctly developed, organized and well written. Scientific approach is rigorous and modern; this manuscript really improves the knowledge in the field of interaction between human settlement and karst environment. Some statement has to be better explained or demonstrated.

I suggest some minor changes and clarifications through the manuscript.

C234

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A list of required changes and questions is included below.

- P3 L12-18: please add some references confirming this statement
- P3, L28: I did not understand the meaning of ecological regime
- P5 L1: please add references on author's investigation
- P6 L24-28: please add references to explain these possible reasons
- P7 L9: please add references about sediment transport
- P9 L20: how you can demonstrate that 95
- P10 L10: how you calculated that the minimum discharge will be doubled?
- P11 L1-2: expectation of landslides is only an hypothesis: do you have or know analysis of instability of these slopes?
- P12 L27: I suggest to avoid the word "conscious" related to the designer of the dam
- P14 L24-27: could you better explain how sea water can penetrate downstream of the grout curtain?
- P15 L13-15 and L22-23: these statements have been discussed previously; remove from one of the paragraphs containing the same comments
- P16 L10: low water stands probably for low water table or low discharge; please, specify
- P17 L15-17: the poor quality of hydrological modelling in karst depends by several factors, in my opinion; it is not demonstrated that this is one of the "main" reasons; I suggest to change in "one of the reasons"; and there are also hydrological models of good quality in karst region
- P18 L16-17: please add references about frequency and intensity of earthquakes
- P19 L1-2: this is an opinion of the authors which has to be substantiated, discussed

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and supported by references

- P20 L8-10: the strong and negative influence has to be substantiated; I suggest to change "will" with "can", or add a discussion on this problem
- P20 L18: I did not understand the reference to Fig.9
- P21 L4-7: I suggest to change with "will be very serious respect with possible benefits". In my opinion, in this manuscript the authors correctly highlighted the negative consequences, but there is not a complete discussion about possible benefit; there is not a comparison in terms of environmental impact evaluation procedure; nevertheless, I agree that negative impacts will be very strong and must be better take into account before realizing such a big settlement
- Fig.3: piezometers in figure are five and not four; green boxes are not explained in the caption.

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