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Hydrology and Earth System Sciences Discussions

Interactive comment on "HESS Opinions "Urgent water challenges are not sufficiently researched"" by P. van der Zaag et al.

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We thank Erik Mostert for thoroughly scrutinizing our paper and for bringing up many valid and interesting comments and valuable suggestions. Here we respond in detail to the specific issues he raised. In a separate response we try to give a more coherent response addressing the major comments of all referees, taking advantage of observations made by two other contributors, and drawing some conclusions.

1. We searched in all three databases of the ISI Web of Science, i.e. science expanded, social science, and arts & humanities. In tables 1 through 8 we searched for the search term in title, keywords and abstract; and for table 9 in title only. This we indicated in Tables 1, 3, 5, 7 and 9.

2. Total scientific production of developed and developing countries is well known (see UNESCO (2005) which we referred to in the paper (but see also King 2004; NSF, 2004). The website of SCImago Journal & Country Rank provides interesting information (http://www.scimagojr.com). As to which countries are classified as developed, transition and developing, we used the OECD list for the developed countries. To distinguish developing countries from countries in transition we used the criterion of GDP per capita per year expressed in 'purchasing power parity' (PPP) US$, as published in the 2006 UNDP Human Development report (UNDP, 2006). Countries with an annual per capita income lower than US$ (PPP) 7,500 were considered developing countries. All other countries were considered countries in transition (including countries such as Argentina, Brazil, China, Egypt, India, Israel, Malaysia, Saudi Arabia, Slovenia, South Africa, Taiwan).

3. We used the word sanitation simply as a10 letter search term, with all its limitations, just like all the other search terms.

4. We will consider these valuable suggestions and see how this will influence the outcome.

5. Here we disagree: if, e.g., all knowledge on how to overcome the problem of low rainfed crop yields was available, the question still remains why this has so far not been solved? Imagine, for the sake of the argument, that low rainfed yields only persist because of politics, wouldn't this generate (complex!) knowledge issues that beg for answers, that would hold the key to resolving it, and that therefore needs to be investigated?

6. Accepted.

7. This is exactly what we want to say.

8. n/a

9. Useful suggestion.

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10. Accepted.

11. We initially included ‘collaboration’, ‘consensus’, and ‘negotiation’ as search terms but this did not change the outcome. We then decided to keep it as simple as possible (as in line with your suggestion 4. above). We feel that this section still makes a valid point. We find the suggestion to refer also to the literature on collaboration (collective action) in natural resource management valuable.

12. Interesting inference. We will also do the geographical analysis for Table 9.

13. That could require a paper in itself; and much more research!

14. The observation “The authors have the difficult task of convincing sceptics that bias and good science do not have to contradict each other” is a very interesting one! We will try to do this in a revised version. And we are grateful for the clear summary given here!

References (not cited in the original paper):

King, D.A.: The scientific impact of nations; what different countries get for their research spending. Nature, 430, 311–316, 2004.

National Science Foundation: Going up: a rise in publications suggests that science is booming in Latin America and Asia, Nature, 432, 7013, 8, 2004.

UNDP: Human Development Report 2006: Beyond scarcity: poverty, power and the global water crisis, United Nations, New York, 2006.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 1411, 2009.