Interactive comment on “Measuring perspectives on future flood management on the Rhine: application and discussion of Q methodology” by G. T. Raadgever et al.

Anonymous Referee #1

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General Comments The paper is an interesting introduction in using the Q-methodology for water resource management. It is well written and could be eligible for publication after revisions. I found the analysis of the responses very interesting and exiting to read.

My major comments are that the paper should be written more concise and the authors have to proof that the statistical assumptions on which the Q-methodology is based are met. Moreover, the section on the analysis of the responses and the critic on the q-methodology do not link up sufficiently. The first section is within the focus of this journal and interesting and the second seems to be beyond. I suggest that the
limitations mentioned in the second section are more closely discussed in context to the first part (or even better integrated into the first part).

Specific comments:

1. "characterized by insufficient technical knowledge" please specify what is meant by this

2. Section 2 is a literature review of elicitation methods. Although, I appreciate the effort which has been made, please clarify the relevance to this paper. Your abstract claims that you compare different methods, which you do, but not really with focus on water management studies. The current way this review is formulated is beyond the scope of this journal. I suggest deletion and/or merging with the introduction. The latter only if it can be rewritten with water resources as focus.

3. Section 3 starts with the statement that an extensive review is given as this is one of the first articles which uses the Q-methodology in water resources. You have quoted yourself three different articles related to water resources and there are several articles published in relation to environmental sciences in general. I do see the need of methodology description, but suggest a significant shortening. Moreover, -if possible- I would appreciate if you could refer more to the scope of this journal.

4. "The method does not generate ..." surely, the selection of your individual subjects does already introduce correlation?

5. "... reflecting the shape of a quasi-normal distribution ..."; please explain how table 1 in any way reflects a quasi-normal distribution beside being uni-modal and symmetric. Please, check the relevant literature on definition of a normal distribution.

6. "...can support analysis of obtained Q sorts (individual scoring patterns) using factor analysis". Please show on the data set you have obtained that the assumptions for factor analysis are met and if not explain how they impact on your analysis. Moreover, shorten these paragraphs as a detailed description of factor analysis is not necessary.
7. "Dutchmen" - please refrain from gender specific language unless necessary

8. please state how many people you have asked in total & summarize the paragraph on "Different groups of respondent.." in a table (make it more concise)

9. Table 3: when it is first mentioned that it is very difficult to put together with the text (in fact it is very confusing). large parts of it become only clear later - please improve this.

10. "which are determined by in total 36 respondents". This means that 11 (you had 47 responses) opinions did differ (~20%!!!). Please explain how this can lead to "distinct shared perspective". Even if you discuss this later, it needs to be put in context what it means for your analysis

11. "explain 43% of the total variance"; - total variance of what the 36 or 47 responses?

12. Appendix B: Please add some information on the distribution around your average onto this table. It is important to understand the spread around this mean to make a meaningful comparison

13. "factor score", which is the weighted average ..."; please clarify aht you mean by "weighted";

14. Table 4: there is a difference in statement 2 of -1 in group A to -3 in group B - how can this be a consensus statement. Please clarify

15. "Although statistically not significant ..." please delete paragraph, your statement is misleading. If it is not significant, then I cannot see how you can derive any conclusions based on that - unless you have good other reasons?

16. How his the number if 17.000 m$^3$ justified, why not 16.000 or 20.0000? - especially as you discuss late the uncertainty of this figure. You partially do this by stating "general values were elicited indirectly" - what does this mean?

17. Table 5: Please add the uncertainty bounds and a statistical significant test onto
this table

18. "-0.2, which also indicates little controversy" please state how you define "little controversy" in respect to you correlation analysis.

19. Your discussion on the Pratical possibilities and limitations of the q methodology is very interesting, but not really in the focus of HESS. This section has to relate far more to the focus of this journal and discuss the practical implications in this light.

20. I am missing in how far your limitations have impact on your study - what does it mean, are your groupings still valid, in how far is your analysis valid? Are not large parts of your critic common knowledge and largely quoted in the reverences given, so what is teh novelty?

21. Please integrate your appendices into the paper, if the information in them is relevant then it should be read.

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