

## ***Interactive comment on “A social-economic-engineering combined framework for decision making in water resources planning” by E. S. Chung and K. S. Lee***

**R. Hranova (Referee)**

rhranova@gmail.com

Received and published: 27 January 2009

### **Review**

- 1) Does the paper address relevant scientific questions within the scope of HESS? Yes
- 2) Does the paper present novel concepts, ideas, tools, or data? Yes
- 3) Are substantial conclusions reached? Yes
- 4) Are the scientific methods and assumptions valid and clearly outlined? No
- 5) Are the results sufficient to support the interpretations and conclusions? Yes
- 6) Is the description of experiments and calculations sufficiently complete and precise

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



- to allow their reproduction by fellow scientists (traceability of results)? No
- 7) Do the authors give proper credit to related work and clearly indicate their own new/original contribution? Yes
- 8) Does the title clearly reflect the contents of the paper? Yes
- 9) Does the abstract provide a concise and complete summary? Yes
- 10) Is the overall presentation well structured and clear?
- 11) Is the language fluent and precise? Requires corrections
- 12) Are mathematical formulae, symbols, abbreviations, and units correctly defined and used? NO
- 13) Should any parts of the paper (text, formulae, figures, tables) be clarified, reduced, combined, or eliminated? Yes
- 14) Are the number and quality of references appropriate? yes
- 15) Is the amount and quality of supplementary material appropriate?

## Comments

The paper presents a framework for a methodology to rank different technical solutions (alternatives), which could be applied to improve the environmental status of the Anyangcheon watershed in terms of water flows and qualities. It considers economic factors and social indicators as the willingness to pay of the residents, thus supporting the decision-making process.

The paper presentation has been improved, after the authors' revision, especially regarding parts 1-4. However, it is still difficult to read and comprehend due to the use of too large number of indices, abbreviations and terms, which are not well explained and related. Some examples:

1. Section 5 – what are the weights assigned to the different criteria? Why the grades are “spatial” and why the different regions mentioned in Table 1 are called alternatives in the text?

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



2. Section 6.1 – Table 2 – what are the C1, 2; B1,2 , etc
3. Section 6.3 – the proposed model does not explain S1, 2, Q1,2, etc – these are mentioned in the text at this stage with no reference or explanation.
4. Section 8 – Table 6 shows two columns for AEI and Standardized AEI, but no reference in the text, comment or explanation is made regarding this.

The major drawback of the paper is that it presents different methods and results (outputs), without clear indication of the input data used, and the link of the input data to the variables presented in the equations. For this reason, it is no possible to verify the results or to reproduce the methodology.

In the cost-benefit analysis, which is the major outcome of the research, and is the major indicator for the selection of the best alternatives, the value of the benefits is based entirely on the projected taxes to be recovered from the population (willingness to pay). Other benefits due to the environmental improvements, such as improved health conditions or economic benefits due to wastewater reuse might be included as well.

English language prove-reading is necessary, as some sentences are not correctly formulated, e.g. on page 2819, line 26, “the incorporation”, instead of “the corporation”. Also, page 2832, line 4 – 387 million people on 287 sq.km?? Is that possible??

The study has used data from several questionnaires, which are just mentioned with no details at all. More details on each one of these is necessary, but would make the paper very long. In general, it could be recommended that the paper should be restructured. The length of the literature survey is 15 pages, which is too long, compared to 10 pages of methods applied and results obtained. May be the authors could concentrate on one part of the total procedure (e.g section 6). The whole framework (Fig 1) could be mentioned but the main content of the paper should concentrate on one section, where the data collected is reliable and the methodology can be explained and reproduced.

S2450

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



---

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 5, 2817, 2008.

**HESD**

5, S2448–S2451, 2009

---

Interactive  
Comment

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

S2451

