**Hydrology and
Earth System
Sciences
Discussions**

Interactive comment on "Irrigania – a web-based game about sharing water resources" *by* J. Seibert and M. J. P. Vis

A. Y. Hoekstra (Referee)

a.y.hoekstra@utwente.nl

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The article on Irrigania discusses a water resource game with simple rules, but an interesting scope of possible outcomes, depending on the setting in which is played (cooperative versus non-cooperative, complete versus incomplete information). It has been a pleasure to review it. The article is well written en clearly structured. It would be great to see it published, in more or less its current form. I have a few remarks that could be considered in a revision:

Section 3.1:

The farmers in a village compete for water. From the description it is not clear whether there is some interaction between villages. Because nothing is said about it, I un-

derstand that water use in one village does not affect water resources in the other village(s). If that is indeed the case, I recommend to state that explicitly. The question is then: why have different villages? I assume the answer is here that this enables you the play the game with a larger group of students and that it can be interesting and instructive to compare later on how different (independent) villages performed. From the article it remains unclear what is the best group size to play the game. Theoretically it seems you can play it with even just one or two as well as with hundreds of people. In fact, there seems to be no restriction.

It would be good to make explicit that the size of the water system is scaled according the number of farmers per village (n). Equations (1) and (2) show that k and g depend on F_{riv}/n and F_{gw}/n, respectively. As a result, as I understand it, it is not the case that the optimum for one farmer or for the group as a whole depends on the number of farmers.

It's a minor thing, but as a reader I was looking at reduction factor k in equation (1) and concluded that apparently the reduction factor can also be greater than 1, which confused me (it can even become infinitely large). In Table 1 you show that the revenue per field irrigated with river water is maximum 100 (not larger than 100 when k>1). To me it feels more logic to include the cap already in equation (1); you could say that k = min(1, ...).

Equation (2): under normal P, g decreases (that is: groundwater table rises) if F_{gw}/n < 1.5. Is there a limit in the tool to groundwater table rise? I assume so, but it's stated nowhere.

p.1966 line 3: Irigania to be replaced by Irrigania.

Section 3.3: on page 1969 there starts a list of 'different settings' in which the game can be played. I suggest you add a sentence before you start the listing to say what you are going to list. The list just starts without telling what the list means.

Section 3.4: p.1970 line 24 & page 1971 line 25 it talks about participants 'punishing' free rider behavior. It is unclear how they actually punish. Will they start beating, putting a fine, ban the farmer from the village? I think you mean they punish by not lowering their own water use, but in this way they also punish themselves.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 9, 1961, 2012.