

Interactive comment on “

Analysis of intra-country virtual water trade strategy to alleviate water scarcity in Iran” by M. Faramarzi et al.

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General comment: The paper is well written. It addresses a key topic of water management for food security and self sufficiency. This is a follow up study using the calibrated hydrology/water quality model results. This kind of analysis help support decision making related to water resource management, particularly in water scarce regions and in anticipation of future climate change and population increase. Below are some com-

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ments that will help to clarify the information provided in the paper.

Specific comments: Page 2615, line 22-23: You say that “In 2007 Iran exported nearly 600 000 t of wheat while producing 15 million t.” Does this mean that Iran achieved self sufficiency in 2007, as well?

Page 2618, line 2-7: If all agricultural areas in most of the provinces are being potentially used and cannot be expanded, this is a major limitation for virtual water trade. Explain how VWT strategy could be implemented in the country in that situation.

Page 2611, Line 1: replace “regions” with “regions’ ”

Page 2613, 7-8: replace “goals of food production while taking into consideration these constraints” with “goals of food production while taking these constraints into consideration”

Page 2613, line 16 and line 24: use either “multiple-criteria” or “multiple criteria” and check for that consistency elsewhere in the paper

Page 2616, line 5: put a “,” after “since then”

Page 2616, line 11: the sentence “ with the increasing water scarcity in many areas a sustainable national strategy” can be deleted as this is redundant information.

Page 2616, line 17: use either “multi-criteria” or “multi criteria” and check for that consistency elsewhere in the paper

Page 2616, line 17: replace “facilitated” with “facilitate”

Page 2620, lines 21-22: the sentence “The optimum parameter values for each scenario are given in Table 3” can be deleted

Page 2621, line 4: replace “In Table 4, the quantities 5 of cereal production obtained by solving the ASCP optimization problem are 13.3 and 14.2 million t year⁻¹ in scenarios

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S1 and S2, respectively, as compared to the historic average amount of 12.5 million t year⁻¹ on the irrigated land.” with “The quantities of cereal production obtained by solving the ASCP optimization problem are 13.3 and 14.2 million t year⁻¹ in scenarios S1 and S2, respectively, as compared to the historic average amount of 12.5 million t year⁻¹ on the irrigated land (Table 4).”

Page 2621, line 10: replace “smaller” with “lesser”.

Page 2621, line 10-11: replace “This was improved to 10% and 8% smaller than the self-sufficiency level in the S1 and S2, respectively.” with “This was improved to 10% and 8% in the S1 and S2, respectively.”

Page 2621, line 16-17: Replace “Without water constraint, on the average, wheat could be produced at the self-sufficiency level during 1990–2004.” with “Without water constraint, on the average, wheat could have been produced at the self-sufficiency level during 1990–2004.”

Page 2623, line 10: Replace “S3 results in Fig. 5 S3 show that wheat areas increase in all provinces, resulting from the removal of restrictions on WSR to allow maximum wheat production.” with “Results of S3 show that wheat areas increase in all provinces, resulting from the removal of restrictions on WSR to allow maximum wheat production (fig 5).”

Typing errors: Page 2617, line 27: the word “cropping” is spelled incorrectly as “copping”.

Table 1: The second record in “Spatial/temporal resolution” field is spelled incorrectly as “Sub-bain”

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