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Groundwater saving and quality improvement by reducing water footprints of crops to benchmarks levels

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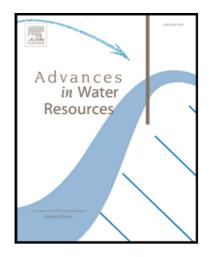
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### ACCEPTED MANUSCRIPT

### **Highlights**

- The first study was carried out to show how setting WF benchmarks may help alleviate groundwater scarcity and pollution.
- Iran's groundwater will be saved by 32% when reducing WFs of crops to 25<sup>th</sup> percentile benchmark levels.
- Nitrogen-related grey ground WF will be lowered by 23% through setting WF benchmarks.
- A significant increase in economic groundwater productivity is acheived when setting benchmark levels at 25<sup>th</sup> percentile.
- The introduced methodology here is a promising way to alleviate overexploitation of aquifers and increase national food security.

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