

EGU24-3941, updated on 01 Apr 2024

<https://doi.org/10.5194/egusphere-egu24-3941>

EGU General Assembly 2024

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## Do non-conventional water resources lead to a better performance of irrigation communities? A comparative analysis between the regions of Murcia (Spain) and Apulia (Italy)

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In a context of growing global water demands, plus climate change affecting water resources availability, non-conventional water sources (like reclaimed water and desalinated seawater) are emerging as promising water supply alternatives. Given that agriculture is the major contributor to water withdrawals, this study analyzes if the use of non-conventional water for irrigation leads to a better performance of irrigation communities (ICs). To do so, the research includes several ICs from the Segura River Basin (southeast of Spain), a region with structural water deficit, which is pioneer regarding the use of non-conventional water; as well as ICs from the Apulia region (southeast of Italy), which also suffers from water scarcity problems, but is less experienced regarding the use of non-conventional water. A benchmarking analysis was carried out, based on a set of Key Performance Indicators (KPIs), such as irrigation efficiency, guarantee of water supply, energy costs or gross margin, among others. This methodology has been previously used in the framework of the water and drainage sector. Also, a Principal Component Analysis and Clustering Analysis were applied to explore potential dissimilarities between the studied ICs and their causes. Finally, a regression analysis was carried out to observe if the use of non-conventional water has any effects on the performance of the studied ICs. The results of this research may help to increase knowledge regarding the pros and cons of using these non-conventional water resources, depending on the socioeconomic, environmental and geographical context. This way, this study would contribute to promoting the use of non-conventional water in other regions, leaning towards a more sustainable use of water resources and, consequently, protecting and preserving water ecosystems.