

Evaluation of Water Efficiency in Farming: Empirical Evidence from a Semi-Arid Region

Authors : Laura Piedra-Munoz, Angeles Godoy-Duran, Emilio Galdeano-Gomez, Juan C. Perez-Mesa

Abstract : Spain is very sensitive to water management issues due to its climatic characteristics and the deficit of this resource in many areas of its territory. This study examines the characteristics of the family farms that are more efficient in the use of water, focusing on a semi-arid area located in Almeria, southeast of Spain. In the case of irrigated agriculture, water usage efficiency usually indicates water productivity in terms of yield (kg/m³), or in economic terms (euros/m³). These two water usage indicators were considered to analyse water usage efficiency according to other studies on water efficiency in the horticultural area under analysis. This work also takes into account other water usage characteristics such as water supplied, innovative irrigation practices, water-efficient technology, and water-saving practices. The results show that the most water efficient farms have technical advisors and use irrigation on demand, that measures the water needs of the crops and are considered the most technological irrigation system. These farms are more technological and less labor intensive. They are also aware of water scarcity and the need to conserve the environment. This approach allow managers to identify the principal factors and best practices related to water efficiency in order to promote and implement them in inefficient farms and promote sustainability.

Keywords : cluster analysis, family farms, Spain, sustainability, water-use efficiency

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