



This study focuses on the physical component of irrigation water management in regions where its scarcity is intensified by recent urban centre development, seeking not only the definition of strategies for major savings in consumption, but rather their inclusion in landscape principles for more sustainable urban design solutions.

The (re)establishment of a close relation between water management and planting techniques (perpetuated in vernacular irrigation techniques) is quintessential. Therefore, a global model of irrigation water management is being developed, with a mathematical reasoning of evaluation and validation, based on local climatic data and on the confrontation between principles and practices of irrigation and their follow-up to the stage of getting the results.

Strategic plant selection; extensive, low-density, hydro-zone grouped planting; microclimatic and topographic modelling; further infiltration and water harvesting areas; induction of hydric stress; localized irrigation and soil improvement are some of the landscape principles and practices applied.

Early conclusions from field experiences developed in Lisbon, Portugal, point to the possibility of higher achievements in water irrigation efficiency in the Mediterranean and, possibly, in arid regions worldwide. Those performances include water supplies below evapotranspiration and even below annual local precipitation rates.

When integrating these and other sustainable practices in water irrigation systems, one expects higher landscape's performances in dry regions, followed by the necessary changes in dry landscape's paradigms.



STRATEGIES FOR WATER MANAGEMENT **A GLOBAL IRRIGATION MODEL**

Water management, Irrigation model, Landscape design, Landscape management, Hydric stress, Resilience

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