**RETASTE Conference Abstracts**
Vol. 4 RETASTE-AFR-789- Virtual Oral
Archanes, Greece, 25-27 September, 2024

DOI:10.5281/zenodo.14163941

retaste rethink food resources, losses, and waste 2024

# Evaluation, solutions and management of water resource in agriculture with stakeholders participation: the case study of Stornara and Tara (Apulia Region - Italy)

[1]Enrico Vito Perrino, [2]Daniela D\'Agostino and [2]Pandi Zdruli

[1]*Department of Agriculture, Food, Natural Resources and Engineering (DAFNE) - University of Foggia, Italy. CIHEAM, Mediterranean Agronomic Institute of Bari, Via Ceglie 9, Valenzano 70010, Italy*
[2]*CIHEAM, Mediterranean Agronomic Institute of Bari, Via Ceglie 9, Valenzano 70010, Italy*



## Abstract

The correct management of water resources in agriculture is one of the most debated topics due to the ever-decreasing availability of this resource, especially in countries where desertification is a serious environmental problem. The orientation towards crops that require low amount of water (drought resistant) is only one of the efficient methods applied in various areas of the Mediterranean basin, but it should not be the only one since this could lead to the disappearance of traditional and indigenous crops in each country with the consequence of agrobiodiversity decrease. The latter, is in contrast with the community guidelines which, instead, requires the conservation and valorization of local crops, especially of the “minor crops” in terms of water consumption. In this perspective, the restoration actions applicable in an Italian case study were evaluated, in the framework of the REACT4MED project. In particular, the identified restoration actions were applied in 2 different farms characterized by land and water degradation and served by the irrigation consortium of Stornara e Tara, southern ItalyThe strategies, problems and solutions were settled down during several meetings with the direct participation of all stakeholders, such as farmers, researchers, regional and provincial bodies, reclamation consortia, agricultural associations and technicians. The results of the stakeholders’ workshops highlighted that the major problems in the area are attributable to: water leakages in the distribution system; unsuitable crop varieties; presence of not licensed wells; seawater intrusion into aquifers; inadequate and slow political laws. All the data recorded from the stakeholders meetings, together with the cartographic data on land use, pedology and completed with soil analyses related to 5 cores in the 2 farms, allowed to define the main indicators, such as: a) soil quality and effect of salt stress on crop yield (or water stress index), useful for defining crop tolerance to soil salinity; b) socio-economic indicators in order to evaluate and define

data on agricultural income of the main crops grown in the pilot area, market opportunities and obstacles to change, labor shortage, role of youth and women in agriculture; c) weed management along drainage channels; d) the conservation of plant biodiversity in the surrounding areas in order to prevent attacks by current and future pathogens.

**Keywords:** agriculture, Italy, management, restoration, stakeholders, water resources