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Climate-smart farming practices in south Italy within TRUSTFARM project

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Introduction

Food security is nowadays negatively affected by the impact of climate change on agriculture and irrigated crops. The Mediterranean and arid areas of sub-Saharan Africa are most affected by climate change, leading to greater exposure to uncertainty and production risks. In these environments, water stress, irregular rainfall levels, salinization are more accentuated. The rise in temperatures translates into an increase in the demand for water by the agricultural sectors. This requires improving the productivity of the agricultural system through intelligent climate farming practices (CSFP) using the principle of soil and water conservation when introducing new crops that tolerate drought and salinity stress into these systems and managing them. and valorize plant and animal residues, in particular the residues of large ruminates, given that these animals are the primary sources of emissions (61% of the sector's overall greenhouse gas (GHG) emissions).

In order to find solutions to these emerging problems, TRUSTFARM project was developed, with the aim to design integrated agro-ecosystems by conserving natural resources and using the principles of the circular economy in order to develop more climate-resilient production systems in Egypt, Morocco, Italy, France and Senegal. The project was funded by European Union's Horizon 2020 research and innovation program.

Objectives

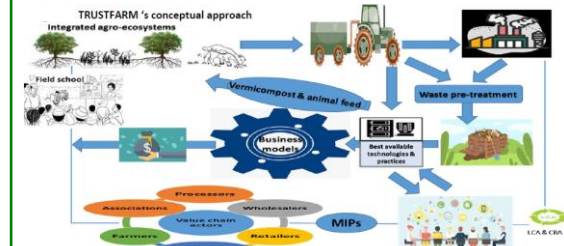
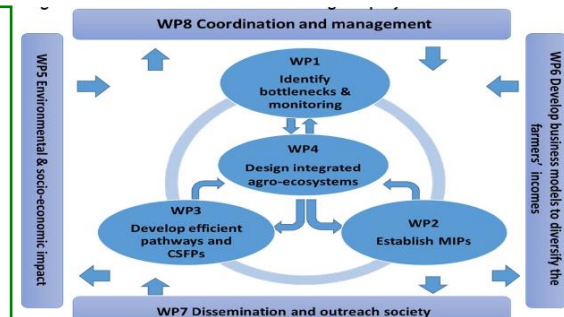
The project main objective is to design integrated agro-ecosystems based on the conservation principles of using natural resources and the circular economy in order to make production systems more resilient to climate change and improve the food value chain in south Italy as well as in Egypt, Morocco, France, and Senegal, other case study Countries considered in the project.

Activities and expected results

In close cooperation with stakeholders, the main challenges in the different countries will be identified case studies. Multi-stakeholder innovation platforms will then be developed to prioritize and select the most suitable innovative CSFPs for each case study. An innovative pathway toolbox will be developed which will contain the following: 1) Identification and promotion of heat and disease resistant high-yielding germplasm food crops; 2) Conservation of soil and water to improve production capacity; 3) Adoption of best practices in ruminant breeding.

The Department of Agricultural and Environmental Science (DISAAT) of the University of Bari will be responsible for the Italian case study focusing on South Italy which characterized by the Mediterranean climate is the area of the peninsula most subject to these problems related to climate change.

In particular, DISAAT will be responsible to coordinate the activities related to the introduction of new grain varieties and crop choice strategy. Also, DISAAT will be heavily involved in the activities related to that managing water and efficient irrigation systems for sustainable agriculture by using irrigation strategies (Deficit irrigation strategies, use of marginal quality (saline water) and abiotic stress tolerant crops.



Partners of the project

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Project coordinator : Dr. Osama Ahmed
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