

PARTNERSHIP



Eight partners from five Mediterranean countries are participating in the project:

- University of Basilicata (UNIBAS) - **Italy** (Coordinator)
- University of Cagliari (UNICA) - **Italy**
- University of Barcelona (UB) - **Spain**
- Mediterranean Agronomic Institute of Montpellier (CIHEAM-IAMM)- **France**
- Agricultural Research Organization – Volcani Institute (ARO) - **Israel**
- Ministry of Agriculture and Rural Development (MOAG) - **Israel**
- National Institute of Agricultural Research (INRA) - **Morocco**
- Mohammed V University of Rabat (UM5) - **Morocco**



NPP-SOL

Modelling and Technological Tools to Prevent Surface and Ground-Water Bodies from Agricultural Non-Point Source Pollution Under Mediterranean Conditions



FUNDING

PRIMA programme



TOPIC

Topic 2.1.1-2022 (RIA) Prevent and reduce land and water salinization and pollution due to agri-food activities



DURATION

36 months



BUDGET

2.171.257 €

GENERAL OBJECTIVE

The project, NPP-SOL, funded by PRIMA aims at preventing surface and ground-water bodies from agricultural non-point source pollution under Mediterranean conditions using modelling and technological tools.

APPROACH



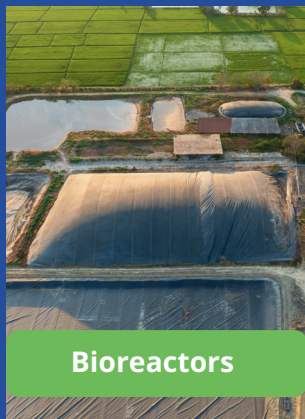
NPP-SOL integrates site-specific **best management practices** to improve soil, water, fertilizers, and crop management with site-tailored and affordable-cost **technologies** to prevent water bodies pollution.

Common to all the adopted methodologies-technologies is their sustainability, economic efficiency, and adherence to circular economy approach.

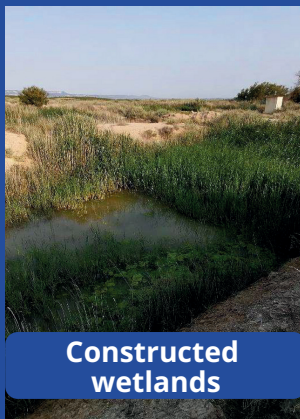
TECHNOLOGIES

In order to intercept and remove NPS pollutants before reaching the groundwater and surface water bodies, the following technologies will be implemented:

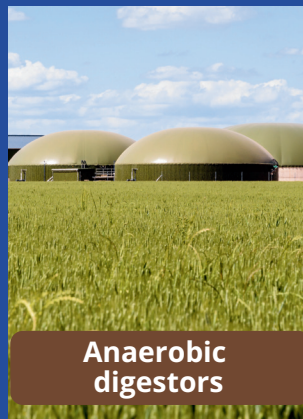
- **bioreactors** and **constructed wetlands** to remove nutrients and pesticides from surface runoff and/or drainage water coming from agricultural fields;
- **anaerobic digestors** to treat livestock slurries before spreading them to the soil.



Bioreactors



Constructed wetlands



Anaerobic digestors

CASE STUDIES



NPP-SOL is implemented in four **Case Studies** (Israel, Italy, Morocco and Spain).



ISRAEL

Newe Ya'ar experimental farm
(Jezre'el Valley)

Agricultural practices in the area involve over fertilization and poor management of liquid effluents from CAFO. High NPS pollution sources threaten the sustainability of agriculture since they impact on the quality of Nahalal River.



ITALY

Arborea Plain
(Sardinia Region)

Since 2006, a specific action programme for the reduction of NO₃ in water bodies has been developed. Despite a significant reduction in nitrate concentrations during the first years of application, these concentrations are still high, above the threshold values established by national and European legislation.



MOROCCO

Mnasra
(Gharb Region)

The misuse of irrigation water and agrochemical inputs have brought to a widespread pollution of ground and surface water by NO₃ and salinity.



SPAIN

Lerma basin
(Arba river catchment)

In agricultural land irrigated since the 2000s, a progressive increase in the use of fertilisers (NPK) has led to a three-fold increase of N input to the Arba river, recognized as affected by NO₃ pollution.

