



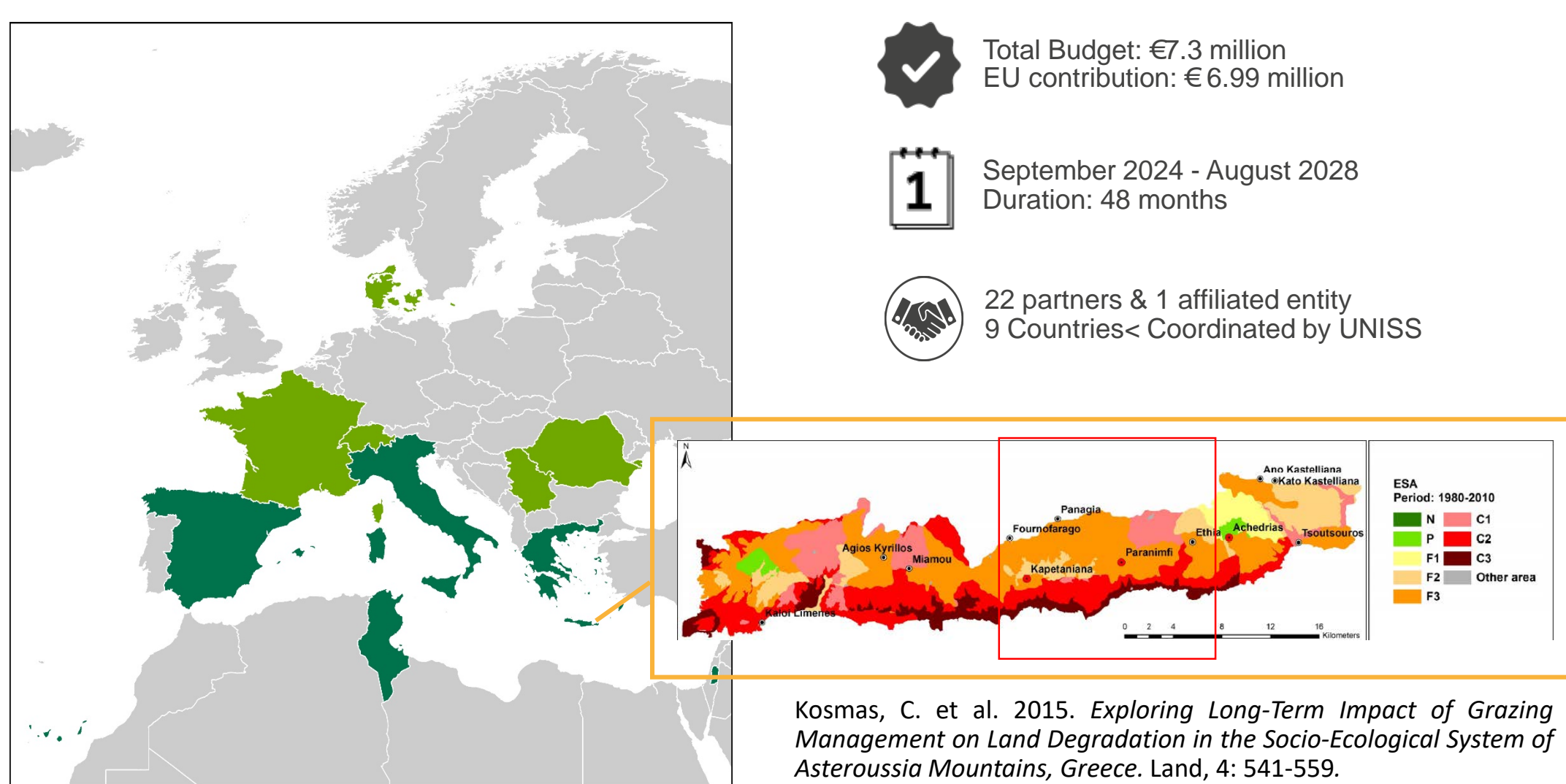
# MONALISA Project: Case Study for the Implementation of Nature Restoration Actions in Asterousia Area, Crete, Greece

**Probonas M.<sup>1</sup>, Kardamaki A.<sup>1</sup>, Antaloudaki E.<sup>1</sup>, Baxevasi K.<sup>1</sup>**

<sup>1</sup> University of Crete – Natural History Museum of Crete (UoC – NHMC), Knossos Avenue Premises, 71409 Heraklion, Crete, Greece; mprobonas@uoc.gr

## MONALISA PROJECT:

The MONALISA Project (101157867 – MONALISA - HORIZON-MISS-2023-SOIL-01) aims to address **land degradation and desertification (LDD)** in Mediterranean drylands by developing innovative solutions for sustainable land management. With contributions from **20 Beneficiaries across 9 countries, 2 Associate Partners and 1 Affiliated Entity**, the project integrates scientific research, traditional knowledge and stakeholders' engagement to protect and restore soil health, enhance biodiversity and build climate resilience. The project implements a multi-actor approach, ensuring that stakeholders such as policymakers, land managers, researchers and the general public are actively involved in project's activities and outcomes.



## MAIN GOAL:

- To identify and promote innovative tailored solutions to combat **land degradation and desertification (LDD)**.

## APPROACH & OUTPUTS:

- Co-design, co-implementation & co-assessment** processes.
- Learning & sharing via **Information Hub & Community of Knowledge**.
- User friendly multi-modular **Decision Support System**.

## PROJECT OBJECTIVES:

- Development of desertification risk information system;
- Raise awareness and capacity on land degradation and desertification (LDD);
- Identification of innovative solutions to prevent and reverse LDD processes in the case study areas;
- Development of digital innovations to address desertification;
- Exploitation of the MONALISA innovative solutions.

**1** Active stakeholders engagement on local level through co-design, co-implementation & co-assessment process at the Case Studies.

**2** Digital and traditional learning opportunities through thematic events, Open Days at CS sites, Capacity Development Webinars, Seminars, Workshops, Open Calls for young researchers and Expert Café Talks.

**3** Sharing of high-quality information and data about agro-farming methods and innovative practices that help mitigate LDD through MONALISA Information Hub.

**4** Sharing, discussing and networking through the MONALISA Community of Knowledge and other official MONALISA channels.

MONALISA project **6 case study sites** are located in **5 countries** aimed at advancing nature-based and high-tech innovative LDD solutions in Mediterranean drylands **Los Pedroches** (Spain), **Médénine** (Tunisia), **Berchidda-Monti** and **Alta Murgia** (Italy), **Asterousia** (Greece) and **Beit Dajan** (Palestine).

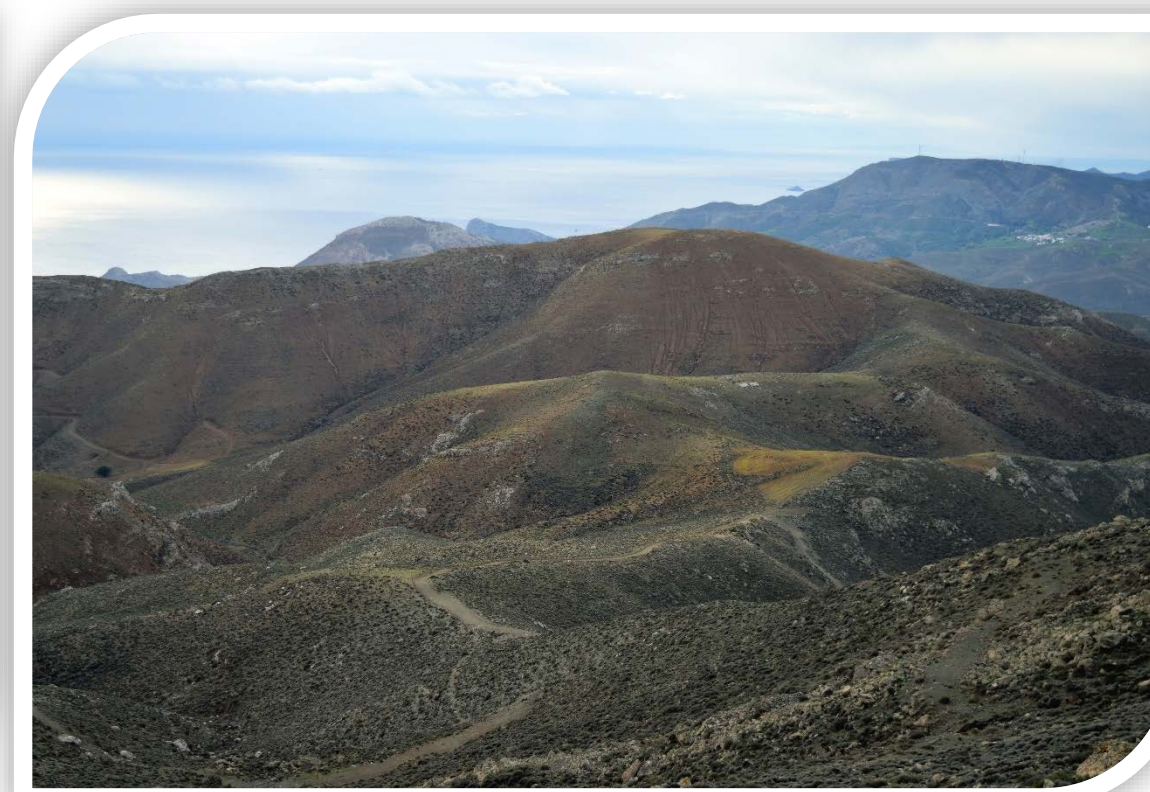
## The Case Study of ASTEROUSIA, Crete, Greece

The Asterousia Mountains are located in the Regional Unit of Heraklion, Crete, at the south coast of Crete. The highest peak is Kofinas with an altitude of 1,231 m. In the interior of the mountainous range there are small plateaus that were formerly used as farmland mainly for cereals and also few small vineyards exist. The largest part of the mountainous range is included in the protected areas of the NATURA 2000 network with the following codes: GR4310013 'Asterousia Mountains (Kofinas)', which is a Special Protection Area (SPA) for birdlife, as it is home to vultures and other birds of prey; GR4310004 'Western Asterousia (from Agiofarago to Kokkinos Pyrgos)', which is a Special Area of Conservation (SAC); and GR4310005 'Asterousia (Kofinas)' for the conservation and protection of habitat types, flora and fauna (SAC). A

significant number of endemic and steno-endemic plant species can be found in Asterousia area and it is also home to predator species such as the Griffon Vulture, Golden Eagle and Bonelli's Eagle.

The climate of the area is characterized as sub-humid Mediterranean, with humid and relatively cold winters and dry and warm summers. Soil degradation and desertification are two of the main and long-standing problems in the area and several efforts have been made to reverse these processes and save/maintain the ecosystems.

Soils are highly degraded as a result of the land use changes combined with the increase on the number of livestock, the abandonment of the traditional farming practices and the semi-nomadic farming, all of which are enhanced by the changes in the climate.



MONALISA's Greek partners will co-design, implement, test and evaluate a methodology for co-creation and adoption of restoration practices and small scale Nature-based Solutions (NbS) such as:

- Conservation agriculture: minimum tillage, strip-tillage; legume-based cover crops; establishment of semi-natural / uncultivated strips in olive fields etc.
- Natural ecosystem and agro-ecosystem restoration systems: stone piles, brush piles-wooden trunks, stone walls, small ponds etc.



Three (3) selected farmers will test these technologies and provide the assessment of the effectiveness and practicality of methodologies. The goal is for the most effective tested solutions to be adopted in a wide range of levels, from small local scale to regional level.

Solutions to be implemented in the selected case plots will be decided in cooperation with the owners and the interactive participation of stakeholders

already engaged in project activities (Region of Crete – Directorate of Environment & Spatial Planning, Municipality of Archanes-Asterousia, Municipality of Faistos, Inspectorate of Forests Policy Implementation of Crete, Livestock Association of Asterousia, Farmers' Cooperatives of Asterousia, Geotechnical Chamber of Greece – Crete's Branch, general public of Asterousia Mountains' area, etc.).

The first co-design and co-innovation event was organized for the local stakeholders in February 2025, aiming to facilitate the implementation of the solutions.

