



REACT4MED

Background information of the Pilot area

Cyprus is projected to warm considerably, with rainfall becoming even more erratic and concentrated in short periods. These changes increase the risk of both drought and flash flooding. Water availability for irrigation will become less reliable, especially in upland agricultural areas. At the same time, land abandonment and urban sprawl are expected to alter land use dynamics. Traditional water-saving techniques and landscape restoration approaches will be key to adapting effectively.

REACT4MED

Land degradation such as soil erosion and desertification, along with climate change, are serious threats to agriculture in the Mediterranean. In order to restore degraded soils, we need solutions that pay off and which are good for the people and the environment.

The REACT4MED project aims to improve agricultural productivity, promote innovation, restore soils, and thus improve livelihoods in Mediterranean communities.

In eight pilot areas situated in Turkey, Morocco, Israel, Egypt, Cyprus, Greece, Spain, and Italy, large-scale land restoration actions are initiated and monitored. These actions include combating soil erosion through conservation agriculture, terracing, cover crops, reforestation, mulching and improved irrigation practices.

Stay in touch through our website:

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Contact details of contact person(s)

Contact from the pilot area in Troodos Mountains:
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Contact person in the Marathasa valley of the Troodos Mountains
Victoras Finopoulos, E-Mail: foinos@mail.com

List of links to further information

Manual for the construction of mountain drystone terraces in Cyprus (in Greek):

https://3pro-troodos.cyi.ac.cy/images/deliverables/D2.3c_ManualDrystoneTerraces.pdf

Project duration:

May1 2022 to October 31 2025

Grounded in heritage, growing for the future: Agricultural mountain terraces with drystone retention walls



PRIMA

PARTNERSHIP FOR RESEARCH AND INNOVATION
IN THE MEDITERRANEAN AREA



Implementation story from the pilot area

Victoras Finopoulos is a passionate winemaker and vineyard manager in the high Marathasa valley of the Troodos Mountains, Cyprus. On steep, south-facing terraced slopes, supported by newly developed and traditional drystone retention walls, he is patiently establishing modern vineyards and awakening old ones that once flourished. This hands-on approach informs low-input practices that conserve scarce water and sustain the vines in stony soils. His broader vision is to enhance soil health and stability in newly developed terraced vineyards by following different agro-ecological practices.

The role of the research institute in the Pilot Area

The Cyprus Institute's work in the Troodos pilot area heavily emphasizes the restoration and maintenance of traditional agricultural terraces with drystone walls. Their research has shown that well-maintained drystone terraces can significantly reduce soil erosion. They are also exploring other sustainable land management techniques like using compost and green manuring.

Implementation requirements

Drystone wall terraces are a traditional agricultural practice in many mountain regions, including Cyprus's Troodos Mountains. These terraces are essential for creating farmland on steep slopes and preventing soil erosion. They are constructed using locally sourced stones, such as gabbro and diabase, without mortar. The terraces are built along contour lines to create level platforms. The size of the terraces and walls varies based on the slope, with walls typically ranging from 0.75 to 2 meters high and terraces from 1 to 6 meters wide. The construction process involves carefully placing stones, from large foundation stones to smaller ones that fill the gaps for stability. The walls are built with a slight inward slope to ensure they're stable and allow for water drainage.



Benefits

The benefits of this technology are multifaceted. Environmentally, the terraces significantly reduce soil erosion and surface runoff, improve soil moisture retention, and enhance sediment retention. This leads to increased agricultural productivity and improved water management. Socioeconomically, they provide vital arable land to sustain farm income and crop yields. Culturally, the terraces preserve a part of the local heritage and landscape aesthetics; in the past, this practice was used to foster community engagement in sustainable land management practices.