



## Soil Threats and Ecosystems Services in the Troodos Mountains of Cyprus

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The main soil threat in the Troodos Mountains of Cyprus is erosion from the steep mountainous terrane. Around the small rural communities in the mountains, large areas have been converted into agricultural terraces. Similar to many other mountain communities in Cyprus, the population of the communities in the upstream areas of Peristerona Watershed has decreased substantially over the past 30 years. As a result, many of the mountain terraces are no longer cultivated and terrace walls are not maintained, causing sometimes a domino effect of collapsing terraces. In some places, nature is taking over and the degradation of terrace walls and soil erosion is more gradual than on the poorly vegetated terraces.

The critical ecosystem services provided by soils are typically not well understood by stakeholders engaged in land management. At the same time, it is widely acknowledged that mere transfer of knowledge from science to practice is not promising enough to tackle complex societal problems such as soil degradation and soil erosion. A transdisciplinary approach is needed focusing on the co-production of knowledge and learning between scientific and non-scientific stakeholders. Integrating a diversity of stakeholder's perceptions can shed light on previously overlooked soil degradation aspects, which can potentially result in more sustainable land management solutions. Thus, the objective of this research is to bring a wide variety of stakeholders together to maintain the ecosystems services of the traditional, terraced mountain environment in Peristerona Watershed.

A meeting and interviews with local stakeholders revealed a wide range of concerns, as well as potential solutions and approaches. Stakeholder's bleak vision for the future is associated with the gradual land abandonment and degradation of agricultural terraces, which in turn is linked to the high farming and maintenance cost. On the other hand, all stakeholders acknowledged that the collapsing of terraces and the erosion caused by agricultural roads are threatening the soils ecosystem services. In addition, due to the area's susceptibility to forest fires, land degradation could eventually result in desertification. Proposed solutions include the development of institutions that could support the maintenance of terraced landscapes, afforestation of abandoned plots, improved planning and management of rural road networks and awareness campaigns that promote sustainable land management.

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