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Sommario	Land degradation is a well-known problem throughout the world, due to its possible threat to land resources and strict connection with other global environmental issues such as biodiversity and climate. It is widely accepted that the major causes of land degradation include deforestation, soil erosion, overgrazing, inappropriate irrigation, abandonment and/or lack of maintenance of agricultural terraces, land use and cover change, especially because of urban sprawl and commercial development, soil pollution and quarrying. Among land degradation phenomena, soil erosion is one of the most significant issues that negatively influence the agricultural sector. In particular, soil erosion caused by water is one of the most important concern, especially in the Mediterranean area. Among the agricultural landscapes, vineyards deserve attention, because, not only they represent one of the most important crops in terms of income and employment, but they have also demonstrated to constitute, for the Mediterranean areas, the form of agricultural land use that has been causing the highest soil losses. Terraced vineyards deserve a particular mention too. In fact, they represent an important cultural heritage to preserve and if, if not properly maintained, can lead to local instabilities creating hazards for settlements and cultivations, and for the related economy. Although researchers have already dealt with the topic of soil erosion by water in agriculture, there are still some gaps in literature. The processes involved are complex and

	the analyses can be carried out at different spatial and temporal scales. Indeed, the lack of standardized procedures of collecting data and the variability of temporal and spatial conditions and measurement techniques for the analysis of soil water erosion processes require further research. To overcome these issues, this thesis aims to propose an integrated approach, by means of innovative remote-sensing technologies, field activities, and quantitative analyses to the investigation of soil erosion processes caused by water in agricultural landscapes. Furthermore, this thesis wants also to suggest a possible soil management technique, namely mulching, as an effective solution to mitigate soil and water losses in the before-mentioned environments. Among the remote-sensing technologies, light detection and ranging (LiDAR) and structure-from-motion (SfM) have been applied in this thesis. These have proven to be effective to obtain high-resolution Digital Elevation Models (DEMs). Experimental plots under simulated rainfalls have also been used to quantify and analyze the soil and water losses caused by water. Typical agricultural landscapes, especially Mediterranean vineyards, have been selected as study areas for this thesis.
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