Community water management in the mountain communities of Evrytania: the example of Tornos

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Introduction

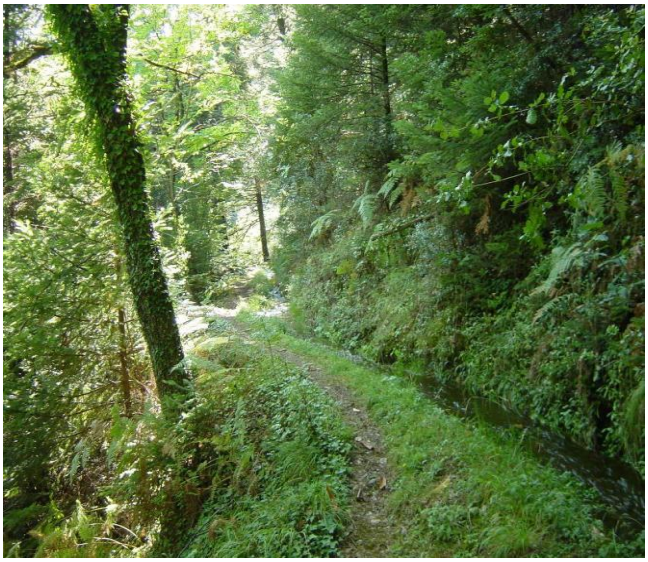
The mountain community of Tornos in Evrytania preserves its natural and anthropogenic characteristics, in spite of the abandonment, both in terms of population and production, that has been recorded for decades in the mountainous Pindian communities of Evrytania. The bioclimatic data (microclimate), the geological formations and the extensive forests, remaining undisturbed, guarantee the supply of water over the centuries. The community has a long history of farming, and like the other communities of the southern end of the Pindus Mountain range, it was maintained by self-sustaining households, with small agricultural properties managed by traditional agroforestry practices (stone terraces, polyculture, etc.).

Fig.1 The mountain community of Tornos in Evrytania is part of the geophysical area of the catchment area of the mountain streams Torniotiko and Prusiotiko, which form gorge-like routes, leading to the gorge of Krikelopotamos and from there to the Trikeriotis River, emptying into the Artificial Lake of Kremasta in Evrytania. (Photo by P. Paleos https://tornosnature.blogspot.com/)

Fig.2 The hard work of the inhabitants has shaped a rich agroforestry landscape, biodiversity of flora and fauna and a sustainable and self-managed irrigation system of agricultural land that extends in terraces and guarantees the nutritional adequacy of generations over time.
(Photo by P. Paleos https://tornosnature.blogspot.com/)

Description

Sensing and respecting the limits of water and land as natural resources, the inhabitants had shaped the land around their dwellings into terraces of small cultivated areas. Small properties with agroforestry systems (agroforestry heritage) sustained the upland households, despite the short growing season, as they supplied their pulses, cereals and vegetables from them. In addition, on the fringes of the small gardens, they preserved fruit trees to provide fruit and local varieties of vines for wine. A prerequisite was the rational use of the water, which was alternately channeled to the terraced fields through a network of tanks and ditches, which they all maintained and preserved.



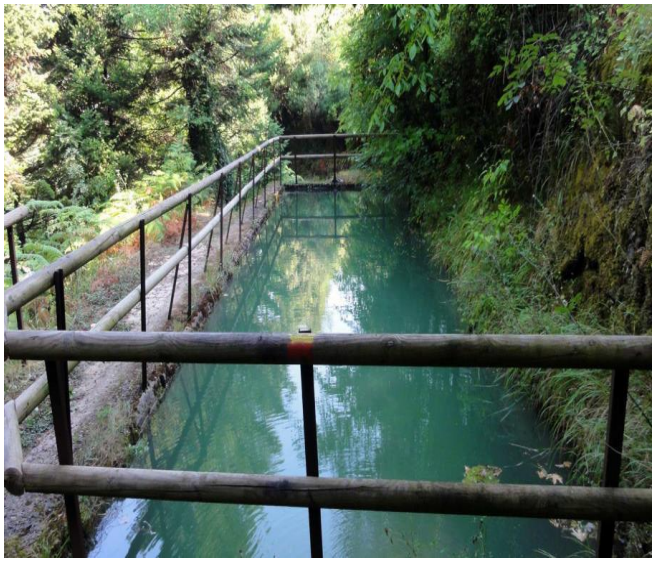


Fig.3-7 The community irrigation system extends throughout the community and each landowner-land manager participates in its maintenance and takes care of the rotational watering of his gardens and storage in tanks. (Photo P. Paleos, 2023)

The composition and the slopes of the land shaped their choices. With the same materials that their natural space gave them, they built the dry stone walls, the water tanks, the supporting works, the bridges, the “mandania” has and the water mill of the village. Maintaining this network of irrigation, water supply and water support for the agricultural production cycle is a collective task to which each family contributes proportionally. The spring - water source - is located at the highest altitude point of the network, as shown in the diagram below, and from there the stream runs alongside the farmland. Each farmer owner is responsible for the maintenance of the parts of the spring that belong to his property and the tanks that he maintains for water storage as a reserve during the summer months of high demand. The common parts of the network, which connect properties by neighborhood, are maintained by the group of residents who take care of them. The fountains in each neighborhood, as well as the waterfalls and bridges, receive community interest and care, so that they are enjoyed in common. Despite the community's shrinking population, particularly in the decades following the civil war (1945-1950) and the forced

evacuations of the settlements, as well as the wave of urbanization that followed (1960-1980), the irrigation infrastructure remains active thanks to the respect shown even today by the residents.

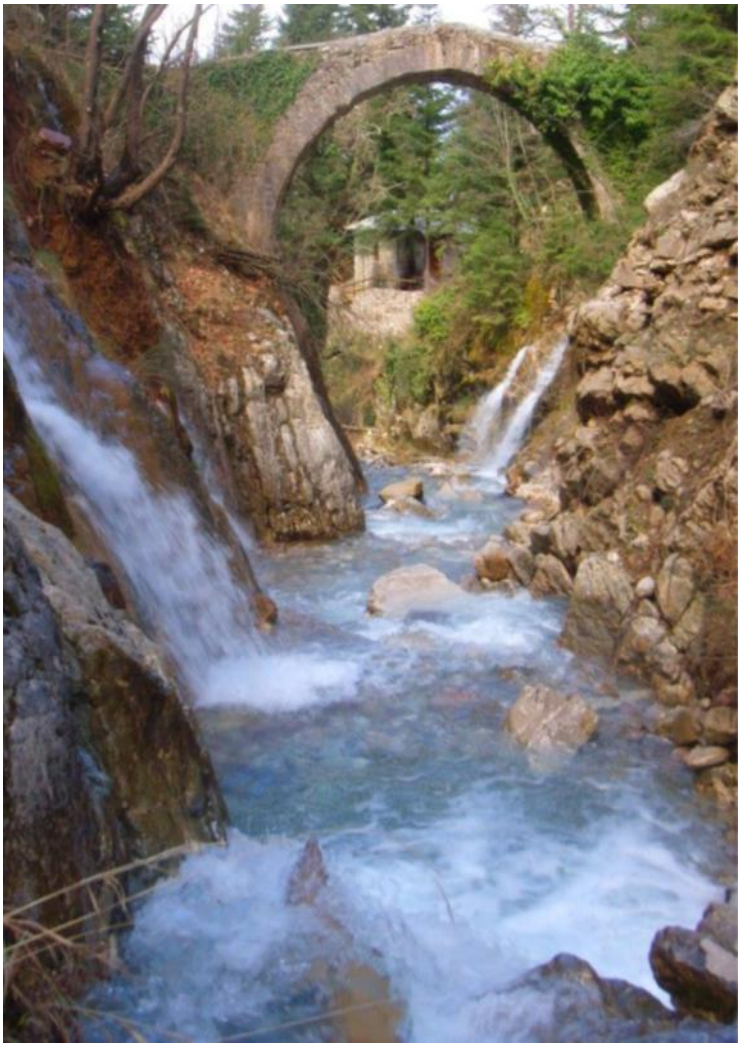


Fig.8-10. The rich hydrographic network of natural springs and mountain streams on the northeastern slopes of the Panetolian Mountain, has been exploited for centuries by the inhabitants of the community of Tornos, forming a sustainable and self-managed system of irrigation of the agricultural lands extending on terraces (terraces) and guaranteeing the nutritional adequacy of generations over time.
(Photo by P. Paleos https://tornosnature.blogspot.com/)

The agroforestry landscape of Tornos as a whole is a landscape of collective identity (ethnoscape) and rural cultural heritage (High Value Cultural Landscape). The intense mountainous relief of Mount Panetoliko (NATURA2000), the rich hydrological network and the productive activities of the inhabitants created a unique mosaic of multifunctional landscapes. The preservation and exploitation of the community irrigation system of the mountain settlements of Pindos guarantees the sustainability of the mountainous rural area throughout Greece. Its importance is not only local, but goes beyond the boundaries of the mountainous Greek territory, as at the level of the Mediterranean Basin, water management is a vital objective of sustainability, given the threat of water scarcity due to the effects of the climate crisis and poor management. In 2024, the Community Water Management Element in Tornos Evrytania was recognized as Intangible Cultural Heritage by the Ministry of Culture of the country and was included in the National Repository of Greece (UNESCO).

Fig.11-13 The depopulation of mountain communities from active population and the absence of primary production process, animal husbandry and forestry, has critical consequences for the survival of the communities. (Photo by P. Paleos https://tornosnature.blogspot.com/)

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