MOVING
MOUNTAIN VALORISATION THROUGH INTERCONNECTEDNESS AND GREEN GROWTH

Crete

Vulnerability matrixes and vulnerability map

2024

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What will you find?

The MOVING (MOuntain Valorisation through INterconnectedness and Green growth) project stands at the forefront of climate resilience, aiming to fortify the sustainability of mountain areas against climate change. A key outcome of the project is the creation of tools that show susceptibility and vulnerability, ready to be used by both experts and the general audience[1].

This document synthesises crucial information for the **Crete Region**, particularly focusing on the Participatory Vulnerability Matrix and the Spatial Vulnerability Map.

Using a participatory approach, the Vulnerability Matrix allows to downscale relevant information to the local level, offering a detailed view of how drivers of change impact this territory. Understanding that areas within the Crete Region are not equally vulnerable to identical threats, the Spatial Vulnerability Map emerges as a critical tool. It showcases the varied susceptibility across the region, paving the way for more effective, targeted adaptation strategies.

Mountain Reference Region: Crete

Mountain Reference Landscape: Rethymno

Value Chain: Carob flour

Land-use system: Agroforestry

Reference variable: Carob pod production

[1] Extended outputs are accessible through the following documents: 'Land Use Systems and Land Cover Map in 23 Reference Regions' and'Land use system vulnerability matrixes and vulnerability maps for the 23 reference regions'

1. Participatory Vulnerability Matrix

Figure 1. Vulnerability Matrix for Crete MRL (below) and how to read it (above).
Source: MOVING H2020

A combination of climatic (extreme events, spring drought) and social drivers of change (depopulation, abandonment and change of use) can affect the reference variable in a negative way. Undoubtedly, avoiding the abandonment of carob crops or the change to olive groves is closely linked to giving greater value to carob products, something which, together with the application of adaptation mechanisms, could greatly reduce the vulnerability of the system.

1.1 List of adaptative mechanisms suggested by consulted stakeholders

- Research on different species of carob trees
- Research on the effects of climate change and its impacts on the region's crops
- Policies to avoid abandonment and promotion of population retention in the region
- Support systems from Agricultural Directorates
- Formal Eductaion and training for farmers
- Adequacy of policies and regulations regarding agroforestry land use systems
- Knowkedge transfer

2. Vulnerability Map

Vulnerability drivers:

- Demographic Changes
- Land-use and land cover change
- Precipitation

Spatial explicit factors:

- Elevation

Table 1. Spatial Vulnerability Index for agroforestry in the Crete MRL

Spatial Vulnerability Index			
Spatial Explicit Factor	*Elevation (m)*	*[0-300]*	**3**
		]300-600]	**1**
		]600-max]	**2**

Vulnerability levels: 1 – very low, 2 – low, 3 – medium, 4- high, 5 – very high.
Source: MOVING H2020

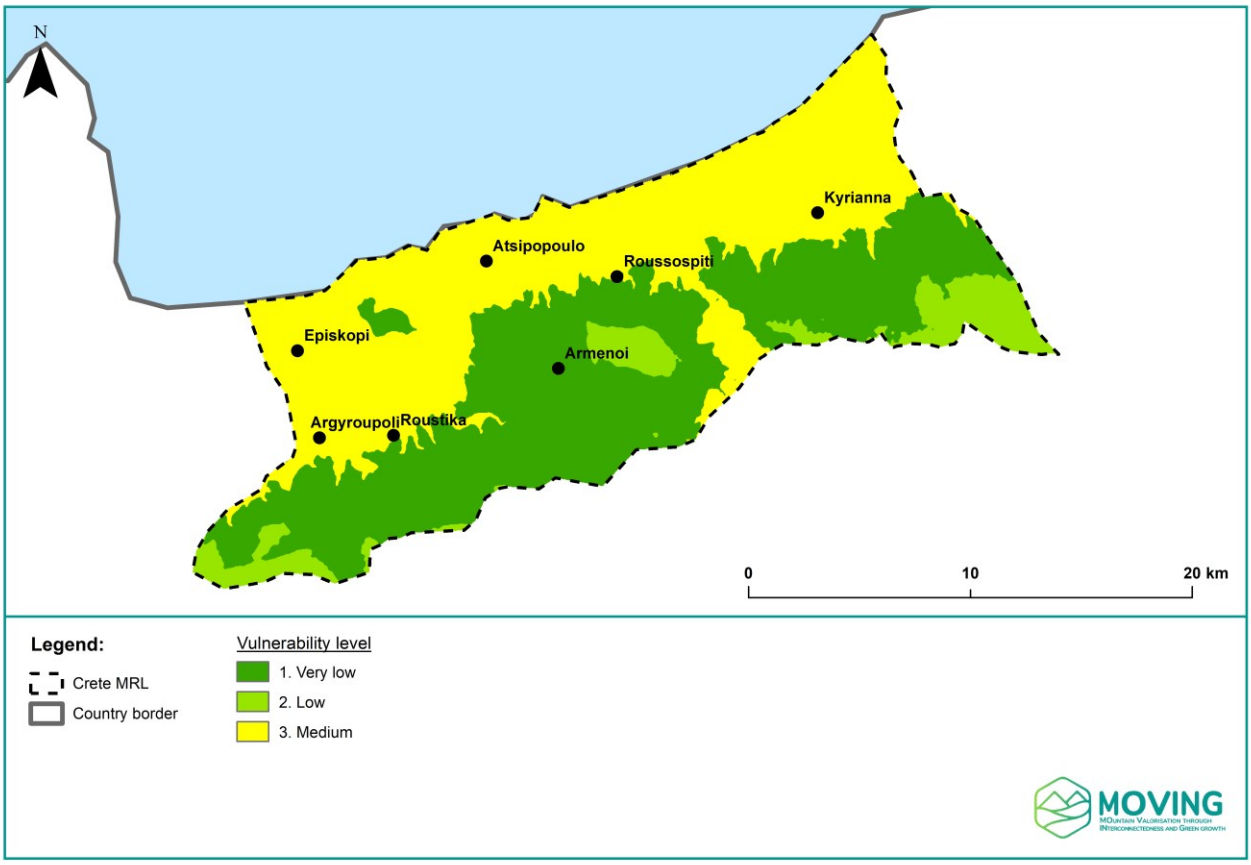

Figure 2. Vulnerability Map of agroforetsry in the Crete MRL. Source: MOVING H2020