**CASCADE STUDY SITE 4: Castelsaraceno, Italy**

Responsible partner: UNIBAS

## 1. General information

Castelsaraceno belongs to the province of Potenza, in the southern Italian region of Basilicata. Castelsaraceno has a population of 1.507 inhabitants (ISTAT, May 2010) and a surface of 74,3 square kilometres, thus showing a population density of 14,22 inhabitants per square kilometre. In the last few decades the municipality of Castelsaraceno has shown a decrease in population of about 2% each year. Castelsaraceno belongs to the Appennino Lucano-Val d'Agri-Lagonegrese National Park. This is a large protected area situated in Basilicata, whose perimeter includes some of the highest summits of the Lucanian Apennines, delimiting fanwise the upper valley of the river Agri. Situated close to Pollino and Cilento National Parks, it represents a connection and environmental continuity area. It is the youngest Italian National Park, established with DPR on 8th December 2007.

## 2. Geographical description

Castelsaraceno is a good representative of the most important environmental and socio-economic features of the Basilicata region, which has particular climatic conditions that are influenced by its orographic nature and by its proximity to two seas: the Tirreno and Ionio seas.

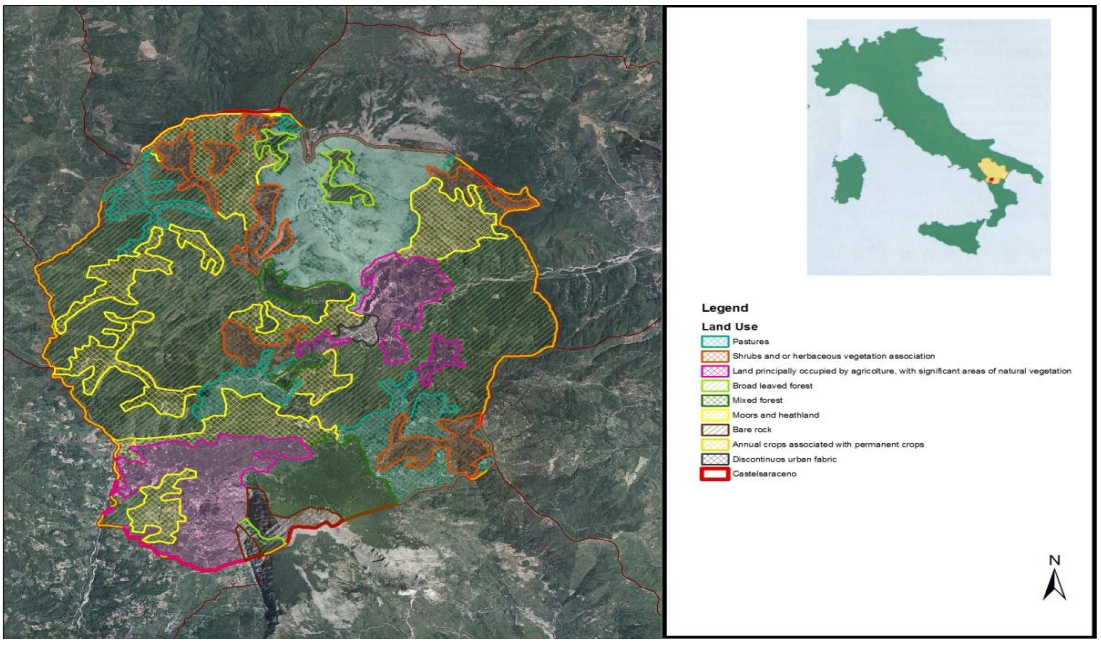



*Figure 1: Castelsaraceno location and its land use*

There is a typical Mediterranean climate along the Ionion coast up to 500 – 600 m a.s.l., characterised by scarce rainfall concentrated during the autumn-winter period and by prolonged summer drought. Above these altitudes and up to 2000 m there is a temperate-

cold climate, with mild dry summers, while a cold and rainy climate is found at the higher zones and towards the Tirreno Sea. The geomorphologic aspect of the region reflects its geological and lithological nature with both volcanic and calcareous mountains and plains made up of gravel, sand, clay and flysch, alluvial plains, fluvial terraces and alluvial cones with abundant gravel and clay-silt deposits, undergoing Calanchive erosion. Regarding vegetation cover, beech and oak forests (*Quercus cerris* and *Quercus pubescens*) dominate the mountainous part with specialised crops (fruit orchards, corn, etc.) on the plains. The hilly part of the region with vast pastureland includes chestnut groves, and vineyards as well as olive groves in its lower area. Its economic and environmental importance makes this region a representative area for analysis of the components affecting the different stages of Environmental Sensibility, on account of its complex alternating situations.

**3. Main ecosystem(s) in the study area, and functions/services they provide**

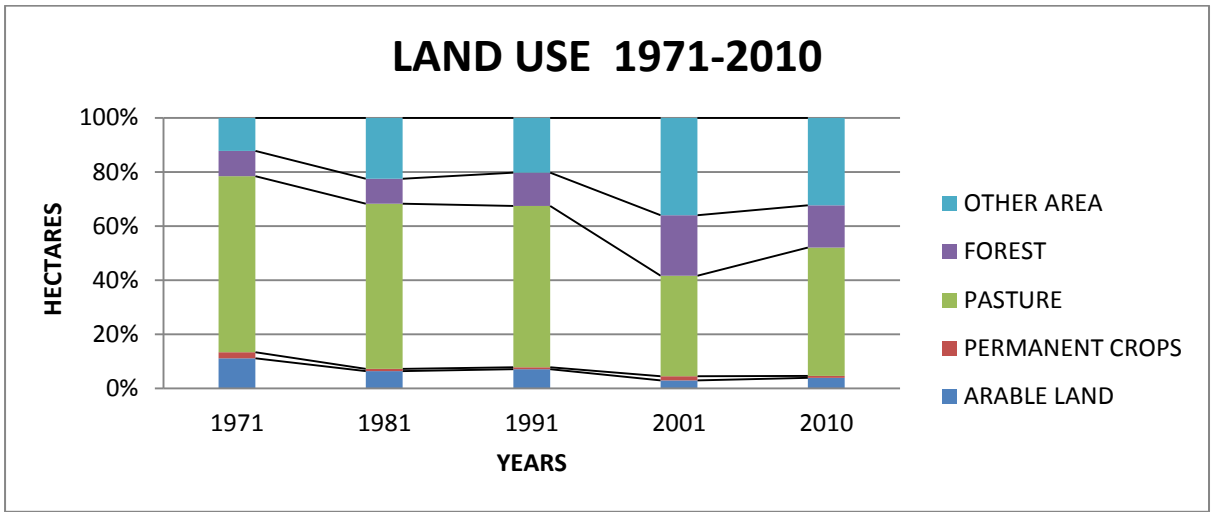
Rangelands and forests are major ecosystems within the study site providing livelihood resources and, at the same time, high value ecosystem functions and services to the local communities. More than 40% of the study site total land surface consists of rangeland ecosystems. These rangelands support a large livestock industry (sheep and goats mainly), that accommodate important watershed functions, and provide valuable and biologically diverse resources. They also reflect a diverse cultural landscape, concurrently shaped by physical forces and human use. In this context it is important to view the rangelands not only as resources to sustain the livestock, but also as a complex environment with a diverse array of amenities and possibilities and a rich cultural setting. Despite the importance of rangeland resources to local and regional economies, they have been neglected; though the potential of rangelands to contribute significantly to economic development and biodiversity conservation is high. Extensive livestock grazing and the diverse array of common property regimes that manage human and livestock movement have been shown to help maintain rangeland health, especially if pastoralists can maintain a degree of mobility that fosters optimal use of pasture resources.

*Figure 2: Typical landscape*

**4. Ecosystem dynamics**

Despite their skills, pastoralists of the study site face a number of growing challenges that constrain them from exercising their full traditional rights and practices. These include natural factors such as desiccation of pastures due to changing climate and the substitution of pasture with shrubs and woods. In addition, pastoralism as a way of life is increasingly challenged due to a number of socio-economic factors, such as: regional population decrease and land abandonment, generally poor infrastructure, social services, market access, failure in reaching niche markets for value added products, and increasing education and employment opportunities outside the pastoral sector. Government policies and development programs also significantly influence the way local pastoral communities access and manage rangeland resources. These programs are driven by general disdain for the pastoral way of life and poor understanding of the efficacy of pastoral production systems and rangeland ecology amongst policy makers who mainly hail from low-lying agricultural areas. In the name of 'sustainability' these policies have often resulted in outcomes the opposite of what was originally intended, leading to increased environmental degradation through the reduction of livestock mobility, and the marginalization of pastoral communities through heightened economic and social risks.

Socio-economic factors are the most important drivers, especially those leading to undergrazing or overgrazing. Policies, especially CAP are also important. The following graph illustrates the land use change during the last 40 years according to the Census Data.




**5. Proposed experiments**

As in the other study areas, a set of experiments will be carried out in the Castelsaraceno study site. Three plots with four sub-plots in each one of them have been identified. The sub-plots include pasture land exhibiting three states: a very-degraded intermediate, not-degraded and shrub-encroachment. The three areas where the plots have been selected are internally homogeneous according to geo-pedological and climatic conditions, while they differ according to some other parameters.

**6. Relevant end-users of knowledge in the region / country**

The Castelsaraceno area bridges two National Parks (National Park Pollino on the southern side and National Park Val d'Agri on the northern side). The knowledge produced in Castelsaraceno could be used both by natural resource and biodiversity managers of the Parks and regional authorities dealing with rural development policies. These aspects being studied in the CASCADE Project will be particularly useful for the next IU Programming Face (2014-2020) and ensuing policy measures, both environmental and rural.

**7. Anticipated activities and workshops with stakeholders**

In March 2012 a preliminary workshop with local general stakeholders was held, both to present the CASCADE Project and to increase interest on its activities. A second, more focused workshop was organized in September 2012, inviting land users and shepherds. We registered 18 participants. The discussion was very interesting and we also had a clearer picture of the local potential sites and issues. We have also planned periodical stakeholder workshops with local stakeholder in the next few months of the project when the first outcomes and results will also be available and discussions will generate feedback.

**8. Past and on-going projects on ecosystem functioning, thresholds and related aspects**

At European level currently LEDDRA (**Land and Ecosystem Degradation and Desertification: Assessing the Fit of Responses (LEDDRA)** is a Collaborative Project – Small or medium-scale focused research project (SICA) - ENV.2009.2.1.3.2 Desertification process and land

degradation) is the most important project running in Basilicata region, including the Castelsaraceno territory. See http://leddra.aegean.gr/

Since the late 1980s the area has been extensively used as a study area within the MEDALUS I, II, III projects, (see http://www.desire-his.eu/en/recent-european-research/410-medalus-i-ii-iii ) the MEDACTION project (see http://www.desire-his.eu/en/recent-european-research/408-medaction ) and the DESERTLINKS project (see http://www.kcl.ac.uk/projects/desertlinks/ ).

**9. Key references about ecosystem dynamics in the study area or wider spatial setting**

**Quaranta G**. (2008), *Montagna e sviluppo: le politiche, la governance e il management per la valorizzazione delle risorse*, Franco Angeli

**Salvia R**. (2008), *Lo sviluppo della montagna lucana: il progetto Raparo-Pollino*, in "Montagna e sviluppo: le politiche, la governance e il management per la valorizzazione delle risorse" a cura di Giovanni Quaranta, Franco Angeli

**Salvia R**. (2008), *Il piano di azione locale e il piano di sviluppo rurale: possibili sinergie*, in "Montagna e sviluppo: le politiche, la governance e il management per la valorizzazione delle risorse" a cura di Giovanni Quaranta, Franco Angeli

**AAVV**, (2008), *Sistema ecologico funzionale e territoriale*, Regione Basilicata, Dipartimento Ambiente, Territorio e Politiche della Sostenibilità – Ufficio Tutela della Natura