

# Revitalizing multifunctional Mediterranean agrosilvopastoral systems using dynamic and profitable operational practices

Reference: LIFE16 ENV/ES/000276 | Acronym: LIFE Regenerate

## PROJECT DESCRIPTION

### BACKGROUND

The oak-based silvopastoral systems of the Mediterranean basin cover some 6 million hectares of land. Known as dehesas in Spain, montados in Portugal or meriagos in Sardinia (Italy), these systems are in rapid decline. This is due to a combination of factors, including rural abandonment and low productivity. Prices of produce have declined in real terms in the last 30 years and estimates show that dehesas are currently lossmaking to the tune of €200/ha. Some landowners face losses of up to €500/ha due to phytophthora-related diseases. Simultaneously, agricultural subsidies are steadily decreasing.

In order for these valuable ecosystems to become viable, current production models must be transformed into cost-efficient operations that work with nature, not against it. Farmers will have to lower input costs, find alternative sources of income, recycle resources, stimulate natural regeneration, improve soil and increase farm productivity so that their land can become economically and environmentally sustainable.

### OBJECTIVES

LIFE Regenerate intended to prove a sustainable and profitable new business model for small and medium-sized farms on oak-based silvopastoral systems in Spain and Sardinia. Its main objective was to demonstrate that these farms can become self-sufficient and profitable based on added value production and resource efficiency, while conserving nature.

The project had the following specific objectives:

- Combat the loss of natural regeneration and soil degradation in degraded silvopastoral areas by providing effective, mosaic landscape management procedures, improving soil quality and increasing biodiversity;
- Recover the practice of multi-species rotational grazing, adapted to improve natural capital and optimise commercial advantages; and
- Recycle biomass waste within the farm, reducing external input of fodder and creating alternative sources of income. In particular, the project will explore the development of the following revenue streams: organic fertiliser, high-protein cattle feed, and cultivation of edible mushrooms.

LIFE Regenerate aimed at involving two different phases: demonstration and replication. During the demonstration stage, the model would be tested over 100 ha (40 ha in Spain and 60 ha in Sardinia). Successful demonstration was expected to lead to the model being transferred and scaled up to 5 000 ha in Spain, Italy and Portugal, proving that the model is effective and highly replicable.

The project aimed to contribute directly to many EU policies. The resulting ‘greening’ and increased competitiveness of this agriculture and forestry sub-sector is fully in line with the objectives of the Common Agricultural Policy. LIFE Regenerate would also contribute to the implementation of the Water Framework Directive, as it promoted efficient water use and would help improve the quality of EU water resources. By turning waste biomass into organic fertiliser and other valuable products, the project aimed to avoid waste incineration, thus contributing to the EU Circular Economy Action Plan, the Waste Framework Directive and the EU 2020 Climate and Energy Package. Results were also expected to foster implementation of the EU strategies on forestry, biodiversity and soil protection.

## **RESULTS**

The LIFE Regenerate project implemented regenerative practices at two demonstration farms, Muñovela, belonging to IRNASA-CSIC, in Spain, and the Caratzu family’s farm in Sassari, Italy. This showed multiple positive effects from rotational grazing on the environment (soil quality, pasture productivity, tree health, natural regeneration and carbon footprint) as well as on livestock health and productivity. However, monitoring over a longer period is needed to confirm these trends. Other activities did not provide the expected results, though, such as the cultivation of mushrooms (truffles, shiitake and *Trametes versicolor*) or the breeding of turkeys and *Cetonia aurata* larvae as a food source for them. In some cases (truffles), it could be just a matter of time, since the inocula made have developed mycorrhizae.

A major effort has been made to replicate the project’s practices, contacting replicators and providing them with technical training, support and some basic material means, with remarkable success: 21 replicators have come on board, representing a surface area of more than 8,700 ha. The implementation of regenerative practices on these farms will take place progressively.

The development of demonstration activities on the project’s two demo farms will continue during the after-LIFE period. Also, technical support will be provided to the replicators for the trials initiated during the project.

The main challenges ahead are dissemination of the project’s lessons learnt and results among the competent agricultural authorities and key entities, such as agricultural unions and operational groups, and finding or creating suitable channels to properly commercialise the resulting products.

## **ADMINISTRATIVE DATA**

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Acronym: LIFE Regenerate  
Start Date: 01/09/2017  
End Date: 30/06/2022  
Total Eligible Budget: 2,176,863 €  
EU Contribution: 1,306,117 €

## **CONTACT DETAILS**

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## **ENVIRONMENTAL ISSUES ADDRESSED**

### **THEMES**

- Soil and landscape protection
- Circular economy and Value chains
- Agriculture - Forestry

### **KEYWORDS**

- Agriculture
- rural area
- sustainable development
- rural development

### **TARGET EU LEGISLATION**

- Directive 2008/98 - Waste and repealing certain Directives (Waste Framework Directive) (19.11.2008)
- COM(2015)614 - "Closing the loop - An EU action plan for the Circular Economy" (02.12.2015)
- Directive 2000/60 - Framework for Community action in the field of water policy (23.10.2000)

- COM(2014)15 - Policy framework for climate and energy in the period from 2020 to 2030 (22.01.2014)
- COM(2006)231 - “Thematic Strategy for Soil Protection” (22.09.2006)
- COM(2010)672 - The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future (18.11.2010)

## **BENEFICIARIES**

<b>Name</b>	<b>Type</b>
UNIVERSIDAD DE EXTREMADURA	Coordinator
Università degli studi di Sassari, Italy	Participant
Volterra Ecosystems SL, Spain	Participant
Fundación Naturaleza y Hombre, Spain	Participant
AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS, Spain	Participant
IDForest-Biotecnología Forestal Aplicada S.L., Spain	Participant