



LIFE Regenerate - Revitalizing multifunctional Mediterranean agrosilvopastoral systems using dynamic and profitable operational practices

LIFE16 ENV/ES/000276



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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 intends 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 is to demonstrate that these farms can become self-sufficient and profitable based on added value production and resource efficiency, while conserving nature.

The project has 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 will involve two different phases: demonstration and replication. During the demonstration stage, the model will be tested over 100 ha (40 ha in Spain and 60 ha in Sardinia). Successful demonstration will 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 will 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 will also contribute to the implementation of the Water Framework Directive, as it promotes efficient water use and will help improve the quality of EU water resources. By turning waste biomass into organic fertiliser and other valuable products, the project will 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 will also foster implementation of the EU strategies on forestry, biodiversity and soil protection.

Expected results:

- Demonstration of an environmentally friendly, economically feasible and highly replicable business model for small and medium-sized farms in oak-based silvopastoral systems;
- Economic benefits of €65 400 per year (€654/ha/year), both from cost savings (less external feed and lower veterinary costs) and from additional income sources (free-range meat, mushrooms, truffle production, acorns, bedding for horses, and mulching), making the farms profitable and eliminating the need for subsidies;
- Total elimination of biomass waste, implementing a circular economy approach and recycling waste into value-added resources;
- Improvement of soil quality (30-50%) by increasing the carbon sink, water retention capacity, soil nutrient availability, beneficial microorganisms, and prevention of erosion;
- Improvement of pasture production and pasture quality (25-50% of agricultural land), leading to self-sufficiency in animal feed and higher profitability of livestock-raising practices;
- Increase in plant diversity (15%) and overall biodiversity (20%). The project will plant 2 000 new multi-species trees during the demonstration phase;
- Improvement of tree health and resilience in 50 ha of woodlands;
- Overall increase in animal health and productivity, through reduction in mortality and decrease in calving intervals; and
- Active knowledge transfer and up-scaling through replication and training courses.

Results

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Environmental issues addressed:

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	UNIVERSIDAD DE EXTREMADURA
Type of organisation	University
Description	The University of Extremadura is the main public research institution in Extremadura, with four campuses.
Partners	AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS, Spain Fundación Naturaleza y Hombre, Spain IDForest-Biotecnología Forestal Aplicada S.L., Spain Università degli studi di Sassari, Italy Volterra Ecosystems SL, Spain

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Administrative data:

Project reference	LIFE16 ENV/ES/000276
Duration	01-SEP-2017 to 29-OCT -2021
Total budget	2,209,203.00 €
EU contribution	1,306,117.00 €
Project location	Castilla-León(España)

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