

Designação do projeto | LandUnderPressure – Evitar, mitigar e restaurar zonas sob pressão para combater a desertificação e aumentar a resiliência às alterações climáticas no Montado (*LandUnderPressure - Avoiding, mitigating and restoring land under pressure to combat desertification and increase resilience to climate change in the Montado*)

Código do projeto | Projeto 11_Call#5

Programa: Ambiente

Promotor Líder | Faculdade de Ciências da Universidade de Lisboa

Parceiros | Instituto Politécnico de Bragança

The Soil Conservation Service of Iceland

Data de início | 01.07.2022

Data de conclusão | 31.12.2023

Custo total elegível | 349.528,98€

Apoio financeiro:

MFEEE 2014-2021 | 252.534,69€

Estado Português (SGA) | 44.564,94€

Objetivos, atividades e resultados esperados:

The overall health and productivity of land is declining while at the same time the demand for land resources is increasing, especially in drylands. The United Nations Convention to Combat Desertification proposed to achieve Land Degradation Neutrality by 2030, viewed as “a state whereby the amount and quality of land resources necessary to support ecosystem functions and services and enhance food security remain stable or increase within specified temporal and spatial scales and ecosystems”. In Portuguese drylands, desertification, together with climate change, places land under extreme pressure, compromising the productivity and the ecosystems services provided by the most important agro-silvopastoral system, the montado.

The objective of LandUnderPressure is to contribute to avoid, mitigate and restore land under pressure to combat desertification and increase resilience to climate change in the Montado. It will focus on montado agroforestry and extensive pasture systems, dominated by cork and/or holm oaks at two scales: i) at a regional scale that includes the priority areas B in the call for proposals and ii) at the farm scale where a 90ha restoration pilot project will be implemented and monitored located at Herdade da Coitadinha (HC), located within the priority parish of Barrancos. Both the regional area and the selected farm are fully integrated in LTsER Montado platform, an international network integrated in the European LTER (Long Term Ecological Research), bringing together researchers who are dedicated to collecting, making available, and analyzing long-term ecological and socio-ecological research data in specific locations, thus assuring the long-term sustainability of this project and actions. The pilot project will be developed at

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HC which it dominated by holm oak montado, managed to multi-uses including fattening black pigs, cattle grazing, hunting, and eco-tourism. This property is in the most arid zone, being very susceptible to desertification and land degradation. Included in two Natura 2000 sites, with overlapping priority habitats, HC management is committed to sustainable management promoting the regeneration of holm oaks and increasing acorn production. The project objectives will be achieved through different tasks, namely: i) establishing a Land Degradation Baseline (that incorporates natural temporal fluctuations and spatial heterogeneity) and developing a monitoring toolbox to evaluate productivity trends of montado for the regional area of study, against which performance can be assessed in the future to support LDN policy; ii) restoring degraded areas under disturbance (e.g. overgrazing) and climate (semi-arid) pressure, including important habitats, based on natural regeneration modeling, by implementing cost-effective restoration methods, to promote natural regeneration and maintain or increase productivity over time of the montado; iii) assessing the provision of regulatory, provisioning and cultural ecosystem services in different classes of restoration measures, optimizing the trade-offs between environmental, economic and social outcomes, including ecosystem services provided by soil in climate regulation, erosion control and C fixation; iv) co-building solutions to restore the delivery of ecosystem services at local and regional scales, involving stakeholders from various sectors and scales in order to guarantee a solution that integrates different perspectives and an effective implementation of the measures.

These activities are in line with the National Action Program to Combat Desertification (PANCD), namely objectives 2.4., 3.1 and 3.4, as well as with the objectives of the “Environment Programme”, by contributing to restore degraded areas, protect the soil and to climate change mitigation and adaptation, thus contributing to promote sustainable management in agroforest systems with extensive grazing, increasing climate change resilience in targeted areas.

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