UNIVERSIDAD DE MURCIA

Improvement of soil characteristics making use of logical, good agricultural practices: purpose and results obtained in the LIFE AMDRYC4 Project

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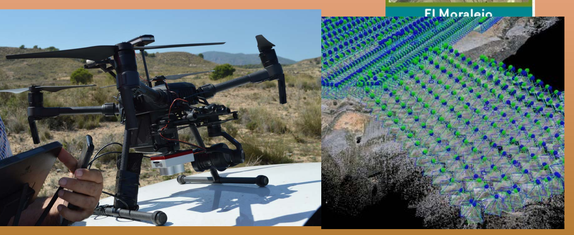
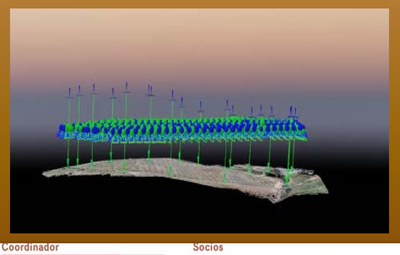
The modification of environmental conditions and the subsequent evolution of the ecosystems results in soil degradation or desertification, which is also caused by the abandonment of the countryside, poor agricultural practices and the socio-economic dynamics that nowadays presents the rural environment. Land degradation leads to loss of fertility, nutrients and vegetation cover and increased erosion, pollution, salinization and alkalinization. The effects derived from this situation aggravate, in turn, climate change, in a strongly intertwined dynamics that feeds back.

Degraded soils are recoverable through various strategies, among them good agricultural practices being especially relevant. In this paper, the degree of desertification of several plots of soil that have undergone treatments for the incorporation of organic matter (sewage sludge, manure from different animals, composted plant remains) and their untreated counterparts (blank) is evaluated. To this end, desertification indicators (salinization, organic matter, phosphorus content) included in the LIFE AMDRYC4 Project have been used to monitor soil neutrality, as a measure of the global desertification suffered by a plot.





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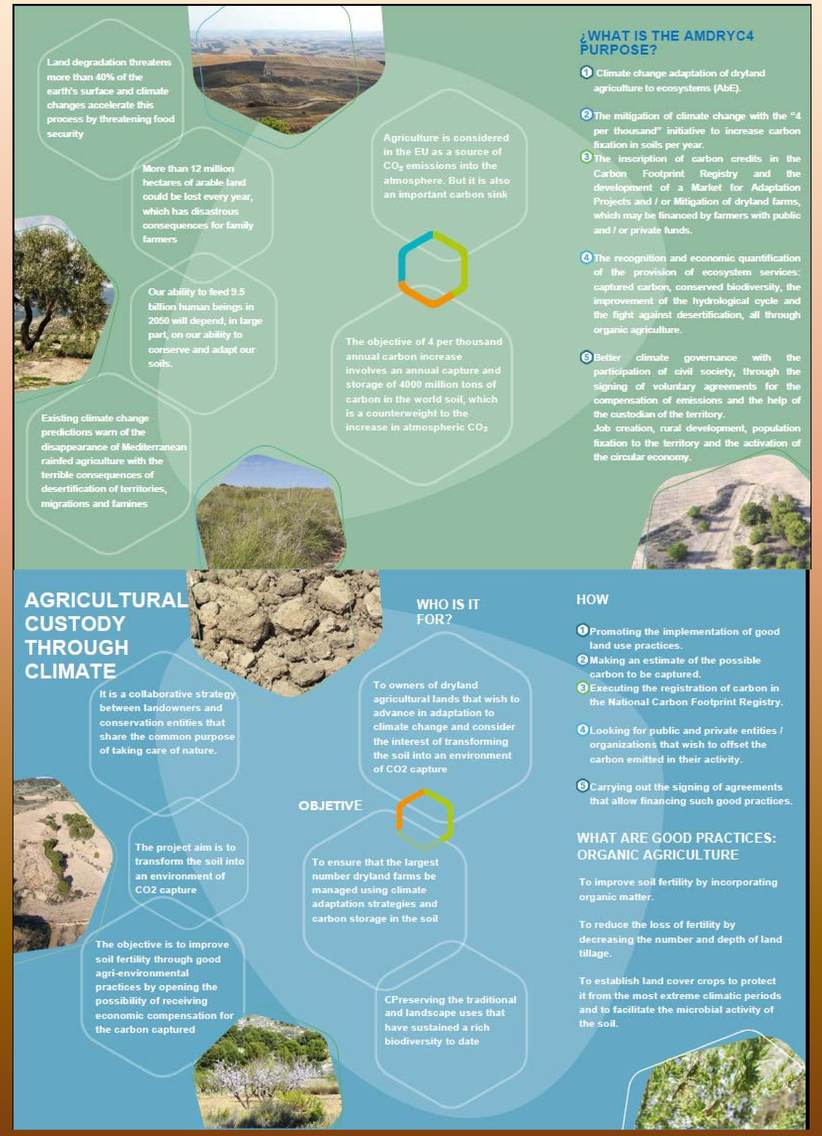
The results obtained clearly show an improvement in the soil characteristics following the application of the mentioned strategy for soil treatment. It is therefore concluded that soil degradation is mitigated by good agricultural practices, which leads to a decrease in erosion and salinization and an increase in organic matter, nutrient content, plant cover and the ability to sequester dioxide carbon. Soils are not affected by polluting processes both in terms of potentially toxic elements and other emerging pollutants. The experimental data obtained indicate that soils in this way remediated can be used to reduce the concentration of greenhouse gases in the atmosphere and represent a good tool to fight against climate change.



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