I FORO INTERREGIONAL MEDITERRÁNEO DE LUCHA CONTRA LA DESERTIFICACIÓN

I FORUM INTERRÉGIONAL MÉDITERRANÉEN DE LUTTE CONTRE LA DÉSERTIFICATION

I INTERREGIONAL MEDITERRANEAN FORUM TO COMBAT DESERTIFICATION

4-5 de julio´22

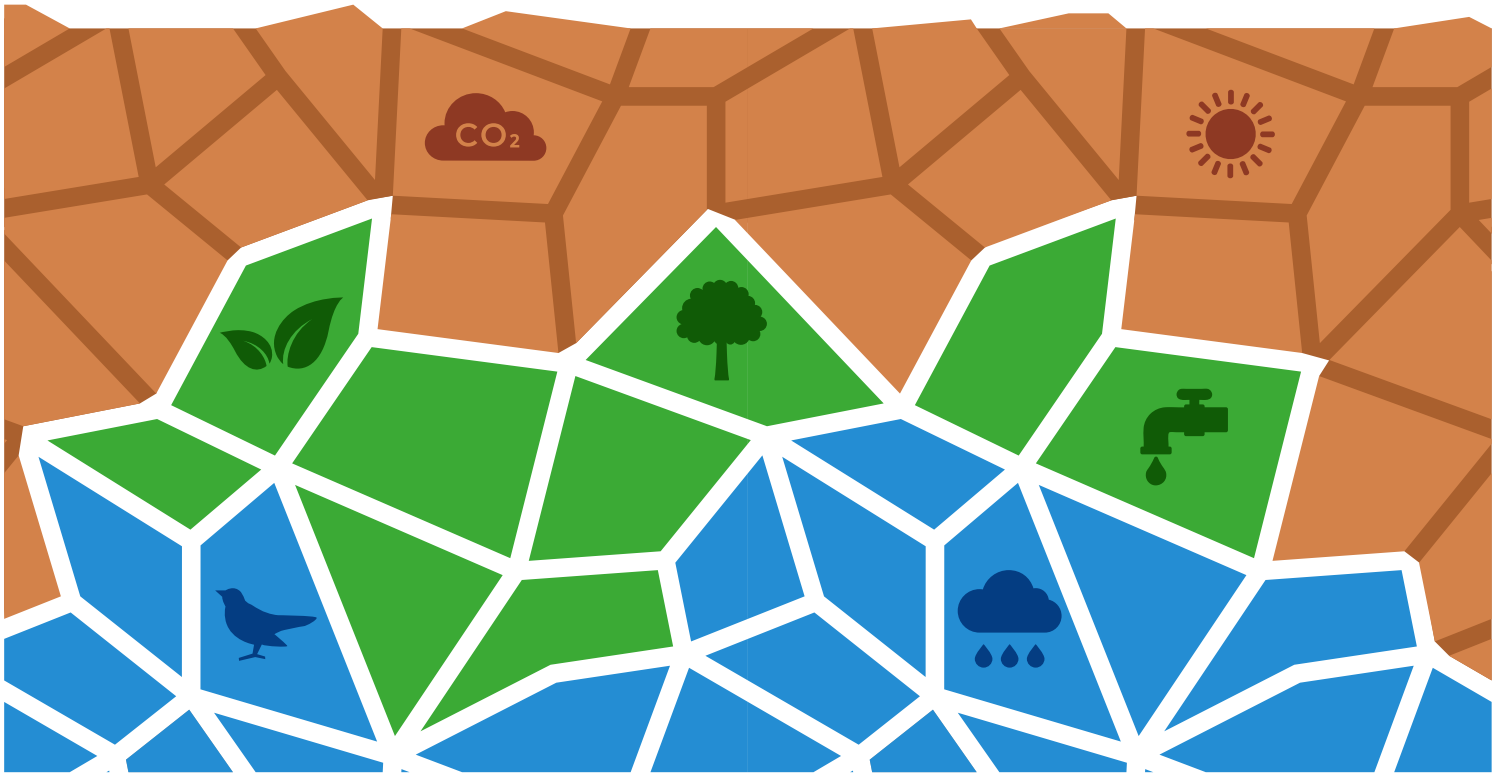
Anexo Auditorio y Palacio de Congresos Victor Villegas.
Murcia.

4-5 juillet´22

Annexe de l'Auditorium et Palais de Congrès de Victor Villegas.
Murcia.

July 4th-5th´22

Annex Auditorium and Palace of Congresses Victor Villegas.
Murcia.



Organized by:

Región de Murcia

CPMR INTERMEDITERRANEAN COMMISSION

Financed by: LIFE Programme of the European Union

Climate change adaptation of dryland agricultural systems in the Mediterranean area

LIFE AMDRYC4 - LIFE16 CCA/ES/000123

A JOINT REFLECTION ON DESERTIFICATION AND CLIMATE CHANGE

I INTERREGIONAL MEDITERRANEAN FORUM TO COMBAT DESERTIFICATION IN MEDITERRANEAN REGIONS.

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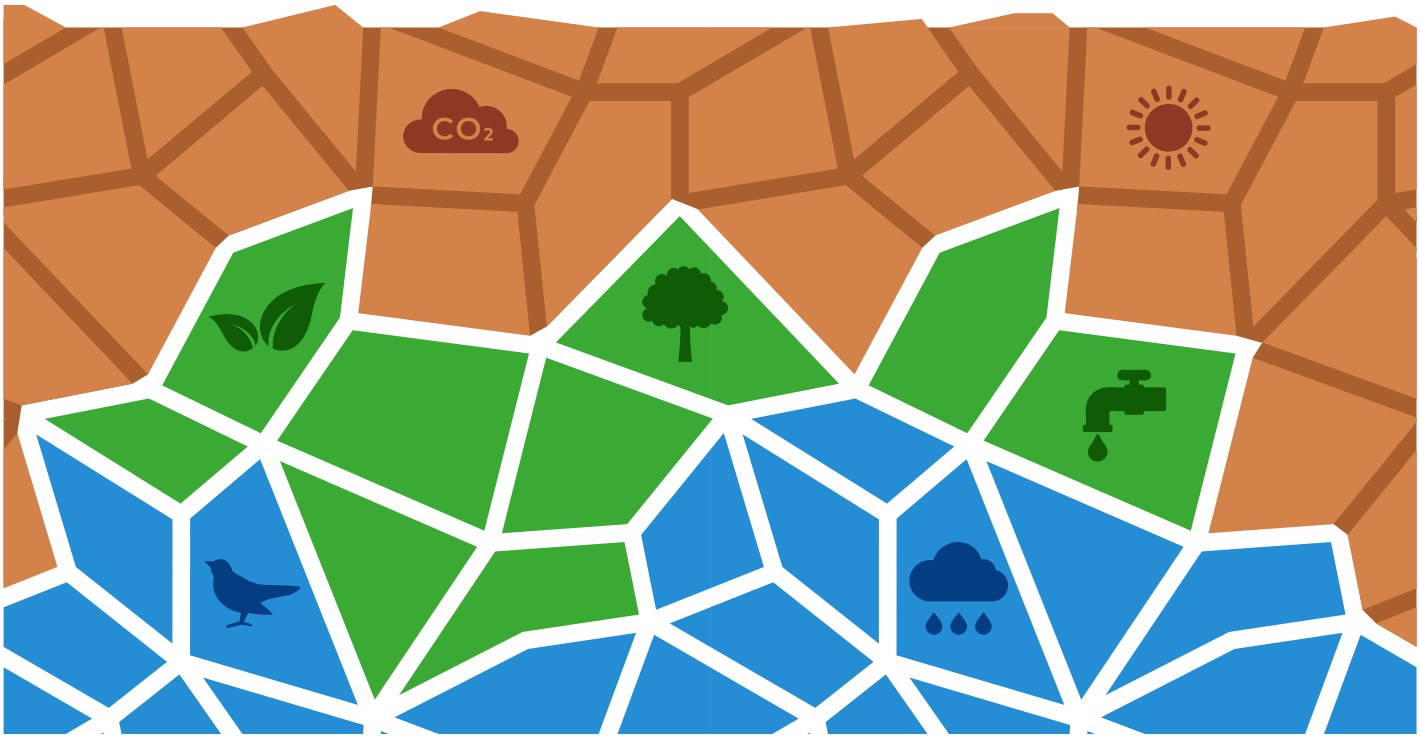

I.
Background

I. BACKGROUND

The United Nations Convention to Combat Desertification defines desertification as “the process of land degradation resulting from factors such as climate change or human activities”. Desertification is a phenomenon that involves the loss of fertile soils and the inability of ecosystems to fulfil their regulatory function to supply goods and services, with dry arid, semi-arid areas being the most susceptible to the effect of desertification, especially those affected by excess salinity and low organic carbon.

Forecasts of climate change in southern Europe show a significant increase in the risk of desertification, especially in the regions of south-eastern Spain, southern Italy, Portugal, Greece, Cyprus and Danube delta in Romania.

That is why climate change poses itself as one of the major challenges for agriculture and food, given that the consequences of rising temperatures could alter the fragile balance in which many crops are developed.

Clearly sensitive to these phenomena are areas such as the Mediterranean, where agricultural production is particularly vulnerable due to a high proportion of poor soils with low precipitation levels. An increase in temperature accompanied by a decrease in available humidity increases the rate of aridification, especially severe in Spain, where the risk of desertification affects to varying degrees 75 % of the surface area. The direct consequences are clearly negative in rain-fed agriculture, as they would not be compensated by the stimulating effect of CO2 on photosynthesis.

The fight against desertification must therefore include approaches and proposals from all the sectors involved, in particular the agricultural sector, and sectors linked to water resources management. Efforts to combat desertification should be part of integrated land use in arid and semi-arid areas, mostly rain-fed, for the prevention and reduction of land degradation, the rehabilitation of partially degraded land, and the recovery of already deserted land.

II.
THE CASE OF THE REGION OF MURCIA

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The territory of the Murcia Region, one of the warmest and driest semi-arid regions in Europe, is a clear example of this situation.

In the Region of Murcia, there are two well-marked seasons (summer and winter) separated by two other transition seasons (spring and autumn). In the period from 1961 to 2018 the average temperature has increased by 0.7 C, rising from around 16.3 C to 17 C, in an upward trend, more marked in the last 40 years. On the other hand, Murcia is one of the regions with the highest sunshine in Spain, exceeding the average of 2,800 hours and the average temperatures among the highest in mainland Spain, this set of factors makes the region have a strong evapotranspiration that implies a high water deficit.

The predominant climate in the Region of Murcia is the semi-arid Mediterranean, with average annual rainfall of less than 350 mm, with high torrentiality and areas defined in the National Atlas of Spain (ANE) as desert climate according to Köppen's classification.

Recent studies carried out at the Murcian Institute for Agricultural Research and Development, based on data from the ANE's water balance, place Murcia in the most unfavourable position in mainland Spain, followed by the provinces of Almería and southern Alicante.

Applying this methodology to the agricultural districts of mainland Spain can be seen that the areas with the highest deficit are mainly in the southeast of Spain.

Potential evapotranspiration is very high. As for the soil moisture regime, it can be considered aridic in general, becoming xeric at altitudes above 800 m in umbria areas and in some other areas of drainage of water in wetter microclimate, especially in the Northwest area. For the temperature regime it is considered to be mechanical or thermal depending on the areas concerned.

The potential area of cultivation in the Region of Murcia has been reduced by 25 % in the last ten years, especially in the rain-fed area, which is undoubtedly unfavourable in a territory seriously affected by erosive processes resulting from the advance of desertification, with annual soil losses of up to 19 million tonnes of soil, which amounts to 16.6 tonnes per hectare.

The climatic and soil characteristics of the Murcia rainforest allow it to be classified as ultra-dry.

III.
LOOKING FOR SOLUTIONS: THE LIFE AMDRYC4 PROJECT

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In this context, it is not surprising that the Region of Murcia is a pioneer in the design of pilot projects for the implementation of measures to combat desertification, including the LIFE AMDRYC4 project (Adaptation to climate change of dry agricultural ecosystems in the Mediterranean area associated with the Carbon 4 per thousand strategy).

This project is developed in Mediterranean dry agricultural soils in arid and semi-arid areas, where the problems of climate change, according to the models studied, predict an increase in temperatures of between 2 and 4 °C, which will be more pronounced in summer and in the interior. As a result, there would be an increase in the duration of heat waves, which would extend up to 15 to 20 days, as well as a decrease of almost 20 % in the number of frost days. Annual rainfall will decrease by 5-10 %. In any case, the combined effect of these variations will represent a clear decline in available water resources towards the end of the century.

The main objective of the LIFE AMDRYC4 project is to promote and promote adaptation to climate change by rainfed agriculture in Mediterranean areas and to strengthen its mitigating role as carbon sinks, increasing soil organic carbon as set out in the 4 per 1000 initiative.

Agriculture is thus a strategic sector within the perspectives of climate change, which contributes to climate change, but at the same time can be highly affected by climate change. In southern Europe (Spain, Portugal, Greece, Italy, southern France, etc.), agriculture shares the same threats and problems that are addressed in this PROJECT: increase in temperatures, decrease in available water, drought, which will lead to a decrease in productivity, as well as vulnerability to other factors such as pests, erosion, desertification. With existing predictions of climate change, Mediterranean rainfed agriculture is at risk of disappearing in many areas, with the terrible consequences of desertification in the territories, migrations and famines.

Another objective is that the results of the project can serve as a reference, in the application of future European strategies in the framework of “Carbon Farming” and “Fit to 55”, based on the increase of carbon absorption and obtaining ecosystem benefits, to enhance the territory of the rainforest avoiding the threat of desertification so marked in the regions of the Levant Spain (Murcia, Almería and Alicante).

IV.
OBJECTIVE OF THE EVENT: COLLABORATION PROPOSAL

IV. OBJETIVO DEL EVENTO

We believe that these strategies that we are promoting under LIFE AMDRY could also be implemented in other areas at risk of desertification and drought such as southern Portugal, southern Italy, south-eastern Greece, Malta, Cyprus and the Black Sea riparian areas in Bulgaria and Romania.

In this sense, the election of Spain as the venue for the celebration on 17 June of the Day of Desertification and Drought 2022 within the framework of the United Nations Convention to Combat Desertification (UNCCD) can be a great opportunity to hold a meeting in Murcia with representatives of regions equally vulnerable to desertification.

During this meeting, possible strategies for the management and sustainable use of resources in the fight against desertification and land degradation and their synergistic effects with other ecosystem services, such as climate change adaptation and mitigation and biodiversity conservation, will be discussed.

Likewise, the development of methodologies and indicators to assess the transformative impacts produced in the increase of carbon (initiative 4 per thousand), on ecosystem services of natural capital and the fight against desertification of Mediterranean dry agricultural soils will be addressed.

A discussion on the possible governance of the proposed system is particularly necessary, through the analysis of financial instruments for the sustainability of the project after its completion (voluntary agreements with diffuse sector, among others) that allow sustainable, integrated and smart growth in rural dry-growing areas.

Undoubtedly, the success of these measures involves informing, sensitising and incentivising the actors involved in the sustainability of dry farming systems that will lead to a change in entrepreneurial attitude and culture.

The idea of this event is therefore twofold:

- On the one hand, to share our challenges and reflect on possible actions and strategies for the sustainable management and use of resources in the fight against desertification and land degradation, as well as their synergistic effects with other ecosystem services, such as climate change adaptation and mitigation and biodiversity conservation.

- We also believe that the conclusions of this event can be an added-value contribution to the current work related to the Carbon Farming and the “Fit to 55” package.

In short, we would like to lay the foundations for structured collaboration between European regions that face the same challenges and we can and must work together, to work for effective joint solutions.

V.
ANNEX I

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The LIFE project "Adaptation to climate change of dry agricultural systems in the Mediterranean area" was requested in the LIFE 2016 call for specific sub-programme for Climate Action. The project addresses the priority areas identified by the EU, including key objectives of the EU Climate Change Adaptation Strategy, and its implementation will be a link with the lines set out in the Europe 2020 and 2050 Strategy, promoting smart, sustainable and inclusive development.

In AMDRYC4, sustainable multisectoral measures and the development of new techniques for adapting to climate change in Mediterranean rainfed agriculture will be implemented, with an inclusive approach, extrapolable and transferable mainly to regions of the Mediterranean basin, with similar needs in the agricultural sector.

The main objective of this project is to promote and promote climate resilience of rainfed agriculture in Mediterranean areas and its sustainable, smart and integrated management as a basic tool for ecosystem-based climate change adaptation (AbE), and to strengthen its mitigating role as carbon sinks to make them sustainable and persistent.

The aim is to carry out organic farming in rain-fed crops, with conservative agricultural practices.

The organic matter to be added shall be that found in geographically closest areas, whether of animal or plant origin, composted if possible, or crushed, which will promote the circular economy of rural areas.

As a result of the increase in organic matter in the soil, the 4 per thousand initiative will be met, with the consequent mitigation of climate change, and also with the ecosystem services that will be more favorable, and the transformative impacts are valued.

All this will lead us to a valuation of the soil as natural capital, not taken into account so far by the various organisations.

The introduction of natural vegetation in all possible areas along with crops will promote the biodiversity of each agricultural area.

All this will be carried out in parallel with an efficient use of resources and a system of governance where the voluntary agreements and the agricultural custody of the territory, to be created, will be the catalysts.

In order to achieve the objectives pursued in the LIFE AMDRYC4 project, a number of actions have been proposed, grouped mainly in 5 lines:

I. PREPARATORY ACTIONS.
Recovery of organic waste.

II. IMPLEMENTATION ACTIONS.
Sustainable cultivation techniques that foster resilience to climate change. Monitoring of transformative impacts

III. PROJECT IMPACT MONITORING ACTIONS.
Contribution to initiative 4 per thousand and carbon sinks (Climate Change Mitigation). Quantify ecosystem services.

V. ANNEX I

IV. COMMUNICATION AND DISSEMINATION OF RESULTS.

Promotion and advice on the development of Adaptation (AEB) projects. Dissemination and communication, training for interested audiences, in charge of replicating the techniques and methodology of the project.

V. PROJECT MANAGEMENT ACTIONS.

Efficient project management, continuous monitoring of proposed success indicators and assessment of progress against initial projections.

Expected results:

1. Adaptation to climate change of dry agricultural ecosystems, with an ecosystem- based approach, (AbE), demonstrate that it is an opportunity to integrate biodiversity into the world of agriculture, with an efficient and economic sense, and to raise awareness of the opportunities it brings.

2. Climate change mitigation: The Initiative of 4 per thousand carbon increase per year in Mediterranean dry agricultural soils is launched, to which Spain acceded at the last Conference of the Parties to the United Nations Framework Convention on Climate Change in Paris in November 2015. Methodological tools for quantification and cost-benefit assessment will be provided.

3. Quantification of ecosystem services.

4. The development of a procedure for the creation of the Register of Carbon Credit Compensation for the Broad Sector and the Market for Adaptation or Mitigation Projects for Dry Farms, which may finance public or private funds, through the signing of voluntary agreements between farmers and the administration, is noteworthy.

5. The above points will have an impact on sustainable water management and combating desertification in these areas so vulnerable to drought

6. The socio-economic benefits will influence job creation, rural development, one of the main objectives of the project, which is the fixing of population to the territory, and the activation of the circular economy.

7. Throughout the project, better climate governance is supported with the participation of civil society, NGOs, etc., involving stakeholders to join this initiative to value rain-fed agriculture as a carbon sink and ecosystem services, through citizen initiative participation, through the signing of voluntary agreements, and the assistance of the Territory's Custody Entity.

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Life

AMDRY C4

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