Adaptation and mitigation measures to climate change in the Ebro Delta

COORDINATING BENEFICIARY

Institut de Recerca i Tecnologia Agroalimentàries - IRTA

PARTNERS

- Agència Catalana de l'Aigua
- Consorci Concesionari d'Aigües per als Ajuntaments i Indústries de Tarragona – CAT
- Comunidad de Regantes y Sindicato Agrícola del Ebro – CRSAE
- Institut Cartogràfic i Geològic de Catalunya - ICGC
- Oficina Catalana del Canvi Climàtic – OCCC
- Universidad de Córdoba - UCO

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DESCRIPTION

The project LIFE EBRO-ADMICLIM puts forwards pilot actions for adaptation to and mitigation of climate change in the Ebro Delta (Catalonia, Spain), an area vulnerable to sea level rise and subsidence. We propose an integrated approach for managing water, sediment and habitats (rice fields and wetlands), with the multiple aim of optimizing ground elevation (through inputs of inorganic sediment and organic matter), reducing coastal erosion, increasing the accumulation (sequestration) of carbon in the soil, reducing emissions of greenhouse gases (GHG), and improving water quality. The idea is to jointly manage the inputs of inorganic and organic matter (i.e. sediment and plant residues respectively) of the ground, in order to optimize vertical accretion processes (soil formation) and organic matter decomposition (GHG emissions) in rice fields and in constructed wetlands. This type of approach has not been applied so far in the European Union, and it is clearly innovative internationally.

OBJECTIVE

The main objective of LIFE EBRO-ADMICLIM project is to develop a plan of action that is specifically focused on the adaptation of a very vulnerable coastal area (Ebro Delta) to climate change. The project is the first to implement a series of demonstrative actions that integrate the objectives of both adaptation and climate change mitigation. The main pilot adaptation actions focus on sediment inputs from the Ebro River into its Delta. The aim is to demonstrate the feasibility of permanently restoring the sediment flow, both from a water treatment plant on the Ebro (CAT) and from the reservoirs along the lowest stretches of the Ebro. Essential for this is a good assessment of the transport capacity of the river and the channels. Pilot actions are also proposed for the rice fields and wetlands, to optimize carbon and nutrient sequestration and GHG emissions, and increase the ground elevation.

Results will serve to establish guidelines for a program of adaptation and mitigation measures (with emphasis on the rice sector) in which it will be essential to design a strategy for voluntary reduction of GHG emissions commanding the support of the rice sector. Improved rates of GHG emissions and carbon sequestration through a change in management practices (for example, a more efficient water management system) would represent a significant improvement that could be applied in other coastal wetlands and rice fields in the EU.

INDUSTRIES

Rice sector

Water treatment plants

Water authorities – Spanish and Autonomic Administrations

MORE INFORMATION

http://www.lifeebroadmiclim.eu/en/