THE CLIMATE CHANGE GLOBAL AND EUROPEAN POLICY

International action is essential since climate change knows no national boundaries.
The European Union was instrumental in the development of the United Nations Framework Convention on Climate Change (1992) and Kyoto Protocol (1997), which limits greenhouse gas emissions from developed countries (EU, 2014).
However, today more than half of the world's emissions are caused by developing countries. The international community is therefore drawing up a new UN climate agreement that requires action is taken by all nations and is scheduled to enter into force in 2020.
The European Commission's role in tackling climate change includes:

- Developing and implementing of EU climate action policies and strategies.
- Representing of EU in international climate negotiations together with the Presidency of the Council of the EU.
- Implementing of the EU Emissions Trading System (ETS).
- Monitoring the EU countries' implementation of emission reduction targets in sectors outside the ETS.
- Promoting the transition to a low-carbon economy based on clean technologies.
- Implementing the EU strategy for adaptation to climate change and supporting Member States' activities in this area.
- Managing the EU budget, 20% of which is earmarked to support climate action.

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LIFE 14 CCA/GR/00389 - AgroClimaWater

Promoting water efficiency and supporting the shift towards a climate resilient agriculture in mediterranean countries

Project LIFE14 ENV/GR/000389 – AgroClimaWater is implemented with the contribution of the LIFE Programme of the European Union and project beneficiaries

THE CLIMATE CHANGE

The Earth's climate is changing. The average global temperature is rising due to the increase of greenhouse gas emissions from human activities (EU, 2014).
The last century average surface temperature has increased by about 0.8 °C globally, while Europe has experienced an even higher increase (1.4 °C).
The higher temperatures are :

- Causing glaciers to melt and sea levels to rise.
- Causing floods or droughts to regions previously unaffected by such extremes.
- Having an increasing impact on our economies, environment, health and daily lives.

AGRICULTURE'S ADAPTATION TO CLIMATE CHANGE is imperative

Agriculture, the most vulnerable to climate conditions economic sector, will experience severe impacts from climate change in the near future. Summer water availability may fall by 20-30% under a 2°C temperature increase scenario and by 40-50% under a 4°C scenario (Stern p. 123).
Higher temperatures coupled with reduced water availability will result in a significant decrease of agricultural production, up to 30% in some areas of southern Europe, by 2100 (http://peseta.jrc.ec.europa.eu/docs/ Agriculture.html).

LIFE AgroClimaWater OBJECTIVES

The LIFE AgroClimaWater project's main objective is to promote water efficiency and support the shift towards climate resilient agriculture in Mediterranean countries through the development of water management adaptation strategies in three Farmers' Organizations (FORs) in two areas in Crete, Greece (Platanias and Mirabello) and one in Basilicata, Italy (Metapontino).
The key objectives are:

- Development and implementation of Water Management Adaptation Strategies at FORs level.
- Determination and application of agricultural practices that increase water efficiency in the cultivation of perennial crops.
- Establishment of pilot farms adapted to water scarcity.
- Building adaptive capacity of farmers and FORs to climate change: information, awareness and training.
- Informing and raising awareness of competitive water users regarding climate change impacts, on a sub-basin level.
- Dissemination of the proposed strategies to be implemented by farmers and FORs in the target areas and other areas facing similar climate challenges.
- Incorporation of the project's results in the European and national environmental, climate change and agricultural policy and legislation.

PROJECT'S APPROACH

The project LIFE AgroClimaWater puts into practice the EWS standard of the European Water Partnership (EWP) in Farmers Organizations for the development and implementation of water management systems and adaptation strategies to climate change, which include:

1. Good Agricultural Practices at farm scale to enhance water efficiency and adaptability of perennial crops (olives, citrus,fruits and peaches) to climate change.
2. Governance actions to be implemented by the FORs in order to achieve equitable and transparent water governance.
3. Floods and droughts action plan to ensure preparation and response to environmental incidents caused by the climate change.

EUROPEAN WATER STEWARDSHIP (EWS) STANDARD

The voluntary compliance EWS standard of the European Water Partnership provides concrete assistance for water users to become Good Water Stewards in their river basin. It is based on and organized in four Principles that promote: Sustainable Water Abstraction, Good Water Status, High Conservation Value Area protection and Equitable Water Governance. Water users that evaluate and adjust their performance according to the EWS standard will have incorporated all the essential points in their water management strategy for continuous improvement!

More information about EWS standard in EWP website:

www.ewp.eu/stewardship

THE PROJECT AGRICULTURAL PRACTICES

In the frame of LIFE AgroClimaWater, agricultural practices are going to be implemented in ten (10) orchards per pilot area to improve water management. These practices are expected to:

1. **Reduce water evaporation losses from soil.**
   Practice: mulching.
   Potential water losses reduction up to 60%.
2. **Reduce transpiration water losses.**
   Practices: appropriate summer and winter pruning and weed mowing.
   Potential water losses reduction up to 30%.
3. **Reduce deep percolation water and nutrient losses.**
   Practices: Increase of soil organic matter and fertigation.
   Potential water and nutrient losses reduction up to 30%.
4. **Reduce surface runoffs.**
   Practices: maintenance of natural vegetation in rainy season and introduction of barriers perpendicular to the slope.
   Potential water losses reduction up to 50% and soil losses reduction up to 90%.
5. **Reduce irrigation water consumption.**
   Practices: Irrigation based on meteorological data, application of deficit irrigation and optimization of irrigation system.
   Potential reduction of irrigation water losses up to 20%.

The effectiveness of the cultivation practices on enhancing water use efficiency and trees' productivity will be evaluated through application on the field and monitoring for a period of three years.

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LIFE AgroClimaWater

Water efficient use to adapt to climate change and secure LIFE on Earth!