

Construction Works for the Artificial Enrichment of the Carstic System of Ypereia and Orfana

Summary

Surface waters storage works, irrigation networks redesign and artificial recharge of underground aquifers significantly contribute to sustainable irrigation water management when environmental concerns are taken into account in the design process.

Background

Water shortage is a significant problem for the irrigation of the areas of Ypereia and Orfana (region of Thessaly). Irrigation is based on groundwater extraction, which consumes increasing amounts of energy as the aquifer level constantly decreases.

Objective

The project with EAFRD funds aims to: i) increase the aquifer levels so that there will be sufficient water supply for the irrigation needs; ii) decrease the electrical consumption for extracting the ground waters as the level of the aquifer rises; and iii) monitor the quantity and quality of the water resources.

Main activities

The key activities to achieve the project objective are: i) the construction of a small dam with fortified cement to withhold the Enippeas river flow; ii) the implementation of protective works for the water course and riversides; iii) a water transfer canal and enrichment tunnel with shafts on its floor; iv) measuring stations of the Enippeas river flow and drilling to monitor the aquifer; and v) the installment of four automatic monitoring stations of the water resources.

Results & Benefits

The main expected benefits include: i) efficiency of water for irrigation and improvement of the quality of the produce; ii) job creation due to guaranteed water supply; iii) improvement of the quality of water for irrigation due to enrichment and continuous monitoring. Further, the decrease of the energy consumption by the irrigation water pumps for extracting water is envisaged to have financial and environmental benefits.

Lessons learnt

Such projects are beneficial for farmers and in parallel they contribute to the sustainable utilisation of the natural resources and the decrease of the consumed electricity and corresponding gas emissions.

Project location

Larisa / Karditsa

Region

Thessalia

RDP Territory

Greece

Total project cost (€)

6.940.000

EAFRD contribution (€)

4.918.378

National contribution (€)

2.021.622

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At a glance**Country**

Greece

Final beneficiary type

Individual farmers, Producer groups

Budget range

> €500.000

Start date:

01/11/2008

End Date:

31/12/2012

Theme / Measure:

- Competitiveness of Agriculture & Forestry
- Restructuring, developing physical potential, and promoting innovation
- 125. Infrastructure related to the development and adaptation of agriculture and forestry

Keywords:

Aquifer, Ground water, Infrastructure, Irrigation, Emission reduction

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