



Incentives and technologies for improving irrigation water use efficiency

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The European Water Framework Directive requires Member States to set water prices that provide adequate incentives for users to use water resources efficiently. These new water pricing policies need to consider cost recovery of water services, including financial, environmental and resource cost. Prices were supposed to have been set by 2010. So far the record has been mixed. The European Commission has sent reasoned opinions to a number of countries (Austria, Belgium, Denmark, Estonia, Finland, Germany, Hungary, Netherlands, Sweden) requesting them to adjust their national legislation to include all water services. Unbalanced water pricing may negatively affect the agricultural sector, especially in the southern EU countries, which are more dependent on irrigation water for production.

The European Commission is funding several projects that aim to reduce the burden of increasing water prices on farmers by developing innovative technologies and decision support systems that will save water and increase productivity. The FP7 ENORASIS project (grant 282949) has developed a new integrated irrigation management decision support platform, which include high-resolution, ensemble weather forecasting, a GIS widget for the location of fields and sensors and a comprehensive decision support and database management software package to optimize irrigation water management. The field component includes wireless, solar-powered soil moisture sensors, small weather stations, and remotely controlled irrigation valves. A mobile App and a web-package are providing user-friendly interfaces for farmers, water companies and environmental consultants.

In Cyprus, agricultural water prices have been set to achieve a cost recovery rate of 54% (2010). The pricing policy takes in consideration the social importance and financial viability of the agricultural sector, an important flexibility provided by the Water Framework Directive. The new price was set at 0.24 euro per m³ for water supply from the government irrigation network, with an additional fixed fee of 66.10 euro per ha per season. This is a substantial increase from the 0.17 euro per m³ and 17.10 euro per ha fixed fee. The price for individual abstractions has been set at 0.11 euro per m³. However, these new prices have not yet been approved by the Parliament.

Agriculture in Cyprus is highly fragmented. The average farm size is 3.5 ha, while each farm holds on average 5 parcels (agricultural census of 2003). Stakeholder interviews indicated that, in general, small farmers in Cyprus have not considered investments in advanced irrigation scheduling technologies to counter balance the loom of higher water prices. However, the picture is different for large producers. A large citrus producer was interested in testing the ENORASIS technology. The first season of measurements indicated that water can be used more efficiently and that the ENORASIS system provides an important tool for reducing on-farm irrigation water use.