

Work Package 5

Monitoring and evaluation of outputs

Deliverable 5.6.3

Evaluation of the environmental and social benefits

Beneficiary 6 (PB6) - Municipality of Petrich

**INTERREG V-A COOPERATION PROGRAMME:
GREECE – BULGARIA 2014-2020**

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Summary Report

A technical expertise was assigned to HIDRORESURS LTD Company in fulfillment of the contract "Performance of technical services in implementation of the project „Groundwater REsource managemENT for non-Potable water pUrposes, baseMent protection, and heating - Pilot application" to assist in the drafting of evaluation of the environmental and social benefits for Petrich municipality.

An analysis regarding the environmental and social benefits of the implementation of the new ground water facility for the municipality of Petrich is carried out.

The village of Kavrakirovo is a village in Southwestern Bulgaria, Petrich municipality, Blagoevgrad district. The population of the village, according to the last census (GRAO, 2015-03-15), is 1,592 people, and according to the latest data, it continues to grow.

The village has a fully developed water supply network, which is supplied with water for drinking and household needs from two water-ground facilities - tube wells "SK-1" and "SK-2", according to the order issued by the Director of the Basin Directorate "West Aegean Region" - Permit for water withdrawal from underground water No. 1676/12.09.2003 with a final term of validity until 12.09.2028. According to the parameters of the permit - for drinking and household purposes of the population, an average annual flow rate of up to 400,000 cubic meters/year is allowed.

For the irrigation of about 3,800 decares of arable agricultural lands in the land of the village of Kavrakirovo and the neighboring village of Parvomai, the Director of the Basin Directorate "West Aegean Region" issued a permit for water abstraction from surface waters No. 0839/10.04.2002 with a deadline effective until 04/10/2006. Water intake for irrigation of the agricultural areas was carried out from the Strumeshnitsa River, through the Mendovo-Kavrakirovo irrigation systems. According to the parameters of the permit, an average annual flow rate of up to 1.1 million cubic meters/year was allowed for irrigation. At this moment, there is no assured water supply for agricultural lands in the area for irrigation purposes.

The main purpose in connection with the implementation of the project is the new groundwater facility to be used for irrigation and to collect data from monitoring of groundwater extracted for irrigation.

The area of the Sandanski-Petrich valley, and in particular the village of Kavrakirovo, is one of the driest and poorest in terms of precipitation during the summer period, with the average monthly value for the period being below 50 mm. The underground water from the new groundwater facility is intended to be used for irrigation of about 70% of the area of a land property of the village of Kavrakirovo, municipality of Petrich, representing "Pasture" in a permanent way usage.

The activities of the Municipality of Petrich are related to the improvement of the currently vacant property, providing irrigation facilities, with the aim of providing sufficient grass cover for grazing animals (cows, goats, sheep, horses) of the local population of the village of Kavrakirovo or for mowing and storing as fodder for the animals during the cold months of the year. This will increase the productivity and sustainability of the pasture, have a positive impact on controlling soil erosion and increase the water holding capacity of the soil.

The construction of the aquifer facility and the use of extracted water for irrigation will result in saving drinking water for the population of the village of Kavrakirovo during the summer months.