

## **Action A.1 - Assessment of the sectoral water demand in Malta and Gozo**

The action produced a number of reports; these included one baseline report analysing and assessing the sectoral water demand for the past 50 years, in order to characterize (quantitatively/qualitatively) key components affecting water demand in the four (4) main water sectors and one report concerning the development of an econometric model for the four (4) main water sectors (domestic, agricultural, industrial, tourism) at a regional level.

### **Results of the Study**

The main results for each deliverable which emerged out of the study included the following:

#### **Deliverable 1**

- Domestic water consumption in the Maltese islands has increased by around 120% in the last 50 years (from about 9.4 to 22.4 million m<sup>3</sup> per year).
- Irrigation water consumption in the Maltese islands is characterized by an increasing trend in the last 50 years. Specifically, the mean yearly irrigation water consumption in the Maltese islands has been increased from 3.2 million m<sup>3</sup> in the 1970s to 23.2 million m<sup>3</sup> in the 2010s.
- Livestock water consumption in the Maltese Islands has increased by around 70%, i.e. from about 810,000 m<sup>3</sup> to 1.4 million m<sup>3</sup>, over the last 50 years.
- Overall consumption of tourism water (referring to collective accommodation) in the last 50 years has increased by more than 400% (about 430% in Malta and 70% in Gozo and Comino), i.e. from about 270,000 m<sup>3</sup> in 1969 to 2 million m<sup>3</sup>, in 2018.
- Water consumption for all other services but tourism increased from 630,000 m<sup>3</sup> to 3.7 million m<sup>3</sup>.
- Overall consumption for industrial water increased by more than 180% in the Maltese islands, over the past 50 years (i.e. from about 1.2 million m<sup>3</sup>, in 1969, to 3.5 million m<sup>3</sup>, in 2018).

#### **Deliverable 2**

- Development of an econometric model of water demand for the four (4) main water sectors (domestic, agricultural, industrial, tourism) at a regional level for all local administrative unit (LAU) systems.
- Three different types of forecasting models were developed, namely: annual univariate models, monthly univariate models and annual multivariable (econometric) models. The use of these forecast models is to predict future water demand and design and test water policies to satisfy this demand.

### Deliverable 3

- Validation of the sensitivity of the econometric water demand model developed in the framework of the 2<sup>nd</sup> Deliverable (Univariate and Econometric Models).
- Changes in demography, socio-economics and environmental factors utilised as the main drivers in order to test model sensitivity.
- Parameters of the domestic, agricultural, industrial and tourist sectors that affect water demand in Maltese islands were identified and analysed. For each identified key parameter in all examined sectors, three potential future scenarios were developed, and the following scenarios were considered:
  - Baseline scenario
  - Best-case scenario
  - Worst-case scenario