

Project: Decision Support System for Global Water Balance- BSB00734 – GwB)

Project Partners: Lead Partner – Tekirdağ Namık Kemal University (Türkiye), Burgas Regional Tourism Association (Bulgaria), International Association "Civitas Georgica" (Georgia), and the Xanthi Chamber of Commerce and Industry (Greece).

Agriculture is a major consumer of water resources, and the major cause of water consumption in agriculture is irrigation. Irrigated land represents 20% of the cultivated land worldwide but 40% of the food production. Farming activities account for almost 70 % of global water withdrawals, reaching as much as 95% in some developing countries. Therefore, this action aims to develop a simulation model with an adaptive real time control and agent-base modelling components to overcome the problem of soil infiltration temporal and spatial variability, which will support increase water use efficiency of 10% leading to large water savings, introduce a considerable potential for sizeable reductions in non-beneficially consumed water (54–76%) and significant increases in crop water productivity (9–15%) through transitions from surface to sprinkler or drip systems, by 2050.

In this respect, expected results of the action will be: 1- A new decision support system for global water balance (Dss-GwB) composed of two components that will serve as a coupled model for extending its scope by considering more irrigation-related factors or adding different crops to optimize water allocation strategies and crop yields to simulate farmers' decision making. 2- Built capacity among, (a) farmers to improve their understanding and appreciation of irrigation management as the main factor that affect crop yields and water use by making crop development independent from rainfall, and of increasing water usage efficiency (WUE) to decrease the amount of water used in attaining expected yields, through an Agent-Based Modelling Education Programme (ABMEP); (b) senior professionals for developing their capacity to include good organisations and strong institutional structures within which individuals can work effectively, and an enabling environment that encourages successful irrigation development, through implementation of Formal Training Courses (FTC).

As for the programme's financial support, the total project budget is 948.986,41 EURO, in which the programme funding is 854.087,75 EURO, the other public contribution is 77.184,38 EURO and the private contribution is 17.714,28 EURO.