



Introducing the participatory approach in FREEWAT



Key Policy Messages

- ✓ The importance of combining technical objectives and stakeholder participation in the River Basin Management Plan
- ✓ A timeline to the objective and the need for a collaborative environment
- ✓ Stakeholders' participation: a new challenge for ICT in Water Resource Management

WHAT H2020 FREEWAT is

FREEWAT is an HORIZON 2020 project financed by the EU Commission, aiming at promoting water resource management through innovative ICT tools and participatory approach.

Main result of the project is the free and open-source FREEWAT software: a QGIS integrated environment, where several simulation codes, based on the hydrological cycle, hydrochemical or economic-social processes, are integrated in a unique GIS project for conjunctive use of surface- & ground-water.

This Policy Brief is part of series of seven whose goal is to illustrate the FREEWAT approach and achievements.



Technical objectives and stakeholder participation in the River Basin Management Plan

By means of numerical models scenarios, the FREEWAT platform can help decision and policy makers to get scientifically and technically sound solutions, based on the available data.

The participatory approach is a method to include stakeholders during the design phase of River Basin Management Plans (RBMPs), within the context of the Water Framework Directive (WFD).

The formation of RBMPs, when appropriately performed, may need high level analysis, which usually requires several months to produce results. These achieved results, in turn, may include a relevant number of uncertainties – meaning that in the end there is not an unique solution to a certain issue. Stakeholders (environmental protection agencies, water utilities, environmental associations, local authorities, farmers associations, etc.) are asked to provide their views and suggestions. When stakeholders are involved once results are achieved, it is very difficult to take into account their comments, although reasonable, as this may mean revamping the analysis from the beginning.

Within the H2020 FREEWAT project, an experiment was performed. It consisted in running the technical analysis along with stakeholders in dedicated meetings.

At each FREEWAT case study, stakeholders joining a dedicated Focus Group were asked to participate to seven meetings. There, their views and suggestions were taken in account. Also, stakeholders had the chance to increase their understanding in water management issues. This finally helped in creating a common space to generate a shared knowledge on the value of water.



A moment of a Focus Group meeting.





• A timeline to the objective and the need for a collaborative environment

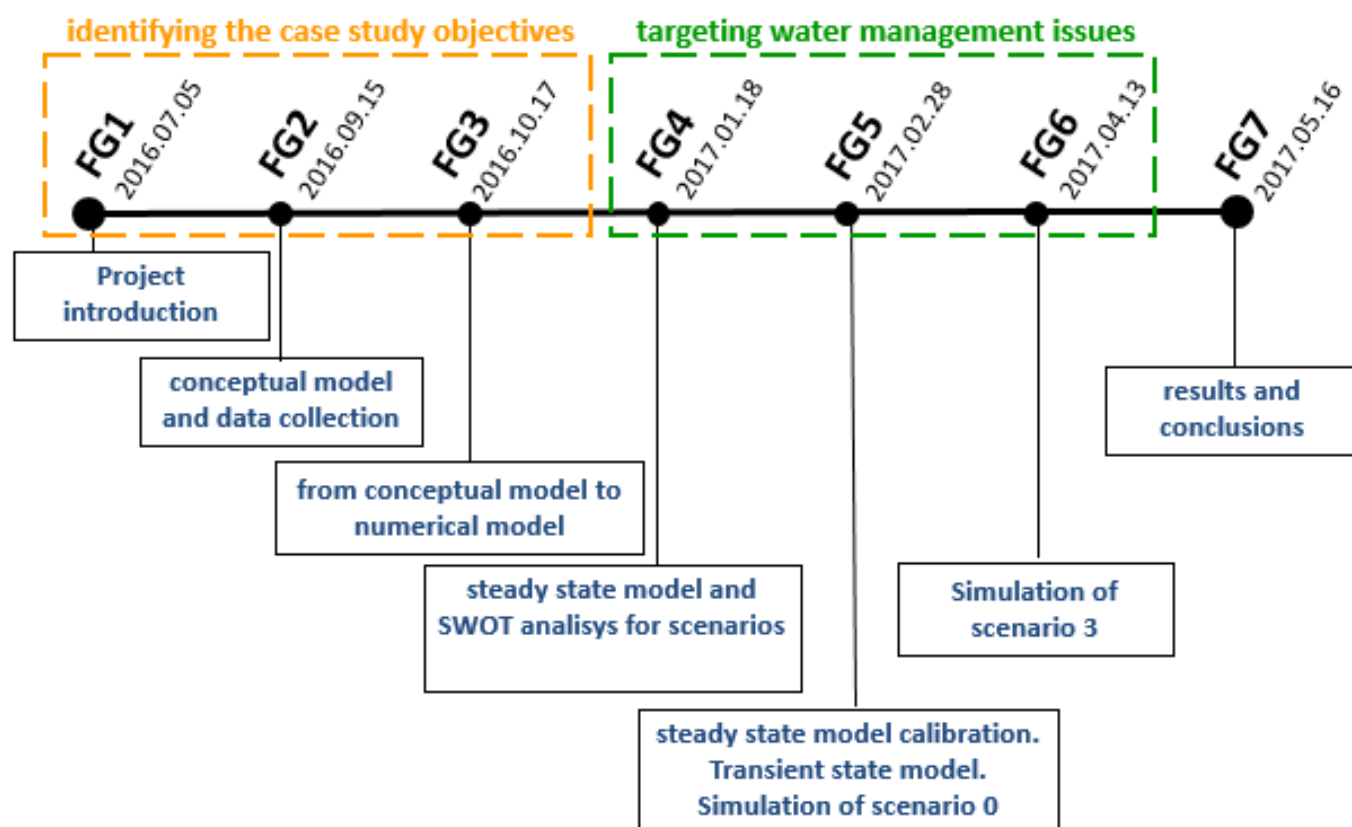
When introducing stakeholders in discussing practical issues, it is fundamental that clear objectives are set within a well defined timeframe and that a collaborative climate develops. Well-focused and 2/3 hours-long meetings are much appreciated by non-technical audience.

At the Follonica-Scarlino (Italy) case study, Regione Toscana, a regional government authority partner in the FREEWAT project, led interesting Focus Group sessions. The participatory approach experiment was divided in three blocks. In the first block (Focus Groups 1 to 3), the stakeholders were involved to identify case study objectives and to discuss data availability and reliability. The second part aimed at detailing the case study water management issues (Focus Groups 4 to 6), while the final part (Focus Group 7) was dedicated to summarize the results and to collect feedbacks. This case study concerned mainly the experimental assessment of plans and measures related to the local groundwater body in accordance with the WFD.

The RBMP compiled by Northern Apennines District Authority indicates for this groundwater body a severe quantity gap and targets the achievement of a “good” status by 2027, through series of programmed measures.

According to the problem and to the related water policies, the case study helped to test some solutions to increase groundwater resource availability and to provide a reliable support to decision makers through the participatory approach.

As a first step, understanding of i) how water management issues were perceived in the case study area, and ii) how much the stakeholders believed that new technologies could improve water management was needed. This approach helped to create a collaborative climate within the working group and to reach a shared awareness of the available datasets, in order to build the numerical model. The first effect of this participation was that the involved stakeholders, previously conflicting ones, provided themselves the missing datasets for the numerical model.



An example of meetings' timeline for running combined technical and participatory approach.



FREEWAT

Free and Open Source Software Tools for Water Resource Management
EU HORIZON 2020 Project



Stakeholders' participation: a new challenge for ICT in Water Resource Management

Introducing the participatory approach in the technical part of the game brings new challenges for ICT in Water Resource Management (WRM). The number of attendees changed from a meeting to another. In particular, a group of them, from seven to ten people, participated to almost all the seven meetings and it was the core of the Focus Group. They were local decision and policy makers, or from public universities and national research centers, water utilities and industries, geo-engineering companies and professional, agro-food industry, farmers associations, environmental associations, touristic operators, energy managers and labor unions. The case study scenarios to be tested were chosen using workgroup techniques, in particular the SWOT analysis (Strengths, Weakness, Opportunities, Threats) and brainstorming sessions. Two scenarios were simulated using the FREEWAT platform: i) the construction of a desalination plant, as alternative source of drinkable water supply, and ii) the re-use of Gavorrano mine drainage for industrial purposes.



Moments of stakeholders' participation.

Simulation results helped the participants to understand the greater or lesser effectiveness of the proposed technical solutions for the achievement of the objectives set out in the RBMP. The FREEWAT platform has proved to be a powerful tool for WRM with particular strength referring to: a) data collection and sharing, b) simulation of scenarios, c) support of planning and decision-making process, d) support in participatory and advisory procedures.

The FREEWAT project gave the opportunity to organize the huge amount of data collected for the Follonica-Scarolino groundwater body. The activities performed on the participatory approach proved to be crucial for a collaborative and synergic work with the stakeholders and among them. Moreover, this kind of approach was useful:

- to enhance quality and quantity of data available for building numerical models;
- to grow up the importance of WRM and planning, not only in emergency situations, like drought or flood events.

Important solicitations and new challenges derived also from the interaction with the stakeholders, who stated, as priority, the translation of the case study to a real-world application in the study area, as soon as possible.

REFERENCES

For further details, the reader is referred to:

Positano, P., & Nannucci, M. (2017). The H2O20 FREEWAT participated approach for the Follonica-Scarolino aquifer case study. A common space to generate shared knowledge on the value of water. *Acque Sotterranee – Italian Journal of Groundwater*. 6(3), 27-39. doi: 10.7343/as-2017-290

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