

GOTHAM co-creation workshop #2 to further develop the GTool together with stakeholders

The first co-creation workshops held during summer 2021 were aiming at understanding stakeholders' needs regarding the GTool functionalities, and assessing their views on why groundwater is depleting, what is needed, in terms of information for decision making, to help preserve water, as well as their ideas about how people will use information derived from the GTool and under what condition they would be using it. However, the main aim of the second co-creation workshop was to help each stakeholders group to choose which sub-modules they would like to have access to and what type of visualisation they need out of the various options presented by the project team. The different sub-modules are focusing on various aspects, such as water balance and quality, the prediction of water availability and demand or the managed recharge of aquifers and remediation. The co-creation workshops were conducted in Spain, Lebanon and Jordan between May and August 2022.

Campo de Dalías, Spain

The Spanish co-creation workshop was held in Almeria in early May 2022 and gathered 35 stakeholders. Most of them belonged to irrigation communities, however members of Hidralia (supplier company); the University of Almeria (university), the Consortium for the Integral Management of the Water Cycle (regulator), Agualytics, Aguas de El Ejido (supplier company) and the Central Board of Users of the Poniente Almeriense Aquifer (JCUAPA) (irrigation community) also attended. Together, they exchanged positions on the GTool's characteristics for different water users.

The workshop was developed through different working groups that discussed the different technical aspects of the GTool. Stakeholders were divided in 6 working groups of 5-6 people each. *«The high participation of all stakeholders is a clear example that it is possible to create a bottom-up tool that takes into account, above all, the irrigators,»* said Enrique Gutiérrez, manager of Cetaqua Andalucía.

The workshop started with a brief overview of the project, the team presented each of the GTool submodules one after the other to the stakeholders. Each presentation was followed by a short question and answers session which enabled the stakeholder to fill in a A3 poster with the purpose of sharing their needs and interests with regards to each submodule. During the second part of the workshop, each group filled a new template with an agreed summary of their inputs. This summary was then presented to the audience.



This meeting was also an opportunity to hold a panel discussion, moderated by Damian Sanchez, project manager of the Water Resources Management area of Cetaqua and GOTHAM. Hidralia, the University of Almeria, the Consortium for the Integrated Management of Water Cycle, Agualytics, Aguas de El Ejido and the Central Board of Users of the Poniente Almeriense Aquifer (JCUAPA) met to discuss how to achieve an effective governance of water resources with a specific focus on groundwater.

Finally, José Antonio Salinas, professor at the University of Almeria (UAL) and director of the Chair of Water in Agriculture, Irrigation and Agri-food at the same university, stressed the importance of the GOTHAM project to enable joint management of groundwater with the public administration, irrigators, managers and researchers.

Iaat Baalbeck-Hermel, Lebanon

At the beginning of the workshop, Project Manager for the Lebanese use case Hussein Hoteit, welcomed the participants and briefly presented the GOTHAM project and the consortium and gave a brief overview of the workshop methodology and agenda.

In total, 27 stakeholders participated in this second co-creation workshop and were divided in 3 groups:

- **Group 1** : 8 end users of water: including farmers and urban consumers.
- **Group 2** : 10 water producers: including well owners and water distributors.
- **Group 3** : 9 regulators and experts: including representatives of the relevant Ministries and administration, municipality, and experts specialized in water related field.

In each group, a moderator was animating the discussion while a second person was designated on behalf of the group to take notes and to present the group results during the plenary session.



Following, the modules and sub-modules of the GTool were presented respectively by the hydrogeology expert and the project manager. An explanation of each sub-modules, their objective, results, and the visualisation options were presented. On an individual sheet, the participants wrote down if they were interested in the sub-module, their preferred visualisation options, and also had the opportunity to indicate if they had any other ideas. Many participants expressed their views and needs and asked different questions.

The second part of the workshop was aiming at finding a consensus amongst each group, so they filled a final "group sheet" (poster size) with the common choice of the group, gathering all the individual comments. Afterwards, each group presented their choices and views by presenting their poster to the other groups.

Finally, the experts participating in the workshop provided interventions and explanations regarding several areas related to groundwater. The Mayor of Iaat Hussein Abdul-Sater concluded with a speech that stressed the importance of preserving groundwater and reducing water wastage by reliance to alternative sources.

Azraq Basin–Zarqa, Jordan

The co-creation workshop took place early August at the City Hall – Azraq Municipality and began with an introduction from Dr Luna Al-Hadidi, Project Manager for the Jordan use case, in cooperation with the socio-economic directorate at the National Agricultural Research Center (NARC). The Director of the Groundwater Aquifers at the Ministry of Water and Irrigation was present during the workshop.

Around 25 stakeholders were gathered for the workshop:

- end-users (farmers, female households and NGOs),
- policy makers
- reserve managers.

Participants were divided into three groups in order to receive the presentation of the GTool sub-modules.

Along with translating the stakeholders' expectations into the GTool through the submodules developed by Engineering and Cetaqua, this second co-creation workshop aimed to build and reinforce the Community of Practice around ground water management and presented the opportunity to present the latest developments and difficulties facing the establishment of the Irrigation Water Users Association.

Next steps

Each partner (Cetaqua, ICU and NARC) will assess the results of their respective workshops, this analysis will be available through a public deliverable that will be shared through the project's website. The GOTHAM team will use this assessment to adapt the design of the GTool. Finally, a third and final co-creation workshop will be organised during the autumn 2022 for users to assess a first beta version of the GTool. Stay tuned !



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