



Name of the Workshop: TALANOA-WATER 2nd Lebanese National Scientific Workshop for Stakeholders 'Litani River Watershed Scenarios and Strategies'

Date of the Workshop: April 27, 2023

Location of the Workshop: Gefinor Rotana Hotel, Beirut, Lebanon

Duration of the Workshop: 9:00AM to 4:00PM

Organized by: Dr. Hadi Jaafar and Rim Hazimeh, Lebanese Water Laboratory – American University of Beirut

Synthetic Minutes of the TALANOA-WATER 2nd Lebanese National Scientific Workshop for Stakeholders 'Litani River Watershed Scenarios and Strategies'

Short description of the event (max 10 lines)

Within the framework of the implementation of the project activities, the American University of Beirut, in partnership with the University of Salamanca, organized the second Lebanese National Science Policy Workshop for Stakeholders for one day on April 27, 2023, in Beirut.

The workshop aims to:

- Bring together stakeholders involved the most in the management of water resources in the Litani River Basin to discuss relevant scientific themes.
- Discuss water resources problems in the basin and assess the effectiveness of the identified measures.
- Guide scientists in the design of strategies for the management of the watershed and evaluate measures based on environmental, economic, and social performances.

Workshop Summary (one page max)

The workshop was held on Thursday April 27, 2023, at the Gefinor Rotana Hotel, Beirut, Lebanon. The workshop brought together 12 participants and 4 facilitators/researchers, 2 of which are organizers from the Lebanese lab, and 2 are partner researchers from the University of Salamanca. The workshop consisted of 4 presentations and a serious game.



Impactful stakeholders represented 11 organizations including: the South Lebanon Water Establishment, Beirut Mount Lebanon Water Establishment, the Bekaa Water Establishment, North Lebanon Water Establishment, Litani River Authority, Bekaa farmers, independent environmentalists, the Lebanese University, the Lebanese Agricultural Research Institute (LARI), the American University of Beirut, and the Food and Agriculture Organization (FAO).

The workshop brought together experts from Lebanon and Spain to implement a serious game with the Lebanese stakeholders and discuss its role in enhancing water governance and management in the Litani River Basin. Following the reception and registration of the participants, Dr. Hadi Jaafar, Associate Professor and Chairperson of the Department

of Agriculture at the American University of Beirut opened the workshop and welcomed all stakeholders by introducing the meaning of Talanoa 'having an open and honest conversation where everyone is involved, shares their stories and opinions, and listens to each other', and marking the goal of the workshop in promoting strategies that are effective in making a positive impact on the society, the economy, and the environment. Participants performed a round of introduction as an icebreaker and expressed their interest in water management and attending such workshops for shaping water policies in Lebanon. Dr. Carlos Dionisio Pérez-Blanco, coordinator of TALANOA-WATER from the University of Salamanca, presented the project.

Ms. Rim Hazimeh from the American University of Beirut presented the objectives of the workshop and discussed the problem identification and ranking process that was co-produced with stakeholders, and later put forward the organization of the workshop. After the coffee break, Dr. Javier Sierra Pierna from the University of Salamanca gave a



presentation on the concept of a serious game and its role in decision-making. A group stakeholder discussion on stakeholder objectives and watershed management issues took place. The serious game was played and facilitated by Dr. Javier Sierra Pierna and Dr. Dionisio Pérez-Blanco. The serious game consisted of 2 live polls, 3 strategy selection surveys, and 2 survey rounds (1 pre-workshop and 1 during the workshop), and a dossier.



After lunch, the debriefing session on game outcomes, reflection, and evaluation was held, and a glimpse of the next serious game design was presented by Dr. Pierna. The Spanish and Lebanese teams facilitated the open stakeholder rounds of discussion, which aimed to identify strategies for transformative adaptation to water scarcity under climate change in the Litani River Basin. The pre-built scenarios were improved and rectified by incorporating several cycles of input on their realism, consistency, and impact on agriculture and water management in the basin. The workshop ended with the round of stakeholders' feedback on the serious game design and overall engaging experience. Overall, the group discussions and serious game played during the workshop provided valuable insights into stakeholder objectives and watershed management issues and

identified potential strategies for enhancing water governance and management in Lebanon.

The Workshop in Bullet Points (one page max)



- Following the strategy selection surveys, participants tended to favor measures with an economic focus in the initial round. However, in the subsequent two rounds, there was a shift towards selecting environmental strategies.
- Stakeholders expressed the need for the engagement of ministry representatives in similar workshops.
- Most participants agreed that it was better to view the impacts of the measures in a comparative manner rather than assessing them individually.
- During the problem identification poll, heavy pollution from untreated waste in the basin was ranked as the most pressing issue in the first round of questioning. The second-ranked concern was the demographic explosion, while the decrease in summer flows was ranked third.
- In a poll aimed at prioritizing actions to improve the situation, respondents ranked wastewater treatment as the top priority, followed by water pricing in second place, and technological innovation for water saving in third place.
- Participants expressed that stakeholders are often guided by their bylaws and the regulations of their respective organizations.

Key messages to WPs (specify task/s the message is targeted wherever possible)

WP1 – ENGAGE

1.2. In upcoming workshops, it is planned to prioritize the involvement of farmers and representatives from the ministries, as they were either under-represented or absent in the previous workshop. A gender-balanced representation of organizations should also be maintained in upcoming dialogues.

To improve the serious game, it is suggested that the motivation of stakeholders be included in its initial stages. In the second workshop, participants stressed the importance of acknowledging the difference in motivation between a researcher and a stakeholder.

WP2 – DATA

2.1. Continue leveraging on remote sensing technologies in the design of adaptation strategies and in the refinement of the modeling framework to inform evidence-based decision-making. This should include the use of open-access databases, which can facilitate sharing and integration of data across different stakeholders and sectors.

WP3 – MODELING

3.1. To enhance modeling efforts, it is recommended to engage in in-depth discussions with stakeholders regarding the feasibility and limitations of the projected simulations. This will help to identify areas that require improvement and ensure that the modeling accurately reflects the needs and priorities of stakeholders.

3.2. The scenario building exercise, which was based on the strategy selection surveys, proved useful in identifying the stakeholders' inclination towards preferred measures. However, in future workshops, it is advisable to evaluate the impact of these measures in a comparative manner rather than assessing them individually.

WP4 – LABORATORIES

4.2. The stakeholders were involved in a joint evaluation of the proposed measures, taking into consideration their environmental, economic, and social impacts, as well as the estimated implementation costs. To promote empathy and encourage diverse perspectives in the dialogue, the upcoming workshop will feature a renewed card-based serious game developed by USAL.

Subject to feasibility, a targeted meeting could be arranged with farmers from various districts within the Litani River Basin to hear their experiences and gather their opinions on the different strategies identified.

WP5 – EXPLOIT

5.2. The progress of the project will be shared and utilized across various international conferences, including the EAERE 2023 conference. Stakeholder efforts are underway to further disseminate information and facilitate action within their respective organizations. The water laboratory's project activity news is disseminated during and after the workshop on the lab's [Twitter](#), [LinkedIn](#), and [Blog](#) profiles.

The Workshop Agenda and participants (Annex)

Workshop Agenda

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| 08:45 – 09:00 | Registration |
| 09:00 – 09:20 | Welcome remarks and opening of the workshop
<i>Dr. Hadi Jaafar, Associate Professor and Chairperson of the Department of Agriculture, American University of Beirut (AUB)</i> |
| 09:20 – 09:40 | Presentation of the TALANOA-WATER project
<i>Dr. Dionisio Pérez-Blanco, Distinguished Researcher, University of Salamanca (USAL)</i> |
| 09:40 – 09:50 | Objectives and organization of the workshop
<i>Rim Hazimeh, MSc, AUB</i> |
| 09:50 – 10:20 | Coffee Break |
| 10:20 – 10:40 | Overview of the Concept of a Serious Game and its role in decision making
<i>Dr. Javier Sierra Pierna, Applied Economics, USAL</i>
<i>Dr. Dionisio Pérez-Blanco, USAL</i> |
| 10:40 – 10:50 | Q&A on serious game |
| 10:50 – 11:30 | Group discussion on stakeholder objectives and watershed management issues |
| 11:30 – 13:30 | Serious Game |

Dr. Javier Sierra Pierna, USAL

Dr. Dionisio Pérez-Blanco, USAL

- 13:30 – 14:30 Lunch
- 14:30 – 15:00 Debriefing session on game outcomes: Reflection and Evaluation
Spanish and Lebanese Teams
- 15:00 – 15:45 Focus group discussion: identification of strategies
- 15:45 – 16:00 Closure of workshop

List of Participants (16)

Full Name	Organization
Abbas Baalbaki	Independent environmental researcher and activist
Alamjad Salameh	South Lebanon Water Establishment
Antoine El Khoury	Beirut Mount Lebanon Water Establishment
Carlos Dionisio Pérez-Blanco	University of Salamanca
Hadi Jaafar	Organizer, American University of Beirut
Hassana Ghanem	Lebanese University
Ihab Jomaa	Lebanese Agricultural Research Institute (LARI)
Isam Bashour	Department of Agriculture, American University of Beirut
Javier Sierra Pierna	University of Salamanca
Mey Jurdi	Department of Environmental Health, American University of Beirut
Mohammad Ali Jaafar	Bekaa Farmer
Nassim Abou Hamad	Litani River Authority
Nisrine Abdallah	North Lebanon Water Establishment

Nour El Korek	Food and Agriculture Organization (FAO)
Rim Hazimeh	Organizer, American University of Beirut
Zeinab Chehadeh	Bekaa Water Establishment