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## Economic and Social Commission for Western Asia (ESCWA)

Mashreq Waters Knowledge Series  
Disruptive Technologies for Improved Groundwater Management in the Mashreq Region  
15-17 June 2021

### INFORMATION NOTE

#### I. BACKGROUND

In the water stressed Mashreq region, reliance on groundwater is continuously increasing. In some countries such as Jordan and Lebanon, groundwater is already the primary source of fresh water. In others, groundwater use has been increasing as a response to increased demand and competition over use of surface water by various users, climate change induced variability in surface water sources, improved accessibility to groundwater and surface water quality issues. A significant share of this groundwater is used to support agricultural production.

Climate change is expected to impact water availability and variability due to changing temperature and precipitation patterns, as well as extreme and unpredictable weather events, thereby adding pressures on water-dependent sectors. Climate change is further affecting groundwater availability through decreased aquifer recharge and increased pumping to offset the decline in surface water availability.

The Mashreq Waters Knowledge Series was launched by the World Bank and the United Nations Economic and Social Commission for Western Asia (ESCWA) to foster discussion on opportunities and challenges for utilizing disruptive technologies and innovative tools for improved water resources management in the Mashreq region. The first workshop on Building Capacity for Accessing Disruptive Technologies for Improved Water Resources Management under Climate Change (January 2020)<sup>1</sup> focused on how regional knowledge platforms, joint scientific assessments and regional climate projections can provide a common knowledge base for strengthening water resources management in the Mashreq region. The second workshop in the series focused on the Economic Implications of Climate Change and Water Scarcity in the Mashreq Region (December 2020)<sup>2</sup> and expanded the discussion to include consideration of economic and productivity assessment tools related to the agricultural sector in the face of climate change and increased water scarcity. This third workshop in the series focuses on how disruptive technologies may be utilized to inform and improve the management of groundwater in the region in the face of a multitude of challenges including over abstraction, quality deterioration and climate change.

Disruptive technologies can play a role in alleviating these regional challenges by offering new sources of information and allowing for more advanced analytics benefiting from artificial intelligence, cloud computing and machine learning. Awareness of and access to these innovative technologies can help governments both benefit from and cope with groundwater resource challenges under dynamic climate conditions. Disruptive technologies can also facilitate more integrated approaches to water resources management. This is facilitated by innovation during the data collation stage benefiting from big data of various scales from remote to in-situ, and through the analysis stage and the use of knowledge tools and products that benefit the end user in making more informed and timely decisions for the management of water resources under dynamic environments.

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<sup>1</sup> <https://www.unescwa.org/events/disruptive-technologies-water-management-climate-change>

<sup>2</sup> <https://www.unescwa.org/Economic-Implications-Climate-Change-Water-Scarcity-Mashreq>

## II. OBJECTIVES OF THE MEETING

The meeting aims to identify challenges, opportunities, and innovative approaches for utilizing disruptive technologies for improved groundwater resources management in the Mashreq region. The discussions will benefit from the World Bank Mashreq Groundwater Disruptive Technologies e-book that examines available disruptive technologies and their use for improving groundwater resources management.

The meeting will allow professionals to also exchange experiences and best practices to support peer-to-peer learning and improve capacity in a range of areas, including use of disruptive technologies for monitoring groundwater resources, data management, analysis and visualization, and groundwater knowledge frameworks.

Finally, the meeting will also present examples of disruptive technologies from around the globe that have improved groundwater resources management in view of identifying potential opportunities for drawing upon these innovative tools that could be beneficial for the Mashreq region.

## III. PARTICIPANTS

The meeting will gather senior officials and technical experts from government institutions responsible for water resources management in the Mashreq region from Iraq, the Islamic Republic of Iran, Jordan, Lebanon, the Syrian Arab Republic and Turkey. This includes representatives from ministries and agencies responsible for water, agriculture and planning. Experts from the World Bank, United Nations organizations and international organizations will support the meeting as well as resource persons from expert institutions.

## IV. ORGANIZATION OF THE MEETING

The meeting is organized by ESCWA with the support of the World Bank and will be held from 15 to 17 June 2021. The meeting will be conducted online. A dedicated web link will be provided to nominated participants and speakers prior to the meeting. The meeting is expected to begin at 14:00 and conclude by 17:30 Beirut time (GMT+2) each day. The online link will be open as of 13:30 each day to test audio and video connections. Arabic-English, Farsi-English and Turkish-English interpretation will be available during the meeting.

Nominated representatives will receive the final meeting agenda and draft list of participants prior to the meeting. All meeting documentation and presentations will be provided in the English language. Interpretation will be available during the meeting.

## V. CORRESPONDENCE

Inquiries and completed registration forms should be submitted to the following meeting focal points:

### ESCWA

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