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

AGENDA

Tuesday, 15 June 2021

13:30 – 14:00 Online Check-in
The meeting will be conducted online. A dedicated web link will be provided to nominated participants and speakers prior to the meeting. It is recommended to test your audio and video connections and interpretation settings with the meeting organizers 15-30 minutes prior to the opening session.

Opening Session and Introduction

Moderator: Ms. Carmen Nonay, Practice Manager, Water MENA Region, The World Bank

14:00 – 14:10 Opening Statements

• Mr. Saroj Kumar Jha, Regional Director, Iran, Iraq, Jordan, Lebanon and Syria, The World Bank
• Ms. Rola Dashti, Under-Secretary-General of the United Nations and Executive Secretary, United Nations Economic and Social Commission for Western Asia (ESCWA)

14:10 – 14:20 Review of Workshop Objectives and Agenda

• Mr. Anders Jägerskog, Senior Water Resources Management Specialist, Water MENA Region, The World Bank

14:20 – 14:35 Tour de Table

• Moderated by Mr. Ziad Khayat, Coordinator, IWRM for Improved Water Security, Climate Change and Natural Resources Sustainability Cluster (CCNRSC), ESCWA

Session I Overview of Disruptive Technologies for Improved Groundwater Management


14:35 – 14:55 Overview of Groundwater Status Globally and in the Mashreq, Institutional Governance, Challenges and Opportunities

• Mr. Ziad Khayat, ESCWA
  - Mr. Nagaraja Rao Harshadeep, Global Lead (Disruptive Technology), Environment, Natural Resources and Blue Economy Global Practice, The World Bank

15:15 – 15:40 Discussion
15:40 – 15:50 Break

**Session II  Measuring the Unseen, from Field to Space**

Moderator: Ms. Esha Zaveri, Water Economist, Global Solutions Water Unit, The World Bank

15:50 – 16:05 In-Situ Monitoring: State of the Art
  - Mr. Mark Heggli, Hydromet Expert, Innovative Hydrology

16:05 – 16:20 Groundwater from Space
  - Mr. Venkataraman Lakshmi, Professor, Engineering Systems and Environment, University of Virginia

16:20 – 16:35 Discussion

16:35 – 16:50 Leveraging Earth Observations and Machine Learning for Sustainable Groundwater Management
  - Mr. Norm Jones, Professor and Chair, Civil and Environmental Engineering, Brigham Young University

16:50 – 17:05 Groundwater in Water Accounting: Evapotranspiration from Space
  - Mr. Wim Bastiaanssen, Professor, Civil Engineering and Geosciences, Delft University of Technology

17:05 – 17:30 Discussion and Wrap Up of Day 1
  *Reflections from country representatives*

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**Wednesday, 16 June 2021**

**Session III  Country Presentations**

Moderator Mr. Ziad Khayat, ESCWA

14:00 – 15:30 Examples from the Region, Challenges and Opportunities in the Use of Disruptive Technologies
  - Representative from Iran
  - Representative from Iraq
  - Representative from Jordan

Discussion
  - Representative from Lebanon
  - Representative from Syrian Arab Republic
  - Representative from Turkey

Discussion
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<thead>
<tr>
<th>Time</th>
<th>Session IV</th>
<th>Data Management, Analysis and Visualization</th>
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<td>15:30-15:40</td>
<td>Break</td>
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<td>15:40 – 16:00</td>
<td>Interactive Session on Illustrative Tools and Knowledge Base from e-book</td>
<td>World Bank Disruptive KIDS (Knowledge, Information and Data Services) Helpdesk</td>
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<td>16:00 – 16:15</td>
<td>Discussion</td>
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<td>16:15 – 16:30</td>
<td>Open Source Online Hydrologic Analysis Leveraging Disruptive Technology</td>
<td>Mr. Jim Nelson, Professor, Civil and Environmental Engineering, Brigham Young University and Mr. Michael Souffront, Software Engineer, AquaVeo.</td>
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<td>16:30 – 16:45</td>
<td>Technology and Groundwater: Reinforce the Basics</td>
<td>Ms. Lucy Lytton, Senior Water Resources Management Specialist, World Bank and Mr. Francois Bertone, Senior Water Resources Management Specialist, World Bank</td>
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<td>16:45 – 17:00</td>
<td>Discussion</td>
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<td>17:00 – 17:15</td>
<td>Coupled Human–natural System Analysis of Freshwater Security Under Climate and Population Change in Jordan</td>
<td>Mr. Steven Gorelick, Professor, Department of Earth System Science, Stanford University, California, USA</td>
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<td>17:15 – 17:30</td>
<td>Groundwater Modelling and Climate Change in Beni-Amir Aquifer, Tadla Complex, Morocco</td>
<td>Mr. Abdelkader Larabi, Director of Regional Water Centre of Maghreb, Mohammed V University in Rabat, Rabat, Morocco</td>
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<td>17:30 – 17:45</td>
<td>Discussion and Wrap Up of Day 2</td>
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**Thursday, 17 June 2021**

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<th>Time</th>
<th>Session V</th>
<th>Innovative Approaches to Groundwater Management</th>
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<td>14:00 – 14:15</td>
<td>Keynote: Climate Action and a Green, Resilient and Inclusive Recovery</td>
<td>Cross-sectoral Opportunities for Groundwater Management</td>
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<td>14:15 – 14:25</td>
<td>Discussion</td>
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<td>14:25 – 14:40</td>
<td>Innovative Groundwater Storage and Managed Aquifer Recharge</td>
<td>Mr. Albert Tuinhof, Groundwater Expert</td>
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14:55 – 15:10 Well-designed Solar Irrigation Options
  • Mr. Tushar Shah, Researcher Fellow, International Water Management Institute (IWMI)

15:10 – 15:25 Discussion

15:25 – 15:30 Break

Session VI  Groundwater Knowledge Frameworks


15:30 – 15:40 Mashreq Data Portal
  • Mr. Nagaraja Rao Harshadeep, The World Bank

15:40 – 15:55 Global Groundwater Information System
  • Mr. Arnuad Sterckx, Researcher, International Groundwater Resources Assessment Centre (IGRAC)

15:55 – 16:05 Discussion

16:05 – 16:20 World-wide Hydrogeological Mapping and Assessment Programme (WHYMAP)
  • Mr. Stefan Broda, Head of Unit, Spatial Information on Groundwater, Federal Institute for Geosciences and Natural Resources (BGR)

16:20 – 16:35 Africa Groundwater Atlas and Transboundary South Asia Groundwater
  • Mr. Alan MacDonald, Principal Hydrogeologist, British Geological Survey

16:35 – 16:45 Break

Session VII  Closing Reflections

Moderator: Mr. Ziad Khayat, ESCWA

16:45 – 17:10 Roundtable discussion: Operationalizing Groundwater Technologies in the Mashreq
  • Facilitated by Ms. Amal Talbi, The World Bank

17:10 – 17:20 Summary of Key Next Steps
  • Facilitated by Mr. Anders Jägerskog, The World Bank

17:20 – 17:30 Closing Remarks
  • Ms. Jennifer Sara, Water Global Director, The World Bank
  • Ms. Roula Majdalani, ESCWA