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ORIGINAL: ENGLISH

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

Moderator: Ms. Amal Talbi, Lead Water Resources Management Specialist, Water MENA Region, The World Bank

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

- *Mr. Ziad Khayat, ESCWA*

14:55 – 15:15	Overview of the Mashreq Groundwater Disruptive Technologies E-book <ul style="list-style-type: none"> • <i>Mr. Nagaraja Rao Harshadeep, Global Lead (Disruptive Technology), Environment, Natural Resources and Blue Economy Global Practice, The World Bank</i>
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 <ul style="list-style-type: none"> • <i>Mr. Mark Heggli, Hydromet Expert, Innovative Hydrology</i>
16:05 – 16:20	Groundwater from Space <ul style="list-style-type: none"> • <i>Mr. Venkataraman Lakshmi, Professor, Engineering Systems and Environment, University of Virginia</i>
16:20 – 16:35	Discussion
16:35 – 16:50	Leveraging Earth Observations and Machine Learning for Sustainable Groundwater Management <ul style="list-style-type: none"> • <i>Mr. Norm Jones, Professor and Chair, Civil and Environmental Engineering, Brigham Young University</i>
16:50 – 17:05	Groundwater in Water Accounting: Evapotranspiration from Space <ul style="list-style-type: none"> • <i>Mr. Wim Bastiaanssen, Professor, Civil Engineering and Geosciences, Delft University of Technology</i>
17:05 – 17:30	Discussion and Wrap Up of Day 1 <i>Reflections from country representatives</i>

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 <ul style="list-style-type: none"> • Representative from Iran • Representative from Iraq • Representative from Jordan <p>Discussion</p> <ul style="list-style-type: none"> • Representative from Lebanon • Representative from Syrian Arab Republic • Representative from Turkey <p>Discussion</p>

15:30-15:40 Break

Session IV Data Management, Analysis and Visualization

Moderator: Mr. Nagaraja Rao Harshadeep, The World Bank

15:40 – 16:00 Interactive Session on Illustrative Tools and Knowledge Base from e-book

- *World Bank Disruptive KIDS (Knowledge, Information and Data Services) Helpdesk*

16:00 – 16:15 Discussion

16:15 – 16:30 Open Source Online Hydrologic Analysis Leveraging Disruptive Technology

- *Mr. Jim Nelson, Professor, Civil and Environmental Engineering, Brigham Young University and Mr. Michael Souffront, Software Engineer, AquaVeo.*

16:30 – 16:45 Technology and Groundwater: Reinforce the Basics

- *Ms. Lucy Lytton, Senior Water Resources Management Specialist, World Bank and Mr. Francois Bertone, Senior Water Resources Management Specialist, World Bank*

16:45 – 17:00 Discussion

17:00 – 17:15 Coupled Human–natural System Analysis of Freshwater Security Under Climate and Population Change in Jordan

- *Mr. Steven Gorelick, Professor, Department of Earth System Science, Stanford University, California, USA*

17:15 – 17:30 Groundwater Modelling and Climate Change in Beni-Amir Aquifer, Tadla Complex, Morocco

- *Mr. Abdelkader Larabi, Director of Regional Water Centre of Maghreb, Mohammed V University in Rabat, Rabat, Morocco*

17:30 – 17:45 Discussion and Wrap Up of Day 2

Thursday, 17 June 2021

Session V Innovative Approaches to Groundwater Management

Moderator: Ms. Roula Majdalani, Cluster Leader, CCNRS; Director, Arab Centre for Climate Change Policies, ESCWA

14:00 – 14:15 Keynote: Climate Action and a Green, Resilient and Inclusive Recovery

Cross-sectoral Opportunities for Groundwater Management

- *Ms. Ayat Soliman, MENA Regional Director for Sustainable Development, The World Bank*

14:15 – 14:25 Discussion

14:25 – 14:40 Innovative Groundwater Storage and Managed Aquifer Recharge

- *Mr. Albert Tuinhof, Groundwater Expert*

14:40 – 14:55 Innovative Electricity-Groundwater Management in India – The case of Paani Bachao Paise Kamao (PBPk)

- *Mr. Mohinder Gulati, Energy Expert, The World Bank (Retd.)*

- 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

- Moderator Ms. Elvira Broeks, Water and Sanitation Specialist, Water, Middle East and North Africa, The World Bank
- 15:30 – 15:40 Mashreq Data Portal
- *Mr. Nagaraja Rao Harshadeep, The World Bank*
- 15:40 – 15:55 Global Groundwater Information System
- *Mr. Arnuaud 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 Break*
- 16:35 – 16:45 Discussion

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