

Prof. Muna Yacoub Hindiye

Professor of Water and Environmental Engineering | German Jordanian University (GJU), Amman, Jordan

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Nationality: Jordanian | Languages: Arabic (native), English (fluent, C1) | Over 60 Scopus-indexed publications



RESEARCH PROFILE AND RELEVANCE TO WEF-ADAPT

Prof. Hindiye is a leading Jordanian expert in Water-Energy-Food (WEF) nexus governance, water and environmental policy, gender and social dimensions of water security, and applied water microbiology. She brings a unique combination of technical depth (water quality, wastewater reuse, AWH governance) and institutional leadership (former Secretary General Assistant at the Water Authority of Jordan; Royal Court policy adviser; WHO, World Bank, USAID consultant) that directly addresses WEF-ADAPT's research on institutional pathways and social vulnerabilities. As National Technical Lead for Jordan's WEF Nexus Dashboard at the National Center for Security and Crisis Management (NCSCM, 2021-2024), she designed and deployed the real-time cross-ministry dashboard that WEF-ADAPT will extend with governance and social vulnerability layers. As Co-PI of the DFG-funded KIWEF project (2022-2024), she led stakeholder consultations and cross-border policy analysis with German and Jordanian teams. Her Fulbright Scholar year at NC State (2018-2019) and her sustained WHO/UNDP/World Bank consultancy roles confirm her capacity for translational, policy-oriented research at the nexus of water, environment, and social equity. She is ranked among Jordan's top 10 scientists in Water and Environmental Science (AD Scientific Index, 2024) and was named GJU's Distinguished Professor of the Year 2024.

EDUCATION

1992-1995	Ph.D. in Water and Environmental Engineering, University of Newcastle Upon Tyne, England
1985-1987	M.Sc. in Water Microbiology, University of Jordan, Amman, Jordan
1980-1984	B.Sc. in Biology, University of Jordan, Amman, Jordan

ACADEMIC AND PROFESSIONAL POSITIONS

Sep. 2008 - present **Professor, Water and Environmental Engineering Dept., Sustainability Systems Engineering School, GJU**

Head of Department 2009-2011. Exchange Coordinator 2015-2019. Teaching WEF Nexus, Water Policy and Law, Water Management in the Middle East, Environmental Engineering, Wastewater Reuse, and Water Quality courses at BSc and MSc level. Supervision of over 30 MSc and PhD theses.

Oct. 2024 - Oct. 2025 Dean of Engineering School, ISRA University, Jordan

Jun. 2011 - Jun. 2014 Secretary General Assistant for Water Quality and Laboratories, Water Authority of Jordan / Ministry of Water and Irrigation

National-level leadership of water quality monitoring, laboratory systems, and regulatory policy across Jordan.

Jan. 2004 - Aug. 2008 Director, Socio-Economic and Environmental Unit; Director, Strategic, Policies and Planning Unit, National Council for Family Affairs, Royal Court

Sep. 2002 - 2008 Chairperson, Environmental Science Department, Jordan University of Science and Technology (JUST)

1987 - 2000 Researcher, Royal Scientific Society — Established Environmental Research Center and Water/Wastewater Laboratory

FUNDED RESEARCH PROJECTS

National Technical Lead: WEF Nexus Dashboard, Jordan — NCSCM

Duration: 2021-2024 (12 full-time months). Led the architecture design and deployment of Jordan's national real-time WEF Nexus dashboard at the National Center for Security and Crisis Management (NCSCM), integrating data from five ministries (Water, Energy, Agriculture, Environment, Planning) to guide national nexus-based decision-making. System is operationally used in national drought and energy crisis response. WEF-ADAPT will build upon this infrastructure to add governance and social vulnerability data layers.

Co-PI: KIWEF: Key Drivers for Technology Innovation to Improve Water, Energy, and Food Security in Jordan

DFG, EUR 25,000, 2022-2024. Led stakeholder consultations and innovation system assessments; delivered cross-border policy analysis with German and Jordanian teams. Research presented at the First International Conference on Sustainable Water Management and Resource Adaptation (Universite Paris Cite, November 2024) and published in *Advances in Science, Technology and Innovation (ASTI)*, Springer.

PI (GJU): C2WASH: Community-Centered WASH MSc Program for Sustainable Regional Cooperation

IHE Delft / Netherlands Ministry of Foreign Affairs, EUR 250,000, 2026-2028. Curriculum development, student/staff exchanges, and policy dialogues for WASH professionals. Emphasises social justice, ecological sustainability, and capacity building.

PI (GJU): Climate-Resilient Cities — DAAD

DAAD, total ~EUR 107,000 over three cycles (2018-2022). Coordinated exchange with Koblenz University of Applied Sciences; delivered workshops on sustainable urban planning and climate-resilient infrastructure. Led GJU team.

Co-Coordinator (GJU): EGREEN: Environmental Engineering Courses with Climate Change Integration

Erasmus+, total grant EUR 1,006,583 (GJU share EUR 67,000), 2016-2019. 13 partners (EU, Syria, Jordan). Developed environmental engineering online courses for Jordanian and Syrian universities.

Project Coordinator: Empowerment of Jordanian Women Academics

MEPI / US Embassy, USD 101,000, 1 year. Research on barriers and motivators for women in Jordanian academia. Led by Jordanian Association for Women Academics (AJWA). Directly informs WEF-ADAPT's gender and social vulnerability analysis.

Consultant: WHO, World Bank, USAID, UNDP, UNIDO

Sustained multi-agency consultancy on water policy, sanitation, corporate environmental responsibility, and water safety planning across the MENA region.

SELECTED PUBLICATIONS MOST RELEVANT TO WEF-ADAPT

WEF Nexus, Water Governance and Climate Adaptation:

1. Albatayneh, A., Hindiyeh, M., Jaradat, M., Haberkamp, J., & Ziegler, D. (2026). Key Drivers for Technology Innovation to Improve Water, Energy, and Food Security in Jordan. In *Water Security, Management, and Energy Nexus (ASTI)*. Springer. https://doi.org/10.1007/978-3-032-06709-8_14
2. Hindiyeh, M., Albatayneh, A., & Al Amawi, R. (2023). Water-Energy-Food Nexus to Tackle Future Arab Countries Water Scarcity. *Air, Soil and Water Research*, 16, 1-16. <https://doi.org/10.1177/11786221231160906>
3. Albatayneh, A., Hindiyeh, M., & AlAmawi, R. (2022). Potential of renewable energy in water-energy-food nexus in Jordan. *Energy Nexus*, 7, 100140.
4. Albatayneh, A., Al-Omary, M., Jaradat, M., Bdour, M., Al-Khasawneh, Y., Hindiyeh, M., & Aljarrah, R. (2025). Water-energy nexus dilemma for hydrogen production in water-scarce regions. *Energy Nexus*, 19, 100463.

Water Security, Gender and Social Dimensions:

5. Al Bawab, A., Dajani, R., Akroush, L., ..., Hindiyeh, M., et al. (2024). Jordanian Women in Academia: Barriers and Motivators in Scientific Research and Promotion. *Journal of International Women's Studies*, 26(1), Article 14.

6. Hindiye, M., et al. (2021). Preparedness Plan for the Water Supply Infrastructure during Water Terrorism: A Case Study from Irbid, Jordan. *Water/MDPI*, 13(20), 2887. <https://doi.org/10.3390/w13202887>
7. Hindiye, M., & Oghlenian, T. (2023). *Informal Sector of Solid Waste Management in Jordan: Waste Pickers. Health of Livable Cities*. IEREK Press.

Desalination, Renewable Energy and Water-Food Systems:

8. Hindiye, M., Albatayneh, A., Altarawneh, R., Jaradat, M., et al. (2021). Sea Level Rise Mitigation by Global Seawater Desalination Using Renewable-Energy-Powered Plants. *Sustainability*, 13(17), 9552. <https://doi.org/10.3390/su13179552>
9. Hindiye, M., Jaradat, M., Albatayneh, A., et al. (2022). Sustainable Green University: Waste Auditing, GJU as a Case Study. *Frontiers in Built Environment*, 8, 884656. <https://doi.org/10.3389/fbuil.2022.884656>

Water Policy and Rainwater Harvesting:

10. Hindiye, M., Matouq, M., & Eslamian, S. (2021). Rainwater Harvesting Policy Issues in the MENA Region: Lessons Learned, Challenges, and Sustainable Recommendations. In *Handbook of Water Harvesting and Conservation*. Wiley. <https://doi.org/10.1002/9781119478911.ch30>

AWARDS AND PROFESSIONAL RECOGNITION

July 2024: Ranked among Jordan's top 10 scientists in Water and Environmental Science and Engineering — AD Scientific Index World Scientists Ranking.

October 2024: Distinguished Professor of the Year 2024, German Jordanian University.

March 2023: Jordan Engineering Association First Level Award for supervised graduation project (Green Sustainable Hotels in Jordan).

February 2021: Jordan Engineering Association Third Level Award for supervised project (Sustainable Green University, GJU).

2018-2019: Fulbright Scholar Visitor, North Carolina State University, Civil and Environmental Engineering Department (wastewater treatment and reuse).

2010: HM Queen Rania AIT Scholarship, The Art and Science of Negotiation, Harvard University (Prof. Brian Mandell).

Steering Committee Member: National Implementation Committee for Decentralized Wastewater Management in Jordan (Ministry of Water and Irrigation / Helmholtz Centre UFZ, 2013-present).

Contributing Author: IPBES Regional Assessment Report on Biodiversity and Ecosystem Services for Asia and the Pacific (UN, UNEP, UNESCO, FAO, UNDP, 2018).