

Annex to
The Application of Dr. Radwan Al-Weshah
Civil Engineering (Water Resources and Environment)

Statement of Research Philosophy and Research Interests

Scientific research plays essential roles in the development and welfare of human being. As a water expert and profession, my scientific research focus on sustainable development and engineering of natural resources with special focus on water resources. I grew up in a water scarce country and water availability was a big concern to everybody in our region. I tried in my research to employ the technical and scientific knowledge to coop with water scarcity in our region. Water is a driving force for integrated and sustainable development all over the world. Despite the gloomy picture of water shortage and its availability for future generations, I see that as a golden opportunity, rather than a constraint, for researcher to find innovative solutions to this challenging water crisis.

My research focuses on addressing emerging issues of water and environment including experimental work, field investigation, computer simulation and modeling as well as combination of these tools. My research covers areas like integrated water resources management, integrated watershed planning, interaction between the hydrological, ecological and socio-economical cycles, climate change risk management, shared water resources management, extreme events analysis and mitigation, and the various aspects of water and society and how to market the research finding to policy makers and leaders. My doctoral thesis was on the performance and management of water systems under water scarcity and drought. My career at UN system enables me to reach and influence many government policies related to water and environmental sustainability through scientific-based evidences supported by applied research. We have succeeded in achieving this goal in many water basins in the Middle East and North Africa.

I have a distinguished track record of research. I have the skills to communicate effectively and persuasively with policy makers, donors, partners and other stakeholders. I have the ability to prepare high-caliber technical reports, project proposals, contracts and presentations. I have prepared and published tens of reports, research papers, and project proposals to various international and regional bodies. I chaired and organized several regional and international conferences and I was invited as key note speakers to so many meetings. All my contributions were well received by all parties. I have a convincing negotiation and conflict resolution skills with decision-makers and partners at all levels.

I can sincerely motivate the team spirit to achieve collective best results effectively. I believe in enhancing the staff capacity and improve their performance effective according to specific performance indicators.

More specifically my research interests cover the following areas:

1. Surface water and wadi hydrology processes and modeling.
2. Rainwater harvesting and artificial groundwater recharge in semi-arid regions
3. Groundwater management, protection and vulnerability mapping
4. Climate change risk management on environment and water resources
5. Shared water resources management and water cooperation
6. Non-conventional water resources (desalination, treated wastewater, recycled water)
7. Reliability and operation of water systems
8. Water resources policies and strategies
9. Optimization of water systems and water use efficiency
10. Socio-economical aspects of the water resources
11. Water saving and conservation and public awareness
12. Sustainable water resources and environmental management
13. Watershed management and erosion control
14. Flood mitigation and risk management
15. Drought mitigation and risk management.