سلطة المياه الفلسطينية
PALESTINIAN WATER AUTHORITY

Austrian Development Cooperation

TERMS OF REFERENCE - JOB DESCRIPTION

Post Title: Junior Specialist for Groundwater Management
Programme Title: Institutional Support Programme to the Palestinian Water Authority, **Funded By:** The Austrian Development Agency "ADA"
Duty Location: Ramallah
Programme Duration: 36 Months
Responsible to: Programme Director

Programme Background:
Under the Austrian Development Cooperation funded Institutional Support Programme (ISP), the Palestinian Water Authority intends to hire national senior specialists to provide additional human resources to PWA in critical areas and further develop the capacity of PWA staff and junior specialists to be hired under the ISP.
The Institutional Support Programme (ISP) will assist the Palestinian Water Authority (PWA) "to fulfill its functions as per the Water Law 2014 through strengthened and effective institutional capacities in the areas of strategic planning, policy formulation, coordination, monitoring, reporting, and resource mobilization" (outcome). Over three years the intervention will contribute to putting an "effective institutional framework in place for improving water security and sustainable management of water and wastewater services (SDG 6) in Palestine through a humanitarian-development-peace nexus approach (impact).
The program's key emphasis will be on enhancing human resources while also allocating resources for operational purposes, research, and the implementation of a Management Information System (MIS).
The water sector receives support from various donors to facilitate essential infrastructure developments, considering the diverse range of contributors involved. The programme will support further institutional development of the PWA.

Scope of Work:
The overall objective of the junior specialist is to support ISP Output 4 – Strategic Planning and Monitoring, Output 4 combines support in strategic planning - ensuring the linkage and information flow from water resource monitoring to projects planning and aid coordination - with the development of IT capacities including a Management Information System (MIS). These could be treated as two independent outputs but were combined as they are both under the responsibility of the existing Administration for Strategic Planning.
Indeed, there is a close link between the strategic planning tasks and the management of the needed information. However, the design and usage of the MIS will not be limited to the Administration of Strategic Planning but will consider the information requirements of other administrations and units of PWA As need for an MIS has been clearly confirmed during the preparatory consultations, its development is proposed as one of the activities under this output. Details on the scope, priority functionalities and implementation approach for the MIS are being assessed through a separate preparatory assignment.
The General Directorate of Strategic Planning is in the PWA-ISP focus, and capacity support to the Directorate will be implemented by employing one Specialist and two Junior Specialists.
This describes the requirements for the Specialist in Groundwater Management.
The Directorate reports directly to the Head of the Palestinian Water Authority. The General

Directorate is responsible for developing the water and geographic information system for the water sector and all information systems supporting the work of specialized departments in PWA, in addition to providing technical support in the field of maintaining operating software and information systems and providing appropriate networks for the work of organizational units.
The Water Resources department is responsible for the development of groundwater and surface water by proposing development plans and policies and supporting partners and service providers to develop master schemes and plans for the development of water resources.

The junior specialist will report directly to the head of the directorate and the head of the directorate will report the Programme director, the junior specialist work closely in the unit and the entire project team while – with the support of the Organizational Development Advisor – applying a well-thought-through and systematic capacity development approach to the benefit of dedicated ISP specialists and PWA staff.

Duties and Responsibilities:

The junior specialist will work closely with a senior Groundwater Molder at PWA, his responsibilities are to support the PWA Modelers in the following tasks (to be specified at the onset of the assignment and periodically reviewed and updated):

1. Data Collection and Analysis

- Gather, compile, and analyze hydrogeological, meteorological, and geological datasets, including well logs, aquifer tests, and water quality data.
- Incorporate satellite-based and remote sensing data where relevant.
- Identify data gaps and propose strategies for additional data collection.

2. Model Development and Application

- Develop conceptual and numerical models of groundwater flow and quality using industry-standard tools (e.g., MODFLOW, FEFLOW, SEAWAT).
- Simulate groundwater recharge, discharge, flow dynamics, and pollutant transport under different hydrological and anthropogenic scenarios.
- Apply models for specific purposes, including aquifer storage and recovery, and drought resilience studies.

3. Model Calibration, Validation, and Updating

- Calibrate models using historical observations and optimize parameter estimation.
- Validate models against independent datasets to ensure reliability.
- Regularly update models with the latest data, including monitoring results, land-use changes, and climate projections.
- Document model updates, assumptions, and limitations for transparency and reproducibility.

4. Advanced Scenario Analysis

- Assess the impacts of climate change, land-use shifts, population growth, and policy interventions on groundwater availability and quality.
- Analyze scenarios for groundwater sustainability, over-abstraction impacts, and resource recovery.
- Evaluate groundwater vulnerability to contamination, saline intrusion, and drought conditions.

6. Reporting and Knowledge Sharing

- Prepare and deliver detailed technical reports, presentations, and visualizations of modeling results.
- Publish findings in peer-reviewed journals or technical bulletins where appropriate.
- Provide periodic updates and recommendations to the organization and external partners.

Experience & Qualifications:

- Minimum academic qualification: Bachelors' Degree in in Hydrogeology, Hydrology, Environmental Engineering, or a related field.
- Master degree is preferable.
- 2 years' experience working in a relevant position for BSc candidates, fresh Master Degree is acceptable.
- Experience in groundwater modeling and software tools (e.g., MODFLOW, FEFLOW, MT3DMS, or SEAWAT).
- Strong expertise in data management, GIS, and visualization tools (e.g., ArcGIS, QGIS).
- Knowledge of integrating climate models or projections into groundwater modeling.
- Demonstrated ability to update and maintain dynamic models for long-term applications.
- Strong communication skills, with experience in stakeholder engagement and technical training.
- Excellent writing and oral communication skills.
- Excellent command of MS Office and ability to create well-formatted, edited and visually appealing graphs, documents and tables.
- Experience and ability in meeting and workshop facilitation and documentation.
- Excellent command of English language (written and verbal).