

Terms of Reference

Post title: National Irrigation Drainage & Wastewater Consultant
Project Title: ReWater Project
Duration: Short Term Consultancy
Location: Cairo, Egypt

BACKGROUND & RATIONALE

In many parts of the world, there is not enough water to meet growing demand. One promising solution is smart use of water that has already been previously used. Water can be used in cities and reused in agriculture with benefits for all. Drawing on experience with water reuse strategies already developed in the region, the ReWater MENA project will identify promising innovations and validated reuse.

Under funding from the Swedish SIDA, and the leadership of the International Water Management Institute (IWMI), CEDARE, in cooperation with other partners, embarked in 2018 on a 4-year project that will help expand the safe reuse of water in the Middle East and North Africa (MENA). The project will address barriers to reuse in the region and promote safe reuse practices that improve food safety, health and livelihoods, with the aim of resolving past management bottlenecks. These include cultural barriers, institutional fragmentation, inappropriate regulations and lack of financial models for cost recovery. With a focus on Egypt, Jordan and Lebanon, the project will facilitate inclusive and participatory engagement with stakeholders, to support the development and uptake of project results. CEDARE is implementing some of the ReWater project activities in Egypt that has to do with convening Water Reuse Learning Alliance stakeholders and developing a 2030 National Water Reuse Strategy.

OBJECTIVE

The objective of the assignment is to review and prepare irrigation, drainage, and wastewater water requirements for the 2030 Water Reuse National Targets and basic technical information required for the economic analysis of selected 2030 Water Reuse Local Targets.

PROPOSED METHODOLOGY

1. Consultant is expected to meet with officials in Ministry of Housing and Ministry of Water Resources and Irrigation.
2. Verify system losses to estimate Produced Wastewater from Produced Water for 2018 and 2030.
3. Verify & complete the baseline status of wastewater disposal, at the governorate level. Confirm the final use or destination of the TWW (% to drains to the Red Sea, % to drains to the Med Sea, % directly to Red Sea, % directly to the Med Sea, % to the Nile, % directly reused).
4. Revise the water requirements for 2030 Local Targets (to be provided) in: West Minya & West West-Minya, West Kom Ombo, El-Tor, West Delta, and New Administrative City and propose source for water reuse (including quantities, level of treatment, distance and pumping head (elevation difference) to target areas)
5. The National Water Balance Summary and Flowcharts should include:
 - Water Supply
 - Nile (HAD)
 - Rainwater and Flash Floods
 - Non-conventional Water Supply
 - Shallow recycled groundwater (delta)
 - Wastewater:
 - Untreated
 - Treated Domestic Wastewater: Primary, Secondary and Tertiary
 - direct and
 - indirect

- Agriculture drainage water for reuse:
 - treated
 - untreated
- Seawater used for Desalinated water

Sectoral Uses & Consumption

- Municipal water for Domestic use
 - Agricultural
 - Industrial
 - Drainage water to the sea.
 - Evap losses
 - Env. balance
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- Verify and update the 2018 Baseline National Water Balance Summary and Flowchart (template to be provided), based on actual data collected from national authorities. Ensure that the National Water Balance includes local needs. Verify and update the 2 Pie charts for Produced water, treated (as well as level of treatment), untreated and reused wastewater for 2018 (template to be provided)
 - Verify and update the forecasted 2030 National Water Balance Summary and Flowchart based on the 2030 Shared National and Local Targets (to be provided) and other upcoming plans. Verify and update the 2 Pie charts for Produced water, treated (as well as level of treatment), untreated and reused wastewater for 2030 (template to be provided)
6. Review the National Learning Alliance's recommendations for the following components of the enabling environment for the 2030 Water Reuse Strategy and develop appropriate, realistic and achievable strategic actions in these areas:
- Institutional set up: roles and responsibilities
 - Code, Regulatory and Legislative Measures

Deliverables:

The Consultant will provide the following deliverables based on the above mentioned details:

- **Deliverable 1:**
Verify system losses to estimate Produced Wastewater from Produced Water for 2018 and 2030.
- **Deliverable 2:**
Provide information regarding TWW Plants as source of TWW for the specific 2030 Shared Local Targets mentioned above.
- **Deliverable 3:**
Verified and completed:
 - Governorate level data of produced and treated wastewater (TWW), and the final destination of TWW for baseline year
 - 2018 Baseline National Water Balance Sheet and Flowchart (template to be provided) based on the preliminary National Water Balance Sheet provided by CEDARE.
 - 2018 Baseline Wastewater Balance flowchart
 - 2 Pie Charts for 2018's produced water, treated (as well as level of treatment), collected. Uncollected, untreated and reused wastewater
- **Deliverable 4:**
Verified and updated:
 - 2030 National Water Balance Sheet and Flowchart (template to be provided) based on the preliminary National Water Balance Sheet provided by CEDARE
 - 2030 Wastewater Balance flowchart (template to be provided)

- 2 Pie Charts for 2030's produced water, treated (as well as level of treatment), collected, uncollected, untreated and reused wastewater
- **Deliverable 4:**
Report on recommended appropriate, realistic and achievable strategic actions for the Enabling Environment in the following areas:
 - Institutional set up: roles and responsibilities
 - Code, Regulatory and Legislative Measures

(All sources of information should be shared and referenced)

TIME FRAME

All activities should be completed within 3 weeks of the start of contract.

SUBMISSION

The consultant will submit deliverables to the CEDARE REWATER Project Manager. CEDARE REWATER Technical Specialists, will be closely associated with the consultant in reviewing the drafts and reviewing the deliverables.

QUALIFICATIONS

- PhD or Master's degree in civil/water/environmental engineering
- 5-10 years of experience in the field of Water Resources assessment and planning
- Water Supply, Wastewater, & Reuse Experience.
- Fluency in Arabic and English languages (spoken and written).
- Computer and Internet skills, particularly experience with MS Office (Word, Outlook, Excel & PowerPoint)
- Flexibility, adaptability and demonstrated team work skills
- Strong coordination, organizational, communication and writing skills
 - Ability to communicate with high officials
- Capacity to work under pressure and for long hours if work load requires

APPLICATION PROCESS

For interested candidates, please send the following in a single document named (LAST NAME):

- Letter of interest with proposed methodology for the assignment.
- CV

The subject line of the email should read "Irrigation and Drainage Specialist", the application should be sent to:
CEDARE REWATER Project Manager
Email: water@cedare.int

Closing Date: 8 February 2022 or until position is filled

ADDITIONAL CONSIDERATIONS

- Only those candidates that are short-listed will be notified.
 - Qualified female and male candidates are encouraged to apply.
 - CEDARE reserves the right to appoint a candidate at a level below the advertised level of the post.
- For more information on the project and the organizations involved, including its core values and competencies, please visit the following website:

www.cedare.int

water.cedare.int