

TERMS OF REFERENCE- Consultancy Service

Summary

Post Title	WASH Engineer/expert
Proposed level	P3
Location	Tawila, West Darfur State, with frequent travels to surrounding emergency-affected areas and locations within Darfur.
Duration	6 Months
Supervisor	Chief WASH/ Chief of Field Office
Funding	Surge
Start Date	1 st May 2026

Background

UNICEF works in 190 countries and territories to protect the rights of every child. UNICEF has spent 70 years working to improve the lives of children and their families. Defending children's rights throughout their lives requires a global presence, aiming to produce results and understand their effects. UNICEF believes in and fulfills its potential for the benefit of a better world.

UNICEF is implementing emergency water supply interventions in Darfur, including the drilling of boreholes and the installation of water storage tanks in coordination with the State Water Corporation and WES authorities. The ongoing humanitarian crisis and urgent water security needs require strong engineering expertise within the UNICEF WASH section to deploy and operationalize water infrastructure in emergency-affected areas rapidly.

Purpose

UNICEF Sudan is undertaking critical emergency response projects in Tawila, West Darfur State, to establish and rehabilitate essential water infrastructure, including borehole drilling and the installation of water storage facilities and water points. The overarching goal is to ensure rapid access to safe water for displaced populations and host communities affected by the humanitarian crisis.

The WASH Engineer/expert will be responsible for strategic leadership and coordination of emergency water supply initiatives in Tawila and the surrounding areas. This role involves close collaboration with government counterparts, local authorities, non-governmental organizations (NGOs), community stakeholders, UN sister agencies, etc. The Engineer will work in conjunction with the section team to ensure the effective implementation of emergency WASH projects, adhering to national policies and international standards, with a focus on rapid development of water infrastructure.

The WASH Engineer will therefore play a crucial role in overseeing and coordinating emergency WASH initiatives, with a particular emphasis on borehole drilling, water storage tank installation, pipe network connections, and the construction of water points. The expert will be responsible for the comprehensive planning, implementation, monitoring, and evaluation of emergency water supply projects in Tawila. This includes providing expert

technical guidance and management support throughout all programming processes, facilitating the administration and achievement of WASH-related outputs within the country program, with a specific focus on emergency water infrastructure deployment in Darfur.

Main duties & responsibilities

Scope of Work

Under the technical supervision of the Chief of WASH and the Chief of the Field Office, and in close collaboration with the wider WASH team, other program sections, partners, and WASH authorities, the Engineer/WASH expert will be responsible for the following tasks:

1. Basic Water Supply System Design and Planning

- **Develop the simple design of the water supply system** for the camps and Tawila town, including hydraulic calculations, pipe sizing, and the location of water tanks and water points to serve the camp population.
- Develop a basic water supply plan with simple layouts showing which parts of the camps need to be connected to the water points via the water source.
- **Conduct Borehole Assessment and Design:** Select the existing boreholes for rehabilitation and or review geological and hydrogeological data to identify optimal borehole drilling locations and develop detailed drilling specifications when required.
- **Produce Technical Specifications:** Develop detailed engineering reports and technical specifications for borehole drilling operations, including depth requirements, casing specifications, and pump selection when needed.

2. Integrated Site Planning and Coordination

- Work with the site planning team to divide the camps into different parts, considering zoning requirements and determining which type of latrines are most appropriate for each area.
- Work closely with WASH cluster partners and the site planning team to assess the cost-effectiveness of the proposed design, evaluating the pros and cons of different sanitation approaches.
- Examine the design of sanitation facilities for larger sites to determine the best options, looking at the full sanitation chain in coordination with site planning and cluster partners, identifying opportunities for mutual benefit and synergies.

3. Storage Tank Design and Installation

- **Develop comprehensive designs** for water storage tank installations, including capacity calculations, structural specifications, and site preparation requirements.

- **Facilitate the installation of T-tanks and Oxfam tanks** provided by the FCDO, incorporating them into the overall design of the water supply and sanitation systems.

4. Quality Assurance and Construction Supervision

- **Develop and implement a comprehensive quality assurance plan** for all stages of the project, including:
 - Approval of Shop Drawings produced by contractors and SPD partners (engineering documents)
 - Inspection Requests and Approval Request
 - Design editing or minor amendments
 - Material sample inspections and approval when required on-site
 - Material on-site approval
 - Monitoring the schedule (planned vs. actual work done)
 - Approval of measurement sheets by contractors and partners
 - Comment on time and cost variations with recommendations (for final approval from UNICEF)
- **Oversee borehole drilling and tank installation activities**, ensuring compliance with technical specifications and quality standards.

5. Testing, Commissioning, and Documentation

- **Manage the testing and commissioning stage**, including water quality tests, pump functionality tests, and inspections at critical stages of installation work.
- **Approve operation and maintenance manuals** from contractors and As-Built Drawings when applicable. Conduct verification of key deliverables.

6. Technical Oversight and Bill of Quantities

- **Provide technical oversight** of the site design and development of Bills of Quantities (BoQs) for all water supply and sanitation components.

7. Compliance and Safety

- Ensure compliance with environmental and safety standards throughout all operations.

8. Reporting and Stakeholder Coordination

- **Prepare and submit monthly progress reports** detailing project status, challenges, and recommendations.
- **Collaborate with project teams, government authorities, and stakeholders** to ensure alignment and effective communication throughout the assessment, design, and implementation processes.

Expected background and Experience

Advanced university degree in any of the following: Water/Civil Engineering, water supply engineering, Sanitary engineering, Hydrology, or Geology—exclusively in the technical aspect of water supply (hardware component).

Professional Experience: Five (5) years of progressively responsible professional work experience at national and international levels in Humanitarian WASH project management, emergency water supply, and coordination.

Language Requirements:

- Fluency in English required
- Arabic is strongly preferred

Technical Competencies:

- High level of awareness of environmental health issues as applied to emergency settings, with special attention to the needs of women and children
- Knowledge of water storage tank design and installation, and Expertise in borehole drilling design and supervision is an asset
- Experience with water quality testing and monitoring
- Good writing skills and ability to speak fluently in English and Arabic

Professional Attributes:

- Experience in liaising with Government authorities
- Able to work effectively in a multi-cultural and emergency environment
- Sets high standards for quality of work and consistently achieves project goals
- Translates strategic direction into plans and objectives

Duty Station and Duration of Service

Duty Station: Tawila, West Darfur State, with frequent travels to surrounding emergency-affected areas and locations within Darfur.

Duration: Six months with the possibility of extension to six months based on project progress and humanitarian needs.