



CONSULTANCY - TERMS OF REFERENCE

Title: Consultancy - Hydrogeologist

Division: UNICEF Office of Innovation, Sustainable WASH Hub, Copenhagen, Denmark

Duration: 11,5 months. Start date: August 2024

Duty Station: Remote

Advertising summary

UNICEF proposes to engage the expertise of a highly qualified hydrogeologist to facilitate the effective implementation of sustainable and innovative WASH solutions. These tasks encompass scoping, mapping and supporting innovative WASH solutions, and technical support to regional and country offices on innovative groundwater resource mapping in water scarce locations, as well as providing hydrogeologic capacity building assistance to Country Offices working on innovation projects.

Child Safeguarding

Is this project/assignment considered as "Elevated Risk Role" from a child safeguarding perspective? YES NO

If YES, check all that apply:

Direct contact role YES NO

If yes, please indicate the number of hours/months of direct interpersonal contact with children, or work in their immediately physical proximity, with limited supervision by a more senior member of personnel:

Child data role YES NO

If yes, please indicate the number of hours/months of manipulating or transmitting personal-identifiable information of children (name, national ID, location data, photos):

More information is available in the [Child Safeguarding SharePoint](#) and [Child Safeguarding FAQs and Updates](#)

UNICEF works in some of the world's toughest places, to reach the world's most disadvantaged children. To save their lives. To defend their rights. To help them fulfill their potential.

Across 190 countries and territories, we work for every child, everywhere, every day, to build a better world for everyone.

And we never give up.

Our team

The **OOI Sustainable WASH Hub** ('the Hub') has been established by UNICEF with the support of the Danish Ministry of Foreign Affairs to help bridge the gap to achieving the Sustainable Development Goals for water and sanitation. The Hub is a global home for **building, accelerating, and scaling transformational climate resilient solutions** for a WASH secure future. It does so by identifying targeted, strategic solutions that have significant potential for impact and capacity to scale.

- **Capacity:** Building the capacity of UNICEF to innovate and to adapt and adopt innovation, then building this capacity into our country partners.
- **Portfolio:** Curated set of solutions that focus on key problems UNICEF is trying to solve for and with children and young people.
- **Connect:** Becoming a center of excellence for facilitating innovation knowledge management; enabling innovators, academia, the private sector, partners, and countries to connect to facilitate innovation and scale.

We're an interdisciplinary team around the world tasked with identifying and scaling new technologies and practices. With our partners, we focus on convening and collaborating on new and different solutions, low- and high-tech, by identifying proven solutions that can be implemented at national scale in multiple countries – taking the ideas that help thousands in one country, bringing them to dozens of countries across multiple sectors, and impacting the lives of millions of children.

WASH Portfolio

UNICEF has identified problems that, if solved, will unlock faster progress. Innovation is key to co-creating new solutions to problems like lack of handwashing stations, leaks in water networks, climate-resilient sanitation services, remote monitoring of water or wastewater systems, remote sensing and other technologies for locating water sources in water scarce environments, fecal sludge management in humanitarian settings, absence of adequate sanitation products and accessible menstrual health information for women and girls.

More specifically, the WASH innovation portfolio aims at addressing the following four problems, out of which the groundwater mapping project addresses the second problem:

1. *Lack of adequate and climate-sensitive groundwater mapping and development leads to poor drinking water quality, challenges in locating sustainable water sources, and impedes progress towards child development and Sustainable*

Development Goals, especially affecting Small Island Developing States.

2. *Insufficient climate-sensitive data and a poor understanding of integrating climate change impacts into WASH programming present challenges to WASH practitioners modeling long-term sustainability of water resources, impacting the resilience of the service.*
3. *A lack of supportive environments for WASH SMEs, characterized by limited access to finance and unfavorable governmental policies is limiting the capacity of SMEs capacity to expand and flourish, hindering their ability to effectively contribute to WASH governance and services.*
4. *Complexities in innovative finance options make it difficult to implement, scale, and replicate effective solutions, exacerbated by the increasing challenges to secure finance for WASH projects in a resource-scarce environment*

Hydrogeology inputs are required into solutions for all four problem statements (for example technical input into innovative finance programmes centered around groundwater sourced water supplies). However, most of the technical input is required into the first problem statement, relating to climate resilient groundwater mapping and development.

The portfolio currently contains solutions for groundwater mapping using innovative approaches and for managed aquifer recharge. The Hub is looking over the next 1-2 years to scale both sets of solutions in the current demonstration countries and beyond into new countries and regions. Technical support is required to facilitate the scoping of scaling, development of toolkits and supporting countries to introduce and scale these approaches.

How can you make a difference?

1. Support mapping and scoping of innovative WASH solutions that respond to Sustainable WASH Innovative Portfolio problem statements.
2. Support identification, implementation of innovative solutions with specific highlights on Nature based Solutions including Managed Aquifer Recharge (MAR) solutions across UNICEF programme countries.
3. Support documentation, standardization and contextualization of different MAR solutions to be scaled up and replicated in different contexts and settings.
4. Provide technical support in the implementation of the groundwater mapping innovative solution-More Water More Life.
5. Provide technical support and capacity building on hydrogeological capacity needs to UNICEF COs, ROs and stakeholders for innovation projects as required.

Your main responsibilities will be:

Task 1: scoping of innovative WASH solutions that respond to Sustainable WASH Innovation hub Portfolio problem statements.

This task will involve:

- Scoping of WASH Innovation solutions in alignment with the Sustainable WASH problem statements and innovative solution selection criteria matrix.
- Outlining how these approaches could be developed by the WASH innovation hub to reach scale and the potential impact, highlighting those with most potential and probability to succeed.

Task 2: Support identification, implementation of sustainable WASH innovative solutions with specific highlights on Managed Aquifer Recharge (MAR) solutions.

This task will involve:

- Standardization and contextualization of MAR in UNICEF programme countries.
- Provision of technical support in preparation of concept notes on MAR.
- Provision of technical support for implementation of MAR as an innovation in programme countries.
- Provide capacity building on MAR design and implementation that can be scaled into programme countries

Task 3: Provide technical support for portfolio projects for groundwater sourcing and implementation.

This task will involve:

- Provision of technical support in the implementation and scaleup of innovative groundwater initiatives relating to groundwater sourcing including More Water More Life (MWML).
- Provision of technical support in the review of research and studies related to sustainable groundwater assessment and development.
- Provide technical support to scale groundwater sustainability and monitoring innovations.
- Provide capacity building on groundwater monitoring innovation for scale

Task 4: Provide technical support in the implementation, scaling and replication of groundwater mapping innovative solutions.

This task will involve:

- technical advice on hydrogeology in a variety of contexts, including water sourcing, hydrogeological assessments, groundwater sustainability, aquifer mapping, design /installation of test pumping and groundwater monitoring.
- Technical support to provide technical guidance on the establishment of groundwater monitoring networks for water levels and water quality, and the analysis and interpretation of the data, as well as advice on early warning systems

Task 5: Provide capacity building on hydrogeological capacity needs to UNICEF County Offices and stakeholders.

This task will involve:

- Supporting the development of capacity building resources (such as technical Notes and webinar packages) on innovative solutions responding to problem statements, Including but not limited to managed Aquifer recharge, assessment of water resources, groundwater development, ground water management and

monitoring and the analysis and interpretation of the data including establishment of sustainable yields.

Task 6: Provide technical support and capacity building on hydrogeological capacity needs to UNICEF COs, ROs and stakeholders for innovation projects as required.

This task will involve:

- Support to country offices as required on hydrological needs for innovative approaches, this could include but is not limited to, uptake of programmatic solutions supported by the WASH innovation hub or defining specific country level issues for solution development.

Description of assignment

	Tasks	Deliverables/Outputs	Delivery deadline	% of payment/ Estimated combined working days
1	Scoping of WASH Innovation solutions in alignment with the problem statements, the solution should include innovative solution selection criteria matrix.	Mapped /selected Innovative solutions on Sustainable WASH and associated theory of change for each solution.	31/08/24	10%

		Scope the way forward on WASH Hub in terms of providing technical support to countries in hydrogeology and continued scale-up of projects	30/09/24	8%
2	Assessment and documentation of MAR within UNICEF. Standardization and contextualization of MAR in UNICEF countries.	MAR classification and assessment across UNICEF including a proposed standardisation of MAR in programme countries.	31/12/24	8%
	Provision of technical support in preparation of concept notes on MAR.	Development of technical guidance and best practice for MAR programmes	31/12/24	8%
	Provision of technical support on implementation of MAR.	Reports from engagement with 5 countries on MAR concept development and proposals for implementation including business case, theory of change and design concepts	31/03/25	8%
	Provide capacity building on MAR design and implementation	Capacity Development package on MAR including ToRs, implementation plans, costings, and other associated resources.	20/07/25	8%
3	Provision of technical support for the implementation and scaleup of MWML programme. Provision of technical support and the review of	Development of technical guidance and best practice for MWML programmes	28/02/25	8%

	research and studies related to sustainable groundwater assessment and development.			
	Provide technical support for groundwater sustainability and monitoring.	Reports from engagement with 5 countries on MWML concept development and proposals for implementation including business case, theory of change and design concepts	31/03/25	8%
	Provide capacity building on groundwater monitoring to UNICEF country offices adopting the MWML approach	Capacity Development package on MWML including ToRs, implementation plans, costings, and other associated resources.	30/04/25	8%
4	Technical advice on innovative approaches to hydrogeology in a variety of contexts, including water sourcing, hydrogeological assessments, groundwater sustainability, aquifer mapping, design /installation of test pumping and groundwater monitoring.	Guidance document on key groundwater assessments and best practice for countries looking to adopt innovative approaches. Define baseline activities and problem definition activities to support innovation adoption. Reports from 5 countries on work done to understand the challenges being faced and a theory of change to adopt innovative approaches in that context.	31/05/25	10%
5	Support the development of capacity building resources (Technical Note and webinar	Web based platform hosting reports, studies, data on WASH innovative	20/07/25	8%

	package) on innovative solutions responding to problem statements. Including but not limited to managed Aquifer recharge, assessment of water resources, groundwater development, ground water management and monitoring and the analysis and interpretation of the data including establishment of sustainable yields.	solutions on MAR and groundwater sustainability.		
6	Provide technical support and capacity building on hydrogeological capacity needs to UNICEF COs, ROs and stakeholders for innovation projects as required.	Monthly report on support to country offices provided and scoping activities. This review should include evaluation of trends and needs identified.	20/07/25	8%

To qualify as an advocate for every child you will have...

- a) At least a Master's degree in the fields, hydrogeology, geophysics or appropriately similar qualifications with significant experience in drilling works. Five to eight years of experience in water resources management, groundwater works/specifically drilling, pump testing, hydrogeological/geophysical assessment, and related fields.

**A first University Degree in a relevant field combined with 2 additional years of professional experience may be accepted in lieu of an Advanced University Degree.*

- b) Demonstrable experience, knowledge and understanding of supporting hydrogeological programmes in UN contexts remotely (essential)
- c) Demonstrable knowledge and understanding of managing innovation projects with teams who have competing priorities (essential)
- d) Able to explain complex technical information and concepts to UNICEF country staff and partners so they can understand the implications for their projects (essential)
- e) Previous experience with the UN, National and Regional entities, as well as with donors is desirable.
- f) Must exhibit the UNICEF Core Values of:
1. Care

2. Respect
 3. Integrity
 4. Trust
 5. Accountability
 6. Sustainability
- g) Competencies:
- Demonstrates Self Awareness and Ethical Awareness
 - Works Collaboratively with others
 - Builds and Maintains Partnerships
 - Innovates and Embraces Change
 - Thinks and Acts Strategically
 - Drives to achieve impactful results
 - Manages ambiguity and complexity
- h) Fluency in English is required. Ability to speak French an asset.

Travel:

In the financial proposal include travel costs for:

- 8 trips from your home to Copenhagen for one week at a time, include DSA rate
- 2 trips to Nairobi for one week at a time, include DSA rate
- 1 trip to Timor Leste for 1 week, include DSA rate
- 1 trip to Djibouti for 1 week, include DSA rate

The consultant is responsible for arranging his/her own travel, including visa and travel insurance.

Payment details and further considerations

- Payment of professional fees will be based on the submission of agreed deliverables. UNICEF reserves the right to withhold payment in case the deliverables submitted are not up to the required standard or in case of delays in submitting the deliverables on the part of the consultant.

How to apply:

- Interested applicant is required to submit a financial proposal with all-inclusive fee. Please see the financial proposal template.
- Financial proposal must include travel costs (economy class) and daily subsistence allowance, if travel is required as per TOR and any other estimated costs: visa, travel/health insurance.
- Interested applicant is required to submit a technical proposal. Please see instructions below:

The Technical Proposals will be evaluated against the following:		
REF	CATEGORY	POINTS
1.	Experience of the consultant	45

	<ul style="list-style-type: none"> Evidenced experience in the fields, hydrogeology, geophysics or appropriately similar qualifications with significant experience in drilling works. Experience in water resources management, groundwater works/specifically drilling, pump testing, hydrogeological/geophysical assessment, And related fields. 	
2.	Proposed Methodology and Approach <ul style="list-style-type: none"> Detailed proposal with main tasks, report structure and key outputs identified to deliver within a tight timeframe. Vision and sound methodology of achieving key outputs with an understanding of innovation projects in this setting. Clear vision of innovative projects in this area and how they can be implemented and support by UNCIEF teams and partners Clarity of the proposed approach with demonstrated understating of the realities of work in UNICEF programme countries Realistic, timed and costed plan of action. Experience of developing technology appropriateness assessments and or scalability assessments highly desirable 	35
Total Technical (max 70)		
Only Proposals which receive a minimum of 50 points will be considered further.		
3.	Financial proposal	20
Total Financial (max 30)		
Total Overall (max 100)		

- Applications without a financial and technical proposal will not be considered.**

For every Child, you demonstrate...

UNICEF's values of Care, Respect, Integrity, Trust, Accountability, and Sustainability ([CRITAS](#)).

To view our competency framework, please visit [here](#).

UNICEF is here to serve the world's most disadvantaged children and our global workforce must reflect the diversity of those children. The UNICEF family is committed to include everyone, irrespective of their race/ethnicity, age, disability, gender identity, sexual orientation, religion, nationality, socio-economic background, or any other personal characteristic.

UNICEF offers reasonable accommodation for consultants/individual contractors with disabilities. This may include, for example, accessible software, travel assistance for missions or personal attendants. We encourage you to disclose your disability during your application

in case you need reasonable accommodation during the selection process and afterwards in your assignment.

UNICEF has a zero-tolerance policy on conduct that is incompatible with the aims and objectives of the United Nations and UNICEF, including sexual exploitation and abuse, sexual harassment, abuse of authority and discrimination. UNICEF also adheres to strict child safeguarding principles. All selected candidates will be expected to adhere to these standards and principles and will therefore undergo rigorous reference and background checks. Background checks will include the verification of academic credential(s) and employment history. Selected candidates may be required to provide additional information to conduct a background check.

Remarks:

Only shortlisted candidates will be contacted and advance to the next stage of the selection process.

Individuals engaged under a consultancy or individual contract will not be considered “staff members” under the Staff Regulations and Rules of the United Nations and UNICEF’s policies and procedures and will not be entitled to benefits provided therein (such as leave entitlements and medical insurance coverage). Their conditions of service will be governed by their contract and the General Conditions of Contracts for the Services of Consultants and Individual Contractors. Consultants and individual contractors are responsible for determining their tax liabilities and for the payment of any taxes and/or duties, in accordance with local or other applicable laws.

The selected candidate is solely responsible to ensure that the visa (applicable) and health insurance required to perform the duties of the contract are valid for the entire period of the contract. Selected candidates are subject to confirmation of fully vaccinated status against SARS-CoV-2 (Covid-19) with a World Health Organization (WHO)-endorsed vaccine, which must be met prior to taking up the assignment. It does not apply to consultants who will work remotely and are not expected to work on or visit UNICEF premises, programme delivery locations or directly interact with communities UNICEF works with, nor to travel to perform functions for UNICEF for the duration of their consultancy contracts.