



CONSULTANCY - TERMS OF REFERENCE

Title: Sanitation in cold climates

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

Duration: Five months between April 2024 and January 2025

Duty Station: Remote

Advertising summary

Overall, the consultant will document the experience of the UNICEF Mongolia team in choosing and installing the containerized WWT system, with an objective to assist other UNICEF Country Offices to see if this technology and approach also fits their context.

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.

For every child...innovate

UNICEF has a 70-year history of innovating for children. We believe that new approaches, partnerships and technologies that support realizing children's rights are critical to improving their lives.

The **Office of Innovation** is a creative, interactive, and agile team in UNICEF. We sit at a unique intersection, where an organization that works on huge global issues meets the start-up thinking, the technology, and the partners that turn this energy into scalable solutions.

UNICEF's Office of Innovation creates opportunities for the world's children by focusing on where new markets can meet their vital needs. We do this by:

- Connecting youth communities (or more broadly -- anyone disconnected or under-served) to decision-makers, and to each other, to deliver informed, relevant and sustained programmes that build better, stronger futures for children.
- Provoking change for children through an entrepreneurial approach -- in a traditionally risk averse field -- to harness rapidly moving innovations and apply them to serve the needs of all children.
- Creating new models of partnership that leverage core business values across the public, private and academic sectors in order to deliver fast, and lasting results for children.

The Office of Innovation specifically looks to form **partnerships around frontier technologies** (like drones and UAVs, blockchain, 21st century skills, urban technologies, new banking tools, wearables and sensors, or 3D-Printing) that exist at the intersection of \$100 billion business markets and 1 billion person needs – and to identify how they can grow and scale profitably and inclusively.

Our team

We're an interdisciplinary team around the world tasked with identifying, prototyping, 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:

- **Looking** at the 2–5-year horizon to evaluate emerging and trending technologies and to see how UNICEF can work with the private sector on doing better business while improving essential services for children;
- **Investing** in early-stage solutions that show great potential to positively impact children in the 02-year future including the Venture Fund that invests in open-source technology solutions from start-ups based in UNICEF's programme countries;
- **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.”

The **OOI Sustainable WASH Hub** is a global home for **building, accelerating, and scaling transformational climate resilient solutions** for a WASH secure future. It does so by

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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.

How can you make a difference?

1. Based on in-country observation and stakeholder engagement the consultant will provide advice and insight to UNICEF (both UNICEF Mongolia and the OOI) on optimizing these existing designs.
2. The consultant will also conduct a desk top review of potential alternative technologies suitable for cold climates where UNICEF has a program presence.
3. Based on the review, the consultant will prepare a report on the applicability of the design across different cold climate contexts, identifying prerequisites for the success of the application of the technology, and key factors critical to scaling up relevant cold climate sanitation technologies.
4. The consultant will provide relevant technical support to other UNICEF cold-climate country offices (COs) in choosing and rolling out appropriate sanitation technologies.

While the consultant does not necessarily need to be based in Mongolia, they will need to be in Mongolia for key milestones in the installation process, with a minimum of two visits planned. The consultant may also choose to visit the contractor, or a similar supplier of containerized sanitation technologies. The consultant will also visit two other cold climate COs. This travel should be included in the consultant's bid (details below).

Your main responsibilities will be:

Inception phase

- With OOI and based on the methodology proposed in the bid, the consultant will prepare a detailed **Inception Report (Deliverable A)** that outlines a finalised methodology, evaluation protocols for different phases of work and the timetable for visits to Mongolia (expected in the first half of 2024).

In-country installation observation and support

- The consultant will observe the installation process against an agreed protocol devised as part of the Inception report (at as many facilities as desirable over two visits) and document the process for learning and to be used to develop replication toolkits for other interested country offices.

- The consultant will engage with UNICEF, the contractors and the community and review the design specifications of the installed technology against expectations and need for waste water treatment of the locations the solution it is serving (provided by UNICEF Mongolia), as well as suitability for the climate context.
- Based on this observation and engagement the consultant will provide advice and insight to UNICEF (both UNICEF Mongolia and the OOI) on optimizing these existing designs for application beyond Mongolia – including challenges for technology to be considered if replicated elsewhere, materials, layout and other considerations to scale the innovation in other contexts. The advice and insight will be presented in **Deliverable B: Observation report** and in **Deliverable C: Observation presentation**.

Report on the applicability of the design across different cold climate contexts

- Based on the review, the consultant will prepare a draft report – **Deliverable E: Draft report** – on the applicability of the adapted containerised design across different cold climate contexts, taking into account other climate conditions (i.e. How cold/hot? How dry/wet?), community context, supply chains and any other relevant factor.
- The consultant will identify prerequisites for the success of the application of the technology, including the regulatory environment.
- And finally the consultant will identify key factors critical to scaling up relevant cold climate sanitation technologies.
- After feedback from UNICEF and other relevant stakeholders, the consultant will finalise the report as **Deliverable F**.

Relevant technical support to other UNICEF cold-climate COs

- Based on the earlier findings and on the final report (Deliverable F) with UNICEF OoI, the consultant will prepare a consultation schedule (**Deliverable H**), identifying potential follow up countries.
- The consultant will prepare a webinar on the findings and recommendations from the Mongolia and desk top work – **Deliverable G**.
- With the OOI, the consultant will conduct introductory calls to interested COs, and
 - conduct an initial consultation with five COs.
 - Support toolkit for scaling development through detailed debrief and sharing of notes and insights (**Deliverable I**)
 - Travel to support Kazakhstan (Astana) and China (Harbin) country offices (Note: actual locations may change)

Description of assignment

	Tasks	Deliverables/Outputs	Delivery deadline	% of payment/ Estimated combined working days
1	With UNICEF OOI and UNICEF Mongolia, finalize the proposed methodology, evaluation protocols, including a timetable for potential field visits.	A: Inception Report	31/05/24	10
2	In country observation, engagement with UNICEF, the contractor and potential users.	B: Observation report, providing advice and insight on the existing project and lessons learnt summary C: Observation presentation	28/06/24	25
3	Desk review of potential sanitation technologies relevant to LMICs with cold climate regions.	D: Desk top review of technologies currently in use in LMIC cold climate contexts.	28/06/24	15
4	Desk review of cold climate sanitation conditions and requirements; in-depth review of the containerized technology	E: Draft report on further applicability of the technology	31/10/24	20
5	Incorporate UNICEF comments.	F: Final report on further applicability.	31/12/24	10
6	Follow up with other UNICEF COs	G: General webinar for UNICEF COs H: agreed consultation timetable I: Recorded detailed debrief and folder of notes	31/12/24	20

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

- An advanced university degree (Master's or higher) in a field relevant to sanitation technology (e.g. public health, civil, mechanical or chemical engineering) or other relevant field, or other relevant field.
**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.*
- A minimum of 8 years of relevant professional experience in sanitation technology and approaches.
- Knowledge of cold climate sanitation is required.
- LMIC work experience and/or familiarity with general WASH related matters is considered essential,
- Experience of remote /isolated /limited access contexts is desirable.
- Demonstrated familiarity with UNICEF's programming is desirable.
- Developing country work experience and/or familiarity with emergency is considered an asset.
- Fluency in English is required. Knowledge of another official UN language (Arabic, Chinese, French, Russian or Spanish) or a local language is an asset.

Travel:

The consultant is expected to travel as per below:

- Two separate visits of one working week to Ulaanbaatar, Mongolia
- One working week trip to Astana, Kazakhstan
- One working week trip to Harbin, China
- Two working weeks in Copenhagen, Denmark

Note: Actual locations and duration may change.

These travels should be included in the consultant's bid (details on financial and technical proposals further below).

- 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 <ul style="list-style-type: none">Evidenced experience of working on sanitation in extreme cold conditionsStrong experience in implementing and/or assessing sanitation programmingStrong knowledge of applied research in sanitation technology.Proven record in providing quality results within limited timeframe.	40
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.Realistic, timed and costed plan of action.Experience of developing technology appropriateness assessments and or scalability assessments highly desirable	30
Total Technical (max 70)		
Only Proposals which receive a minimum of 50 points will be considered further.		
3.	Financial proposal	30
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

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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.