



CONSULTANCY - TERMS OF REFERENCE

Title: Technical Advisor for WASH Data Integration Solutions

Division: UNICEF Sustainable WASH Innovation Hub, Copenhagen, Denmark

Duration: 6 months initially, with possibility of extension

Duty Station: Remote

Advertising summary

The UNICEF Sustainable WASH Innovation Hub ('the Hub') is accelerating the scaling of transformative water, sanitation and hygiene (WASH) innovations for vulnerable children and their families, and strong collaboration is at the heart of this mission. The WASH Hub sources, pilots and scales transformational climate-resilient solutions that respond to key programmatic challenges that, if solved, will unlock faster progress for a water secure future for children and young people. This consultancy will strengthen the Hub's role as a global catalyst, bringing together innovators, practitioners, researchers, and communities to solve the most pressing WASH challenges facing children.

In March 2025, the WASH Hub issued a second call for submissions to expand its innovation portfolio with transformative solutions that address systemic challenges in the WASH sector. One of the priority problem statements identified under this call focused on improving access to climate-sensitive data for WASH programming. A promising approach to integrate satellite data, ground-based observations, and water infrastructure information into a centralized, user-friendly platform was identified for cocreation into a solution. The approach would integrate with existing data platforms, utilizing a data integrator tool to connect with existing global and national databases and localized WASH infrastructure data, ensuring near real-time synthesized information for direct use in WASH programming and development of a drought prediction tool.

For this consultancy, the WASH Hub seeks the service of an individual to support with technical guidance on the cocreation and testing of an innovative solution, guiding and providing the design for piloting, documentation and learning from demonstration sites so that the final solution translates into actionable, scalable value for WASH programming. This also includes but is not limited to, coordinating inputs from different actors with UNICEF, supporting the Strategic Advisory Group (SAG) established to support the process, advising teams on scaling pathways, and contributing to technical and sector discussions.

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 personally 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 legacy of innovation for children. From its base in Copenhagen, the Sustainable WASH Innovation Hub (the Hub) identifies, demonstrates and scales climate-resilient water and sanitation solutions that can accelerate progress toward a water-secure future for children and young people. Working with partners and UNICEF country and regional teams, the Hub selects high-impact, cutting-edge innovations, adapts them to context, and expands proven solutions from helping thousands in one country to reaching millions across multiple regions through an annually reviewed WASH portfolio focused on the greatest challenges and opportunities for impact.

One of the key global challenges that the Hub aims to address through scaling innovative solutions is tackling climate change impacts on WASH services. The identified solution this consultancy will support consists of two complementary components that are conceptually linked but deliberately split to allow flexibility in implementation:

- A data integrator tool to connect with existing global and national databases, online web mapping services, in-situ sensors, and localized WASH infrastructure data, ensuring near real-time data is integrated, transformed, and visualized for direct use in WASH programming; and
- a drought prediction/monitoring tool that will assist with analysis and modelling of datasets to provide insights for early warning, water management, and climate-resilient WASH planning.

How can you make a difference?

The consultant will drive the approach to data integration designing effective demonstrations and collaborating with country offices, such as those in Angola and Madagascar, to define fit-for-purpose solutions. Through the integration work they will outline the approach for the drought prediction tool that builds on the integrated data, by defining the necessary global, national, in-situ, and WASH related datasets required for a functional drought monitoring and modelling workflow. This will require strategic leadership - aligning interdisciplinary teams and convening the Solution Advisory Group (SAG) to ensure coherent, cross-sector collaboration and shared ownership.

Additionally, the consultant will ensure strong alignment with ICTD and digital standards through close collaboration on system architecture, security, interoperability, and compliance with the Digital Principles and Digital Public Goods requirements (<https://digitalprinciples.org/>). The consultant will also focus on enabling learning, evidence generation, and knowledge sharing across UNICEF and its partners to support informed decision making and foster the scaling of the solutions across countries.

Your main responsibilities will be:

- 1. Support the design and implementation of demonstration sites for data integration and drought data**
 - Work with country offices (e.g., Angola, Madagascar) to design how the data integrator connects with existing national systems, ensuring it can pull, harmonise, and display the datasets required for drought prediction workflows.
 - Ensure the data integrator works effectively with local and global datasets, WASH infrastructure information, and—where feasible—national systems to provide the data foundation needed for both real-time monitoring and drought prediction.
 - Document lessons learned, user feedback, and operational constraints from the demonstrations to refine both the data integrator and the drought modelling approach.
 - Strengthen the capacity of government and partners to ensure local ownership of both tools and their joint use in decision making.

- 2. Develop the integrated approach for the drought prediction tool (building on the data integrator)**
 - Review and design the drought prediction approach, ensuring that its methodology aligns with the data sources and integrations enabled by the data integrator, and map the actors and workflows required for a functional modelling pipeline.
 - Define the relevant datasets (global, national, in situ, and WASH infrastructure) and how they will flow through the data integrator to feed the drought monitoring and modelling system.
 - Identify the best approach to test and iterate the drought prediction tool in demonstration countries, gathering user feedback on how well the model works with the integrator-driven data inputs.
 - Assess feasibility and scalability of the combined solution (data integrator + drought tool), producing technical feasibility and market scoping reports aligned with UNICEF digital standards, Digital Public Goods (DPG) requirements, and climate-resilient WASH guidance.
 - Develop a resourced workplan for advancing the drought prediction solution, ensuring clear linkages to the data integrator development and roadmap.

- 3. Ensure technical coherence with UNICEF systems (ICTD, DPAM, OOI) for both tools**
 - Work closely with Information and Communication Technology Division (ICTD), the Office of Innovation (OOI), the department of Data, Analytics, Planning and Monitoring

(DPAM) and other internal teams to validate the architecture, hosting, security, and compliance of the data integrator and drought prediction tool within UNICEF's digital ecosystem.

- Guide the design of the data integrator to ensure it remains modular, scalable, and able to serve as the data backbone for drought modelling and WASH decisions and support functions. -support functions.
- Coordinate with ICTD, DPAM and others to manage documentation, versioning, and transparency requirements for DPG certification¹ across both components (API and drought tool).

4. Provide strategic leadership and coordination for the integrated solution

- Facilitate alignment across internal teams (ICTD, OOI, WASH Hub, Supply, Country Offices, DPAM) to ensure a shared understanding of how the data integrator and drought prediction tool operate together.
- Support the WASH Hub to convene and manage the Solution Advisory Group (SAG), ensuring joint decision-making on priorities, risks, and design choices for both tools.
- Translate technical insights into practical scaling pathways, outlining how the integrated solution will be adopted by countries and sustained over time.
- Ensure alignment with UNICEF's Digital Principles, Digital Public Good standards², Procurement Procedures³ and broader organizational strategies on climate resilience⁴ and data governance⁵.
- Support development of ToRs for procuring developers or service providers, ensuring coherence between data integrator development, drought modelling, and integration requirements.
- Propose concrete actions to operationalize the scaling strategy, demonstrate impact in Angola and Madagascar, and begin scaling to identified additional countries by end-2026/early-2027.

5. Coordinate externally to ensure alignment of the full solution with sector partners

- Coordinate with external actors to align data integration and drought prediction efforts with broader WASH, climate, and digital innovation initiatives.
- Engage stakeholders identified through the desk review to co-create approaches, validate assumptions, and ensure both tools respond to sector needs.
- Lead external knowledge sharing through webinars, learning exchanges, and documentation to position UNICEF as a leader in climate-resilient WASH data systems. -resilient WASH data systems.

¹ Digital Public Good (DPG) certification is managed by the Digital Public Goods Alliance, <https://www.digitalpublicgoods.net/registry>. The alliance validates open-source solutions that advance UN Sustainable Development Goals (SDGs) while adhering to privacy, security, and "do no harm" standards.

² Principles for Digital Development: <https://digitalprinciples.org>

³ UNICEF Procurement Policies (Supply Division): <https://www.unicef.org/supply/procurement-policies>

⁴ Sustainability and Climate Change Action Plan (2023–2030): <https://www.unicef.org/documents/sustainability-climate-change-action-plan>

⁵UNICEF Data Governance Frameworks: <https://data.unicef.org/resources/data-governance-fit-for-children/>

- Support scale-up discussions with countries and partners, demonstrating the feasibility and value of the combined data integrator and drought prediction solution.

6. Knowledge Management, Documentation, and Learning

- Develop and maintain technical documentation, training guides, and onboarding materials for both the data integrator and the drought prediction tool.
- Capture and synthesise lessons from demonstration sites to shape guidance for scaling the integrated solution to additional countries.
- Facilitate learning exchanges and communities of practice focused on climate-resilient WASH data systems. -resilient WASH data systems.
- Ensure all documentation aligns with DPG standards for openness, modularity, and accessibility.

Description of Assignment:

#	Deliverables/Outputs	Tasks	Delivery deadline	% of payment
1	Deliverable 1: Inception Report	A. Produce an inception report (up to 20 pages) outlining the planned work approach, timelines, activities and process	15/04/2026	10%
2	Desk review of data integrators for groundwater and Drought Prediction/ Monitoring Tools in UNICEF and WASH Sector at large	B. Report on existence/ absence of a data integrator for groundwater monitoring/ drought prediction approaches in the WASH Sector, highlighting key insights and recommending stakeholders, pipeline countries and key actors for co-creation of solutions	30/04/2026	10%
3	Proposed approach and workplan	C. Report outlining the applicability of data integrators for groundwater and how they can facilitate the development of drought prediction and early warning systems. This should include an outline of the role of UNICEF and the Hub and a work plan for scaling approach adoption. Develop solution roadmap outlining key project milestones and deliverables on the data integrator and drought prediction approach for the Hub going forward. This should be based on the solution scaling strategy. This work should outline how solutions can be guided to ensure open source and DPG elements.	15/05/2026	10%

4	Engagement with key countries (Angola, Madagascar) and other identified UNICEF country offices based on defined logic	D. Agreed consultation and workplan with at least 3 identified UNICEF country offices	15/05/2026	20%
		E. General webinar for UNICEF country offices on the data integrator for groundwater monitoring/ drought prediction approaches		
		F. Monthly reports on support given and outputs generated against agreed workplan		
5	Project management and coordination evidenced with monthly summary of support to country offices	G. Co-facilitate at least 9 solution advisory group meetings	31/07/2026	20%
		H. Provide support for interested country offices and stakeholders in the work being undertaken and how it can be replicated into new contexts, this will include supporting the implementation of the scaling strategy and development of deployment kits		
		I. Input into internal reporting/knowledge management processes as required		
6	Development of beta testing model for data integration	J. Outline the technical adjustments of the data integrator solution based in beta testing including technical adjustments, identified pipeline countries and justification and learnings to support the scaling strategy	31/08/2026	10%
7	Outline how the drought prediction tool will leverage the data integration tool and define other data sets required for prediction approach	K. Technical feasibility and market scoping report	30/09/2026	10%
		L. Work plan for the drought prediction work		

The consultant will have regular check in calls (at least twice a month) with the WASH Hub team.

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

- An advanced degree in modelling, ICTD, Service design, Systems thinking, Communication design, or other relevant 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.*

- Advanced technical expertise in digital systems for climate/drought monitoring, including experience with system architecture, opensource platforms, and data governance.
- Strong service design and systems thinking background, with at least 3+ years as a service designer/systems thinker and 8+ years overall in relevant digital or design-led disciplines.
- Proven experience scaling digital innovations in development contexts, including stakeholder engagement, and managing cross-sector digital projects.

- Experience handling, integrating, and interpreting climate, groundwater, or environmental datasets, plus familiarity with WASH sector digital tools and data systems.
- Strong coordination and facilitation abilities, including working with diverse technical teams and leading complex, multi-stakeholder processes.
- Experience working in developing, fragile, or emergency contexts, and comfort engaging both government and private sector innovation actors.
- Excellent communication and analytical skills, with the ability to translate technical insights into guidance, documentation, and scaling strategies
- Fluency in English, plus familiarity with tools like MS Office, PowerPoint, and Power BI.

Travel

In the financial proposal, include travel costs for:

- 2 trips from your home to Copenhagen for five working days at a time, including Daily Subsistence Allowance (DSA) rate
- 1 trip to Angola for five working days, including DSA rate
- 1 trip to Madagascar for five working days, including DSA rate.

All travel (in case of any) will be by most economical fare and reimbursement will be as per UNICEF policy, “As per UNICEF DFAM policy, payment is made against approved deliverables. No advance payment is allowed unless in exceptional circumstances against bank guarantee, subject to a maximum of 30 per cent of the total contract value in cases where advance purchases, for example for supplies or travel, may be necessary”.

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 technical and financial proposal with all-inclusive fee. Please see the financial proposal template.
- Technical proposals should be no more than 10 pages (not including Annexes) and should outline how the consultant intends to approach the assignment.
- Financial proposals 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
- Applications without a financial and technical proposal will not be considered.

The Technical Proposals will be evaluated against the following:		
REF	CATEGORY	POINTS
1.	Experience of the consultant <ul style="list-style-type: none"> • Advanced degree in ICTD, Service Design, Systems Thinking, Communication Design, or related field. • Demonstrated experience as a service designer/systems thinker and in digital or design-led disciplines. • Demonstrated expertise in digital systems for climate/drought monitoring, including system architecture, open-source platforms, and data governance. 	45

	<ul style="list-style-type: none"> • Experience working in developing, fragile, or emergency settings; ability to engage government and private-sector innovation actors. • Experience integrating and interpreting climate, groundwater, or environmental datasets; familiarity with WASH digital tools and data systems. • Strong ability to coordinate diverse technical teams and lead complex, multi-stakeholder processes. 	
2.	Proposed Methodology and Approach that outlines how the consultant would: <ul style="list-style-type: none"> • Demonstrate Technical Feasibility and Effectiveness • Coordinate Internal and External stakeholders • Document and Share Evidence • Conduct Stakeholder Engagement and Validation • Conduct Technical and Digital Systems Analysis • Build Capacity and Partnerships • Scale Through Replication and Adaptation • Monitor, Evaluate, and Iterate. 	35
Total Technical (max 80)		
Only Proposals which receive a minimum of 60 points will be considered further.		
3.	Financial proposal	20
Total Financial (max 20)		
Total Overall (max 100)		

For every Child, you demonstrate...

UNICEF's core 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 for ensuring 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.