ANNEX A

TERMS OF REFERENCE FOR INDIVIDUAL CONSULTANTS

Title of Assignment	International Consultancy to support the transition from Handpumps to Solar Powered Water Systems in Malawi	
Requesting Section	WASH	
Location	**Place of assignment**: • This assignment will be based at home with field visits to 4-6 various districts to be determined as part of inception. • Consultant is expected to spend up to six weeks in Malawi to undertake necessary field work including 20 days field work and 5 days in Lilongwe. • The consultancy is not office-based; however, it will be expected for the consultant to attend related and scheduled meetings and briefing sessions remotely. • Consultant will also be expected to participate in monthly remote progress meetings as scheduled.	
Contract Duration in months, including a review period following the submission of the final deliverable	9 months	
Estimated number of working days	100 working days + 2 weeks non costed review period	
Planned Start and End Date	**From:** 15 March 2026	**To:** 15 December 2026

BACKGROUND AND JUSTIFICATION

UNICEF is a global leader in Water, Sanitation, and Hygiene (WASH), working to ensure every child has access to safe water, adequate sanitation, and proper hygiene. In Malawi, UNICEF supports government and partners to strengthen rural water supply systems, improve service delivery, and promote sustainable management models. UNICEF's approach emphasizes equity, child safety, and inclusion, targeting the most vulnerable populations and ensuring that no one is left behind.

Rural water supply in Malawi relies heavily on handpumps, with an estimated 70,000 units, 30–40% of which are non-functional at any time. There is a growing trend towards converting handpump supplies to solar-powered systems, but practice in design, operation, and tariff setting is not always well linked to real groundwater conditions and realistic affordability by user groups. UNICEF seeks to support a controlled transition to solar-powered systems while maintaining essential handpump services where appropriate. This consultancy will provide evidence-based guidance to inform policy and practice, ensuring equity and sustainability in rural water supply improvements.

Potential Benefits of Solar-Powered Water Systems:

- Increased water access and reliability, reducing downtime compared to handpumps.
- Reduced physical burden for women, children, and people with disabilities.

- Environmental sustainability through renewable energy use.
- Opportunity for professionalized management and improved operation and maintenance.

Potential Risks:

- Technical complexity requiring specialized design, installation, and maintenance.
- Equity concerns if marginalized communities are excluded from upgrades.
- Financial sustainability challenges due to higher capital and maintenance costs.
- Risk of neglecting handpumps, leaving communities without backup options.
- Capacity gaps in district water offices and local providers.

UNICEF's role is to ensure that solar transitions are evidence-based, context-appropriate, and inclusive, supporting government and partners to make informed decisions that maximize benefits and minimize risks for all users.

PURPOSE OF THE ASSIGNMENT

The main purpose of the assignment is to collect and analyze technical and financial data on solar-powered water systems and handpumps, covering performance, life-cycle costs, social benefits, and sustainability. The consultancy will build a comprehensive database and deliver robust economic analysis to guide national and district decisions on transitioning from handpumps to solar systems in Malawi.

SCOPE OF WORK/OBJECTIVES

Scope of Work

- Design and implement a data collection framework for rural water supply sites transitioning from handpumps to solar-powered systems across 4-6 districts in Malawi.
- Conduct field visits to selected sites to gather detailed technical data (system specifications, installation quality, operational status, hydrogeological context) and financial data (capital costs, operation and maintenance expenses, tariff structures, funding sources, management models).
- Assess the current performance and limitations of existing rural hand-pump water supply systems, including functionality rates, reliability, water yield, user satisfaction, and maintenance arrangements.
- Evaluate the technical, financial, operational and environmental feasibility of transitioning to solar-powered water supply systems, considering water demand, life cycle costs, hydrogeological conditions, system design requirements, and available management models.
- Engage with stakeholders (district water offices, service providers including contractors, community representatives) to validate data and capture user perspectives on system performance and financial sustainability.
- Analyze the social, gender, and child-protection implications of each system type, focusing on impacts on water access, time burden, safety, and service inclusion for vulnerable populations.
- Develop a comprehensive database of all collected technical, financial, environmental and social information, ensuring data quality and consistency for subsequent economic analysis.
- Analyze the database to identify trends, cost benchmarks, and factors influencing the success or failure of solar transitions, including comparative analysis with handpump systems.
- Document best practices, risks, and lessons learned from similar transitions within the country and in comparable contexts globally.

- Prepare evidence-based recommendations and practical guidance for districts and partners, supporting informed decision-making on technology choices and management models.
- Review national guidelines, national policies on solar powered systems, management models including water tariffs.

Objectives

1. **Develop and implement a data collection framework** for rural water supply sites transitioning from handpumps to solar-powered systems.
2. **Collect and validate technical, financial and social data** from selected sites, including system specifications, operational status, costs, and user perspectives.
3. **Build a comprehensive database** of all collected information to enable economic and comparative analysis.
4. **Analyze data to identify trends, cost benchmarks, social and environmental implications and factors influencing successful transitions** including comparative analysis with handpump systems.
5. **Prepare evidence-based recommendations and practical guidance** for districts and partners, supporting informed decision-making on technology choices and management models.

REPORTING REQUIREMENTS

To whom will the consultant report (supervisory and any other reporting/communication lines):

- The consultant will report to the Chief of WASH with frequent coordination with other UNICEF sections based in Lilongwe, Malawi.
- The consultant will furthermore engage with government counterparts and key stakeholders in the sector at national and district levels face to face while in country and remotely otherwise.

What type of reporting will be expected from the consultant and in what format/style will the submissions of reports/outputs be done:

- Weekly short email updates will be expected to report on progress and plans towards overall objectives.
- Regular discussions will be held face-to-face while in country and virtually otherwise. The consultant is expected to stay in touch via telephone, emails, and other online platforms.

How will the consultant deliver work and when will reporting be done:

- The consultant will be home based with up to six weeks presence in Malawi for field work (20 days) and in Lilongwe (5 days) for required technical work and briefing meetings.
- The consultant will frequently visit districts for data collection and stakeholder engagement.
- The consultant will provide monthly deliverables based on an agreed work plan and delivery schedule.
- In the first week of the month, the consultant will produce a work plan outlining the key deliverables in consultation with the contract supervisor. Where amendments arise during the month, a formal email will be shared and attached to the monthly report.
- The consultant will present the draft documents and the final report to UNICEF as agreed during the time of engagement and as per the work plan.

EXPECTED DELIVERABLES

In alignment with the scope of work described above, the consultant will be expected to perform the following activities and deliverables per the schedule and estimated dates below.

Table 1: Expected Deliverables against Task and Milestones

Task/Milestone Overview	Deliverable/Outcome	Planned Delivery Deadline	Estimated Cost-Percentage Payable
Develop data collection framework and plan fieldwork	**Inception report:** Data collection framework and fieldwork plan	End of March 2026	10%
Conduct field visits and collect technical and financial data from selected sites & stakeholders	**Progress report:** Site-level data and stakeholder validation summary	End of June 2026	25%
Build a comprehensive database & conduct preliminary analysis.	**Database and interim analysis report**	End of September 2026	35%
Final analysis, recommendations, and guidance for districts and partners	**Final report:** Economic analysis, recommendations, guidance, and database handover	End of November 2026	%
	Total	Maximum of 100 working days during the contract period .	100%

The actual starting date may impact the dates estimated in the TOR, a detailed workplan with exact timeframes and actual delivery dates will be jointly agreed upon between the consultant and the supervisor upon contract signature and which will be updated on a regular basis as needed.

PERFORMANCE INDICATORS FOR EVALUATION OF RESULTS

The performance of work will be evaluated based on the following indicators:

- Completion of tasks specified in Terms of Reference
- Compliance with the established deadlines for submission of deliverables
- Quality of work
- Demonstrating high standards in cooperation and communication with UNICEF and counterparts
- Adherence to UNICEF's child safeguarding policy

PAYMENT SCHEDULE

All payments, without exception, will be made upon certification from the supervisor of the contract of the satisfactory and quality completion and submission of deliverables and upon receipt of the respective and approved invoice. 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.

The consultancy cost will be based on an all-inclusive fee basis which will include all cost related to this assignment including professional fee, travel and living cost, transportation cost (fuel, car hire, etc), stationery, communications etc. No other costs are payable under this consultancy.

DESIRED COMPETENCIES, TECHNICAL BACKGROUND AND EXPERIENCE

Academic qualification:

- Advanced degree in Water Resources, Engineering, Public Health, or related field is required.

Work experience:

- Minimum 8 years' relevant experience in rural water supply, preferably in Africa is required.
- Experience in policy analysis, stakeholder engagement, and economic analyses is required.
- Experience in field research, including data collection, analysis and database management is required.

Technical skills, knowledge and strength areas:

- Demonstrated expertise in solar water systems and handpump technologies is required.
- Excellent analytical, writing, and communication skills are required.

Languages:

- Excellent verbal and written communication skills in English are required.

ADMINISTRATIVE ISSUES

UNICEF will maintain regular communication with the consultant, providing ongoing feedback, guidance, and necessary support to ensure the objectives of the assignment are met. UNICEF will also remain informed of any emerging issues related to performance and quality of work.

As per policy on consultants, the individual will be expected to complete a list of mandatory training, including policies on Prohibiting and Combatting Fraud and Corruption, Prohibition of Discrimination, Harassment, Sexual Harassment and Abuse of Authority and other relevant policies for their information and acknowledgement upon acceptance of the offer. Any engagement with children requires risk assessment, informed assent/consent, and safe referral protocols.

Before the issuance of the official contract, the individual consultant is requested to:

- complete the applicable mandatory trainings.
- ensure that the visa (where applicable) and health insurance required to perform the duties of the contract are valid for the entire period of the contract. The consultant is solely responsible for both the visa and own health insurance.

- the selected consultant is 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. The vaccine mandate 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.

UNICEF offers reasonable accommodation for consultants with disabilities. This may include, for example, accessible software, travel assistance for missions or personal attendants. We encourage candidates to disclose their disability during their application in case they need reasonable accommodation during the selection process and afterwards in their assignment.

Consultants must have their own equipment, tools and materials needed to perform their services. They will use their own laptops/computers, any application or system needed to complete the assignment.

The access to UNICEF email and system is restricted to UNICEF staff therefore consultants should not be granted access unless it is imperative to complete assignment. The need for email access will be determined in consultation with the contract supervisor and will require approval from management.

UNICEF can provide office space and internet connectivity as required. The consultant can work from home as necessary and agreed with supervisor.

CONDITIONS

- The consultant is expected to deliver the assignment within a total of 100 working days spread over the 9-month contract duration.
- No contract may commence unless the contract is signed by both UNICEF and the consultant.
- The consultant will be home based with up to six weeks presence in Malawi for field work (20 days) and in Lilongwe (5 days) for required technical work and briefing meetings.
- The consultant will be paid an all-inclusive fee (professional fee, travel, living costs, transport, stationary, communication and other miscellaneous expenses including any costs for translators and drivers) as per the stipulated deliverable and payment schedule.
- The consultant is not entitled to additional payment for overtime, weekends or public holidays. There will be no additional costs or payments outside of the all-inclusive fee.
- No travel should take place without an email travel authorization from section prior to the commencement of the journey from the duty station.
- Standard UNICEF procedures will apply for invoicing and all other financial management requirements set out in the contract.
- Standard penalty clauses will also apply for late and poor-quality deliverables. The supervisor of the contract will provide the consultant with the criteria for the evaluation of the quality of each deliverable.
- Additional details of UNICEF rules, regulations and conditions will be attached to the contract.
- The consultant will not have supervisory responsibilities or authority on UNICEF budget.
- Individuals engaged under a consultancy 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.
- Consultants 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.

HOW TO APPLY

Interested consultants should provide the following through the online application:

1. Curriculum Vitae
2. Brief technical proposal (no longer than four pages) demonstrating the consultant's understanding of the assignment and approach/methodology to the assignment
3. At least two work samples that are relevant to this TOR and solely the candidate's own original work
4. Financial proposal including a breakdown of the all-inclusive fee (including professional fees, travel, living cost, visa and other costs where applicable). Complete the attached form.

Financial Proposal.xlsx

5. References details from at least 3 supervisors, including the current supervisor.