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TERMS OF REFERENCE

National Consultant for Community Water Supply Operation and Maintenance (O&M) Module Development

CONTRACT MODALITY	**Individual Consultancy**
DUTY STATION	**Remote work, Sierra Leone, Freetown**
DURATION OF CONTRACT	**10 Months**

Purpose of Assignment

Access to water, sanitation and hygiene (WASH) is a fundamental human right and a priority in Sierra Leone because of its importance for health, nutrition, education, gender equality and sustainable development. While Sierra Leone has made progress in basic water access (62.6%), significant urban-rural (79.4% versus 54.5%) and coastal-mainland (57.8% versus 63.9%) disparities persist. Alarmingly, approximately 42.4% of water facilities fail within the first year of construction, reflecting challenges related to operation and maintenance (O&M), financing, spare-parts availability, technical support, and community ownership.

The Government of Sierra Leone has prioritized improving the long-term functionality and sustainability of water infrastructure. However, there is currently no comprehensive practical O&M module that provides standardized guidance for different water supply systems and user groups. Existing tools and approaches vary significantly among implementing agencies and are often not adapted to the operational realities of rural communities.

To address these challenges, UNICEF, in close collaboration with the Ministry of Water Resources and Sanitation, intends to develop a practical national Community Water Supply Operation and Maintenance Module. The module will provide standardized guidance and tools for operation, preventive maintenance, troubleshooting, asset management, functionality monitoring, financing arrangements, and community management of water supply systems.

UNICEF therefore seeks to engage a National Consultant for Climate-Resilient WASH Infrastructure Design and O&M Module Development, to support the development, field testing and institutionalization of practical sanitation technology options and sustainable O&M models for community water-supply systems. The consultancy will support the development of a national module that can be institutionalized and used across Sierra Leone. While development will have a national focus, the module and associated tools will be field-tested in selected Iceland-supported communities as well as other areas representing different geographical, geological, hydrogeological and service delivery contexts. Lessons from field testing will be used to refine the module before national validation and wider rollout.

The Consultant will be contracted and administratively supervised by UNICEF Sierra Leone. Technical guidance and oversight will be provided jointly by UNICEF and the Ministry of Water Resources and Sanitation through the designated focal point(s). The Consultant will be embedded within and work in close day-to-day coordination with the Ministry of Water Resources and Sanitation to support priorities of TOR and strengthen institutional capacity.

The Consultant will also engage regularly with the Ministry of Health, Ministry of Fisheries and Marine Resources, Ministry of Environment and Climate Change, District Councils, implementing partners, community structures, local artisans, technicians, and other relevant stakeholders to facilitate implementation of assignment activities.

Scope of Work

The consultancy will support the Ministry of Water Resources and Sanitation to develop, field-test and validate a practical national Water Supply Operation and Maintenance (O&M) Module to improve the functionality, sustainability and long-term performance of water supply systems across Sierra Leone.

The assignment will develop practical O&M guidance for different commonly implemented water supply technologies, including hand pumps, hand-dug wells, solar-powered systems, gravity-fed schemes, piped networks and institutional water facilities at school and Health center. The module will include preventive maintenance schedules, inspection checklists, troubleshooting procedures, water-quality monitoring requirements, and functionality-monitoring tools.

The consultancy will also develop a sustainability framework covering the roles and responsibilities of Water Management Committees/WASHComs, operators, technicians, service providers, District Councils and government institutions. This will include guidance on tariff setting, revenue collection, financial management, maintenance reserves, life-cycle costing, asset management, spare-parts supply and post-construction support. In addition, the consultant will develop training packages and deliver Training of Trainers (ToT) programs for Master Trainers and community technicians to support wider rollout and institutionalization of the module nationwide.

Methodology and Technical Approach

•The Consultant will apply a participatory, practical and evidence-based approach to ensure the O&M module is technically sound, user-friendly and applicable across different water supply systems and management arrangements in Sierra Leone. The assignment will begin with a desk review of existing policies, standards, O&M manuals, functionality monitoring systems and sector practices, followed by field assessments of selected water supply schemes to identify common operational challenges, maintenance gaps, financing issues and capacity needs.

•Working closely with the Ministry of Water Resources and Sanitation, UNICEF, District Councils, service providers, technicians and community structures, the Consultant will develop practical O&M guidance, sustainability tools, preventive maintenance schedules, troubleshooting procedures, asset management tools and financing mechanisms for different water supply technologies. The Consultant will ensure that the modules are adapted to local institutional capacities and operational realities, including remote and climate-vulnerable areas.

•Draft modules and tools will be field-tested in selected Iceland-supported communities and other representative locations to assess their practicality and effectiveness. Based on lessons learned, the Consultant will refine the materials and develop user-friendly training packages. The assignment will include Training of Trainers (ToT) for Master Trainers and practical training for community technicians, operators and relevant government staff to strengthen local capacity for operation, maintenance and long-term sustainability of water supply systems. The final modules and training materials will be validated through stakeholder consultations and technical review

workshops before submission for national adoption and wider rollout.

Work Assignment Overview	Deliverables/ Outputs	Delivery deadline and Input days
Inception, Desk Review and Field Assessment	Review existing O&M policies, manuals, tools and functionality monitoring systems. Conduct field assessments of different water supply systems and management models. Submit inception report, methodology, workplan and assessment findings.	**31.01.2027** **20 days**
Draft Water Supply O&M Technical Module	Develop practical O&M guidance for hand pumps, solar-powered systems, motorized systems, gravity-fed schemes and small piped networks. Include preventive maintenance schedules, troubleshooting guidance, functionality monitoring tools, water-quality monitoring requirements and inspection checklists. **Travel: to Four districts for 7 days**	**28.02.2027** **25 days**
Community Water Supply Sustainability and Management Module	Develop guidance for community management structures, financial management, tariff systems, maintenance reserves, life-cycle costing, spare-parts management, asset management and post-construction support models.	**30.04.2027** **20 days**
Training package, Training of Trainers (ToT) and community technician training	Develop Master Trainer materials, facilitator guides, participant manuals, visual job aids and practical training modules. Conduct Training of Trainers sessions and training for community technicians and operators. Produce field training report and revised training materials. **Travel: to five districts for 15 days**	**31.07.2027** **40 days**
Validated national O&M module and final report	Facilitate validation workshop, incorporate stakeholder feedback and lessons from field testing. Submit final O&M module, sustainability module, training package, implementation roadmap and consultancy report.	**30.09.2027** **15 days**

Payment Schedule:

Payment will be made on submission and acceptance of 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.

Important Notes

- 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 health insurance (and visa if applicable) 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.
- UNICEF offers reasonable accommodation for consultants 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.

QUALIFICATIONS / SPECIALIZED KNOWLEDGE / EXPERIENCE/ COMPETENCIES (CORE/TECHNICAL/FUNCTIONAL) / LANGUAGE SKILLS REQUIRED FOR THE ASSIGNMENT

Minimum Qualification required:

Education:

Master's degree in in Civil Engineering, Sanitary Engineering, Environmental Engineering, Public Health Engineering, WASH, or a related field.

Work Experience:

- The consultant should have at least five years of relevant professional experience in rural and community water supply systems, including operation and maintenance, functionality monitoring, sustainability assessments, and development of technical guidance or training materials.
- Demonstrated experience with hand pumps, solar-powered systems, motorized systems, gravity-fed systems and piped networks.
- Experience developing O&M manuals, technical guidance and training modules.
- Proven experience in functionality monitoring and sustainability assessments.
- Experience delivering Training of Trainers programmes and capacity development activities.
- Excellent report writing, facilitation and communication skills.
- Fluency in written and spoken English.

Language Requirements:
English
Knowledge/Expertise/Skills:
Proficiency in AutoCAD, GIS or other relevant engineering software
Desirables:
- Experience facilitating stakeholder consultations and technical workshops.
- Experience in life-cycle costing and asset management systems.
- Experience developing community management and sustainability models.
- Previous experience with UNICEF, government ministries, UN agencies or international NGOs.
- Experience in Sierra Leone or similar contexts.

Technical proposal requirement:
Consultant required to submit a short technical proposal describing the proposed methodology, workplan and relevant experience is.