

UNITED NATIONS CHILDREN'S FUND

Terms of Reference for Long Term Arrangement

Wastewater sampling and analysis

1. Programme information:

Programme Component: *WASH – BMGF – Sanitation Technology Demonstration in Emergency Settings in Lebanon*

Intermediate Result: Wastewater sampling and analysis

• Purpose of assignment

To sign a Long Term Arrangement with a Laboratory for the sampling and analysis of raw and treated wastewater within Lebanon with an anticipated validity of two years with the option of extension for another year, subject of requirement and satisfactory performance.

UNICEF intends to establish a Long Term Arrangement (LTA) with one or several Laboratories for the provision of wastewater sampling and analyses.

• Requirement:

The supplier must provide the sampling, and the analysis for wastewater treatment systems installed in Informal settlements in around 50 locations spread all over the country. A minimum of 200 Samples and analyses are anticipated.

At the site level, sampling should be conducted in replicates to ensure proper representation of the targeted parameters and to account for different variability sources. The sampling shall be done for each manhole or for the sampling points indicated by UNICEF. Sampling shall be undertaken following the requirement listed hereunder.

- a- Only Laboratory personnel trained on wastewater must take all samples. Sampling must be carried out taking due care to avoid personal risk or injury arising from the nature of the sample itself or the location of the sample point.
- b- Sample bottles/containers must be clearly labelled and identified. The time/date must be recorded together with all relevant details of location and sampling conditions that may be present at the time of sampling, e.g. weather conditions.
- c- Sample bottles must be securely sealed following sampling and stored securely for safe transport to the laboratory in cool boxes.
- d- Samples must be analyzed within 24 hours of sample collection, as a rule; however, there may be specific requirements for tests.
- e- The grab sample should be representative of the wastewater conditions at the time of sample collection.
- f- The sample volume depends on the type and number of analyses to be performed.
- g- The Laboratory personnel should collect the sample directly with the sample container.
- h- pH, Electrical Conductivity, Total Chlorine, Phosphorus, Chloride, Nitrogen Ammonia, Free Ammonia, Nitrite (NO₂) or Nitrite-Nitrogen (N-NO₂), Nitrate (NO₃) or Nitrate-Nitrogen (N-NO₃), Total Kjeldahl Nitrogen (TKN), Total Organic Carbon (TOC), Biochemical Oxygen Demand Other 5 Days (Bod₅), Chemical Oxygen Demand (COD), Dissolved Oxygen (DO), Total Suspended Solids (TSS), Total Dissolve Solids (TDS), Heavy Metals, Total Coliforms, Total Fecal Coliforms, Escherichia Coli (E.Coli), Helminth Eggs, Shall Be Tested According WHO Procedures.
- i- UNICEF has the right to adapt the parameters to be tested for any sample. In this event the unit price per analysis will be used.

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- **Specific requirements:**

- a) The laboratory must describe the sampling procedures followed to avoid contamination of the sample and to ensure the safety of the personnel.
- b) The different norms, limits of detection, and material used for analyses shall be described.
- c) The laboratory must describe its capacity to collect and treat samples the same day for every governorate.
- d) The following parameters are to be investigated based on WHO procedures: pH, Electrical Conductivity, Total Chlorine, Phosphorus, Chloride, Nitrogen Ammonia, Free Ammonia, Nitrite (NO₂) or Nitrite-Nitrogen (N-NO₂), Nitrate (NO₃) or Nitrate-Nitrogen (N-NO₃), Total Kjeldahl Nitrogen (TKN), Total Organic Carbon (TOC), Biochemical Oxygen Demand Other 5 Days (Bod5), Chemical Oxygen Demand (COD), Dissolved Oxygen (DO), Total Suspended Solids (TSS), Total Dissolve Solids (TDS), Heavy Metals, Total Coliforms, Total Fecal Coliforms, Escherichia Coli (E.Coli), Helminth Eggs.
- e) Sampling should be conducted in replicates to ensure proper representation of the targeted parameters and to account for different variability sources.

All the above needs to be included and described in the technical proposal.

- **Prices schedule:**

The bidder must fill the detailed prices following the template in Annex 1 – financial offer.

*It should be noted that UNICEF Focal point will communicate the analysis list for each sample with the assignment for the sampling campaign.

- **Special notes:**

- a) Supplier must be agreeable for UNICEF to visit his laboratory and for site visits during the sampling campaigns.
- b) The LTA will be signed with one or several suppliers and will be valid for one year, with possibility of further extension

Major Duties and Responsibilities

- The supplier shall sample the sites within three working days after being assigned regardless of the location within Lebanon
- The supplier shall test the samples within 24 hours after the sampling
- The supplier shall provide UNICEF with the results within ten days of the sample.

Deliverables and performance

At the end of each given assignment, the incumbent is expected to have delivered:

- Launch sample within 3 working days after the request from UNICEF

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- The treatment of the sample in laboratory must be launch the day of the sampling and maximum of 24hours after sampling.
- Samples once taken must be store in a refrigerated environment. The supplier must use fridge or cooler with freeze packs to store the samples straight after sampling.

2. Technical Requirements for reporting

The selected company will be coordinating with UNICEF Focal point to get the location to sample and to agree on the reporting. The reporting should be as following

Each sample should be named after:

- the PCODE of the location
- the sample specification (entry septic tank, Anaerobic filter, pound...)
- the date of the sample

Each analyses result shall present:

- Sample code
- date of sampling
- date of testing
- Parameter tested and the method of test
- The limit of detection
- The result
- The associated limit of discharge in environment Decision No. 8/1 30/1/2001 MoE

3. Proof of Qualification/Special Knowledge/experience

- Company profile
- Registration certificate to the Ministry of Public Health
- VAT mandate
- Quality certification list from independent firms
- Any certification (ISO 9001,...)
- Capacity - List of equipment with detailed documentation date of production/purchase as well as the certified calibration if existing.
- List of staff and associated CVs
- The laboratory shall provide the forecasted maximum load (or limit load), which will be the maximum limit allowing the sampling and analysis same day or within the 24h after the sampling.
- Documents and Communication in writing in English, oral communication in Arabic and English.

supporting documents for the above described to be included in the technical proposal

4. Bidders are requested to submit their rates in the attached Annexes.

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The attached annex specifies:

- a unit cost per test and the associated sampling cost depending on the location.
- A sampling fee to be calculated per sample.

*The bidder can provide a detailed price per cadaster if the governorate scale is not accurate enough.

** It must be noted that UNICEF will try as much as possible to combine sampling campaign per area to limit the transportation. This need to be taken into consideration while proposing the sampling fee.

5. Technical evaluation criteria:

Technical evaluation is composed of 70 points. Technical Proposals receiving 49 points or higher will be considered technically responsive. Non-technically compliant and non-responsive Proposals will not be given further consideration.

Criteria	Points
Applicable delivery methods and understanding of UNICEF requirements	5
Laboratory owned equipment, date of purchase and calibration Material owned by the laboratory: <ul style="list-style-type: none"> - Availability of equipment for the measure and storage of samples - 5 points Date of purchase of equipment: <ul style="list-style-type: none"> - Less than 2 years - 3 points - Between 2- 5 years - 2 points Above 5 years - 1 point Calibration: Recent calibration (2017 onwards)- 2 points (All material less than 2 years old are consider being calibrated)	10
<ul style="list-style-type: none"> - Safe Work Method Statement (SWMS) addressing safe sampling of wastewater (8 points) including Occupational, Environmental Health & Safety Plans (OEHS) (2points) 	10
Sampling Method statement- 1 to 2 pagers detailing planning, labelling, reporting, and analysis procedures detailing standard measures for all parameters (15 points) Including sample of the reporting form (5 points)	20
Certification ISO 9001 (5 points), other certificate (1 point each) Maximum 10 points	10
Experience of staffs dedicated to the project <ul style="list-style-type: none"> - Team leader with at least 5 years' experience 5 points for the first 5 years up to 10 points) Sampling technician certified trained form the laboratory on SWMS 2 years' experience (5 points)	15

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<p>UNICEF will evaluate the Price Proposals of the companies that pass the technical evaluation. The total number of points allocated for the Price Proposal is 30 points. The maximum number of points will be allocated to the Proposal with the lowest price. All other Price Proposals shall receive points in inverse proportion to the lowest price.</p>		
<p>Expected Budget for the Works and Terms of Payment</p> <p>The foreseen LTA is targeting a time agreement not specifics quantities. In regard to actual BMGF grant, UNICEF is expecting a total budget for 200 samples and replicates with analysis for the LTA will be 100,000 USD . The payment schedule will be of a maximum of 30 days after the completion of the work and per delivery and provision of invoices.</p>		
<p>Timing/Duration of LTA: Initially for two years, with foreseen extension of another year based on satisfactory performance and need as well as a market assessment with regards to process and availabilities of the required services.</p>		
<p>Administrative issues:</p> <p>The contract is subjected to the term, conditions and price of the LTA contract / PO. All payment will be subjected to the satisfactory deliverable specify in the PO and the contract. The payment will be based on 30 days' completion of the work after submission of an invoice to UNICEF.</p>		