



INDIVIDUAL CONSULTANT PROCUREMENT NOTICE/SCOPE OF WORK

Title of Individual Consultant: IC-021-22 RE-National Water Purification System Design Expert

Assignment: Design six water purification systems for the project “Climate Action for Human Security in Iraq’s Al Hawizeh Marshlands”

Duration of assignment: 2 months

Duty station: Home Based with travel to project site/s

Start Date: 20 April 2022

Language Required: Arabic& English

BACKGROUND

UNDP Iraq seeks to implement a 3-year “Climate Action for Human Security in Iraqi Marshlands” project, jointly with the Iraqi Ministry of Environment (MoEn) and the local government in Misan. The project strategy is a direct response to the current levels of severe environmental degradation in the Al Hawizeh marshes, amidst returning IDPs. The projected changes in marsh and upstream climate regimes may well reverse the pattern of return of IDPs to the marshes and induce a second wave of displacement over time due to the deterioration of marshland biodiversity and the ecosystem services on which the livelihoods of returning IDPs depend. This project is considered a pilot project within the Regional umbrella project (SDG Climate Facility project: Climate Action for Human Security) Funded by SIDA includes regional Arab-wide as well as national-level activities. UNDP will work in close coordination with the MoEn and with Misan Governor’s office, both of which will designate official focal points who will provide management support to UNDP for the implementation of project activities.

The Al Hawizeh Marshes are located in the Misan governorate in southeast Iraq just east of the Tigris River. Together with the adjacent Central and Al Hammar marshes within the Thi Qar and Basra governorates, respectively, they are at the southern tip of large alluvial plain fed by the flows of the Tigris and Euphrates rivers and their distributaries. The three marsh areas consist of a set of interconnected, shallow, freshwater lakes, marshes and seasonally inundated large, flat floodplains.

Based on consultations with the government, local communities, and civil society stakeholders on climate risks in the marshlands and priority activities to reduce displacement pressure, the overall objective of the project is to enhance climate security among returning IDPs to the Al Hawizeh marshes.

Objectives

The objective of the work of the consultant is to support UNDP in implementing its project 'Climate Action for Human Security in Iraq's Al Hawizeh Marshlands' to achieve the following:

- Design six solar energy powered water purification systems to be implemented in Al Hawizeh marshlands, the six units will cover the drinking water needs of at least 1500 (50% women) people
- Work carried out by the consultants needs to be based on the recommendations of the Gender Gap Analysis/Gender Equality Action Plan prepared by the project in 2021, which will be provided to the consultant upon commencement of the assignment

Key Tasks and Responsibilities

The **National Water Purification System Design Expert** will act as a national expert with the following responsibilities:

1- Data Collection and Records Documentation

The consultant shall collect all project related information including, but not limited, to:

- Maps for project area relevant locations.
- Site plans for the construction site.
- Full site survey for the existing situation –if any-.
- All structurally required information including dead weights, live weights, wind pressures, external forces, geotechnical information, etc.
- All relevant sites specific information including geography, topography, groundwater table, soil conditions, site boundaries, etc.
- National requirements regarding the targeted facilities.
- Breakdown of prices from recent projects of relevant nature.

The Consultant has to collect design data from all sources and not only depend on reviewing the given baseline data.

2- Collected Data Review and Analysis

Shall review and study all collected data, reports, plans, maps, drawings, etc with the purpose of fully familiarizing itself with the project area and conditions, identifying information gaps, arranging for additional data requirements collection, field investigations and finally commencing the engineering services.

3- Interviews with UNDP and Counterparts

In order to ensure a coherent approach, the consultant shall launch a series of extensive meetings with UNDP and the counterparts (including local authorities, local community, Ministry of Environment and other related ministries) with a view of defining the overall requirements in all aspects including:

- Architectural and civil setup.
- Mechanical and electrical setup.
- Surface areas.
- Utilities' requirements.
- Minimum standards.
- Design standards and performance criteria.
- Others.

During this task, the consultant shall also arrange for land plots turnover including fixation of site boundary marks and identification on surveying plans.

Following completion of this task, the consultant is expected to have developed a full idea regarding site requirement that may evolve into a design concept.

4- Field Verification of Collected Data

Carry out all required field investigations and verifications with the purpose of verifying the collected data, information, maps, plans, etc and for collecting and additionally required information.

5- Surveying Works

Carry out the required detailed leveling surveys for the site. The site survey shall include all boundaries, general location, angles, lengths, surrounding facilities, levels in 5 meters intervals, etc to enable the preparations of a detailed site layout

6- Preliminary Engineering Services for the Facilities included in the Scope of Service

Prepare all required preliminary architectural and general engineering designs, drawings, calculations, plans, BOQs with cost estimates, etc for all project components including:

- Site layout plans including all facilities and utilities, etc.
- Detailed architectural, structural, mechanical, electrical, landscaping designs and drawings for the site facilities under the scope of work.
- Designs and full technical specifications for the equipment.
- Municipal power supply, water supply and sewage requirements.
- Water utilities.
- Electrical utilities.
- Wastewater utilities.
- Mechanical utilities.
- Internal & external infra-structure.
- signage ... etc.

7- Preliminary Design Report

The report shall include Detailed Comprehensive Assessment for all categories and specialties with Recommendation. The report includes all collected data and information, carried out designs and drawings for all categories (architectural, structural, electrical, mechanical, infra-structure, landscaping ... etc.), calculations, BOQ, estimated costs, technical specifications, schedules ... etc.

8- Detailed Designs and Construction Drawings

Based on the findings of forgoing activities, prepare all necessary detailed designs and technical specifications for the works under consideration, including architectural, landscaping, structural, civil, mechanical, electrical, control, instrumentation, etc for site including all components.

Detailed plans shall be plotted to suitable scales in accordance with international standards, illustrating different parts of the facility, fully dimensioned and detailed. Landscaping inclusive full detailed infra-

structure plans for site shall also be prepared. Mechanical drawings shall be in adequate detail illustrating; equipment; piping; fittings; electromechanical components; connections, etc.

Electrical drawings shall include wiring diagrams, single line diagrams, site illumination, cabling, grounding, control, instrumentation, etc for all components and for site. The drawings shall illustrate electric operation and control panels, switchboards, measurement equipment panels, synchronizing equipment, lighting panels, locations of roads electrical poles, routes of electrical cables, design & details of electrical cables, details of lighting poles (solar lighting method) etc.

Provide and give assurance of the highest quality of detailed engineering consulting services required to do civil works design; topographic survey; detailed engineering design; technical specifications, unit price analysis, BOQs engineering estimates, construction, drawings

Provide Technical Specifications that shall comply with the latest Design Standards and shall include the descriptions of the work items, material requirements, construction requirements and methods of measurements.

Provide Time schedule that shall illustrate the Consultancy Entity's design stages. This is a graphic representation of the project activities, the time it takes to complete them, and the sequence in which they must be done.

Prepare the following documents for the work after UNDP's approval on preliminary design plan proposal, taking into consideration the local regulatory, standards and in accordance with the required specifications:

- Detailed bill of quantities for each structure/scheme;
- Technical requirements / specifications for the required task, civil, mechanical, electrical;
- Engineering Estimates detailed budget for the civil, mechanical, electrical, surveillance and architectural work;
- Detail drawings/ (depends on the required task) that should include but not limited to;
- Detailed civil and architectural drawings that should include "Profiles, elevations, plans, and details";
- Detailed structural drawings;
- Detailed electrical drawings;
- Detailed finishing tables & drawings;
- Detailed mechanical drawings;
- Detailed landscaping & infra-structure drawings
- Detailed machinery, equipment, furniture, equipment; signage ... etc;
- Detailed sanitary drawings;
- Material Specifications including standard coding requirements for materials;
- Any other documentation required for the tender process.

9- Specifications, Bill of Quantities and Final Cost Estimates

The consultant shall prepare all required technical specifications in accordance with national, international and UNDP standards for all works components designed. Furthermore, detailed BOQ's shall also be prepared of all items of works and for each component and subcomponent on separate basis. The BOQ's shall be developed to such a level of details as to allow easy estimation of construction costs, which would allow receipt of responsive contractor bids for the works under consideration. Following preparation of the BOQ's, the consultant shall utilize the data and information collected in foregoing tasks to prepare detailed cost estimates of all included works. The specifications and BOQ's shall be formatted as per an agreed international/national format.

10- Detailed Designs Report

The report shall include all collected data and information, carried out designs and drawings for all categories (architectural, structural, electrical, mechanical, infra-structure, landscaping ... etc.), calculations, detailed BOQ, estimated costs, technical specifications, schedules ... etc. and shall clearly portray all spent efforts during the entire phase.

The consultancy will be for a period of 2 months. The assignment will be managed under the UNDP Project Manager and the overall EECC pillar head.

3. Scope of Work and Key Deliverables

Under the overall supervision of the Project Manager and UNDP EECC pillar head, the **National Water Purification System Design Expert** shall contribute to the provision of the following deliverables:

	Scope of work	Key deliverables	Payment Percentage	Expected completion date
1	Preliminary design report for six solar PV water purification system including all collected data and information, carried out designs and drawings for all categories (architectural, structural, electrical, mechanical, infra-structure, landscaping ... etc.), calculations, BOQ, estimated costs, technical specifications, schedule etc.	Preliminary design report for six solar PV water purification systems	30%	10 May 2022
2	Detailed Designs Report for six solar PV water purification system including all collected data and information, carried out designs and drawings for all categories (architectural, structural, electrical, mechanical, infra-structure, landscaping ... etc.), calculations, BOQ, estimated costs, technical specifications, schedule etc.	Detailed Designs Report for six solar PV water purification systems	70%	10 June 2022

The consultant is also required to make him/herself available to attend remote/ virtual meetings / discussions via skype/ zoom or other relevant modality for planning meetings (in person)/ feedback meetings convened by Project Manager, head of the pillar, and the UNDP oversight team.

The **National Water Purification System Design Expert** must be able and willing to collaborate and assist other team members.

5. Duration

The contract is effective from the date of signature by UNDP Iraq and the national consultant for over 2 months between 20 April 2022 – 19 June 2022.

REQUIRED COMPETENCIES, QUALIFICATIONS AND EXPERIENCE:

Qualifications, skills, and professional experience of the **National Water Purification System Design Expert** should include the following:

- Hold a bachelor's degree in engineer or related fields
- Minimum of five (5) years of experience in designing water purification systems
- Minimum 3 years of experience in projects related to water and sanitation
- Experience in solar energy systems
- Previous work experience with governmental institutes
- Previous work experience with UN agencies
- Excellent oral and written command of the English and Arabic languages

Competencies:

Corporate Competencies:

- Demonstrates integrity by modelling the UN's values and ethical standards;
- Promotes the vision, mission, and strategic goals of UNDP;
- Maturity combined with tact and diplomacy;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Treats all people fairly without favouritism.

Knowledge and skills requirement:

- Shows ability to communicate and to exercise advocacy skills in front of a diverse set of audience
- Focuses on impact and result for the client and responds positively to feedback;
- Demonstrates openness to change and ability to manage complexities;
- Consistently approaches work with energy and a positive, constructive attitude;
- Ability to work collaboratively with colleagues in a multi-cultural and multi-ethnic environment;
- Builds strong relationships with clients and external actors;
- Ability to work independently with strong sense of initiative, discipline and self-motivation.
- Knowledge of Iraq's social, political and economic situation
- Knowledge of UNDP and its mandate in the area of democratic governance and programme development
- Excellent analytical/conceptual thinking

- Excellent interpersonal/communication skills

PRICE PROPOSAL AND SCHEDULE OF PAYMENTS

UNDP reserves the right to withhold all or a portion of payment if performance is unsatisfactory, if work/outputs is incomplete, not delivered or for failure to meet deadlines.

Evaluation Method and Criteria:

Individual consultant will be evaluated based on the following methodology:

The award of the contract shall be made to the individual consultant whose offer has been evaluated and determined as:

- Responsive/compliant/acceptable, and
- Having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to the solicitation.

* Technical Criteria weight 70%

* Financial Criteria weight 30%

Only candidates obtaining a minimum of 70 points (70% of the total technical points) would be considered for the Financial Evaluation.

Technical Evaluation (70%)

Qualification, Experience and Technical Proposal (100 marks):

Criteria	Points
Hold a bachelor's degree in engineer or related fields	10 points
Minimum of five (5) years of experience in designing water purification systems	30 points
Minimum 3 years of experience in projects related to water and sanitation	20 points
Experience in solar energy systems	10 points
Previous work experience with governmental institutes	10 points
Previous work experience with UN agencies	10 points
Excellent oral and written command of the English and Arabic languages	10 points

Financial Evaluation (30%):

The following formula will be used to evaluate financial proposal:

$p = y (\mu/z)$, where

p = points for the financial proposal being evaluated

y = maximum number of points for the financial proposal

μ = price of the lowest priced proposal

z = price of the proposal being evaluated

Documents to be included when submitting the proposals:

Interested consultant must submit the following documents/information to demonstrate their qualifications in one single PDF document:

- Personal CV or P11, indicating all past experience from similar projects, as well as the contact details (email and telephone number) of the Candidate and at least three (3) professional references.
- Letter of Confirmation of Interest and availability using template provided by UNDP.
- Financial Proposal shall be submitted with a price proposal
 - Lumpsum Fee – The contractor shall propose an all-inclusive lumpsum fee followed by a cost breakdown, which should be inclusive of his professional fee, local communication cost and insurance (inclusive of medical health insurance and evacuation).
 - DSA/Living Allowance – The Consultant shall be separately paid the Living allowance/DSA as per applicable UNDP rate. Deductions from DSA shall be made as per applicable UNDP policy when accommodation and other facilities are provided by UNDP. An estimated provision in this regard shall be included in the contract. The consultant need not quote for DSA in Financial Proposal.
 - The total professional fee shall be converted into a lump-sum contract and payments under the contract shall be made on submission and acceptance of deliverables under the contract in accordance with the schedule of payment linked with deliverables and at

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Annexes (click on the hyperlink to access the documents):

- **Annex 1 - IC Contract Template** (for information);
- **Annex 2 – IC General Terms and Conditions** (for information);
- **Annex 3 – RLA Template** (if consultant wishes to be recruited through an employer) - (for information)