

TERMS OF REFERENCE (TOR)

for

Consultancy Service for "Detailed hydrogeological study and preparation of water source protection & conservation plan for Solar MUS system".

Organization	:	Renewable World
Deadline for application	:	23 rd May 2019
Start Date	:	1 st June 2019
Anticipated Date for Deliverables	:	31 st August 2019

1 Background

Renewable World (RW) is a registered international non-profit organization, working in Africa, Asia and Central America to tackle poverty through the provision of renewable energy in remote, energy-poor settings. Our mission is to *"lead in developing and deploying effective ways of bringing renewable energy at scale to poor communities, empowering them to achieve sustainable and resilient livelihoods"*.

Currently we are implementing a 2.5-year project **"Solar MUS III project"** which is the third phase of our Solar MUS programme, and has been designed to: tackle water scarcity for drinking, irrigation and other productive end-uses through solar powered water pumping systems; improve the community's health and hygiene situation; improve livelihoods through agriculture training; and the protection and conservation of community water sources. The project is supporting eight communities in Surkhel district.

As mentioned above one of the objectives of Solar MUS III project is to protect and conserve the water sources from which eight communities will pump water from solar powered systems. In support of this activity, we plan to conduct a detailed hydrogeological study at eight community water sources and their surrounding micro-catchment area and develop a water source conservation and management plan specific to each community. To start with, we would like to conduct this study for one of the eight planned sites and, depending on the study results, will then move ahead with the remaining seven sites.

2 Objective of the Work

The overall objective is to develop a water source protection and conservation plan through a scientific study and assessment of current and future availability of water resources in the light of anticipated climate change impacts.

3 Scope of Work

The scope of this assignment is outlined below:

- Conduct one detailed hydrogeological study and prepare one water source protection and conservation plan for one SolarMUS community with a view to ensuring long-term, sustainable, water resource management.
 - a. Desk study: Understand the project area and targeted communities; identification and collection of relevant data from secondary source;
 - b. Field visit:
 - Undertake a hydrogeological study to understand the hydrology of springs and their linkages to groundwater and water recharge systems and collect all required baseline data and information;
 - Identify and examine the possible causes and extent of contamination of water sources;
 - Understand the social dimensions of water use and management in the SolarMUS community;
 - c. Description of surface water features, water taking permit details, water quality, ground water level, and water balance analysis;
 - d. Undertake a statistical analysis to determine the contribution of regional and local climate events to the precipitation, evapotranspiration, streamflow and groundwater recharge;
 - e. Assess the temporal changes in groundwater levels under current and future climate change scenarios under the current and predicted effects of climate change;
 - f. Quantification of the recharge rate using climate data and geological spatial data;
 - g. Design appropriate cost-effective intervention measures (outlining in detail the type of intervention, proposed location, reason for recommendation, and cost breakdown) for the protection and conservation of water sources within the micro-catchment of the water source based on the study findings and assessment;
 - h. Prepare an overall comprehensive “Water Source Protection and Conservation Plan” (both in Nepali and English) using participatory approach with communities within the vicinity of the study area and share the plan with the respective SolarMUS water user committee;
 - i. Provide support in endorsing the devised “Water Source Protection and Conservation Plan” with the local government.

4 Expected Deliverables

- i. The consultant will first provide a daily workplan including the methodology and detailed activities to the Project Manager (PM) and the Technical Manager (TM). Monthly updates of progress against the initial workplan should be shared with the PM.

- ii. The consultant will give a presentation on the findings, including analysis and recommendations of the study to the project team to collect feedback and suggestions before devising the “Water Source Protection and Conservation Plan”.
- iii. The consultant will deliver a draft and final study report and “Water Source Protection and Conservation Plan” for the given SolarMUS community in Nepali and English by 15th August and 30th August 2019 respectively.

Note that the consultant shall provide electronic versions of documents: in both MS Word and Pdf formats.

5 Duration

The expected commencement of the assignment is 27th May 2019. After the agreement is signed by both parties, all assigned activities must be completed within three months from the date of contract signing.

6 General Qualification of the Consultant/Firm

The consultant is expected to have:

- Master’s degree in water resources engineering or relevant field;
- Minimum five years of working experience in hydrogeological field;
- Experience of developing and implementing water source protection and conservation plans/activities at least in two project sites, including consideration of climate change;
- Expertise and knowledge of hydrogeology and hydrogeological models;
- Ability to work independently and within a team to achieve project targets.

7 Budget and Payment Schedule

The interested consultant/ consulting firm shall submit a budget sheet with a detailed breakdown including applicable taxes at the time of proposal submission as attached in Annex-1. The budget should cover consultancy fee plus travel and accommodation costs and other applicable budget lines, the amount of which shall be agreed between RW and the consultant. The price can be negotiated between two parties, and thus agreed budget will be the final contract value. The consultant shall bear all tariffs, duties, and applicable taxes or charges levied at any stage during the execution of the work.

RW will release 30% of the agreed amount upon signing of the contract. 30% of the contract amount shall be delivered after submission of the draft report (15th August 2019) and final payment (40% of the contract amount) shall be paid on submission of the final report (30th August 2019).

8 Acceptance of Proposal

All rights to accept/reject proposal without giving any reason, shall be reserved with RW. If deemed necessary, the consultant/firm shall be asked for modifications to the proposal before approval.

9 Termination of the Contract

RW may terminate the agreement if the consultant/firm commits a breach in the performance or observance of any of its obligations under this ToR. The consultant/firm shall be notified in writing seven days prior to the termination of the agreement.

10 Confidentiality

The consultant is not allowed to share any data provided by RW without taking written consent. Any documents developed under this contract will be the property of RW and the consultant is not allowed to share these with any external parties.

11 Copyright

RW will have copyright in all the documents developed under this contract by the consultant/firm.

12 Documents to be Submitted by the Consultant

A. Technical and Financial Proposal

- *Technical Proposal- Explaining the methodology and approach that will be used to carry out this assignment.*
- *Financial Proposal- Detailed budget with breakdown including applicable Tax as presented in Annex 1.*

B. Detail of the Consultant/firms

- *Organization/ consultant profile with relevant experience*
- *A copy of consultant/firm registration*
- *Signed CV of all team members by the Team Leader*
- *A copy of Tax clearance certificate*
- *VAT/PAN registration*
- *Audit report*
- *Any other relevant documents*

The Bid documents should reach the following address via email or post by 23rd May 2019, 15:00 Hrs. (Nepal Local Time). Please, enclose the proposal in an envelope, do seal and mark it with “**Detailed hydrogeological study and preparation of water source protection & conservation plan for Solar MUS system**”. The bid will be opened on the same day of the final submission date at 15:30 Hrs (Nepal Local Time) in the presence of bidders who choose to attend.

Renewable World

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