

## **Terms of Reference (ToR)**

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### **Conduct Training on the Operation and Maintenance of Newly Rehabilitated Micro Hydro Project for Operators in selected MHPs in Bajura District**

#### **1. Introduction**

The Renewable Energy for Resilient Agri-Food Systems (RERAS) project is a joint initiative by the United Nations Development Programme (UNDP) and other responsible development partners. The project focuses on bolstering agricultural productivity and food security in select districts of the Karnali and Sudurpashchim provinces in Nepal through the integration of renewable energy solutions. The RERAS project specifically targets enhancing agricultural output and ensuring food and nutrition security in the municipalities of Bajura, Jumla, Sindhuli and Mugu.

#### **2. Background**

RERL supports for livelihood opportunities for the poor and marginalized communities through the provision of reliable electricity supply and enterprise development with a focus on increasing plant load factor and improving the quality of electricity and revenue generation. The need for reliable distribution, storage, and processing facilities is creating new energy markets within the agriculture value chains and food system. Recently, RERL has rehabilitated four micro hydro projects in Bajura district to provide reliable and quality electricity services to the users.

However, most of the micro hydro projects' operators have limited knowledge/skill on operation and maintenance of the micro hydro project. They have faced difficulties if there arise any minor problems in the micro hydro system and the plant shutdown for a long time unless after repaired the plant from technical person from the companies. Thus, RERL intends to upgrade/enhance the skill of Operators of micro hydropower projects to be able to smooth operation and minor maintenance on their own.

In this regard, RERL seeks eligible and qualified Consulting Firms for MHPs Operation and Maintenance Training for Operators in selected Micro Hydro projects in Bajura district as per operation and maintenance guidelines of AEPC.

#### **3. Objectives**

The main objective of the training is to enhance the capacity of the micro hydropower project's operators for the smooth operation and minor maintenance of the system. However, the specific objective of the training is:

- To ensure the availability of skilled and competent human resources (Operator) for the smooth operation and minor maintenance of MHPs
- To enhance the capacity of operators to troubleshoot and carry out minor repair and maintenance works

#### **4. Scope of Work (Activities)**

The existing training manual will provide the basis for providing the training. The scope of the assignment will be, but not limited to, the followings-

- Prepare training content in line with the AEPC micro hydro operators' training manual and finalize the training content with the consultation of RERL staff.

- The consultant shall conduct 10 days event in appropriate site of MHPs in Bajura
- The selection of the participants will be finalized by the RERL field staff to conduct practical training.
- 20 number of operators will participate in the training from selected MHPs
- All the logistics, transportation, equipment and other necessary arrangements for participants (operators) in the training will be managed by the RERL.

## **5. Deliverables:**

- Completion of training event with final completion training report to RERL.

## **6. Time and Budget**

The training program should be completed within 2 (two) months after signing the contract agreement and the reporting should be done within one week of the completion of the training. The date of the training will be jointly finalized with RERL and the Consulting Firms/Organizations. All field levels of training logistics will be provided/managed by RERL.

The transportation of the resource persons cost will be provided by RERL after submission of actual tickets, bills and any other supporting documents.

## **7. Qualification of the proposed Human Resource of the Consulting Firms /Organizations**

The proponent should be Nepalese Organizations / Consulting Firms legally registered with sufficient relevant human resources, facilities, and equipment required to accomplish the task.

The team should be composed of a Training Coordinator, qualified professionals to deliver theoretical and practical classes, and a training assistant. They should have extensive knowledge and experience in the Micro Hydro Power sector. Required human resources for each training package are as below details:

### **7.1. Technical Expert- Electromechanical**

A training coordinator knowledgeable in the survey, design, installation, and coordinating training related to micro hydropower with a bachelor's degree in electrical engineering with 10 years of experience in relevant discipline. S/he should have a thorough knowledge of the technical/managerial parameters, policies, procedures, guidelines, and standards of quality assurance of the micro-hydro of the sector.

### **7.2. Training Assistant**

A training assistant knowledgeable in the survey, design, installation, and coordinating training related to Micro Hydro with an intermediate degree or equivalent in Mechanical Engineering with 7 years of experience. S/he should have a thorough knowledge of the technical parameters, guidelines, and standards of Micro Hydro as well as quality assurance of the sector.

**8. Documents to be submitted by the Firm (Eligibility Criteria)**

<b>S.N.</b>	<b>List of Documents</b>
1	Copy of Company/Firm Registration Certificate with updated renewal
2	Copy of VAT Registration Certificate
3	Copy of TAX Clearance Certificate of F. Y. 2079/80
4	Latest Signed Resume of resource persons (as per ToR)
5	Financial Proposal with signed cover letter including VAT (as per given format)
6	Experience of Firm and individual that signifies the working knowledge in lift irrigation system.

**9. Selection/Evaluation Process**

The selection will be followed based on Least Cost Method

**10. Acceptance of Proposal**

All rights are reserved with AEPC/RERL either to approve or disapprove any proposal without giving any reasons whatsoever. If needed, the consultant will be asked for modifications and presentations of the proposal before approval.

## Annex-1

### Conduction of MHP Operation and Maintenance Training for Operators

#### A. Human Resources Fee

S N	Name of Professionals	Unit	No.	Unit Rate (Rs.)	Total Amount (Rs.)	Remarks
1	Resource persons for Electrical expert	Days	10			
2	Training Assistant	Days	10			
3	Travel	Days	8			
4	Preparation and Reporting	Days	4			
<b>Sub-total</b>						
Overhead (5%)						
<b>Total Fee</b>						
VAT 13%						
<b>Total Fee</b>						

#### List of MHPs

SN	Name of MHPs	KW	HHs	Address
1	Ikadigardh- I	30	350	Budiganga
2	Narighat I MHP	37	860	Budhinanda Mun#8
3	Narighat II MHP	22	325	Budhinanda Mun#7
4	Kurukhola MHP	38	350	Budhinanda Mun#4
5	Khalikhola MHP	45		Swamikatik Khaper