

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

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### **Conduct Training on the Operation and Maintenance of Micro Hydro Project for Operators in selected MHPs in Bajura and Jumla Districts**

#### **1. Background**

Alternative Energy Promotion Center (AEPC), after its establishment, has been promoting renewable energy systems through different programs and projects to meet the energy needs of the population as well as improving the living standard, increasing employment and productivity, and reducing dependency on traditional energy for sustainable development.

More recently, UNDP has mobilized resources from the Government of Norway on Energy for Food Security and Sustainable Agriculture in selected Municipalities in Bajura, Jumla and Mugu districts.

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. However, most of the micro hydro projects' operators have limited knowledge/skill on operation and maintenance of the micro hydro project. Thus, RERL intends to upgrade/enhance the skill of Operators of selected micro hydropower projects to be able to smooth operation and minor maintenance on their own.

In this regard, RERL to seek eligible and qualified Consulting Firms / Organizations for MHP Operation and Maintenance Training for Operators in selected Micro Hydro projects in Bajura and Jumla districts as per standards, guidelines, norms, and practices of AEPC.

#### **2. Objectives**

The main objective of the training is to enhance the capacity of the micro hydropower project's operators for the smooth operation 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 of MHPs
- To enhance the capacity of operators to troubleshoot and carry out minor repair and maintenance works.

#### **3. 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 2 (two) separate events for 10 days for each event.
- The selection of the participants will be finalized by the RERL field staff to conduct practical training.
- 30 number of operators will participate in the training from selected MHPs
- All the logistics, transportation, and other necessary arrangements for participants (operators) in the training will be managed by the RERL.

#### 4. Deliverables:

- Completion of 2 events of training (10 days for each event x 2) for all selected MHPs, as attached in Annex-1.
- Submission of the final completion report

#### 5. 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.

#### 6. 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. In addition, the Organizations / Consulting Firms should be well known about prevailing policies and implementation modalities of AEPC / NRREP, and they should demonstrate their competency to carry out quality services.

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 Mini/ Micro Hydro Power sector. Required human resources for each training package are as below details:

##### 6.1. 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 7 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.

##### 6.2. 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 5 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.

#### 7. Documents to be submitted by the Firm (Eligibility Criteria)

S.N.	List of Documents
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.

## 8. Selection/Evaluation Process

The selection will be followed based on Least Cost Method

## 9. 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.

## 10. Force Majeure

Without prejudice to their rights the Government and the service provider shall not be held responsible nor suffer any financial loss should the performance of the contract be delayed or prevented by an event of Force Majeure, which shall include, but not limited to strikes, riots, civil commotion, fire accident or any other incident beyond the control of either party hereto which neither party was aware of or could have foreseen at the time of signing of this contract. In event of an occurrence of the Force Majeure, either party shall notify the other of the event or during such event the rights and obligations of either party shall automatically be suspended.

### Annex-1

#### Tentative Cost for Operator Training for 2 events in Bajura

##### A. Human Resources

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