

REQUEST FOR PROPOSALS

Consultancy services for the preparation of a comprehensive landscape sector assessment report on the status of lift irrigation systems in Bhutan

1. Background

Agriculture is the country's largest employer, employing 60% of the population, of which 53% are women. Agriculture's share of Bhutan's GDP has been declining steadily, and self-sufficiency for staple crops is at a critical point. Without climate change adaptation, agriculture is projected to decline by 4–10%. Gravity-fed, open channels dominate current irrigation practices. They are seasonal and vulnerable to climate change. Due to the country's mountainous topography, water must be lifted from the source for irrigation, often from rivers at lower elevations. Considered in conjunction with its abundance of renewable energy (RE), this threat presents Bhutan with a unique opportunity.

In this regard, the International Centre for Integrated Mountain Development (ICIMOD), and the Department of Energy (DoE), Royal Government of Bhutan are implementing a project on Women's Empowerment through Renewable Energy and Energy Efficiency (REEE) Powered Decentralised Lift Irrigation Systems in Bhutan (WERELIS – Bhutan) project, with the support of the International Development Research Centre (IDRC).

The Royal Government of Bhutan (RGoB) has recognised the importance of irrigation in enhancing agricultural productivity, alleviating poverty, and promoting rural development. Lift irrigation systems, which utilise renewable energy sources such as solar and wind power to pump water for agricultural purposes, have emerged as promising solutions to address water scarcity and improve crop yields in remote and hilly areas.

To harness the potential of lift irrigation systems and facilitate evidence-based decision-making, the RGoB and ICIMOD, are seeking consultancy services for the preparation of a comprehensive landscape sector assessment report on the status of lift irrigation systems in Bhutan.

This landscape assessment aims to provide a holistic understanding of the current status, challenges, and opportunities associated with lift irrigation systems across different regions of Bhutan. By conducting a rigorous analysis of socio-economic, environmental, and technological factors, the assessment will inform policy formulation, investment decisions, and capacity-

building initiatives to promote sustainable water management and agricultural development in the country.

2. Objectives

This request for proposals concerns the selection of consultancy services (substantially responsive to requirements) for the preparation of a comprehensive landscape sector assessment report on the status of lift irrigation systems in Bhutan.

3. Scope of the work

The scope of work includes:

1. Publish comprehensive landscape assessments report for RE powered lift irrigation system, that include:

- Collect and compile relevant data and information
- Carryout detailed primary and secondary research
- Conduct key informant interviews (KIIs), participatory stakeholder consultation workshops, and women's entrepreneurship in REEE. The activities include identifying stakeholders, organising workshops, and reports.
- Through analysis of data and information collected during primary and secondary research, KIIs, and workshops, identify key challenges, gaps, opportunities, and potential areas for intervention for RE-powered lift irrigation systems in Bhutan
- Prepare and publish landscape assessment report

2. Publish a Multi-Criteria Analysis (MCA) framework for RE powered lift irrigation system, that includes:

- Carryout extensive literature review on existing frameworks and their use
- Collect and compile relevant data and information
- Carryout detailed primary and secondary research
- Conduct participatory stakeholder consultation workshops and validation workshops for policy and decision-makers, and private sectors. The activities include identifying stakeholders, organising workshops, and reports.
- Through analysis of data and information collected during primary and secondary research and workshops, develop the MCA framework for RE-powered lift irrigation systems in Bhutan
- Prepare and publish the framework

3. Knowledge dissemination:

- Active participation, including presentation, content developing, media and outreach product developing, during the launch event of landscape assessment report, which will be planned next year

- Produce informative and media materials to disseminate information from the knowledge produced, which will be planned next year

4. Consultation and liaison:

- Strategise, consult, and liaise with ICIMOD and DoE to ensure alignment of interventions with national priorities and objectives

4. Detailed tasks and outputs

The detailed tasks and outputs are given below:

Output I: One (1) comprehensive landscape sector assessment report on the status of lift irrigation systems in Bhutan. The report should consist of the following elements and tasks. The outline of the report is mentioned in Annex-I:

- Comprehensive review of gender roles, leadership, and rates of participation of women in the REEE sector and identify best practices in Bhutan – with specific attention paid to the social, economic, cultural, and capacity barriers to their empowerment, and the required policy, legal and institutional factors in creating a systemically enabling environment.
- Comprehensive assessment of the status and regionally specific opportunities of REEE-powered lift irrigation systems in Bhutan based on a desk review (academic, grey, and policy), combined with geospatial data analysis of present land use, elevation, existing irrigation, transportation infrastructure and population statistics.
- Project potential employment opportunities resulted from the REEE-powered irrigation.
- KIIs with policy and decision-makers (n>10), agriculture workers and water user groups (n>20), civil society (n>10) and private-sector (n>10) – the samples will consist of at least 50% women and representatives of the local demographic and income structure to understand the sector landscape and gender-responsive related opportunities and barriers across technology, policy, economic social and cultural factors specific to REEE-powered lift irrigation.
- A Participative Stakeholder Consultation Event and Mapping Workshop, including government, people working in agriculture, water user groups, and private sector actors (with a focus on women entrepreneurs and women working in agriculture) to build a shared understanding of the sector landscape and the barriers to and benefits of a gender-responsive REEE transition, through REEE-powered lift irrigation systems. Specific attention will be paid to the input provided by the National Commission for Women and Children. Separate workshop sessions will be organised for women’s entrepreneurship in REEE, policies related to lift irrigation, and the sector’s economic potential.
- Field visits to at least three each functional and dysfunctional irrigation sites to compile site-specific diagnosis reports that examine the economic, technical, environmental, and social factors that led to the initial system success or failure, with particular attention being

paid to the governance, gender-responsiveness and women roles, and climate resilience dimensions of the issue (s). Preference would be given to lift irrigated sites.

- The report must also outline the opportunities for drinking water and/or multi-use lift systems.
- The report must be reviewed and edited by an external reviewer and editor in consultation with the ICIMOD for publication. ICIMOD will make the external reviewer and editor available. The bidder must address the reviewer comments, if any, and print 100 copies of the final report accepted by ICIMOD and DoE.
- One landscape assessment report to present the main findings to the government and relevant stakeholders, to promote its adoption and dissemination focusing on available opportunities and barriers at the national level across geographic commercial and GEI dimensions. This will build a consensus on priority areas of intervention in complement to the National Irrigation Master Plan (NIMP) Bhutan.

Output II: One (1) Multi-Criteria Analysis (MCA) framework is developed to prioritise specific REEE-powered lift irrigation sites in Bhutan.

- Two (2) participative consultations undertaken to co-develop the MCA for contextual appropriateness, one (1) – with policy and decision-makers and academics (n<20) and a second with private sector and development stakeholders (n<20 drawing on the stakeholder analysis). At least 33% of women's participation should be in the consultations.
- One (1) workshop organised to validate the final MCA with policy and decision-makers at the national level (n<20).
- One (1) Final MCA Report published after validation, including recommendations in terms of site-specific opportunities, general best practices in GEI integration, governance, insurance, and climate proofing, as well as indicative information on persistent technical and social challenges and barriers that need to be addressed at the local and national levels.

5. Project output matrix

The bidder must provide a detailed methodology for baselines and targets to achieve adjacent indicators mentioned in the project output matrix.

Indicators	Baseline	Target	Measurement methodology
% increase in the agricultural areas that have greater access to reliable	To be determined by the study	To be determined by the study	Comprehensive landscape sector assessment

water for irrigation via REEE-powered lift irrigation systems			
Extent to which women farmers and entrepreneurs have taken on leadership roles in the REEE-powered irrigation sector	To be determined by the study	To be determined by the study	Comprehensive landscape sector assessment
Existence of a comprehensive landscape sector assessment report on the status of lift irrigation systems in Bhutan co-developed with the Department of Energy	0	1	Regular monitoring of the project's activities
Existence of a Multi-Criteria Analysis (MCA) framework, which is co-developed to prioritize specific REEE-powered lift irrigation sites in Bhutan.	0	1	Regular monitoring of the project's activities
% increase of women occupying leadership and decision-making positions within the REEE-powered lift irrigation sector	To be determined by the study	To be determined by the study	Comprehensive landscape sector assessment
% increase in women's income levels resulting from their engagement in the REEE-powered lift irrigation sector	To be determined by the study	To be determined by the study	Comprehensive landscape sector assessment
Number of new employment opportunities created, especially for women in the REEE-powered life irrigation sector	To be determined by the study	To be determined by the study	Comprehensive landscape sector assessment

6. Team

The proposed resources must be part of the project team for the time period specified. The additional human resources can be included in the technical proposal with roles, responsibilities, and expertise.

S. No.	Position	Responsibilities	Experience and expertise
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1	Project Manager/Team Leader	<ul style="list-style-type: none"> - Overall project management, coordination, and oversight of activities - Liaison with ICIMOD, DoE) and other key stakeholders - Ensure timely delivery of outputs and adherence to project timelines - Provide strategic guidance and lead the project 	<ul style="list-style-type: none"> - More than 15 years of experience with a background in agriculture/irrigation/renewable energy/sustainable development - Master's degree in civil, mechanical, agriculture, or relevant sectors. - Extensive experience in project management, preferably in the agriculture or irrigation sector - Conducted landscape assessment and feasibility studies on lift irrigation systems - Strong leadership and communication skills - Familiarity with Bhutanese government policies and procedures
2	Renewable Energy and Irrigation Expert	<ul style="list-style-type: none"> - Conduct landscape assessments, feasibility studies, and technical analyses related to renewable energy-powered lift irrigation systems - Provide expertise in renewable energy technologies, irrigation systems, and sustainable development practices 	<ul style="list-style-type: none"> - Advanced degree in renewable energy, agriculture, irrigation, water, civil, mechanical, or electrical field, with an experience of seven years - Experience in conducting feasibility studies, technical assessments, and designing irrigation systems - Knowledge of renewable energy technologies applicable to lift irrigation systems

3	Gender and Social Inclusion Expert (GESI)	<ul style="list-style-type: none"> - Lead gender-responsive analysis and ensure the inclusion of women in project activities - Conduct stakeholder consultations and workshops focusing on gender roles and women's empowerment 	<ul style="list-style-type: none"> - Background in gender studies, social sciences, or related field, with an experience of three years - Experience in conducting gender assessments and implementing gender mainstreaming strategies - Familiarity with Bhutanese social and cultural contexts
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7. Timelines and deliverables (Outputs)

Deliverable	Deadline	Payments
Inception report with detailed plan and deliverables	2 weeks from contract	20%
One (1) Multi-Criteria Analysis (MCA) framework to prioritise specific REEE-powered lift irrigation sites in Bhutan is completed and accepted by ICIMOD	5 weeks from contract	20%
One (1) comprehensive landscape sector assessment report on the status of lift irrigation systems in Bhutan is completed and accepted by ICIMOD	16 weeks from contract	40%
Publish the final report	20 weeks from contract	20%

8. Proposal

Technical proposal

The bidder must submit the technical proposal, including the following items, but it is not strictly limited to the content mentioned below:

1. **Technical approach and methodology:** The bidder should explain their understanding of the objectives of the assignment, approach to the services, and detailed methodology to obtain the output.
2. **Work plan:** The bidder should propose the main activities of the proposal, content and duration, milestones, detailed log frame, detailed consultative measures, adoptive measures, baseline indicators, impact indicators measures, targets, and delivery date to achieve the project output. The proposed work plan should be consistent with the technical approach and methodology. Kindly propose a management and operation plan. The bidder

must also include the project management approach including quality management and headquarter dedicated team.

3. **Organisation and experts:** The bidder should propose the structure and composition of their team, mentioning their qualifications, roles, responsibilities, skills, and expertise as requested in Section 6. The bidder should list the main discipline of the assignment, the key expert responsible, and the proposed technical and support staff. CVs max of three pages of each staff duly signed.
4. **Relevant past experience:** The bidder must include the details of similar projects and similar past experience of their organisation and experts in the last five years relevant to this request for proposals.
5. Consortium is allowed for this RFP. The bidder should be either a company (single legal entity) or a consortium of companies. In the case of a consortium, the bidder consortium shall submit a valid agreement among the members.

Financial proposal

The bidder should provide the financial quote with the breakdown of all the costs and include the tax in the budget (refer to the table provided below):

- Breakdown of the experts needed, number of days required, quantity, rate
- Breakdown of other costs, unit, quantity, rate

9. Reporting

The reporting will be done once in every two weeks with ICIMOD for the progress update. The report format must be discussed and approved by ICIMOD in advance.

10. Pre-qualification criteria

S. No.	Criteria	Supporting documents
1	The bidder shall be legally registered in their base country. (In the case of Consortium, all members must adhere to the clause)	Registration document
2	The bidder should have an average annual turnover of USD 50,000 or more of best three financial years in the last five years. (In the case of Consortium, the lead member must adhere to 60% of the turnover mentioned in the clause)	Audited financial statements for the three financial years and tax clearance certificate.

3	The agency should have successfully completed at least 2 projects for bilateral/international donors, at least 2 sector assessment/market studies of a similar nature in the last 5 years.	Work order along with project details/ Contracts
4	The bidder should not have been blacklisted or barred or any such cases pending for blacklisting/ debarment in any court of law by any state government, central government, or any other public sector undertaking or corporation or any other Autonomous organisation of central or state government as on the bid submission date. (In the case of Consortium all members must adhere to the clause)	Self-declaration by the bidder

11. Evaluation

The service provider will be selected on the basis of the highest ranked technical proposal (60% weightage) and lowest cost financial proposal (40% weightage).

The service provider will be selected on the basis of the highest cumulative scores obtained in the technical and financial proposals using the following formula:

- Technical score = Score obtained based on technical proposal (total 100)
- Financial score = Score obtained based on financial proposal (total 100)
- Total score = 60% of technical proposal + 40% of financial proposal

The service provider scoring the maximum score based on the criteria will be awarded. However, the service provider should score at least 70 points in the technical proposal.

12. Proposal Submission

The completed proposal should be submitted through email to Consultancy.int@icimod.org by 5 PM (Nepal Standard Time), 15 April, 2024. Two separate files of technical and financial proposals should be submitted.

13. Ethical consideration

The consultant will be required to take all the necessary actions to handle the collected data responsibly (see ICIMOD Responsible Data Policy) to ensure data privacy, anonymity, and confidentiality. The consultant needs to adhere to the in-country regulations while executing the project.

14. Our commitment to the prevention of sexual harassment

ICIMOD is committed to prevention and redressal of sexual harassment at the workplace and promoting the welfare of children, young people and adults and expects all staff, consultants, volunteers to share this commitment. We will do everything possible to ensure that only those who are suitable to work within our values are selected to work for us.

15. Confidentiality/non-disclosure

All material issued in connection with this ToR shall remain the property of ICIMOD and shall be used only for the purpose of this procurement exercise. All information provided shall be either returned to ICIMOD or securely destroyed by unsuccessful applicants at the conclusion of the procurement exercise.

During the performance of the assignment or at any time after expiry or termination of the Agreement, the consultant shall not disclose to any person or otherwise make use of any confidential information which s/he has obtained or may during this agreement relating to partner organisation/ICIMOD, the respondents or otherwise.

The consultant will be required to sign a non-disclosure / confidentiality agreement as part of their undertaking of this work.

16. Intellectual property, copyright, and ownership of all prepared information

The consultant shall retain all rights to pre-existing (background) intellectual property or materials used by the consultant in the delivery of this study. All arising intellectual property, ideas, materials, processes, or processes formed in contemplation, course of, or as result of this study shall be passed to ICIMOD without restriction.

The consultant shall warrant that all arising intellectual property, materials and/or products produced in pursuit of this study shall be original and shall not infringe on any third party's claim. All technical or business information, in whatever medium or format, originated, collated, or prepared by or for the consultant in contemplation, course of, or as result of this assignment shall be transferred to ICIMOD without restriction on completion and shall not be used by the consultant for any other purpose without express written permission of ICIMOD.

Copyright of all arising documents, data, information, or reports produced by the consultant under this agreement shall belong to ICIMOD and will be passed to ICIMOD without restriction. Such documents, data, information, and reports shall not be used by the consultant for any other

purpose other than in conjunction with this assignment, without the express written permission of ICIMOD's Head of Programme Funding.

17. Annex

The comprehensive sector landscape assessment chapter should include but not be restricted to the following:

1. Introduction
2. Methodology
3. The Market
 - 3.1. Institution governance
 - 3.2. National policy, priorities, plans, and programs
 - 3.3. Market size
 - 3.4. Market trend
 - 3.5. Stakeholders
4. Technology and solutions
 - 4.1. Background and context of the assessment
 - 4.2. Existing solutions used for irrigation
 - 4.3. Importance of renewable energy
 - 4.4. Trends in Use of RE Solutions in Bhutan
 - 4.5. Overview of current and available local, regional and global renewable energy solutions for irrigation
 - 4.6. Identification of emerging technologies and practices
 - 4.7. Availability of supply chain and skills
5. Challenges and potential recommendations / mechanisms
 - 5.1. Governance
 - 5.2. GESI
 - 5.3. Policy
 - 5.4. Market
 - 5.5. Technology
 - 5.6. Environmental
 - 5.7. Economic and Social aspects
6. Role of women in lift irrigation systems
7. Analysis
8. Conclusions and recommendations