

**Terms of Reference of Consulting Services
For
Design, Implementation and Supervisory Support of Solar Photovoltaic
Pumping for Agricultural Irrigation**

A. Background

1. About 80% of the population in Bangladesh relies heavily on farming for their livelihood. Rice constitutes over 90% of the country's total food grain production with about 77% of irrigated land areas supplied with ground water. According to the national statistics, local farmers depend on about 266,000 electrically powered water pumps to irrigate 1.7 million hectares of agricultural land. There are currently 1.4 million diesel-run pumps being operated to irrigate another 3.4 million hectares and consuming about 1.0 million tons of diesel per year, while emitting more than 31 million tons of CO₂ annually.¹ The Government has set a capacity target of 545 MW for solar photovoltaic (SPV) pumps by 2021. In November 2014, the Economic Relations Division (ERD) of the Ministry of Finance of Bangladesh and the Power Division of the Ministry of Power, Energy and Mineral Resources (MPEMR) requested the Asian Development Bank (ADB) to include a Solar Photovoltaic Pumping for Agricultural Irrigation Subproject (Subproject) in an ongoing project (Loan 2769-BAN: Power System Efficiency Improvement Project).² A component of SPV Pumping for Agricultural Irrigation output B (iv) was added to the project through a minor change in scope on 1 July 2015.

2. ADB reallocated \$20 million loan savings from Loan 2769-BAN combined with a \$22.442 million grant from the Scaling Up Renewable Energy Program of the Strategic Climate Fund³ to finance the SPV pumping component. ADB is also assisting the government to secure an additional \$3.0 million output-based aid grant from the Clean Energy Financing Partnership Facility to top up the financing of the SPV pumping component which is expected to have strong demonstration effects in Bangladesh and to lower barriers in the SPV pumping market development in the country. The output-based aid grant is a techno-financial instrument to scale up SPV pumping solutions for farmers who are dependent on diesel-run pumps. It will use a results-based approach with Bangladesh Rural Electrification Board (BREB), as the executing agency, financing the purchase of the SPV pumping systems and the partial cost to be reimbursed using the grant financing after verification of the installed SPV pumping systems. The SPV pumping component seeks to (i) support the installation of about 2,000 SPV pumping systems in selected rural areas of Bangladesh using an engineering, procurement, and construction (EPC) turn-key contract basis; and (ii) provide project implementation and supervision support, and on-the-job training to BREB.

3. BREB will require the services of an international consulting firm for estimated 147 person-months of key experts to undertake the project implementation and supervision support services for the SPV pumping systems for agricultural irrigation project component. The SPV pumping project component is expected to start in December 2018 with the estimated completion date by December 2020. BREB will recruit the consulting firm in accordance with ADB's Guidelines on the Use of Consultants (2013, and as amended from time to time) using a quality and cost-based selection method (quality cost ratio of 80:20) based on full technical

¹ Emission assumption: 3,188 kg CO₂ equivalent per ton of diesel fuel (World Bank estimates).

² ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of Bangladesh for the Power System Efficiency Improvement Project*. Manila.

³ On 9 August, 2017, SREP subcommittee approved \$22.22 million SREP grant support to the Subproject. An additional \$222,000 from the unutilized budget of a \$950,000 grant approved by SCF on 11 November 2015 was also added for this project.

proposals (FTP) from the short-listed firms. The selected firm will be engaged using a time-based contract.

B. Objective of the Assignment

4. The Consultant for Design, Implementation and Supervisory Support of Solar Photovoltaic Pumping for Agricultural Irrigation Project will prepare the design and assist BREB in implementing and ensuring engineering oversight of the SPV pumping system installation, commissioning and testing activities and on-the-job training for BREB staff throughout the project implementation period. Project management support will also be provided to BREB for the preparation and execution of detailed implementation plans including awareness campaign, selection of locations and end-users, and stakeholder consultation.

C. Scope of Services, Tasks and Expected Deliverables

5. The scope of the consulting firm includes: (i) Inception Report. (ii) Feasibility Study; (iii) Business Model; (iv) Project Implementation Plan; (v) Environmental Management Plan; (vi) Public Awareness Program; (vii) Design of SPV pumping Systems; (viii) Bidding Process; and (ix) Implementation Support. Specifics of the consulting firm's tasks are outlined below:

6. Inception Report. Following the signing of the contract, the Inception Report has to be submitted within twenty one days of the commencement of the assignment. This report shall summarize the Consultants' initial findings and will present a first assessment of available data. The Inception Report shall also contain:

- (i) Details regarding the methodology to be applied by the consultant during the execution of the project; and
- (ii) A tentative action plan of the activities to be carried out throughout the period with specific deadlines.
- (iii) It will also provide additional guarantee of adherence to, and interpretation of the TOR.

7. Feasibility Study. The consulting firm will review the existing feasibility study prepared under ADB TA 9267 at the concept stage of the project and update it as necessary. The scope of feasibility study includes but not limited to the following activities:

- (i) Review the existing feasibility study and update it as necessary.
- (ii) Conduct a study on solar radiation patterns covering 12 calendar months in the selected project areas based on secondary data and prepare a report covering the monthly and annual summary of solar radiation.
- (iii) Conduct a study on water table data for the last 10 years in the selected project areas based on secondary data to determine the total dynamic head which will factor in on the decision regarding pump size.
- (iv) Prepare criteria for the selection of location in consultation with BREB, PBSs and Agricultural Authorities such as Bangladesh Agricultural Development Corporation (BADDC), Barind Multipurpose Development Authority (BMDA). The criteria will be used to identify potential areas for installation of SPV water pumping systems.
- (v) Prepare criteria for eligible sponsors/ users for owning SPV water pumps in consultation with BREB, PBSs and ADB to ensure transparency and to avoid complaints. The criteria will be used to identify potential users through expression

of interest (EOI). Candidates who qualify will be selected on a first come, first serve basis.

- (vi) Prepare a crop schedule and appropriate cultivation procedure to support farmers for better utilization of the pumps throughout the year.
- (vii) Survey the distribution line routes of BREB, if any, in the selected project areas and propose possible grid connection facilities for future.
- (viii) Identify alternate use of generated electricity locally (if any) in the off season time and design possible facilities.
- (ix) Collect baseline data on agricultural, environmental, social and economic aspects before the start of construction works.

8. Sustainable Business Model. The consulting firm will review the business models available in the market for Solar Photovoltaic Pumping for agricultural irrigation, and will develop a detailed and sustainable business model for the project considering no loss no profit basis for BREB. The scope of business model includes but not limited to the following activities:

- (i) Develop a sustainable business model for the project.
- (ii) Develop the financing plan for BREB including installment amount based on calculated annuity to recover its operational costs. The duration, collection method and contingency plan in the financing plan will be finalized in consultation with BREB.
- (iii) Establish sub-borrower credit assessment criteria and provide procedure and/or guideline and sample forms needed for credit appraisal conducted by BREB/PBSs and conduct sample evaluations of sub-borrower.
- (iv) Develop the financing plan for sponsor/user including suggesting water selling rate to help them recover their investment in consultation with BREB.
- (v) Prepare policy for forming farmers' community as well as help establish the farmers' communities, and settlement of agreements between project sponsors and BREB.
- (vi) The consulting firm will closely work with BREB to facilitate smooth operation of the credit facility and will assist BREB/PBSs in strengthening BREB/PBSs' credit risk management capacity and in effect improving the quality of credit portfolio.

9. Project Implementation Plan. Based on the feasibility study and business model, the consulting firm will determine the detailed scope of project and develop a detailed project implementation plan, cost estimates and cash flow forecast for the project which will be revised periodically (as necessary). The implementation plan will be revised as necessary with the project progress report.

10. Environmental Management Plan. Based on the Environmental and Social Review Framework (ESRF) and ADB guidelines, the consulting firm will prepare a detailed Environmental Management Plan and assist BREB to implement the plan accordingly. The consulting firm will provide Environment and Social Impacts Monitoring Reports every quarter and it will be revised as necessary based on the monitoring report.

11. Public Awareness Program. The consulting firm will design and implement appropriate public awareness program to promote the adoption of SPV pumping systems as well as encouraging farmers' and communities' participation in the program in consultation with BREB. They will also convince the target group to replace their diesel operated pumps with the SPV water pumps. As part of the public awareness program, consultant will conduct training sessions for the sponsors/ users to make them understand how the farmers' community will work; how

better crop schedule, appropriate cultivation procedure and alternate use of the pumps can help them optimize its benefits. The consulting firm will assess consumer satisfaction of the target PBS during the project implementation period. The consultant shall also conduct stakeholder consultation, seminars/workshops on key aspects of technical capacity improvement and progress to date. Workshops on social/environmental safeguards and social inclusion shall be conducted on a need basis.

12. Initial Design of SPV Pumping Systems. The consulting firm will prepare initial system design and technical specifications. The consulting services will include, but not be limited to the following:

- (i) The consulting firm will prepare system layouts detailing main project sub-areas.
- (ii) Prepare initial/conceptual pumping system designs, drawings, specifications for each component and bill of quantities (BOQ) for various sizes of pumps.
- (iii) Prepare technical specifications and performance specifications for pump boring and all civil works.
- (iv) Establish design criteria for: (a) foundation and civil works design, (b) performance of pumping system, (c) environmental requirements, and (d) social safeguards for the project.
- (v) Calculate operation and maintenance cost for first five years for bid evaluation purposes on a turn-key basis.
- (vi) Review of design, drawing, specifications and other technical documents submitted by the bidder with the bid proposals and provide comments.
- (vii) Review and approve system layouts, designs and drawings (all civil & electrical) submitted by contractors for implementation.

13. Bidding Process. The consulting firm will review BREB's approach and schedule for the bidding process, and provide comments and recommendations on the approach, activities, schedule, organization, and responsibilities. The bidding process should strictly adhere to ADB guidelines. The consulting firm will assist BREB throughout the bidding process to ensure quality of supplied materials and the SPV pumping Systems including the following activities, but not be limited to the following:

- (i) Prepare bidding document for the bidding on a turn-key basis.
- (ii) Assist BREB in clarifying queries from prospective bidders during the bidding period.
- (iii) Carry out technical and financial evaluation of bids received and submit technical & financial bid evaluation reports to BREB.
- (iv) Assist BREB in contract negotiations and finalization of contract documents.

14. Implementation Support. The consulting firm will assist BREB throughout the implementing phase including, but not be limited to, the following:

- (i) Construction supervision. While the EPC turnkey contract would cover installation of the SPV pumping facilities, the consulting firm will provide oversight on all aspects of the installation process in order to ensure that it is conducted properly from the owner's perspective. This includes assisting in the development and implementation of a quality assurance program for installation, review and approval of design/drawings, preparing a monitoring schedule, inspection of materials upon arrival and upon assembly, review of documents to ensure the

quality of delivered goods, supervise the work of contractors during the implementation stage paying due attention to safety and security issues, assist BREB in contractual matters with contractors and suppliers (guarantees, insurance, claims, etc.), comparison of as-built drawings to design, and addressing shortcomings in any of these areas.

- (ii) Testing and commissioning. Most of the main components of the SPV pumping system will be subject to an acceptance test to demonstrate their ability to meet the design criteria. For each component subject to testing, the consulting firm will review the EPC turnkey contractor's test procedures for compliance with manufacturers' requirements and design criteria. The consulting firm will be present during the tests and review the test results. If test results are not satisfactory, the consulting firm will require that the problem be addressed and that the equipment is re-tested. The consulting firm will assist BREB in commissioning of the full system and coordinating with the EPC turnkey contractor to address any issues with the facilities that adversely affect operation. At the end of the period, and when all acceptance tests have been satisfactorily completed, the consulting firm will advise BREB that the construction is complete and the facilities ready to be declared fully operational.
- (iii) Provisional Acceptance Certificates. The consulting firm will also prepare and recommend provisional acceptance certificates whenever due for the work completed by EPC turnkey contractor in accordance with contract provision, and alert BREB of any work deficiencies. The consulting firm will also confirm whether remedial measures have been taken by the EPC turnkey contractor and recommend a final acceptance certificate after expiry of the warranty period.
- (iv) Monitoring and Reporting. The consultant will monitor the implementation progress of the project. They will also undertake monitoring and reporting of environmental, social and economic aspects of the project as per ADB requirements. The consulting services will include, but not be limited to the following: provide monthly implementation progress report of the project; set up indicators to monitor quantitative and qualitative environmental, social and economic aspects; monitor the project impacts based on the baseline data collected during the feasibility study; reflect the monitoring results into quarterly progress reports; conduct evaluation on these aspects after completion of construction work and reflect results into the completion report; and prepare case studies based on project implementation experience.
- (v) Operation and Maintenance. The successful EPC turnkey contractor will prepare operation and maintenance (O&M) manual for BREB and users. The consulting firm will review the manual and finalize it in consultation with BREB.
- (vi) Training Coordination. During the commissioning phase, the EPC turnkey contractor will provide training on the operation of the SPV pumping facilities and all its systems. The consulting firm will review the training plan and course content proposed by the EPC contractor/Manufacturer for the user/farmers, BREB/PBS personnel to develop their capacity for Operation and Maintenance of the SPV Pumping System and provide appropriate suggestions (if any) to

improve. They will also coordinate and monitor the training progress and report to BREB.

- (vii) Invoice Review and Certification. All the Contractors under the project will submit complete copies of their invoices with all relevant documents to the consulting firm for verification, review and recommendation. Based on the consulting firm's recommendation, PMU will further process the invoices for payment.
- (viii) Handover Protocol. The consulting firm will prepare a handover protocol for BREB/PBS focusing the transfer of ownership of the SPV pumping Systems in consultation with BREB.
- (ix) Project Completion Report. After completion of the project the consulting firm will assist BREB to finalize a project completion report. The consultant shall prepare a comprehensive completion report of all components of the project including works of EPC contractor and consulting services. The Consultant shall include the self-appraisal in the report in compliance with ADB requirements for project completion report of executing agencies, including detailed data and information gathered and recorded during the project implementation.

D. Team Composition & Qualifications Requirements for the Key Experts

15. The consulting firm should have demonstrated experience in undertaking project management services for the solar projects particularly in the areas of agriculture and irrigation for at least 10 years; and should have considerable experience working in developing countries in the region, with previous experience in Bangladesh preferred. English language skills are essential for all positions.

Table 1: Summary of Estimated Consulting Services Requirements

Position	Person-months (intermittent)
International	
1. Senior Irrigation Specialist/Team Leader	9
2. Senior Communications Specialist	2
Sub-total international consultant person-months	11
National	
1. Senior Solar PV Water Pumping Engineer/Deputy Team Leader	24
2. Procurement Specialist	12
3. Irrigation Technical Specialist	24
4. Credit Risk Management/Financial Specialist	14
5. Social Development Specialist	8
6. Environment Specialist	8
7. Civil Engineer for Water Irrigation	12
8. Communications Specialist	10
9. Project Implementation Coordinator	24
Sub-total national consultant person-months	136

Engagement period of all experts shall be for the duration of the assignment (24 months) out of which estimated intermittent input against each position are shown above.

16. Senior Irrigation Specialist/Team Leader (International).

Academic Qualification	The expert should have a Bachelor or higher degree in engineering (civil/electrical/irrigation/water/ solar/power related fields).
Total Professional Experience	The expert should preferably have 20 years of overall experience.
Project Related Experience	10 years of specific experience in designing, supervising, testing commissioning, and managing similar (in size and scope) contracts involving the supply and installation of SPV pumping systems for irrigation. In addition, the expert should preferably have 5 years work experience as a project manager/Team leader in similar assignment(s).
Overseas/ Country Experience	The expert must have sufficient international experience working on similar assignment in various countries. Experience in the regional will be given preference.

Responsibility.

- The Team Leader will lead and manage the international and national consultants in delivering the expected outputs for the project implementation and supervisory service team.
- Overseeing preparation of key documents such as the feasibility study, detailed project implementation plan, public awareness program, sustainable business model, SPV pumping system design and financing plan, evaluation of bids, as well as the supervise implementation of the construction works and its turnover to users.
- Take the lead in reviewing the O&M manual as well as the capacity building program/training plan prepared by the successful contractor for BREB and the farmers' communities and timely submission of required reports.

17. Senior Communications Specialist (International).

Academic Qualification	The expert should have Bachelor degree in Public Communication or related fields.
Total Professional Experience	The expert should preferably have 20 years of overall experience
Project Related Experience	15 years of specific experience in communications, preferably in projects involving multilateral development organizations or projects with an active on-going customer outreach. The expert should have experience working in rural communities and facilitating relevant stakeholder engagement in project planning and capacity building to ensure sustainable development of the SPV pumping projects.
Overseas/ Country Experience	The expert must have sufficient international experience working on similar assignment in various countries. Experience in the region will be given preference.

Responsibility

- The senior communications specialist will take the lead in designing the public awareness program to promote the adoption of SPV pumping systems as well as encouraging farmers' and communities' participation in the program.
- The expert will provide inputs in designing a capacity building program for the farmer/users as well as BREB staff;
- Initiate an effective feedback system among the farmers, their communities and BREB to ensure the proper implementation and promote the sustainability of the project.

18. Senior SPV Pumping Engineer/Deputy Team Leader (National).

Academic Qualification	The expert should have a Bachelor or higher degree in engineering (civil/electrical/irrigation/water/ solar/power related fields).
Total Professional Experience	The expert should preferably have 15 years of overall experience
Project Related Experience	10 years specific experience in designing, testing, and commissioning of similar projects (in size and scope) involving supply and installation of solar power systems. Work experience with international consulting firm will be preferred. In addition, the expert should preferably have 6 years work experience as Solar PV Engineer.
Others	Experience in working with international organizations/ agencies will be preferred.

Responsibility

- The deputy team leader will assist the team leader in managing the consultants to ensure the timely delivery of the expected outputs for the project implementation and supervisory service team.
- The expert will work with the other consultants to put together required studies and reports as well as provide inputs to the design of the SPV pumping system; evaluation of bids; supervise the construction, testing, commissioning and turnover of the pumps; reviewing the O&M manual as well as the capacity building program/training plan prepared by the successful contractor for BREB and the farmers' communities and timely submission of required reports.

19. Procurement Specialist (National).

Academic Qualification	The expert should have Bachelor degree in engineering/masters in procurement/finance/law/business/supplychain. International membership will be an added advantage.
Total Professional Experience	The expert should preferably have 15 years of overall experience
Project Related Experience	10 years specific work experience in international procurement and contract management, specifically in projects involving multilateral development organizations, like ADB, World Bank, and Japan International Cooperation Agency, etc.

Others	Experience in working with international organizations/ agencies will be preferred.
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Responsibility

The expert will assist the team leader and be responsible for the following tasks but not limited to:

- Prepare technical schedules and undertake whole project implementation up to turnkey, according to ADB's Procurement Guidelines (2015, as amended from time to time);
- Prepare the bidding documents including qualification and evaluation criteria, and assist BREB in clarifying queries from prospective bidders;
- Evaluation of bids received; negotiations and finalization of contract;
- Prepare and assess complete logistical chain, from ex-works shipment to on-site delivery of all goods and services to be procured and installed under the project;
- Prepare the acceptance process for the arrival of the equipment, ensuring compliance with specifications and quantities;
- Administer, manage, and supervise implementation of goods and services until trial testing of the complete scope of the project;
- During installation, work closely with the EPC turnkey contractor and authorized personnel of the BREB;
- Review proposed contract amendments and claims.

20. Irrigation Technical Specialist (National)

Academic Qualification	The expert should have Bachelor degree in Water Resource/ Agricultural Engineering, or equivalent engineering or in related field.
Total Professional Experience	The expert should preferably have 15 years of overall experience
Project Related Experience	10 years specific work experience in agricultural irrigation, preferably including photovoltaic agricultural irrigation systems and deep tube well pumping for irrigation.
Others	Experience in working with international organizations/ agencies will be preferred.

Responsibility

The irrigation technical specialist will assist the team leader and be responsible for the following tasks but not limited to:

- Provide expert inputs in preparing the feasibility study and sustainable business model, as well as in selecting the potential project areas and eligible sponsors and users, designing the SPV pumping system, as well as crop schedule, appropriate cultivation procedure and alternate use of the pump to ensure the optimum utilization of the pumps throughout the year.
- Supervise the construction, testing, commissioning and turnover of the pumps;
- Provide inputs in the review of the O&M manual as well as capacity building program for BREB and the farmers' communities.

21. Credit Risk Management/Financial Specialist (National).

Academic Qualification	The Credit Risk Management Specialist should have a Masters degree in economics or finance or in related field.
Total Professional Experience	The expert should preferably have 15 years of overall experience
Project Related Experience	10 years specific work experience in credit risk management, preferably banking sector in rural finance. The candidate should preferably have worked in managing and/or structuring financing mechanisms similar with the proposed credit facility.
Others	Experience in working with international organizations/ agencies will be preferred.

Responsibility

The financial specialist will provide expert inputs in the following tasks but not limited to:

- Preparing the feasibility study;
- Designing a sustainable business model;
- Preparing the project implementation plan including cost estimates and cash flow forecast;
- Developing the financing plan for BREB including installment method and calculation of annuity to recover its operational costs;
- Developing the financing plan for sponsor/user including suggesting water selling rate to help them recover their investment in consultation with BREB;
- Carrying out financial evaluation of bids.
- Preparing criteria for the selection of location;
- Preparing criteria for eligible sponsors/ users for owning SPV water pumps;
- Preparing draft expression of interest (EOI);
- Establishing sub-borrower credit assessment criteria and providing procedure and guidelines for credit appraisal to be carried out by BREB and PBS;
- Conducting sample evaluations of sub-borrowers and providing inputs the for capacity building program of BREB particularly for facilitating the smooth operation of the credit facility and strengthening their credit risk management capacity as well as improving the quality of their credit portfolio.

22. Social Development/Gender Specialist (National).

Academic Qualification	The expert should have Masters degree in social sciences, or related fields.
Total Professional Experience	The expert should preferably have 12 years of overall experience
Project Related Experience	8 years specific work experience in gender mainstreaming across sectors, preferably including energy and renewable energy sectors.
Others	Experience in working with international organizations/ agencies will be preferred.

Responsibility

- The expert should have demonstrated ability to engage in and implement community-driven/based approaches.
- The expert will identify issues related to pro-poor and gender-inclusive access to energy resources and services;
- Document promising and/or emerging practices in Bangladesh for possible incorporation in the projects;
- Identify modalities through which the projects can effectively promote the poor, vulnerable groups and women's greater access to energy resources, services and opportunities.
- The expert will also provide inputs in establishing quantitative and qualitative indicators for the project, collect social and economic baseline data prior to construction work, and undertake an assessment of the social and economic impact of the project.

23. Environment Specialist (National).

Academic Qualification	The expert should have Masters degree in environmental sciences/ engineering, or related fields.
Total Professional Experience	The expert should preferably have 12 years of overall experience
Project Related Experience	8 years specific work experience in environment particularly in relation to civil works, energy, and with projects involving multilateral development organizations, preferably ADB.
Others	Experience in working with international organizations/ agencies will be preferred.

Responsibility

- The expert will prepare the environmental assessment for the project in accordance with local and ADB's Safeguard Policy Statement (2009);
- List the possible impacts of the project on the soil, air and water as well as relevant mitigation measures, including climate change;
- Organize consultations with project stakeholders;
- Assess the institutional capacity of the project proponent and the relevant regulatory agencies involved in implementing the project's environmental management plan (EMP);
- Draft related terms of reference for capacity building;
- Prepare an initial environmental examination and Environmental Management Plan (EMP), in accordance with ADB's Safeguard Policy Statement (2009);
- Prepare an environmental impact assessment for the project administration manual, including detailed activities and EMP;
- Prepare case studies of environmental impacts of the project which can be used in efforts to expand the number of sponsors and users as well as for future project formulation.

24. Civil Engineer for Water Irrigation (National).

Academic Qualification	The expert should have Bachelor degree in Civil Engineering.
Total Professional Experience	The expert should preferably have 15 years of overall experience
Project Related Experience	10 years specific work experience in reviewing and approving designs of shallow and deep tube wells, as well as supervising installation including testing and commissioning of similar projects in photovoltaic agricultural irrigation systems.
Others	Experience in working with international organizations/ agencies will be preferred.

Responsibility

- The civil engineer for water irrigation will provide expert inputs in preparing the feasibility study, selecting potential project areas, designing the SPV pumping system, as well as crop schedule and appropriate cultivation procedure to ensure the optimum utilization of the pumps throughout the year.
- The expert will supervise the construction, testing, commissioning and turnover of the pumps;
- Provide inputs in the preparation of the O&M manual as well as capacity building program for BREB and the farmers' communities.

25. Communications specialist (National).

Academic Qualification	The expert should have Masters degree in communications, marketing, or related fields.
Total Professional Experience	The expert should preferably have 15 years of overall experience
Project Related Experience	10 years specific work experience in communications in Bangladesh, preferably involving technical, engineering or energy product promotion. The expert should also be knowledgeable on rural entrepreneurship and photovoltaic agricultural irrigation systems.
Others	Experience in working with international organizations/ agencies will be preferred.

Responsibility

- The expert will help design the public awareness program to promote the adoption of SPV pumping systems as well as encourage the participation of farmers in the program, prepare the corresponding communications plan and spearhead its implementation;
- Plan and conduct surveys and promotion campaigns;
- Organize focused group discussions, as needed, to facilitate discussions between BREB and the farmers' communities about the project as well as create a venue to respond to concerns and queries from the project users.

26. Project Implementation Coordinator (National).

Academic Qualification	The expert should have Masters degree in engineering, business, economics, or related fields.
Total Professional Experience	The expert should preferably have 10 years of overall experience
Project Related Experience	5 years specific work experience in implementing projects involving multilateral development organizations such as ADB and World Bank.
Others	Experience in working with international organizations/ agencies will be preferred.

Responsibility

- The coordinator will provide overall support to the project team for administrative and logistical concerns;
- Liaise with BREB and other government offices to ensure the smooth coordination and implementation of project activities;
- Organize and maintain the project files and track the status of project implementation;
- Prepare the required reports based on inputs from the other team members.

E. Reporting Requirements and Time Schedule for Deliverables

27. The assignment is expected to commence from December 2018 with the estimated completion date by December 2020. The BREB is the executing agency for the solar PV water pumping component of Loan 2769-BAN. The selected consulting firm will support the Project Management Unit in BREB created for this project. The selected consultant will submit the following deliverables (but are not limited to) within the mentioned timeframe. The timeframe is indicative, and the consultant must submit a detailed timeline and work plans as part of their technical proposal.

Table: List of Deliverables and Timeline

SI. No.	Deliverables	Indicative Timeline (from signing date of the contract)
1.	Inception Report	Within 21 days.
2.	Feasibility Study Report, including proposed location, criteria for selection of project location and criteria for selection of project participants.	Within 2 months.
3.	Sustainable Business Model, including financing model for BREB, sponsors/users and guidelines and/or manual for credit assessment criteria	Within 3 months.
4.	Project Implementation Plan	Within 4 months.
5.	Environmental Management Plan, including communication materials regarding environmental and social matters.	Within 4 months.
6.	Public Awareness Program.	Within 4 months.

Sl. No.	Deliverables	Indicative Timeline (from signing date of the contract)
7.	Initial Design of SPV Pumping System, including layout, designs, drawings, specifications for each component and bill of quantities (BOQ) for various sizes of pumps.	Within 5 months.
8.	Final Bid Documents.	Within 5 months.
9.	Recommendation for Technical Bid Evaluation to BREB for each lot.	Within 30 days of Bid Opening
10	Recommendation for Financial Bid Evaluation to BREB for each lot.	Within 30 days after receiving ADB's no objection on TBER
11.	Environment and Social Impacts Monitoring Report.	Every quarter.
12.	Project Progress Report which will include, among others, work plan for following month and progress during previous month.	Within 7 days of every Month.
13.	Project Completion Report.	On Completion of the Project.

F. Clients Input and Counterpart Personnel

28. For carrying out the services of consultant, BREB shall provide the following to the consultant without any cost:

- (i) Counterpart officials of BREB Project team who will participate in the consultant's activities, and
- (ii) Necessary internal recommendation and authorization for carrying out the construction work.

G. Client will provide the following inputs, project data and reports to facilitate preparation of the proposal:

- (i) Relevant documents, drawings, maps, statistics, data and information of the Project.