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International Water  
Management Institute

# Solar Irrigation for Agricultural Resilience (SoLAR) Innovation Fund (IF) Grants

## *Request for Proposals (RFP)*

**Issued by:** International Water Management Institute (IWMI), a CGIAR Research Center

**Supported by:** Swiss Agency for Development and Cooperation (SDC)

**Date of issue:** May 15, 2020 (Friday)

**Deadline for sending questions regarding the call:** June 7, 2020 (Sunday). Questions should be sent to: [questions.ifsolar@iwmi.org](mailto:questions.ifsolar@iwmi.org) (subject line: Questions regarding RFP-IF-SoLAR)

**Date for responding to questions:** June 15, 2020 (Monday)

**Deadline for submissions:** June 30, 2020 (Tuesday)

**Email address for sending submissions:** [submissions.ifsolar@iwmi.org](mailto:submissions.ifsolar@iwmi.org) (subject line: Submissions to RFP-IF-SoLAR)

**Date for communicating final decision to successful grantees:** August 15, 2020 (Saturday)

**Start date of projects:** October 1, 2020 (Thursday)

**Period of projects:** Minimum 12 months and maximum 24 months, end date no later than October 2022

**Geographic scope:** Bangladesh, India, Nepal and Pakistan

**Number of projects to be funded:** Not more than four to five projects in this round

**Total funding volume:** CHF 200,000 (converted to equivalent USD value) for first round of proposals

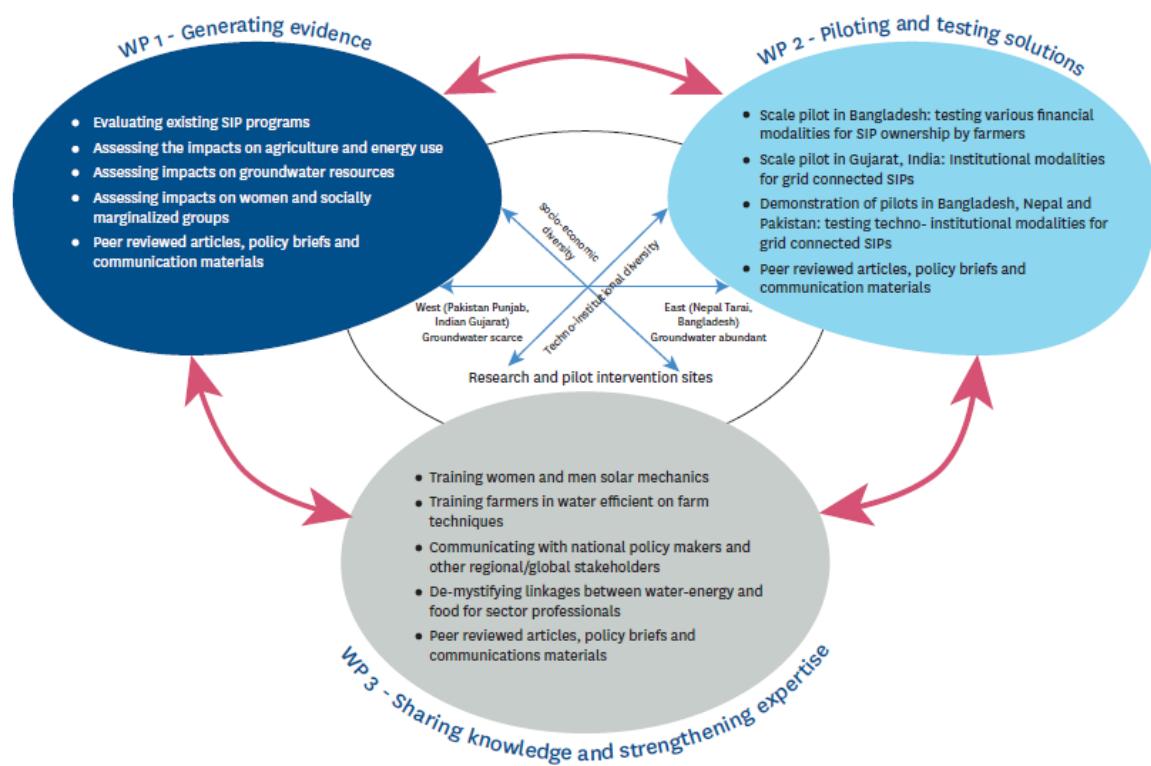
## 1. Background

South Asia is the world's largest user of groundwater for agriculture, withdrawing approximately 250 km<sup>3</sup> annually for irrigation. It is estimated that there are approximately 22 million water extraction pumps in **Bangladesh, India, Nepal and Pakistan**, of which approximately 12 million are electric and 10 million are diesel pumps. Groundwater pumping, fuelled by either electricity or diesel, has a substantial carbon footprint.

With growing concerns about climate change caused by carbon emissions, the International Water Management Institute (IWMI) is implementing a project titled *Solar Irrigation for Agricultural Resilience* (SoLAR) in South Asia supported by the Swiss Agency for Development and Cooperation (SDC). This project aims to contribute to respective country governments' national determined contribution (NDC) commitments of reducing emissions from agriculture through the promotion of solar irrigation. Thus far, approximately 200,000 solar irrigation pumps (SIPs) have been installed in the region (the majority of these are in India), but often without explicit consideration of groundwater sustainability, and gender and equity concerns.

The aim of the SoLAR project is to work closely with all relevant stakeholders to support the development of gender and socially inclusive, and groundwater responsive solar irrigation policies through three interlinked work packages (Figure 1). By working closely with national governments, the project will aim to support the testing and scaling of solutions that promote triple wins – improved livelihood outcomes for women and men farmers; reduced emission of black carbon and other short-lived climate pollutants from agriculture; and sustainable groundwater use – all leading to a more sustainable and climate-resilient agrarian future in South Asia.

Figure 1. Work packages of the SoLAR project.



## **2. The SoLAR Innovation Fund**

The SoLAR Innovation Fund (IF) aims to support the development and testing of technological, financial and institutional innovations to address the constraints and challenges of upscaling solar irrigation, with a special focus on the problems faced by small-scale, marginal, and women farmers in South Asia (specifically Bangladesh, Nepal, India and Pakistan). The IF will, in particular, aim to support innovations and practices that can influence policy or be expanded and integrated into regular government programs and practices with the support of additional funding sources. The objectives of the IF are as follows:

- Support innovations that help to **bridge the gaps that hamper the scaling out** of solar irrigation pumps in South Asia.
- Support innovations targeted at **reducing barriers for sustainable adoption and use** of solar irrigation pumps by small-scale, marginal, and women farmers.
- Support innovations that encourage **the sustainable use of groundwater resources** when using solar-based irrigation.
- Support innovations that **enhance climate-resilient livelihood options** for small-scale, marginal, and women farmers in the region.

Starting in 2020 and for the next 3 years, IWMI will administer a SoLAR Innovation Fund (IF) with a total value of CHF 400,000. Through this fund, the Institute will aim to support eight to ten innovations for the next 3 years. This is the first call for applications for IF grants. Four to five projects will be supported through this call. The next call for applications will be released in March 2021. The expected value of funding for each innovation will vary between CHF 30,000 and CHF 60,000 (converted to its equivalent USD value). The maximum duration of a project is 24 months.

## **3. Types of innovations that will be funded**

We are looking for innovations in the field of solar-powered irrigation that reduce barriers for the adoption of SIPs in South Asia (specifically Bangladesh, Nepal, India and Pakistan). This is not a research grant, and only those with innovations that can be tested on the ground under real-life field conditions will be funded. Innovations may fall into either of the following categories or be a combination of these:

1. Technological innovations
  - a. Improving energy management protocols for distributed generation
  - b. Use of cost-effective sensors and Internet of Things (IoT) for efficient water and energy use and metering
  - c. Improving data and payment compliance (e.g., payment of instalments for SIPs by farmers, or payment from utility to the farmers) through use of remote monitors
  - d. Supporting sustainable groundwater use/governance, for example, through remote metering and control of pumps

## 2. Financial innovations

- a. Appropriate and affordable insurance products for SIPs
- b. Appropriate loan and other financial products for small, marginal, and women farmers facilitating access to SIPs
- c. Viable business models for SIP business entrepreneurs
- d. Incentives to support sustainable groundwater use/governance

## 3. Institutional innovations

- a. Combining solar irrigation with other livelihood options such as agricultural value chains and creation of self-help groups, with a focus on small, marginal, and women farmers
- b. Alternative use of excess solar energy generated from SIPs, including other energy markets for solar entrepreneurs
- c. Creating self-sustaining groups of landless and/or women SIP irrigators/service providers
- d. Incentives to support sustainable groundwater use/governance

Please note that the above-mentioned topics are not exhaustive in any way, and applicants may suggest single or combined innovations relevant to the themes/topics mentioned above.

## 4. Criteria for selection

Innovation fund grantees will be selected from an open competitive process. The SoLAR IF Grant is open to all nongovernmental organizations, universities, technical institutes, research institutes, public and private sector enterprises and research laboratories, and government agencies, including local government institutions working in any of these four countries who are eligible for this grant. This is not a research grant, and all innovations have to be tested on the ground under real-life field conditions. Applicants must already have the required registrations and permits needed to work in the country they select, and proof of such registration/permit must be sent together with the application letter. Collaboration with Swiss firms/organizations is encouraged, though not mandatory.

Short-listed proposals will be judged on the following criteria:

- Nature and scope of the innovation and its relevance to the aims of this call
- Strategic and innovative value for meeting the challenges set out in the call
- Logic and clarity of the innovation and its design
- Technological, social, institutional and financial feasibility
- Potential for replication and scaling up
- Relevance to climate change concerns
- Financial viability of the innovation and exit strategy
- Value for money and cost-effectiveness of the project
- Expertise and qualifications of the project team
- Background and experience of the project team in handling similar projects

Innovation teams led by women, or teams that have adequate representation of women and youth, will be given priority.

## **5. How to apply**

To be considered for a Small Grant for Innovation, interested candidates must submit the following documents:

- A completed project proposal (in the prescribed format in Annex 1) along with detailed budget (see Annex 3).
- Half a page biography of each of the team members.
- At least two professional references (details to be added in the proposal).
- Proposals should be limited to 15 pages (font size 11, Times New Roman, 1.5 spacing, standard margins) excluding maps, photographs and references that are considered essential for a complete appraisal of the project.
- Applications will be reviewed and grants will be provided once a year.
- Proposals must be sent in the given format to: [submissions.ifsolar@iwmi.org](mailto:submissions.ifsolar@iwmi.org)
- The decision of the selection committee reviewing the applications will be final.

**Table 1. Important deadlines.**

|      | <b>Start date for submissions</b> | <b>Deadline for sending questions regarding the call</b> | <b>Deadline for submissions</b> | <b>Announcement of selected grantees</b> |
|------|-----------------------------------|--|---------------------------------|--|
| 2020 | May 15                            | June 7   | June 30                         | August 15                                |

## **6. Selection process**

All grants are considered for funding on a competitive merit basis. A selection committee comprising of experts from Bangladesh, India, Nepal and Pakistan, and representatives from the International Solar Alliance (ISA), IWMI and SDC will evaluate the selection of grantees based on the above-mentioned criteria, along with the technical strength of the applicant to ensure a successful and sustainable project. Funds will be provided to the successful individual in a phased manner – 50% on signing of the contract, 30% on a successful mid-term review and 20% on approval of a satisfactory final report submitted by the project leader. The final reports should also include full audited financial details of expenditure incurred as part of the project. IWMI and SDC must be acknowledged in all related publications/communications for implementing and funding the SoLAR project, respectively.

**Table 2. Selection process.**

| <b>Serial number</b> | <b>Step</b>   | <b>Description</b>  | <b>Deadline</b>              |
|----------------------|---|---|------------------------------|
| Step 1               | Announcement of the IF call and submission of proposals   | The IF will be announced via email, on the websites of IWMI and SDC, and on various professional networks, social media, etc.   | May 15–June 30, 2020         |
| Step 2               | Initial screening of applications   | The Project Management Unit (PMU) of SDC-SoLAR will carry out an initial screening of applications in consultation with country leads.  | June 30–July 15, 2020        |
| Step 3               | Application short list created and semifinalists invited to make a presentation via videoconferencing | A panel of experts nominated by the Project Steering Committee (PSC), comprising one technical expert each from Bangladesh, India, Nepal and Pakistan, and members from ISA, IWMI and SDC will carry out a detailed review of the short-listed applications.<br><br>The panel will create a short list of innovations for the final round of the IF grant and invite them to make a presentation to the selection panel. The short list will be shared with members of the PSC. | July 15–July 31, 2020        |
| Step 4               | Finalists announced   | Final grantees selected and vetted by the PSC, and finalists are announced.   | August 15, 2020              |
| Step 5               | IWMI signs contracts with each selected project and its lead institution                              | PMU will draw up contracts with each of the selected innovators to provide financial support for the project, and ensure agreement about work expectations.   | August 15–September 15, 2020 |
| Step 6               | Release of first payment instalment and commencement of the project                                   | IWMI will disburse the funds as agreed regarding the deliverables and milestones. PMU and country co-leads will jointly monitor the progress of each project.   | September 15–October 1, 2020 |

## **7. What will the innovation grant not support?**

- Purely research-based projects, without any field implementation plans
- Cash payments for direct budgetary support to an organization or for the purchase of solar pumps for distribution
- Payment for ongoing projects and expenses of recurring nature
- Organization of seminars, meetings and conferences, except where it can be demonstrated that the organization of such a meeting is critical to achieving the larger objectives of this grant
- Sponsorship to attend conferences, workshops, training programs in India or abroad
- Large-scale construction and high capital costs, including the purchase of vehicles
- Funds should be utilized primarily for development of the innovation and field activities, and not for administrative expenditure or the purchase of capital assets

## **Annex 1. Project Proposal Format.**

Technical application form: All sections in the technical proposal must be completed. Maximum 15 pages (font size 11, Times New Roman, 1.5 spacing, standard margins).

### **Section 1: Executive summary (1 page)**

- Summarize the innovation, explaining why it is unique and how it meets the challenges set forth in the call. If the proposal is successful, the executive summary will be featured on the project website. Keep this in mind when writing the executive summary.

### **Section 2: Justification (2 pages)**

- What is being proposed and what is the need for this particular innovation?
- How does the innovation address the objectives of the SoLAR IF?
- What is the demand for this type of innovation and where is this demand coming from (the government, private sector, farmers, etc.)? Provide evidence that such a demand exists.
- How does this innovation address climate change concerns – both mitigation- and adaptation-related concerns.

### **Section 3: The innovation (5 pages)**

- Describe the innovation, and its objectives and design.
- Explain whether the innovation is commercially viable and sustainable.
- What is the potential for replication and scaling up of this innovation? Provide a detailed explanation of how the impact of the innovation will continue after the end date of the award, and how the innovation will be scaled up after close of the award.
- Provide an indicative sustainability plan and exit strategy.

### **Section 4: Implementation plan (3 pages)**

- Key activities and milestones, and timeframe for each stage of the project. Describe each of the activities in detail and also provide a Gantt chart of activities.
- Indicate the type of data to be collected, and how data and research/implementation results would contribute to scaling of innovation.
- Provide an impact pathway narrative – how will the proposed activities lead to desired outputs and outcomes?
- Discuss other stakeholders that will need to be engaged to support implementation or scaling up of the innovation, and describe how and when that engagement will take place.
- Briefly identify risk and mitigation measures. These risks may include, but not limited to, the current coronavirus disease (Covid-19) situation, and other contextual, market, programmatic, institutional and/or political factors, and those related to partnerships and the business venture. Include a risk mitigation matrix (in the prescribed format in Annex 2) as an annexure to the main proposal.

**Section 5: Impacts on small-scale, marginal, women and youth farmers, and other marginal sections (such as tribal farmers, ethnic/religious minorities, etc.) (2 pages)**

- Explain how the innovation will meet its objectives while also engaging and supporting smallholder farmers and marginalized populations, including women and youth.
- Describe how the innovation can positively impact these target populations. Provide an impact pathway narrative as it relates to inclusion of these traditionally excluded groups.

**Section 6: Organizational, management and technical capacity (2 pages)**

- Provide a brief description of the organization and its activities.
- Describe the experience of the organisation in undertaking the proposed activities in similar contexts.
- Explain relevant technical and management experience of key staff. Provide the names of relevant staff and describe their roles and responsibilities. Include a half-page bio for each team member as an annexure to the main proposal. Teams lead by women and/or those with diverse composition (women, youth, etc.) will be given extra points during the evaluation.
- Describe any anticipated gaps in capacity, and plans to cover these gaps – through hiring, consultancy contracts, etc.

**Section 7: Budget narrative (1 page)**

- Provide a detailed budget narrative, including a statement on value for money and cost-effectiveness of the project.
- For projects that are to be commercially up-scaled, please provide a three-year projection of revenue, costs and net incomes.
- Detailed budget to be appended (in a given format) as an annexure to the main proposal.

**Annexures to the main project proposal:**

1. A risk mitigation plan/matrix (in the prescribed format in Annex 2).
2. Short biography of team members (maximum half a page per team member).
3. Detailed budget (in the prescribed format in Annex 3).
4. Two professional reference letters from sponsors/funders/patrons/companies with whom the applicant has previously completed projects.
5. Photos/sketches/or any visual aid that explains the Innovation in a succinct way (optional, but encouraged).

## Annex 2. Risk Mitigation Matrix Format.

| Likelihood/Impact | High | Medium | Low |
|-------------------|------|--------|-----|
|-------------------|------|--------|-----|

| Risk                             | Likelihood of occurrence<br>(color code) | Impact<br>(color code) | Planned measures for mitigation |
|----------------------------------|--|------------------------|---------------------------------|
| <b>Covid-19-related risks</b>    |  |                        |                                 |
|                                  |  |                        |                                 |
|                                  |  |                        |                                 |
| <b>Contextual risks</b>          |  |                        |                                 |
|                                  |  |                        |                                 |
|                                  |  |                        |                                 |
| <b>Programmatic risks</b>        |  |                        |                                 |
|                                  |  |                        |                                 |
|                                  |  |                        |                                 |
| <b>Institutional risks</b>       |  |                        |                                 |
|                                  |  |                        |                                 |
|                                  |  |                        |                                 |
| <b>Fiduciary/Financial risks</b> |  |                        |                                 |
|                                  |  |                        |                                 |
|                                  |  |                        |                                 |

### Annex 3. Budget Format.

| PERSONNEL                                      | TOTAL DAYS  | RATE per day<br>(USD) | GRANT<br>AMOUNT | IN-KIND<br>CONTRIBUTION/MATCHING<br>FUNDS |
|--|-------------|-----------------------|-----------------|---|
|  | (A)         | (B)                   | (C) = (A) * (B) | (D)                                       |
| Personnel 1                                    |             |                       |                 |   |
| Personnel 2                                    |             |                       |                 |   |
| Personnel 3                                    |             |                       |                 |   |
| Personnel 4                                    |             |                       |                 |   |
| Personnel 5                                    |             |                       |                 |   |
| <b>TOTAL PERSONNEL (A)</b>                     |             |                       |                 |   |
| <b>TRAVEL</b>                                  | <b>UNIT</b> | <b>RATE (USD)</b>     |                 |   |
| Travel   |             |                       |                 |   |
| Per diem                                       |             |                       |                 |   |
| Accommodation                                  |             |                       |                 |   |
| <b>TOTAL TRAVEL (B)</b>                        |             |                       |                 |   |
| <b>OPERATIONS</b>                              | <b>UNIT</b> | <b>RATE (USD)</b>     |                 |   |
| Fieldwork/field implementation/data collection |             |                       |                 |   |
| Communications                                 |             |                       |                 |   |
| Consultancy                                    |             |                       |                 |   |
| Other  |             |                       |                 |   |
| <b>TOTAL OPERATIONAL EXPENSES (C)</b>          |             |                       |                 |   |
| <b>EQUIPMENT AND SUPPLIES</b>                  | <b>UNIT</b> | <b>RATE (USD)</b>     |                 |   |
| Equipment                                      |             |                       |                 |   |
| Software                                       |             |                       |                 |   |
| <b>TOTAL EQUIPMENT AND SUPPLIES (D)</b>        |             |                       |                 |   |
| <b>OVERHEAD COST (XX%) (E)*</b>                |             |                       |                 |   |
|  |             |                       |                 |   |
| <b>TOTAL BUDGET (A+B+C+D+E)</b>                |             |                       |                 |   |
|  |             |                       |                 |   |
| <b>IN-KIND CONTRIBUTION</b>                    |             |                       |                 |   |
|  |             |                       |                 |   |
| <b>TOTAL PROJECT COST</b>                      |             |                       |                 |   |

*Note:* \* Please provide overhead cost (%) along with breakup.

This Request for Proposals “RFP” is not an agreement/an offer/invitation by the International Water Management Institute (IWMI) and the purpose of this RFP is to provide interested parties with information that may be useful in formulating their Proposals pursuant to this RFP.

The statements and information contained in this RFP may not be complete or adequate. Therefore, each Applicant should conduct their own analysis and/or investigation to check the adequacy, reliability and completeness of the information contained in this RFP and obtain independent advice from appropriate sources in formulating their Proposals.

IWMI at its own absolute discretion, but without being under any obligation to do so, can update, amend or supplement the information contained in this RFP.

The issue of this RFP does not imply that IWMI is bound to select an Applicant or to appoint the Selected Applicant, as the case may be, and reserves the right to reject all or any of the Proposals without assigning any reasons whatsoever.

The Applicant shall bear all costs associated with or relating to the preparation and submission of their Proposal, and IWMI shall not be liable in any manner whatsoever for the same or for any other costs or expenses incurred by an Applicant in preparation or submission of the Proposal, regardless of the conduct or outcome of the Selection Process.