

Solar Irrigation for Agriculture Resilience in South Asia (SoLAR-SA) Project Pakistan - Country Project Management Committee (C-PMC) | 5th Meeting

Day/Date:	Friday, 16 th August 2024	Scheduled time:	10:00 – 13:30
Location:	Conference Room 01 – Marriott Hotel – Islamabad		
Present:	Mohsin Hafeez (IWMI), Muhammad Ashraf (IWMI), Novaira Junaid (IWMI), Zain Akbar (IWMI), Sardar Mohazzam (NEECA), Kifayat Zaman (FWMC), Yasir Nawaz (KFUEIT), Muhammad Ashraf (KFUEIT), Farkhanda Shamim (OFWM), Bashir Ahmad (CEWRE), Noman Latif (CEWRE)		
Apologies:	Nasir Jamal (Rabail Technologies)		
Initials	Mohsin Hafeez (MH), Muhammad Ashraf (MA), Novaira Junaid (NJ), Zain Akbar (ZA), Sardar Mohazzam (SM), Kifayat Zaman (KZ), Yasir Nawaz (YN), Muhammad Ashraf (MAF), Farkhanda Shamim (FS), Bashir Ahmad (BA), Noman Latif (NL)		

	Agenda item
1.	Participants introduced themselves
2.	Objectives of the Meeting presented by Novaira Junaid (IWMI)
3.	Presentation on SoLAR-SA project updates for Pakistan by Novaira Junaid (IWMI) Presented activities and results under different components of the project.
4.	Project updates by the Partners (KFUEIT and CEWRE) M. Ashraf (KFUEIT) provided an update regarding the field trials conducted in collaboration with KFUEIT. He added that trials of surface precision irrigation, coupled with solar pump irrigation, on maize and wheat had resulted in higher yields. At the same time, the impact of surface precision irrigation on soil salinity trials was also observed. The manuscript of the research paper is final and will be submitted to a research journal. Bashir Ahmad (CEWRE) updated on the Innovation Fund Trials of Responsive Drip Irrigation coupled with SIP. He highlighted the results and hurdles faced during the trials. Complete results of the innovation fund trial will be presented in the report to be finalized very soon.
5.	IWMI's Portfolio presented by Mohsin Hafeez (IWMI) MH gave a brief review of the research portfolio, strategy, and achievements of IWMI, specifically related to solar powered irrigation across Pakistan. Afterwards, an overview of the research activities under the two World Bank projects entitled 'Sustainable Solar Irrigation in Punjab: Future Roadmap' and 'Punjab Resilient and Inclusive Agriculture Transformation (PRIAT)' were presented. These activities included stakeholder

	<p>consultations, policy review, groundwater vulnerability mapping through drastic model, and suitable business models for SIP promotion moving forward. Under the PRIAT project, IWMI is monitoring groundwater table and quality information through CTD divers installed with the funding of NEXUS Gains and FCDO project, at 87 sites in Okara and Rahim Yar Khan.</p> <p>In addition to the project related activities, challenges with regards to solar irrigation were also highlighted. Farmers are installing solar pumps with self-finance and are not depending on any solar subsidy program. There is an issue of sub-standard solar equipment in the market.</p>
<p>6.</p>	<p>Deliberations</p> <p>Sardar Mohazzam (NEECA): There is no mechanism of determining exact power of solar system required by the farmer. When farmers install solar system, they do not account for land holding, cropping pattern, and irrigation requirements. To be on the safe side, they simply install over-powered solar systems.</p> <p>Mohsin Hafeez (IWMI): There is an increasing trend of movable solar system mounted on trolleys. Many farmers are providing irrigation services as a business.</p> <p>Sardar Mohazzam (NEECA): There are software's which can calculate exactly how much power of the solar is required by the farmers depending upon different variables. But we still do not have basic groundwater extraction data.</p> <p>Mohsin Hafeez (IWMI): IWMI is working on solar suitability mapping and solar sizing tool. These activities would be helpful in identifying zones suitable for solar irrigation and determining appropriate capacity required for the installation of solar system.</p> <p>Muhammad Ashraf (KFUEIT): Segregation, based on perennial and non-perennial zones, can add useful detail to solar suitability mapping.</p> <p>Kifayat Zaman (FWMC): Results from all the research activities conducted under SDC's SoLAR project, especially, behavioural survey and choice experiment study have been well incorporated into Prime Minister's National Programme for Solarization of Agricultural program. Deliberations during the Global Science-Policy Forum held on 24-26 April 2024 in Kathmandu, Nepal has been very beneficial in programming of the governmental solarization scheme.</p> <p>Related to activities for rest of 2024, Solar Suitability Mapping and Solar Sizing tool, under the SDC's SoLAR project will be critical inputs for foreign funded solar projects and new schemes/projects under the provincial Annual Development Program (ADP).</p> <p>KZ advised that findings from the solar suitability mapping and solar sizing tool should be compiled into short manuals that can be resourced to government departments in future after being consulted by farmers, academicians, researchers, etc.</p> <p>Sardar Mohazzam (NEECA): The focus of government solar programs is to shift diesel pumps to solar, as the groundwater extraction cost is highest for the diesel pumps. It will be valuable to compare cost of extracting 01 litre of groundwater with different sources of energy i.e., solar, electric, and diesel.</p> <p>Solar suitability mapping and all the geo-tagging data should be factored in federal and provincial solarization schemes. On ground, there are instalment and subsidy based solar programs. Currently, the Bank of Punjab (BOP) is working on financing tools based on carbon credits. Moreover, there are community based solar models which can be piloted.</p> <p>The biggest challenge of solar powered groundwater extraction is standardization of solar equipment and accessories. There are no testing labs to ensure implementation of the standards. Another challenge is the forgone energy generated by solar pumps when groundwater is not pumped. The grid connected solar pumps can address this gap.</p>

	<p>Mohsin Hafeez (IWMI): There is need of standardization but that needs a national level effort. There is an example of testing lab established in Haryana, India, where the Agriculture Department monitors all the suppliers and issue compliance certificates.</p> <p>Sardar Mohazzam (NEECA): The standards for pumping motors are available. Single-component standards can be developed for determining solar system size requirements. The solar system size can be reverse engineered from water table depth, which in turn can be mapped through the grey satellite images. Additionally, solar irradiance availability, cropping pattern, and soil quality can also be factored into the sizing tool.</p> <p>Mohsin Hafeez (IWMI): Groundwater vulnerability index was developed using 10 different layers. Now, a dashboard will be developed to provide various location specific agricultural and groundwater indicators. The optimal motor pump capacity based on related indicators can be incorporated into the dashboard. Manuals will be developed for solar suitability mapping and solar sizing tool. Moreover, a 03-day hands-on training will also be conducted for the relevant stakeholders from all provinces in Pakistan.</p>
7.	<p>Discussion on Project Activities 2024:</p> <p>Novaira Junaid (IWMI): Two activities including the solar suitability mapping and solar sizing tool for Punjab will be conducted during the remaining part of 2024. The work plan for 2024 was presented to the CPMC members which was unanimously approved by all stakeholders.</p> <p>Bashir Ahmad (CEWRE): Water table depth will be important indicator in determining pump size. Data needed for these activities should be enlisted.</p> <p>Muhammad Ashraf (IWMI): To determine data required for these activities, objective should be specified and then the required variables should be enlisted. One page methodology note should be developed for both activities.</p> <p>In terms of manuals, we need to train service providers with respect to installation and troubleshooting of the solar systems. Pakistan Council of Research in Water Resources (PCRWR) has developed manuals in the past, which can be a starting point for developing new training manuals.</p> <p>Noman Latif (CEWRE): Pakistan Agricultural Research Council (PARC) can help in developing manuals.</p>
6.	<p>Meeting was closed with a vote of thanks on Friday 16th August 2024, 13:30</p>

Meeting Agenda

Solar Irrigation for Agricultural Resilience in South Asia (SoLAR-SA) Country Project Management Committee (CPMC) Meeting

Date: 16th August 2024

Time: 09:30am – 01:00pm

Venue: Conference Room 01, Marriott Hotel, Islamabad

Time	Activity	Facilitator
09:30 am – 09:35 am	Recitation from the Holy Quran	--
09:35 am – 09:45 am	Round of Introductions	All Participants
09:45 am – 09:55 am	Objectives of the Meeting	Novaira Junaid, IWMI
09:55 am – 10:25 am	<ul style="list-style-type: none">❖ Welcome Remarks❖ IWMI's Current Portfolio of Work in Pakistan	Mohsin Hafeez, IWMI
10:25 am – 11:00 am	SoLAR-SA Project - Progress Updates	Novaira Junaid, IWMI
Tea/Coffee Break & Group Photo		
11:15 am – 12:15 pm	Updates from the Partners under the SoLAR-SA Project	FWMC, NEECA, PARC, OFWM, KFUEIT, and BIS
12:15 pm – 12:25 pm	SoLAR-SA Project: Year 2024 Activities	Zain Akbar, IWMI
12:25 pm – 12:55 pm	Discussion	All Participants
12:55 pm – 01:00 pm	Vote of Thanks	Kifayat Zaman, FWMC
Lunch		

[Attendance Sheet](#)

Solar Irrigation for Agricultural Resilience in South Asia (SoLAR-SA)
 Fifth Country Project Management Committee (CPMC) Meeting

Attendance Sheet

Sr. No.	Name	Gender (Male/Female)	Designation	Organization	Contact Number
1	Dr. Muhammad Ashraf	Male	Senior Policy Advisor	IWMI	0310-8322086
2	Dr. Mohsin Hafeez	Male	Director	IWMI	03051685569
3	Kifayat Zaman	Male	Director General	PCMC (MONFSR)	0345-9787756
4	Dr. YASIR Viaz	Male	Asst Prof / HoD	KFUEIT, RYK	0335 342096
5	Sajid Altaf	Male	Ex. Water Management Engineer	FWMC, (MONFSR)	0300-8553396
6	Fazhandulhamim	Female	acting Director (Admin) Lawal, Pindi	CPDM Punjab	0338-0802190
7	Dr. Muhammad Ashraf	Male	Asst. Professor	KFUEIT-RYK	03004489203
8	Dr. Bashir Ahmad	Male	PSO	NARC	0333-5487506
9	Dr. Noman Latif	Male	CSO/PARC	CEWRI, NARC	03069961996

August 16, 2024

Solar Irrigation for Agricultural Resilience in South Asia (SoLAR-SA)
 Fifth Country Project Management Committee (CPMC) Meeting

Attendance Sheet

Sr. No.	Name	Gender (Male/Female)	Designation	Organization	Contact Number
10.	Dr. Sardar Hameezam	Male	MD	NEECA	051-9200601
11.	M. Zain Akbar	Male	Research Officer.	IWMI	0322-4440758
12.	Nooria Javeed	Female	National Researcher Economist	IWMI-Pakistan	0322-4284028

Pictures



(From L to R) – Novaira Junaid (IWMI), M. Ashraf (KFUEIT), Yasir Niaz (KFUEIT), Kifayat Zaman (FWMC), Sajid Altaf (FWMC), Bashir Ahmad (CEWRE), Mohsin Hafeez (IWMI), Sardar Mohazzam (NEECA), M. Ashraf (IWMI), Farkhanda Shamim (OFWM), Noman Latif (CEWRE), Zain Akbar (IWMI)