Solar Irrigation for Agriculture Resilience in South Asia (SoLAR-SA) Project Pakistan - Country Project Management Committee (C-PMC) | 4th Meeting

Venue: CEWRI, NARC Islamabad **Date:** Thursday 08th June 2023 **Scheduled time:** 10:00 – 13:30

Location:	Conference Room CEWRI - NARC Islamabad
Present:	Mohsin Hafeez (IWMI), Azeem Shah (IWMI), M. Zain (IWMI), Adeel Waqas (NUST), Kashif Imran (NUST), Andrew Bell (Boston University), Bashir Ahmad (PARC), Khalid Jamil (PARC), M Ashraf (KFUEIT), Muhammad Muzzamil (Buraq Integrated Solutions)
Apologies:	Kifayat Zaman (FWMC), Nasir Jamal (Rabail Technologies)
Initials	Mohsin Hafeez (MH), Azeem Shah (AS), M. Zain (MZ), Adeel Waqas (AW), Kashif Imran (KI), Andrew Bell (AB), Bashir Ahmad (BA), Khalid Jamil (KJ), M Ashraf (MA), Muhammad Muzzamil (MM)

Meeting Agenda

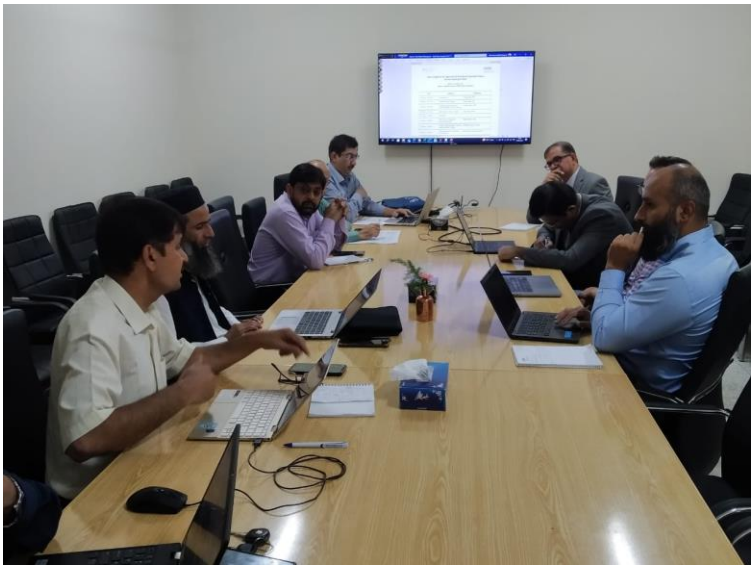
Time	Activity	Facilitator
10:00 am – 10:05 am	Introductions	Azeem Shah, IWMI
10:05 am – 10:15 am	Objectives of the Meeting	Azeem Shah, IWMI
10:15 am – 10:45 am	Welcome Remarks and IWMI's current portfolio of work in Pakistan	Mohsin Hafeez, IWMI
10:45 am – 11:15 am	Solar Project – Progress Updates	Azeem Shah, IWMI
11:15 am – 11:30 am	Tea Break	
11:30 am – 12:00 pm	PARC Trials, Trainings and Innovation fund work	Bashir Ahmad - PARC
12:00 pm – 12:20 pm	Precision Surface Irrigation Trials and Capacity Building Trainings	Muhammad Ashraf - KFUEIT
12:20 pm – 12:40 pm	Choice Experiments to determine Farmer Behavior	Andrew Bell – Boston University
12:40 pm – 12:55 pm	Groundwater Instrumentation	Muhammad Muzzammil – Buraq Integrated Solutions
12:55 pm – 01:10 pm	National Forums and Solar Trainings	Nasir Jamal – Rabail Technologies
01:10 pm – 01:20 pm	Solar FY 2023 Activities – CPMC members feedback	Azeem Shah - IWMI
01:20 pm – 01:25 pm	Discussion	All Participants
01:25 pm – 01:30 pm	Vote of Thanks	Kifayat Zaman - FWMC

Lunch

	Agenda item
1.	**Participants introduced themselves**
2.	**Update by Mohsin Hafeez (IWMI)** MH gave brief review of research portfolio, strategy, and achievements of IWMI. Afterwards, research activities and results related to World Bank project "Sustainable Solar Irrigation in Punjab: Future Roadmap" were presented. These activities included stakeholder consultations, policy review, groundwater vulnerability mapping through drastic model, and suitable business models for SIP promotion moving forward.
3.	**Presentation by Azeem Shah** AS gave the presentation on the activities carried out under SoLAR project. Under component 1.2.3, highlights from A Situation Analysis Report and its successive series of provincial studies were presented. The results from telephonic survey and subsequent behavioural survey were presented. Then the nature and aims of in-situ instrumentation along with the results from two sites were discussed. Under component 2.2.4, choice experiment survey objectives and findings were briefly presented. Under component 3.3.1, field trials and capacity building activities were introduced. Lastly, National forum meetings conducted under component 3.2.2 were presented.
4.	**Presentation by Khalid Jamil (PARC)** KJ presented activities related to the trials, trainings, and innovation fund work of PARC. Introduction to Responsive Drip Irrigation (RDI) was given i.e., nature, functioning and installation. Then the locations and details of the field trials were presented. Trial results were shown, along with the challenges faced during trials. In the end, possibilities for further experimentation were presented.
5.	**Presentation by Muhammad Ashraf (KFUEIT)** MA presented summary of activities undertaken in collaboration with KFUEIT as part of the project. One section of the activities includes Field Trials for Precision Surface Irrigation and the other section of activities include Seminars/ Webinars/ Training Workshops/ Stakeholders consultations. As a part of field trials, soil infiltration test, laser grading, flow measurements, measurement of irrigation phases, water, soil sampling, and crop yield data collection were carried out. Afterwards, results of the field trials were presented, showing significant increase in crop yield and water saving. As a part of trainings, trainings on WinSRFR, design of solar irrigation system, operation and maintenance of solar pump, operation of laser grading, and application of GEE were carried out. Stakeholder consultations were also conducted on topic of Solar Irrigation. Project activities also involved MS and PhD students.
6.	**Presentation by Andrew Bell (Boston University)** AB presented activities carried under choice experiment. Firstly, Jevon's paradox was presented as a background to the study. Secondly, structure of experiments in the survey was explained. Then experiment wise results were shown in context of Jevon's paradox. In the end, possible avenues of further research to built upon current study were discussed, and ways in which related policy questions can be explored were presented.

7.	**Presentation by Muhammad Muzzamil (Buraq Integrated Solutions)** MM presented the purpose of in-situ instrumentation, process of site selection, details of parameters for data collection, and type of instrument used to collect data for each parameter. In the end, results from one solar and one non-solar site was shown.
3.	**Deliberations** **Azeem Shah (IWMI):** SIP markets in terms of adoption and regulations are at much advanced levels in India and Bangladesh. Whereas in Nepal and Pakistan SIP markets are at much infancy stage. Main challenge is to make evidence-based policy decisions in Pakistan moving forward. **Mohsin Hafeez (IWMI):** MH highlighted the importance of identifying vulnerable zones based on evidence and subsequent designing of zone-wise implementation models. Before implementing the models, piloting in various settings can be very helpful. **Khalid Jamil (PARC):** Piloting of grid connected SIPs can be important in making policy decisions. Such pilots can be done in areas close to electric poles, with well-developed water markets. **Bashir Ahmad (PARC):** Piloting can be pivotal as in-person observation plays key role in farmers to mend their ways. **Azeem Shah (IWMI):** AS pointed out that suggested pilots only point towards grid-connected SIP models. Whereas there are other models as well i.e., SIP cooperatives and grid-connected larger SIP. In SIP cooperative, a large SIP can supply water to different farmers. Grid connected larger SIP means that a large private SIP connected to nearest grid from where electricity is provided to farmers. Private electric companies provide a limitation for IWMI in possibly implementing such pilots. **Adeel Waqas (NUST):** AW highlighted the issue of sub-standard solar system and lack of standardization. **Mohsin Hafeez (IWMI):** MH pointed out that in main urban centres Karachi, Lahore, and Multan one can find equipment of satisfactory quality but in rural towns and areas there is a major issue with sub-standard equipment. **Muhammad Muzzamil (Buraq Integrated Solutions):** MM said that there is a possibility of inter-connecting solar system at local level making a local grid. This will be also make stabilizing the power at local level. This can be piloted involving 3 to 4 solar pump farmers. For transparency, meter can be installed to keep track of farmer-wise power usage. **Mohsin Hafeez (IWMI):** Social fabric of rural areas will pose a challenge in piloting this idea. This can be tried in upper part of Punjab and maybe in some pockets of central Punjab. **Andrew Bell (Boston University):** In Africa, due to lack of infrastructure micro-grids are not possible but in Pakistan piloting this will be interesting. **Azeem Shah (IWMI):** Net-metering can be piloted but developing a structure for meaningful incentives to the farmer will be a challenge.
4.	**Work plan for year 4** AS presented the work plan for year 4 of the Solar project to the CPMC members which was unanimously approved by all stakeholders.
6.	Meeting closed Thursday 8th 2023, 13:30

Meeting Pictures



Members of CPMC Meeting

Representatives of PARC and KFUEIT

Representatives of IWMI and Boston University

Representatives of NUST and Buraq Integrated Solutions