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Swiss Agency for Development and Cooperation SDC

Advancing Solar Irrigation in India: A Science Policy Forum

National Forum by IWMI-SDC-SoLAR project Venue: Jaypee Siddharth Hotel, Rajendra Place, New Delhi, India Date: 12th March 2024, Time: 9:00 am – 15:45 pm IST

Background:

The surge in carbon emissions in India, driven largely by the agriculture sector's escalating energy demands and reliance on fossil fuels, poses significant environmental challenges. Groundwater irrigation, which accounts for a substantial portion of India's carbon emissions, is heavily subsidized, with electricity provided to farmers at significantly lower rates than domestic users. This subsidy, coupled with policies promoting irrigation and high-yielding crop varieties, has led to widespread groundwater exploitation and depletion. The adoption of solar irrigation pumps (SIPs) presents a promising solution to mitigate these challenges. SIPs offer environmental benefits by reducing CO2 emissions and decreasing reliance on power subsidies. While off-grid SIPs provide energy access in remote areas, grid-connected SIPs offer the additional advantage of stabilizing groundwater withdrawals by allowing farmers to sell surplus electricity back to the grid, thereby augmenting their income. India's abundant solar potential and government schemes like PM KUSUM further underscore the importance of solar irrigation in achieving sustainability goals. However, the adoption of SIPs remains limited, highlighting the need for scaling to realize the full potential of solar irrigation in India's agricultural landscape.

The primary aim of this forum is to present and discuss recent insights into i) challenges associated with the adoption of SIPs by smallholder and women farmers, ii) their impact on livelihoods and groundwater, and iii) the need for capacity building interventions to improve the implementation effectiveness of SIP programs. Additionally, the forum will engage in an in-depth discussion about scaling strategies and policy interventions.

About SoLAR:

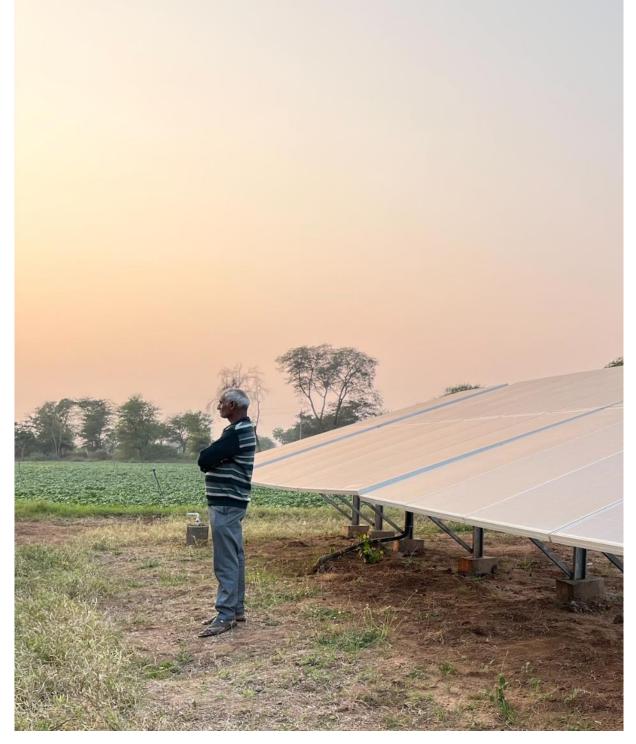
Solar Irrigation for Agricultural Resilience in South Asia (SoLAR-SA) aims to sustainably manage the water-energy and climate interlinkages in South Asia through the promotion of SIPs. The project is funded by the Swiss Agency for Development and Cooperation (SDC). The project's main goal is to contribute to climate-resilient, genderequitable, and socially inclusive agrarian livelihoods in Bangladesh, India, Nepal, and Pakistan by supporting government efforts to promote solar irrigation. In the process, the project will pave the way for sustainable and equitable groundwater governance by tackling policy distortions related to solar irrigation, such as perverse electricity subsidies that have led to negative interlinkages between the water and energy sectors in South Asia. In India, IWMI has partnered with Gujarat Urja Vikas Nigam Limited (GUVNL), the Government of Gujarat, and the Gujarat Energy Research and Management Institute (GERMI).

Agenda:

Welcome remarks: International Water Management Institute Alok Sitka/ Darshini Ravindnamu 9:30 - 10:15 Welcome remarks: Swiss Development Cooperation Divya Kashyap Sharm 9:30 - 10:15 Opening remarks: Deputy Secretary, Ministry of New and Renewable Energy Suman Chandra Opening remarks: Deputy Secretary, Ministry of Finance Geetu Joshi Udham Singh Gautam Opening remarks: Deputy Secretary, Ministry of Finance Geetu Joshi Udham Singh Gautam Opening remarks: Chairman, Central Groundwater Board Sumil Kumar Ambast TEA BREAK (It mins) 1015-10:30 Empowering Farmers with Grid-Connected Deepak Varshney (WMI) 15 min 01:30 - 10:45 Solar Irrigation Pumps: Evidence from Gujarat, India Deepak Varshney (WMI) 10 min 10:45 - 10:55 Solar Irrigation Pumps: Evidence from Cujarat, Unida Deepak Varshney (WMI) 10 min 10:45 - 10:55 Solar Irrigation and GESI Farad Biocussion 7: Inclusive Scaling Strategies and Boiley Lessons for Solar Irrigation in India 10 min 10:65 - 11:05 Q+A Participants 10 min 11:05 - 12:00 Bandiffield Grid-Connected SIPS for Solar Faiz Alam (WMI) 10 min 11:05 - 12:00 P	TIME	Presentation/panel (w	vith panelists)	
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	14:35- 14:45	Q+A	Participants	10 min

14:45-15:30	Panel Discussion: Necessity of Awareness and Knowledge for Accessing and Optimizing Solar Irrigation Pump Usage <u>Panelist</u> R J Vala (PGVCL)/ Akash Davda (GERMI)/ Manohara Khadka (IWMI)/Shilp Verma (IWMI)/ Atul Dhir (USAID)	Chair/Moderator-Darshini Ravindranath (IWMI)	45 min
15:30-15:40	Closing Remarks	P C Sharma (ISA) Divya Kashyap Sharma (SDC)	10 min
15:40-15:45	Vote of Thanks	Darshini Ravindranath (IWMI)	5 min

Photo: IWMI



Speakers	Designation and Organisation
Dr. Adlul Islam	Assistant Director General (S&WM), Indian Council of Agricultural Research (ICAR), New Delhi, India
Dr. Akash Davda	General Manager and Scientist, Gujarat Energy Research and Management Institute
Dr. Alok Sikka	Country Representative-India, International Water Management Institute
Mr. Amit Saraogi	CEO & Co-founder, Oorja Solutions
Mr. Atul Dhir	Objective Lead - RE, USAID South Asia Regional Energy Partnership (SAREP)
Bhikhubhai	Farmer, Paschim Gujarat Vij Company Ltd
Dr. D.K. Singh	Principal Scientist, Indian Agricultural Research Institute (IARI), New Delhi, India
Dr. Darshini Ravindranath	SoLAR Project Lead, International Water Management Institute
Dr. Deepak Varshney	Regional Researcher-Economics and Impact Assessment (ECA), International Water Management Institute
Ms. Divya Kashyap Sharma	Deputy Head of Cooperation, Swiss Agency for Development and Cooperation
Mr. Faiz Alam	Regional Researcher, International Water Management Institute
Ms. Geetu Joshi	Advisor, Ministry of Finance, Govt. of India
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