

## Solar Irrigation for Agricultural Resilience (SoLAR)

### Newsletter

#### Issue No 4: April-June 2021

Dear readers,

In our region, the second wave of COVID-19 took its unimaginable toll in April and May. Two major cyclones [Taukate](#) and [Yaas](#), also hit the western and eastern coasts respectively of the sub-continent in May 2021, further compounding the impacts of COVID-19. Many districts of Gujarat in India, including IWMI's research base in Anand, were affected. Some of our farmers reported damage to their solar panels.



There was considerable [damage](#) to infrastructure, displacement of people with heavy loss of life and property. Scientists have found an [alarming rise](#) in the frequency, intensity and duration of cyclones in the last 20 years over the Arabian Sea and the Bay of Bengal and linked them to climate change. It is an established fact that human-caused emission is the main driver of climate change, and we need to start reducing emissions immediately. Groundwater pumping using diesel and electric pumps in South Asia accounts for 15-20% of total agricultural emissions. Switching to solar irrigation pumps (SIPs) will eliminate carbon emissions from the irrigation sector. Accelerating energy transition in irrigation with equity, and without causing further groundwater depletion is the main objective of the SDC-SoLAR project. In this episode of the newsletter, we share some of our updates.

I hope you enjoy reading our newsletter. Please share your thoughts by writing to my colleague Ms Zeba Ahsan at [z.ahsan@cgiar.org](mailto:z.ahsan@cgiar.org).

*Aditi Mukherji, Regional Project Leader, SoLAR-SA, IWMI*

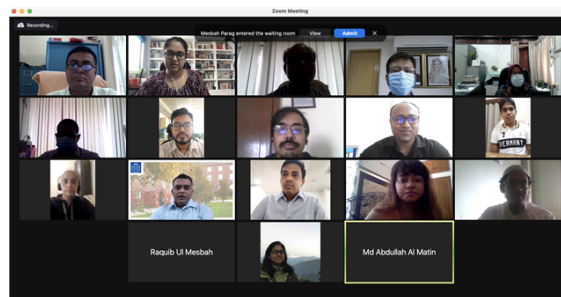
### Country highlights

#### Article published in a Bangladeshi newspaper

Marie-Charlotte Buisson and Archisman Mitra published an article titled 'When sun can dispel smoke' in The Daily Star in April 2021. You can read the article [here](#).

#### 2nd CMPC Bangladesh meeting held

Bangladesh's second Country Project Management Committee (CPMC) was held virtually on the 25<sup>th</sup> of May 2021. The stakeholders included officials from IWMI, [IDCOL](#), [BARC](#), [BMDA](#), [DAE](#), [BADC](#), [BREB](#), [SREDA](#), [NGO Forum](#) and [SDC](#). IDCOL officials presented their plans for a grid-connected solar irrigation pilot to be undertaken as a part of the SoLAR-SDC project. Read [here](#) for further information.



A glimpse from 2<sup>nd</sup> CMPC, Bangladesh meeting

#### Telephonic interviews with SKY farmers in Gujarat

The Indian state of Gujarat has rolled out [Suryashakti Kisan Yojana](#) (SKY) - a grid-connected solar pilot program in agriculture supported by the state government of Gujarat and implemented by Gujarat Urja Vikas Nigam Ltd (GUVNL) in 2018. The program implementation continued till early 2021 and will now be replaced by the [PM KUSUM](#) scheme of the Government of India. IWMI researchers are working to understand the impact of grid-connected solar on farmers' energy use and groundwater pumping behaviour. COVID-19 protocols meant that we could not visit the field, so our researchers conducted telephonic interviews instead. Read [here](#) for further insights.

#### IWMI enters into partnerships for socio-economic and hydrological data collection in Gujarat

**NEERMAN**—a research NGO will help collect socio-economic data from over 1000 households in Gujarat starting August 2021. The survey will collect data from families enrolled in the SKY scheme and compare them with a group of non-SKY farmers. **INREM**, a field-based research organization from Gujarat, will help set up the flow meters in the selected pumps for SKY and non-SKY farmers.

Signing of contracts with NEERMAN and INREM can be found [here](#).

#### **Visit to potential micro-grid pilot sites in Nepal**

As part of the micro-grid connected SIP pilot project in Nepal, the IWMI team comprising Dr Manohara Khadka and Shisher Shrestha and Mr Sundar Bahadur Khadka from AEPC visited the potential pilot sites at Chhipaharmai Rural Municipality (RM) in Parsa (Province 2) and Belaka Municipality in Udayapur (Province 1). Read [here](#) for further information.



*A farmer showing his vegetable cultivation with a SIP installed in a neighbouring farm*

#### **3rd CPMC Nepal meeting held**

Nepal held its 3<sup>rd</sup> CPMC meeting for Nepal on the 28<sup>th</sup> of May 2021, wherein stakeholders from IWMI, AEPC, NEA, DWRI, DoA, NARMIN, NFIWUAN, MuAN and Sunfarmer Nepal were present. The meeting chaired by Dr Manohara Khadka had discussions on the activities achieved in year 1 (in 2020) and the tasks planned for year 2. Read [here](#) for further information.

#### **Stories from the field**

##### **Updates from SoLAR innovation fund grantees**

Our five innovation fund grantees from round 1- KHM Power Limited, KARMA, Gham Power, Switch On and PARC have started implementing their projects, albeit slowly due to COVID-19 related restrictions. Read about their activities [here](#).

#### **What keeps the IWMI-SoLAR staff busy?**

*Here's what Dr Yashodha Yashodha (Post-doctoral fellow- Impact Evaluation) at IWMI has to say*

##### **What is your role in the project?**

My key role is to lead activities on the India component, which includes designing the impact evaluation study of the SKY project in Gujarat. In addition, I also support other researchers working on impact evaluation components of this project in other countries.



##### **What are the important policy questions that your country team is trying to answer?**

Policy needs to be backed by evidence that needs to be credible. For our work on evaluating the impact of the SKY scheme, the central question is: can grid-connected solar provide enough incentive to farmers to reduce energy and water use? We have designed an impact evaluation protocol, and field data collection is expected to start in August 2021.

##### **What keeps you motivated to be a part of this project?**

I am an agricultural economist by training. With an innate love for my work, I try to answer the complexities within research, starting from framing research questions to arriving at the scientific evidence. The job demands me to push my limits and encourages critical thinking.

#### **What keeps SoLAR partners engaged?**

*Here's what Kazi Ahsan Uddin, Manager (M), IDCOL, a key partner of the SoLAR project, has to say*

##### **How can this project contribute to the mission of your organization?**

The project will assist in upscaling the solar irrigation program in Bangladesh by promoting different aspects of the project. As it is a vital program with multiple stakeholders involved, the SoLAR initiative of IWMI compliments the program implementation of IDCOL.



**Which component of the project are you most excited about?**

As IDCOL is working towards introducing newer aspects to the existing program model, the pilot of the grid integration is the component that we are looking forward to and will be implemented as a part of the SoLAR project. The successful implementation of the pilot will demonstrate a solution for utilizing the unused energy produced in solar irrigation pumps.

**Research Papers of interest published in this period:**

[Financial and factors demand analysis of solar-powered irrigation system in Boro rice production: A case study in Meherpur district of Bangladesh](#)

[A mini-review on solar energy-based pumping system for irrigation](#)

[Solar-powered water pump with single-axis tracking system for irrigation purpose](#)

[Smart Irrigation System with Solar Power](#)

**Other news from the solar space:**

<https://mercomindia.com/new-inverter-reducing-lcoe-solar-projects/>

<https://mercomindia.com/germany-installs-1-3-gw-solar/>

**In partnership with**



For further information, please get in touch with Ms Zeba Ahsan, Communications Consultant, SoLAR Project, IWMI at [z.ahsan@cgiar.org](mailto:z.ahsan@cgiar.org)

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