

Minutes of the meeting

Location: Virtual meeting on Zoom

(<https://zoom.us/j/96069840227?pwd=RIZiWEhBVHRWbW4zOEE1akp4NVpHQOT09>)

Date: 25 May 2021

Time: 10:30-12:30 hours (IST)/11:00-1:00 hours (BST)

Attendees:

Name	Designation	Organisation
Dr Aditi Mukherji	Principal Researcher	IWMI
Mr Mohammad Golam Sarware Kainat	Member (Joint Secretary)	Policy & Research, SREDA
Dr. Nazmun Nahar Karim	Member Director and Chief Scientific Officer (Agri. Eng.)	BARC
Engr. Sarwar Hossain	Project Director	Solar Pump, BADC
Engr. Md. Nazirul Islam	Executive Engineer	BMDA
Engr. Ashok Biswas	Project Director (In-charge)	DAE
Md. Sakil Ibne Sayeed	Project Director (SPPAI)	BREB
Engr. Md. Rashedul Alam	Assistant Director	Renewable Energy (Solar), SREDA
Abdullah Matin	Manager (Technical)	Renewable Energy, IDCOL
Kazi Ahsan Uddin	Manager (M)	Renewable Energy, IDCOL
Mofazzal Hossain (Farid)	Manager (Agriculture-Monitoring)	Renewable Energy, IDCOL
Raquib ul Mesbah	Assistant Manager (Technical)	Renewable Energy, IDCOL

Archisman Mitra	Research-Water Resource Economics	IWMI
Divya Kashyap	Senior Thematic Advisor	Swiss Cooperation office India
Mansi Chopra	Administrative and Finance Assistant	IWMI
Zeba Zoariah Ahsan	Science Communication Consultant	IWMI
Md. Ahasan Habib	Head of Research	Monitoring & Evaluation, NGO Forum
Monjur Uddin Ahmed	Managing Director	KHM Power Limited

Agenda

The second Country Project Management Committee Meeting (C-PMC) in Bangladesh for the ‘Solar Irrigation for Agricultural Resilience in South Asia (SoLAR)’ project was chaired by Dr Aditi Mukherji, Principal Researcher, IWMI. This was followed by presentations on the Bangladesh project component; an updated work plan on HH (Household) survey and groundwater study by IWMI which was continued by a short Q&A session. The agenda also included a presentation on Bangladesh’s work plan on grid connection pilot by IDCOL. This was followed by deliberation on the work plan and the grid pilot with the CPMC members.

Discussion

1. Dr Aditi Mukherji spoke briefly about the SoLAR project in all four countries, especially in the context of the ongoing pandemic. The pandemic has affected the entire project work with the second wave causing a lot of hindrances, as the project involves extensive fieldwork and farmer surveys. Telephonic surveys have been undertaken instead, adapting to the new situation, till the time fieldwork is implemented in real terms. She further mentioned that IDCOL will be piloting the grid connection of solar irrigation pumps (SIPs) in Bangladesh this year. Dr Mukherji also spoke about the innovation fund grantees and the second round of

applications for the same has been received. The applications will be from the four countries of South Asia, viz, Bangladesh, India, Nepal and Pakistan. Additionally, she said that an MoU is being initiated between IHE Delft and IWMI for an 8 week-long course on water governance and management targeting mid carrier officials. This will be a good impetus on the front of training and capacity building.

2. Archisman Mitra of IWMI gave an update on the work progress in Bangladesh. He mentioned that the situation analysis report for Bangladesh is currently under internal review and expected to be released soon. A paper comparing and discussing government policies through a GESI lens in the water, energy and agricultural sector in Bangladesh and Nepal has been drafted by the SoLAR team based in Nepal. This paper is expected to be completed by the end of this year. Mr Archisman updated on the impact evaluation work in Bangladesh as per the work plan. Two rounds (Kharif 2020, Rabi 2021) of telephonic surveys for 82 IDCOL SIPs in Bangladesh has been completed. All total 9 such rounds of surveys will be conducted through the project period till 2023. As part of the IE (Impact Evaluation) activity in Bangladesh, the household survey will be conducted in June 2021. There has been a delay since 2020 on this front because of Covid-19. The detailed methodological note and sampling plan were updated based on the changed situations and information from the SIP surveys. The village selection for the Household survey activity has been completed. Currently, the team is working on collecting household lists from the villages and are finalizing the questionnaire.

Archisman Mitra also spoke about activity 1.2.1 which talks about groundwater-related studies in Bangladesh. The primary objective of the GW study would be to analyse the impact on groundwater sustainability due to a shift from diesel-based irrigation to solar-powered irrigation. The study will be using direct measurements of irrigation application through the installation of flow meters in SIP locations and monitoring water use of diesel farmers trained to keep records in logbooks. There have been Covid related delays in installing the groundwater measurement instruments as well. The field visit was only possible in early 2021 when the detailed SIP spatial mapping was carried out along with flow characteristics (flow meter, full/partial flow) and selected crops. This has been used for the feasibility of

instrumentation and selection of plots/farmers for monitoring which was to be started from Aman 2021. Currently measuring instruments are being procured by NGO Forum.

As part of the comparative case study to understand institutional & financial modalities of different SIP promotion models in Bangladesh, based on FGDs and KIIs, it will be undertaken only in the latter part of 2021. As part of this process, in 2020, the dialogue was undertaken with BREB, BMDA, BADC, ADB officials on their SIP models and currently checklist is being prepared for conducting the qualitative interviews. Archisman also highlighted the Farmers' training activity that was completed. A total of 30 participants were trained at Panchgarh on the 20th of October 2020 based on the training needs as identified by IDCOL. The resource persons were selected from DAE and IDCOL. He also informed that due to Covid, a national forum webinar was organized on the 3rd of February 2021 on the topic - *"Solar irrigation in Bangladesh: Current situation and future prospects"*, where speakers from India and Bangladesh (SREDA, MNRE, ADB, BADC, BMDA) participated. Following this, Archisman gave a detailed description of the methodology for the upcoming household survey, to receive feedback from the committee.

3. This was followed by comments and Q&A from Divya Kashyap and Mohammad Sarwar Hossain. Md. Hossain highlighted the need to include SIPs of other organisations in the Impact evaluation (IE) study. Dr Aditi commented that logistical challenges limit the inclusion of other organizations into the household survey, but the comparative analysis has already been planned to use qualitative methods. She mentioned that with co-operation from other organizations it would be possible to follow a robust methodology in terms of sampling and doing a thorough study of other organizations in the SIP sector in Bangladesh. The CPMC members agreed with this plan. Md Sakil Ibne from BREB also mentioned that once the list of farmers for the individual ownership model is finalized in August 2021, they can share it with us. Md Rashedul suggested including more research organisations and also have a study on the value chain component.
4. Next on the agenda, included a presentation from Raquib ul Mesbah, Assistant Manager (Technical) from IDCOL that highlighted the proposed grid-connected SIPs in Bangladesh. He gave a detailed description of the proposed technical and financial plan. The selection of

sponsors and sites have been finalized and after the approval from CMPC and IDCOL, they will initiate the process of getting NOC from the utilities and SREDA. He pointed out that excess electricity can be fed to the national grid and a pilot has been installed in this regard. This reduced the strain on the national grid and can prove to generate revenue for the farmers. He also pointed out the challenges and limitations associated with the small-scale pilot of a single SIP mentioned above which raises the importance of large-scale piloting of clustered SIPs. In this regard, proposed grid integration modality and site selection criteria for choosing clustered sites were also presented.

Mesbah mentioned that currently, 27 sponsors were operating under the IDCOL SIP program and out of them, 6 sponsors who were responsible for 70% of the projects (under IDCOL), namely GAZI, SOLARGAO, KHM, RDF, SSPL and WAVE have submitted applications to IDCOL for doing a grid integration of existing SIPs. They have had to submit details like PV capacity, pump capacity, site-to-site distance, the distance of nearest utility pole and distance of common transformer from each site, as per the site selection criteria. The sponsors provided the requisite quotations and BOQ based on their proposed sites. Based on the applications, three sponsors were finalized for grid integration namely GAZI, WAVE and KHM as they quoted the lowest per site costing with complete BOQ. For piloting in each site, GAZI quoted an amount of BDT 12.98 lacs, WAVE quoted BDT 11.06 lacs and KHM quoted BDT 11.00 lacs. The total cost of piloting amounts to BDT 10,713,406, wherein 50% of the funding contribution is by IWMI (BDT 53.57 lacs) will be paid in advance to the sponsors and the remaining contribution is going to be contributed by sponsors (BDT 53.57 lacs). After project completion, the sponsor will provide an implementation report to IWMI through IDCOL. Moreover, at least one year of information on energy generation, export, import and any other reports as required by IWMI and IDCOL will be furnished by the sponsor.

Mr Mesbah's presentation also mentioned that they will be following a cluster approach where clusters (with 4 SIPs in GAZI and 3 SIPs WAVE respectively) will be grid-connected. Along with that, 2 SIP locations will be connected on a net-metering basis (2 SIPs of KHM). IDCOL is currently in the project approval stage to be followed by project implementation and ending with COD (Commercial Operation Day).

5. Mr Mesbah's presentation was followed by a discussion on the proposed plan for grid integration. Nazirul Islam, PD, BMDA reiterated the importance of grid integration of SIPs in Bangladesh as they remain idle for 150 days annually. Ashok Biswas of DAE Solar asked, *"Do you face any technical difficulty in converting existing SIPs to grid integration and what about small SIPs?"* To this, Kazi Ahsan replied that there were certain existing challenges that included maintaining SIP distance that increases the interconnection costs; the challenge of subsidizing pumps for small scale projects; if projects were grant oriented then most of the things are feasible. The second question was asked by Dr Aditi Mukherji on the prospect of revenue flows. Mr Kazi replied that that will depend on the number of units per year. The sponsor has to apply for utility and get approval and NOCs, post which the implementation would be done, and revenue flows would be clearer. The sponsors, moreover, could ask to seek SREDA's assistance if required. Following the discussion, the plans and budget allocated for Wave Foundation, Gazi Renewable Energy Limited and KHM Power Limited for the grid integration and net metering pilot were approved by the CPMC members.
6. There were a few other discussion points from the CPMC members on the overall plans for the SoLAR project in Bangladesh. Dr Najmun Nahar asked, *"Where do we install solar panels? As net metering guidelines, exterior control cannot always fill up solar panels. What about the volume of irrigation water? Are farmers really benefited from the project? It must be ensured that agricultural land cannot be wasted."* Dr Aditi answered that there was net metering with existing SIPs. She looked into the possibility if water availability to the farmers could be made cheaper. Kazi Ahsan responded that one of the many intentions was to look at the profit derived from the project. For the actual revenue generation or net profit to happen, the project was cost intensive. Currently, cheaper irrigation was provided by diesel pumps. But, as of then, the idea was to compete with electric pumps. There were some opportunity costs that were invisible. Only after a couple of years, the actual results would be visible.
7. Md Rashedul Alam of SREDA talked about checking compliance with Bangladesh standards. He also suggested having a benefit analysis paper. Nazirul Islam of BMDA said that some pumps were running in South-West Bangladesh; three tube wells were solar irrigated and only one was net metered.

8. The last thing on the agenda included an update by Mr Monjur from KHM Limited. He talked of the utilization of solar shed for chicken farming. He further highlighted the gendered perspectives of the project along with a focus on women empowerment. Apart from the many financial benefits of the project, Mr Monjur emphasized that given the scarcity of land, this was a good approach for better land utilization.
9. The closing remarks were given by Dr Aditi Mukherji.



Dr. Aditi Mukherji

Principal Researcher - IWMI

